BIRUTĖ OBELENIENĖ

FROM BIRTH CONTROL TO SELF-AWARENESS AND FREE DECISION MAKING

A model
for the evaluation
of comprehensive
sexuality education
from the perspective
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Table of contents

Preface

The term "birth control" today is not popular, particularly in everyday language. Most likely, the reason for this is the word "control" which contradicts the values declared by the free world. A woman can be particularly sensitive to the word "control". Women's liberation from a variety of controlled areas of life have been taking place for more than a century, and the term "birth control" makes it clear who is the subject of this type of control: it goes without saying that it is a woman, because she conceives, carries, and gives birth to a baby. Birth control is the use of any practices, methods, or devices to prevent pregnancy from occurring in a sexually active woman. Additionally referred to as family planning, pregnancy prevention, fertility control, or contraception; the methods of birth control are designed either to prevent the fertilisation of an ovum or the implantation of a fertilised ovum in the uterus.[1] However, changing this term to something more neutral, i.e. contraception has not changed the essence. The control, although not directly mentioned, has not disappeared. To make sure you can put on scales the number of contraceptive methods used for women on the one side, and for men on the other. However, arithmetic calculations can be unconvincing, and even misleading, as they can lead to the conclusion that the woman is controlled by the male side of the world. However, after weighing the effects of hormonal contraception on a woman's health (physical, mental, and social) and assessing the woman's own knowledge of what she puts on the altar of "reproductive freedom", the real face of the female controller would appear from behind the smokescreen, and it would definitely not be a man's face.

It is a generally accepted law that in order to control a phenomenon, it is necessary to know it. In order to be free, to be your own master, you have to be able to choose. Choosing without knowing what you are choosing is blindness, putting your life in the hands of the giver (whether it is a commodity,

1 *Medical terms: medical dictionary*, s.v. "Medical Definition of Birth control", https://www.medicinenet.com/birth_control/definition.htm.

a way of life, or a person). Humans are free and intelligent by nature. Free because a person is intelligent and can know about the world. It can be stated that human cognition is of an intangible nature because it is primarily truth-oriented. This does not mean that the human is detached from the world, on the contrary, the person is much more intimate with the world than anyone else because of this truth-oriented cognition, "a human person is able to relate not only to the "outer" appearance of an object, but also the "inner" truth, or essence, of that object.[2] Cognition is closely related to human consciousness. Although the purpose of the cognitive function in constituting in a specific way, the meanings of cognitive objects, in other words cognition has something to do with comprehension and formation of meanings[3]. However, the function of consciousness is not to form meanings and concepts[4]. Consciousness, according to K. Wojtyla, "interiorises everything that man cognizes, including everything that the individual cognizes from within in acts of self-knowledge, and makes it all a content of the subject's lived experience."[5] Therefore, the knowledge of oneself and the surrounding phenomena, the understanding of the concepts and the meanings that describe them, is essential for human life. Misleading meanings in a sense paralyze a person's consciousness and control a person's freedom of choice.

Sex/uality education could be classified as a form of such control. The issue of sex/uality education is one of the most debated topics in the world, dividing politicians, educators, and parents into different camps. Undoubtedly, the concept of sexuality is a matter of worldview, because sexuality is inseparable from the concept of man. It is at this crossroads of worldviews that sexuality is in the line of fire where the real fight for humankind takes place. Today, the reality of education encounters two different conceptions of sexuality. W. E. May describes them as integralist and separatist, taking into account the two dimensions of human sexuality — the expression of love and the transfer of life, i.e. procreation — interrelationships. In the integralist understanding of human sexuality, the "procreational dimension of human sexuality and its person-uniting, love giving, unitive dimension are intrinsically and inherently interrelated". On the contrary, "separatist understanding has severed the existential and psychological bond between the life-giving

2 Karol Wojtyla, *Love and Responsibility* (San Francisco: Ignatius Press, 1993), 22–23.
3 Jove Jim S. Aguas, "Karol Wojtyla: On Person and Subjectivity", *Ad Veritatem* 8 (2) (2009): 442.
4 Ibid., 443.
5 Ibid., 442.

or procreative meaning of human sexuality and its person uniting, love-giving, unitive meaning"[6].

These different conceptions of sexuality can be conditionally called models of integrated and disintegrated sexuality because the internalisation of these different concepts in education models the learner's behaviour and choice of values. The first model of the concept of integrated sexuality is based on the concept of the person as a bodily sexual person, i.e. the indivisibility of person and sex, the inseparability of the two dimensions of sexuality — the expression of love and procreation — sexual intercourse, pregnancy, and childbirth are perceived in a direct reason-based relationship. Therefore, in the curriculum content, based on the concept of integrated sexuality, pregnancy is inseparable from a special stage of human development and is associated with the ability to take responsibility, perceived as a future goal and consciously planned to postpone the only cause of pregnancy — sexual intercourse — until full maturity. Therefore, the content of education is based on the knowledge of oneself as a bodily sexual person. The second model of the concept of disintegrated sexuality is based on the principle of safer sex: sexual intercourse is separated from both: love and reproduction, and the use of contraception is necessary to avoid the unwanted consequences of sexual intercourse — sexually transmitted infections and pregnancy. Therefore, in sex education based on the model of disintegrated sexuality, gender is separated from the person, i.e. depersonalised. The idea that sexual pleasure is the most important experience permeates the entire content of sex education and becomes its axis. It should be noted that decades ago, sexual pleasure as the primary goal of sexual intercourse was referred to only "between the lines" (for example, in the definition of reproductive health), but in modern sex/uality education programmes it is spoken about quite openly. In sex/uality education programmes, pregnancy is not (or very vaguely) associated with the beginning of a new life, with its development, but is often presented as an uncomfortable, dangerous and even fatal condition for a woman. The reason-based link between sexual intercourse and pregnancy is not clearly understood, as the cause of pregnancy or sexually transmitted infections are not considered to be caused by premature intercourse, but by "not being careful", i.e. non-use of contraception. In the concept of safer sex, pregnancy is paralleled with sexually transmitted infections. In terms of cognition,

6 William E. May, *Sex, Marriage and Chastity* (Chicago, Illinois: Franciscan Herald Press, 1981), 3–9.

knowledge of sex/uality education based on the model of disintegrated sexuality is "dosed". There is no need of the necessity to know oneself as a bodily sexual person, because the freedom granted by knowledge is replaced by information about contraceptives whose detailed mechanism of action (speaking about hormonal contraception) and its side effects are not explained in detail. The meaning of the security concept is fundamentally transformed. Adolescents are encouraged to "be safe" from pregnancy and may experience some internal opposition by denying their corporeality and eliminating their fertility function. It may be difficult or even impossible for an adolescent girl who develops a model of the concept of disintegrated sexuality to internalise her own femininity because it creates an image of an "incomplete" woman. Therefore, it can be considered as being about the disintegration of personality, because the adolescent will not be able to accept her sexuality as an all-encompassing reality.

The pressing question today that demands an answer is: can there be gender without its subject carrier? Can gender exist separately from a particular person? In human reality there are no abstractions, in this case — genders, but living sexual persons as women and men, as mothers and fathers.[7] Education, even if it is not expressed directly in a particular direction, be it current or a pedagogical tendency, is always faced with the reality of adopting a concrete conception of the human being. Its correct choice will depend to a large extent on the concept of upbringing and the later accepted ideal and educational goal. Therefore, in the process of upbringing undertaken jointly by the family and the school, it becomes very important to refer to the real concept of the human person. Distorted, or conditioned by the ideology of political correctness, the desire for profit or the conscious introducing of axiological chaos, leads from the outset to false pedagogical, catechetical, and pastoral assumptions.[8]

Proponents of sex/uality education, based on a model of disintegrated sexuality, often argue for the need to integrate the process into mainstream education with strong arguments such as "science-based", "human rights", and "reproductive and sexual rights". The phrase "science-based" is probably the

7 Irena Eglė Laumenskaitė, "Lytiškumas — visą asmenį apimanti tikrovė ar vien jo sociobiologinė funkcija?", in *Jaunimo rengimas šeimai: lytiškumo ugdymas ar lytinis švietimas* (Ukmergė: Valdo leidykla, 2014), 7–11.

8 Elzbieta Osewska, *Rodzina i szkoła w Polsce wobec współczesnych wyzwań wychowawczych* (Krakow: Wydawnictwo Naukowe Uniwersytetu Papieskiego Jana Pawa II w Krakowie, 2020), 179.

most important, and it can be said that it has become probably the main argument, even a kind of "cliché". Like a magic formula, this phrase seems to have been chosen quite accurately, as it confuses or even silences those who think otherwise. But there are some obvious gaps in this trickery for which science is used as a cover.

Sex/uality education is known to be an interdisciplinary subject as it covers different disciplines (biomedicine, social sciences, and humanities). It can be assumed that the above-mentioned phrase is the equivalent of the phrase, widely used in the field of medicine — "evidence-based medicine": "Evidence-based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research".[9] In medicine, it is an accepted practice to evaluate the research of scientists at the levels of evidence, also called degrees of "strength". "Levels of evidence (sometimes called hierarchy of evidence) are assigned to studies based on the methodological quality of their design, validity, and applicability to patient care. These decisions give the "grade" (or strength) of recommendation. B. Ackley, B. Swan and others distinguish seven levels of evidence (LOE), where the first level is the strongest level of evidence and means: "Evidence from a systematic review or meta-analysis of all relevant RCTs (randomised controlled trial) or evidence-based clinical practice guidelines based on systematic reviews of RCTs or three or more RCTs of good quality that have similar results". The seventh and final level is the weakest and is characterised as "Evidence from the opinion of authorities and/or reports of expert committees".[10] Thus, when it comes to the arguments for "science-based" information, one should find out about the level of evidence and be sure to know who funded the research.

9 David L. Sackett, William M. C. Rosenberg, J. A. Muir Gray, R. Brian Haynes, W. Scott Richardson, "Evidence based medicine: what it is and what it isn't", *BMJ* 312 (1996): 71–72.

10 Betty J. Ackley, Beth Ann Swan, Gail B. Ladwig, Sharon J. Tucker, *Evidence-based nursing care guidelines: Medical-surgical interventions* (St. Louis, MO: Mosby Elsevier, 2008). 7. Level II: Evidence obtained from at least one well-designed RCT (i.e. large multi-site RCT); Level III: Evidence obtained from well-designed controlled trials without randomization (i.e. quasi-experimental); Level VI: Evidence from well-designed case-control or cohort studies; Level V: Evidence from systematic reviews of descriptive and qualitative studies (meta-synthesis); Level VI: Evidence from a single descriptive or qualitative study.

When looking at the effectiveness of sex/uality education and its impact on the prevention of sexually transmitted infections among adolescents and the reduction of adolescent pregnancies, information should be based on first or at least second level scientific evidence. For example, the Mary Imamura, Janet Tucker, Phil Hanaford and others' study, "Factors associated with teenage pregnancy in European Union countries: a systematic review" (REPROSTAT2)[11]. This is a meta analysis that reviews and systematises quantitative studies of individual level factors associated with adolescent pregnancies (13–19 years) in the 25 EU countries over a 10-year period (1995–2005). A total of 4,444 sources were analysed. The conclusions of the research state that in all studies a broken family, unfavourable socio-economic conditions, and poor education were closely related to adolescent pregnancies. The link between the knowledge of sexual health, provisions and access to sexual health services (including contraception), and the lower number of adolescent pregnancies is complex and it remains "unclear how these factors interact, as the nature of the studies presented does not establish a reason-based relationship. Improving sexual health services and their accessibility alone cannot be seen as a panacea for reducing the number of teenage pregnancies."

There are a number of studies today that show that knowledge about contraception and its use reduces the number of teenage pregnancies or abortions, but the verdict of science-based studies is certainly, and not supposedly, very clear: **reliable evidence is not enough** to draw such conclusions.

Therefore, going back to sexual pleasure, one should not misinterpret it as something bad. Sexual pleasure is neither bad nor shameful. It is bad **when it is detached from a person's overall sexuality, removed from existential sexual desire and the purpose of sexual intercourse**, and raised as a purpose that one must pursue, more so when the pursuit of such pleasure alone, is detached from commitment and responsibility, is equated with human rights. When sexual pleasure is elevated to being the core value, concepts related to sexual intercourse such as "conjugal love", "the beginning of life", and "respect for life" remain beyond a positive interpretation and arise only as "an unplanned, unwanted, pregnancy, and the consequences of risky behavior." For example, in the 2011 guidelines on sex education "*It's All One*

11 Mari Imamura, Janet Tucker, Phil Hannaford, Miguel Oliveira da Silva, Margaret Astin, Laura Wyness, Kitty W. M. Bloemenkamp, Albrecht Jahn, Helle Karro, Jørn Olsen, Marleen Temmerman, "Factors associated with teenage pregnancy in the European Union countries: a systematic review", *European Journal Public Health* 17(6) (2007): 630–636, https://doi.org/10.1093/eurpub/ckm014.

Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights Education",[12] the focus on sexual pleasure is quite annoying, as it is mentioned 65 times. The guidelines cover different types of sexual intercourse, stating that no sexual practice is better or worse than another. In the guidelines, "IPPF Framework for Comprehensive Sexuality Education",[13] pleasure is also included as one of the seven key areas. This document is intended for all member organisations of the federation to supplement existing and future content of sexuality education programmes. The seven areas described in the document are like a business card for sexuality education, keywords that identify comprehensive sexuality education. These are: (1) Gender, (2) Sexual and reproductive health and HIV, (3) Sexual rights and sexual citizenship, (4) Pleasure, (5) Violence, (6) Diversity, (7) Relationships. It should be mentioned that not everything in these programmes is negative and to be criticised. However, the ideological "spices" of female sexuality control are mixed in among all the other things which change the very essence of the subject, the concepts, and the language. Proponents of sexuality education "often base their recommendations on "official" documents in which ideology or subjective thinking is mixed throughout with scientific facts."[14]

The right to sexual pleasure has become a part of gender equality. But do women and men really pay equally for this "right"? This "right" seems to be achieved at the expense of a woman's lack of knowledge and health.

Sexuality education documents make ambiguous references to the right to adequate health related information, but this is the type of information that is most lacking in sexuality education. This monograph will seek to answer the question what information is needed about a woman's health, which determines her free choice, and will aim to assess the content of comprehensive sexuality education from the perspective of women's health and free informed decision making.

12 The Population Council, *It's All One Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights Education: Guideliness*, vol 1 (New York: Population Council, 2011).

13 IPPF, *IPPF Framework for Comprehensive Sexuality Education* (London, 2006), https://www.ippf.org/sites/default/files/ippf_framework_for_comprehensive_sexuality_education.pdf.

14 Jokin de Irala, Alfonso Osorio, Carlos Beltramo et al., *The Politics of "Comprehensive Sexuality Education"* (Briefing Paper, 2014).

The monograph consists of five parts. The first four parts refine the parameters of the sexuality education assessment model, which consists of the four most important information areas for a woman's health and free informed decision: (1) information about the woman's fertility system and reproductive physiology; (2) information about hormonal contraception, (3) information about the beginning of human life, pregnancy, and the language used in sexuality education; (4) information on the consequences of risky sexual behaviour for a woman and the implemented provisions regarding abortion. In the fifth part, the model of sexuality education evaluation is created and two documents on sexuality education, (UNESCO. *International technical guidance on sexuality education. An evidence-informed approach*. Paris: UNESCO, 2018. The Population Council. *It's All One Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights Education:* Activities, vol. 2. New York: Population Council, 2011) are evaluated in regard of the benefits for women's health and free informed choice. Based on the evaluation results and the degree scale of favorability, the content of the chosen documents is evaluated in terms of the degree of favorability to a woman's health and the aspect of a woman's free choice.

Part 1

The tradition of separation of a woman's body and person

1.1. It is a tradition of feminism to treat a woman's person and body separately

It is impossible to assess the phenomenon of feminism unilaterally. Its history, development trends, and ideological directions are very diverse. In the subject literature, feminism is traditionally divided into three currents: liberal feminism, radical, and socialist.[1] They all differ in their origins, in their theoretical ideological basis, and in their methods of operation.

Liberal feminism originated in the environment of middle-class, middle-aged women with secondary or higher education, and radical and socialist development emerged from left-wing youth organisations. Liberal feminism appealed to American liberalism. The aim of this fight is to eliminate all forms of discrimination against women[2]. The influence of this feminism is felt most in both law-making and education today. Liberal feminism defends "women's rights on the basis of their resemblance to men".[3] Its representatives do not raise the issue of exclusive rights for women, as they believe that giving women such rights would reinforce stereotypes about the division of social roles by gender, which would already be a mistake of sexism, analogous to the mistake of racism. Representatives of liberal feminism seek to ensure that gender is not taken into account in our culture and society in general, as is race, nationality or social origin, i.e. liberal feminism assigns gender to the category of building human horizontal connections/relationships between individuals, nations, social groups. However, gender, as a category of human existence, has a vertical fall in every race, nation, religion, the patterns of relationships between persons of different genders are unique, characteristic only of that culture or religion. There are also things that are common to all women and men, regardless of their race, social status or faith. Therefore,

1 Kazimieras Slezka, *Feminizmas* (Vilnius: Mintis, 2005), 550.

2 Ibid.

3 Karla Gruodis, "Įvadas ir įžangos apie autorius", in *Feminizmo ekskursai* (Vilnius: Pradai, 1995), 526.

it is hardly appropriate to address the problems of the concept of sexuality through the prism of multiculturalism or diversity.

Recent decades have shown a major shift in the history of feminism, a shift towards *gender ideology.* Gender ideology aggressively and vigorously seeks to establish social and biological conceptions of gender and erase any traces of the expression and dissemination of femininity. One of the most famous French figures of the last century, Simon de Beauvoir, is the originator of today's gender ideology, which "denies the inherent difference and complementarity of man and woman" and treats society as "without gender differences and destroys the anthropological foundation of the family."[4] Her phrase, "a person not born as a woman: they become one,"[5], as the "red thread" extends through the outlines of modern theories of feminism, suggesting that pseudo-nations are born, that "gender is just one of five free choices today."[6] The famous feminist, unfortunately, is only partially right — femininity and masculinity as an identity are actually acquired, so it can be argued that in this sense, one becomes a woman, but without being born a girl, one does not become a woman. Both a woman and a man are both born and become.

S. de Beauvoir, also known as the "mother of the second wave of feminism", theoretically substantiated the terms "social and biological sex."[7] According to Marianne Liljestrom, one of the most important achievements in the study of feminism was the actualisation of the dichotomies of nature/culture, body/spirit, family/work rooted in philosophy. Criticism of feminism has shown how historically these dichotomies, based on constructed hierarchy and opposition, oppress and restrain women. As a result, the theory of feminism created a new dichotomy of biological and social gender[8]. "*Gender* is used to describe the characteristics of women and men that are socially constructed, while *sex* refers to those that are biologically determined".[9] This division into biological and social gender has become "everyday consciousness" in

4 Popiežius Pranciškus, *Posinodinis apaštališkasis paraginimas „Amoris Laetitia" apie meilę šeimoje* (Kaunas: Katalikų interneto tarnyba, 2016), 56.

5 Simone de Beauvoir, *Antroji lytis* (Vilnius: Pradai, 1996), 313.

6 Abelardo Lobato, *Žmogaus orumas ir likimas* (Vilnius: Logos, 2001), 149.

7 Scott Yenor, "Sex, Gender, and the Origin of the Culture Wars: An Intellectual History", *First-principles* 63, (June 30, 2017), https://www.heritage.org/sites/default/files/2017-07/FP-63.pdf.

8 Koivunen Anu, Marianne Liljestrom, *Sprendžiamieji žodžiai: 10 žingsnių feminizmo link* (Vilnius: Tyto Alba, 1998), 100.

9 WHO, *Gender: definitions.* https://www.euro.who.int/en/health-topics/health-determinants/gender/gender-definitions.

feminist theory, and ordinary speech. It gives rise to feminist theories of the "gender system", the "gender dimension" or the "gender order", which justify the need to replace the words "man" and "woman" with "gender, genders".

The use of the word *gende*r in the context of postmodern gender policy implies a discursive shift from feminism to a more diverse approach to gender identity and rights issues, including in relation to people who identify themselves as lesbian, gay, or transgender.[10]

De Beauvoir's book, "The Second Sex", the so-called "Bible of Feminism",[11] is likely to heat up the blood of many young girls or women, especially those who are frustrated with a failed relationship, encouraging them to seek an answer to the question, "who is to blame?" for the emotional injuries she has suffered. Of course, she will definitely find the answers in "The Second Sex", because the book is written looking through the personal prism of women's sexuality and sexual experiences, most of which are negative ones. Analysing the content of the book, it really invokes a twofold feeling: the author reveals in-depth the most painful topics for a woman, talking about them openly. The depth and courage are really fascinating at first, however, the measures that the author presents as a precondition for a woman's liberation are considerably confusing. De Beauvoir's thoughts that "having largely escaped the bondage of reproduction, she [a woman] can already accept the proposed economic role, which will ensure her success as a personality"[12] and that "contraception and legal abortion would allow a woman to take maternity freely"[13], liberated from natural slavery and the rule of man has become a reality today in the exercise of reproductive rights throughout the world. The comparison of women to nature seemed to many to be offensive and humiliating to women — the image of a woman as the mother of the earth "as passive, reproductive animals, contented cows immersed in the body and in the unreflective experiencing of life. It is both tempting and common therefore for feminists to view the traditional connection between women and nature as no more than an instrument of oppression, a relic of patriarchy which

10 Christina Beattie, "An Empire of Misogyny? Gender and Sacramentality in Contemporary Catholicism", *MicroMega: la scrittura e l'impegno 4 (2018)*, https://pure.roehampton.ac.uk/portal/en/publications/misoginia-della-chiesa-di-francesco-gender-and-sacramentality-in-.

11 Kate Kirkpatrick, *Becoming Beauvoir: A Life* (London: Bloomsbury Publishing, 2019), 12.

12 De Beauvoir, *Antroji lytis*, 157.

13 Ibid, 569.

should simply be allowed to wither away now that its roots in an oppressive tradition are exposed".[14]

Although more than 70 years have passed since "The Second Sex" was published, the tradition of treating a woman and her body separately is gaining momentum. Analysing the content of sex/uality education programmes and tools, time seems to have stopped, and as if nothing in the natural sciences has changed since the first half of the last century. In her work, de Beauvoir draws a parallel between a woman and a female animal by describing a woman's "biological data" in detail.[15] Reading such a natural description of a woman, one does not get the impression that the author of the "Feminist Bible" understands the anatomy and physiology of a woman's reproductive system as being completely autonomous, unrelated to the higher centres of a woman's brain and having no effect on a woman's life. Today's knowledge of the fertility system and the application of methods based on fertility awareness are based on scientifically proven knowledge of the interdependence of a woman's neurophysiological axis (brain centres and ovaries). It is the brain's centre: the anterior hypothalamus and pituitary gland that regulate a woman's entire fertility system, and the gonadotropins they produce have a profound effect on the biosynthesis of ovarian sex hormones, and the latter on a woman's health in both physical and mental terms. However, de Beauvoir perceives a woman's fertility only as an ovarian function and depicts it in very visual, dense and gloomy colours. The woman is subject to the rhythm of nature: "she becomes the victim of a stubborn foreign life, which forms and breaks the cradle in it every month. A woman, like a man, is her body, but her body is not her".[16] Only a woman who is over half her age "frees herself from the slavery imposed on her". She is no longer a victim of the forces that have invaded her: she is becoming herself, "her body".[17] De Beauvoir contradicts biological essentialists and argues that there is no biological gender, natural woman and man, or stable meaningful biology that would justify absolute man or woman. Women and men are social constructs or social genders. People's ingenuity, the creative response to change, and the manipulation of the situation itself using assisted or technical means (such as contraception or genetic engineering) can create a new woman and a new man. Transcendent

14 Val Plumwood, *Feminism a master of nature* (London: Taylor & Francis e-Library, 2003), 20.
15 Ibid., 29.
16 Ibid., 51.
17 Ibid., 53.

individuals create themselves, freeing themselves from the roles society imposed on them, nature, and biological sex.[18]

Thus, the feminist undoubtedly substantiated the tradition of feminism to treat a woman's body separately from a woman's person. Paradoxically, it is precisely feminism that has won women the right to study at universities and pursue science, and at the same time supports the old patriarchal tradition of imparting scientific knowledge to women.

18 Yenor, "Sex, Gender, and the Origin".

1.2. Language is an instrument for constructing a new social reality

Although the social concept of *gender*, in fact "is not a reality, but human insights, political constructs, abstract contractual terms",[19] their legalisation becomes the basis for the development and implementation of state sexuality education programmes not only in Lithuania but also in other countries as well. The relationship between a man and a woman is based on the recognition of an authentic, different gender (as femininity and masculinity), manifested as love from the very beginning, being reconstructed today into a functional illustrious relationship. This means that we should act like sexless creatures who "often withstand the pressures of this depersonalised homelessness, often immerse into [...] flirtation and games of sexual power".[20]

Gender ideology uses a peculiar language to reconstruct a human and change the relationship between a woman and a man. According to Berger and Lucman, the newly created world needs ways to justify and institutionalise it. Language is used as the main tool for this because it is "language that provides the means to objectify new experiences, guarantees the transfer of new logic to the constructed social world".[21]

This new, artificially constructed terminology that describes and regulates the relationship between men and women permeates family policies, health and education systems, as it "programmes" the channels through which an objective world is created through the transmission of accepted norms to others.[22] The best illustration of how language is used to construct a new social reality may be the extremely common concept of impersonal "gender" today. Both in the public sphere and in the speech on the political agenda, the words "man and woman" begin to fade. They have been replaced by the

19 Laumenskaitė, "Lytiškumas — visą asmenį apimanti tikrovė", 7.
20 Ibid., 9.
21 Peter L. Berger, Thomas Lucman, *Socialimės realybės konstravimas* (Vilnius: Pradai, 1999), 87–89.
22 Berger ir Lucman, *Socialinės realybės konstravimas*.

depersonalised words, "gender, and genders". For example, in The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted in 1979 by the UN General Assembly[23] the word gender is not used. However, thirty years after the adoption in Istanbul (11.05.2011), the Council of Europe Convention on preventing and combating violence against women and domestic violence[24] the word gender is used 23 times. Separating a person from gender in a speech made a second step possible: the creation of a new logic of "gender equality" that has imperceptibly become a legal and political norm. In the definition used by the United Nations, gender equality is understood as "**Equality between women and men (gender equality)** and refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female."[25] According to this definition, "gender equality" is understood as equal rights, responsibilities and opportunities for individuals, but the reference in the definition to the fact of birth confirms that the biological difference between women and men has no meaning. However, the reproductive characteristics of women and men are fundamentally different. It is the function of human reproduction that most highlights the differences between a woman and a man and their complementarity. When they are rejected, sexual asymmetry is established. A "sexual asymmetry" — the fundamental reality that the potential consequences of sexual intercourse are far more immediate and serious for women than for men. Advocates of contraception and abortion sought to cure sexual asymmetry by decoupling sex from procreation, relieving women from the consequences of sex, and thus equalising the sexual experiences of men and women. But efforts to suppress or reject biological differences have not relieved women of the consequences of sex and the vulnerabilities of pregnancy, even as they have further relieved men.[26]

23 UN, *Convention on the Elimination of All Forms of Discrimination against Women*. Adopted and opened for signature, ratification and accession by General Assembly resolution 34/180 (18 December, 1979). https://www.un.org/womenwatch/daw/cedaw/cedaw.htm.

24 *Council of Europe Convention on preventing and combating violence against women and domestic violence*, https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680084 82e.

25 UN, *Women Concepts and definitions*, https://www.un.org/womenwatch/osagi/conceptsandefinitions.htm.

26 Erika Bachiochi, "Women, Sexual Asymmetry, and Catholic Teaching", *Christian Bioethics*, 19(2), (2013): 150–171.

Thus, feminism by denying biological differences, serves to perpetuate sexual asymmetry between women and men.

It has been observed that for the construction of a new reality, the language that describes a woman and a man, their roles, status, and relationships are altered and internalised by separating the word as a symbol from the content it implies. New concepts are integrated into the language by adding new content to the regular ones or creating a controversial phrase.[27] Controversial terms are linguistic phrases that may seem perfectly understandable and even correct at first, but are based on logical inconsistencies or even contradictions. Linguistic symbols, such as dignity, freedom, law, love, goodness, beauty, and health, are characteristic of human nature (in the anthropological sense), and these consciences are recognised as good and therefore to be followed. Today, the most commonly used and most common anti-healthy logic compounds are "safe abortion", unplanned pregnancy, "safe/safer sex", "sexual freedom of choice", and the concepts of "sexual and reproductive health and rights" that combine them. Such new compounds used in speech restrict a person's freedom of choice because he or she is simply deceived. The constant use of the same language to objectify accumulated experience is a fundamental fact of support for reality because everyone who speaks the same language is the other who supports that reality.[28] However, the "concept of sexual and reproductive health" the integrated compound established the asymmetrical relationship between man and woman and laid the foundations for a respectful relationship between them.

The concept of reproductive health adopted in 1994 during The United Nations International Conference on Population and Development[29] is a con-

27 Birutė Obelenienė, "Keywords towards Reconstruction of Respectful Relationship between Men and Women" (in Lith), *Logos* 101 (2019): 192–198.

28 Berger, Lucman, *Socialinės realybės konstravimas*, 193.

29 7.2 Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health, therefore, implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which is not against the law, and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant. In line with the above definition of reproductive health, reproductive health care is defined as the constellation of methods, techniques and services that contribute to reproductive health and well-being by preventing and solving reproductive health problems. It also includes sexual health, the purpose

fusing and long combination of words starting with a definition similar to the WHO definition of health[30]: "Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes" is fundamentally incompatible with the following phrases:

> 1) Therefore, reproductive health means that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so.

"Satisfying and safe sex life" is understood such as being "able to control one's fertility through access to contraception and abortion and being free from sexually transmitted infections (STIs), sexual dysfunction and sequelae related to sexual violence [...] — but also, the possibility of having pleasurable and safe sexual experiences". [31] In other words, a satisfying and safe sex life do not involve long-term, sustainable commitments, is not related to marriage and procreation but primarily is about the experience of sexual pleasure without possible consequences, which are generally understood as sexually transmitted diseases/infections and unwanted or unplanned pregnancies. The right to sexual pleasure is an integral part of gender equality.[32] The idea of sexual rights originated in sexology. However, the construction of sexuality as gender-neutral in sexual rights literature conceals how men's demand for sexual pleasure often reinforces the subordination of women.[33]

2) The second phrase of reproduction health is about right to information:

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of which is the enhancement of life and personal relations, and not merely counselling and care related to reproduction and sexually transmitted diseases. Report of the International Conference on Population and Development, Cairo, 1994. Programme of Action, Chapter 7, https://www.unfpa.org/publications/international-conference-population-and-development-programme-action.

30 The WHO defined "health" in 1948 as follows: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".

31 WHO, *Sexual health, human rights and the law* (2015), 1. http://apps.who.int/iris/bitstream/handle/10665/175556/9789241564984_eng.pdf;jsessionid=64256626CB1F34A824CBFB48B-332975B?sequence=1.

32 Philip D. Harvey, "Social Marketing: No Longer a Sideshow", *Studies in Family Planning* 39 (1) (2008): 69–72, https://doi.org/10.1111/j.1728-4465.2008.00152.x.

33 Jennifer Oriel, "Sexual pleasure as a human right: Harmful or helpful to women in the context of HIV/AIDS?", Women's Studies International Forum 28, 5 (2005): 392–404.

> Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice.

"Safe, effective" methods of family planning primarily including hormonal contraceptives.[34] Research confirms that hormonal contraceptives are not "safe" for a woman's health because they have strong side effects that can even cause a woman to die from thromboembolism[35]. Recent data from the study confirm that there is a direct link between the use of hormonal contraception and breast cancer[36] and the impact on a woman's mental health.[37]

3) The concept "appropriate health-care services" in the phrase:

> and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant

in the Cairo Programme of Action includes abortion.[38] Research has shown that abortion has dire consequences for a woman's physical and mental health and social well-being.[39]

According to the Action Programme, measures to ensure reproductive health "must be accompanied by education that helps young people to develop respect for women's right to self-determination and to share responsibility with women over sexual behaviour and offspring".[40] "A woman's right to decide her own destiny" is understood as a woman's right to abortion and contraception. This requirement is a difficult or utterly impossible task in

34 Jonas Juškevičius, "Legal aspects of natural family planning: introductory remarks", *Health Science*, vol. 21 3 (75) (2011): 13.

35 K. Grootheest, T. Vrieling, "Thromboembolism associated with the new contraceptive Yasmin", *BMJ* 326, (2003): 257, https://doi.org/10.1136/bmj.326.7383.257.

36 Lina S. Morch, Charlotte W. Skovlund, Philip C. Hannaford, Lisa Iversen, Shona Fielding, "Contemporary Hormonal Contraception and the Risk of Breast Cancer", *The New England Journal of Medicine* 377 (23) (2017), 2228–2239.

37 Charlotte Skovlund, Lina Mørch Steinrud, Kessing Lars Vedel, "Association of Hormonal Contraception With Depression", *JAMA Psychiatry* 73(11) (2016): 1154–1162.

38 United Nations Population Fund, "International Conference on Population and Development Cairo 5–13 September 1994", *Programme of Action* 7.6 (1995).

39 Andrius Narbekovas, Birutė Obelenienė, Jonas Juškevičius, Kazimieras Meilius, Angelija Valančiūtė et al., *Medicina, etika ir teisė apie žmogų iki gimimo*. Mokslinė monografija (Kaunas: VDU, 2012).

40 International Conference on Population, *Programme of Action* 7.41.

terms of fostering a respectful, symmetrical relationship between a man and a woman, because "the boy is deprived of the right to make decisions and is left with the sole responsibility of not forgetting to use a condom"[41] and the woman is underestimated to a source of sexual pleasure. This condition is difficult to implement even from the point of view of "gender equality", as the woman is left with the right to decide whether or not the husband will be the father, i. e. the right to grant a father paternal status. She pays for this "equality" in her health, as the effects of "safe sex" are always more severe for girls / women than for boys / men: both hormonal contraception and abortion directly affect only women, and girls are much more likely than boys to have the potential to contract STIs. Unfortunately, all the key documents of the European Parliament and the European Commission on women's health make explicit reference to reproductive health and rights.[42] At the Cairo Conference, the term "reproductive health" "enshrined an individualistic and reductionist vision of sexuality that gave women illusory freedom but kept quiet about moral issues as well as the seriousness of certain legal, demographic and even health problems."[43]

Birth control by artificial means is the control of structures for a person, realised by the disclosure of physical passion, its transformation into a commodity of basic necessity — sex. Therefore, the portrayal of a woman as an object of sex and birth control is inseparable, and sexuality education, in this case, serves as one of the means of realising birth control and the real stabbing and enslavement of a woman. Reproductive rights and reproductive health are in essence, nothing more than the guarantee of equal rights to sexual pleasure by eliminating a woman's fertility and her reproductive power. Such equality will never be possible for the simple reason that sexual intercourse takes place in a woman's body. In sexual intercourse, a woman's procreational act begins and a man's ends. So the pursuit of such equality is an illusion that nullifies women's desire to break free. One form of exploitation is replaced by another, in this case, the exploitation of female sexuality. "Our

41 Dorota Kornas-Biela, "Women's reproductive health need for an integral and positive approach", *Aid for woman health. Which agenda is best?* (Wroclaw-Brussels, 2007), 21.

42 Andrea Etti, "Women's reproductive health need an integral and positive approach", *Aid for woman health. Which agenda is best?* (Wroclaw, Brussels 2007), 44.

43 Commission of the Episcopates of the European Community (COMECE), "Sexual and reproductive health", *Science & Ethics,* 2 (5) 22.

bodies share many common attributes as the given bodies of Homo sapiens, but how we engage in sex and take part in reproduction is not one of them".[44]

Liberal feminism creates and maintains a model of one sex — male — in society. This can be seen not as a solution to a problem — the enslavement of women, the disadvantage of society and the search for a symmetrical model of gender relations — but as the avoidance of this solution: in a homogeneous society, there can be no gender problems at all. However, the shift in feminism towards gender no longer speaks of a single-sex model of society, but of gender diversity, so gender-neutral language should be spoken without discrimination, refusing to use such words as "man", "woman", "mother", "father".

44 Erika Bachiochi, "Women, Sexual Asymmetry, and Catholic Teaching", *Christian Bioethics,* 19 (2) (2013): 150–171, https://doi.org/10.1093/cb/cbt013.

1.3. Sexuality education as a discipline helping women free themselves from "reproductive slavery"

1.3.1. Transition from sex education to a comprehensive sexuality education

In Europe, sex education, as a subject in the school curriculum, has a history of more than half a century. It began in Sweden in 1955 and was introduced as a compulsory discipline in schools. Sex education was based on the idea that abstinence from sexual intercourse for adolescents is medically, psychologically and socially necessary.[45] However, in 1977 after much debate, new guidelines were issued suggesting that schools must take a neutral position on pre-marital sex. The school must support both those who refuse sex before marriage and those who choose it.[46] Sexuality education was introduced as a compulsory discipline in many Western European countries during the 1970s and 1980s: In the 1990s and early 2000s, it first appeared in France and the United Kingdom, and then in Portugal, Spain, Estonia, Ukraine and in Armenia. In Ireland, sexuality education in primary and secondary schools has become compulsory since 2003. The emphasis on sex education has changed in line with education and public health priorities, but most of the key elements have remained the same. Initially, the main goal of sex education was the prevention of unplanned pregnancies (1960–1970), later the transition to HIV prevention (the 1980s), prevention of sexual abuse (1990s), and finally the prevention of sexism, homophobia, and gender-based

45 Erik Centerwall, *Ты почувствуешь любовь, вот увидишь*, (Sweden: Solna, 2002), 29.
46 Ibid., 30.

bullying (from 2000).[47] The content of today's sexuality education is vastly different from its predecessors; quite a lot of attention is given to including open discussions about sexual pleasure. Contemporary sexuality education seeks to cover all dimensions of human sexuality: biological, social, psychological, spiritual, religious political, legal, historic, ethical, and cultural. As stated in the "International technical guidance on sexuality education":

> Sexuality may thus be understood as a core dimension of being human which includes: the understanding of, and relationship to, the human body; emotional attachment and love; sex; gender; gender identity; sexual orientation; sexual intimacy; pleasure and reproduction. Sexuality is complex and includes biological, social, psychological, spiritual, religious, political, legal, historic, ethical, and cultural dimensions that evolve over a lifespan.[48]

Thus, not only the content of sexuality education has changed, but the name has also changed: from sex education to comprehensive sexuality education.

1.3.2. Emphasising the importance of accurate and science-based information in sexuality education

One of the essential and constantly emphasised features of sexuality education is its inseparability from human rights, especially the right to accurate and science-based information. At the most basic level, more adequate and appropriate information is conducive to informed, responsible decision-making concerning health, sexual and reproductive behaviour, family life, and patterns of production and consumption.[49]

As it is stated by the European Expert group on sexuality education,[50] "good-quality sexuality education is grounded in internationally accepted human rights, in particular the right to access appropriate health-related

47 European Expert Group on Sexuality Education, "Sexuality education — what is it?", *Sex Education*, 16:4 (2016): 427–431, https://doi.org/10.1080/14681811.2015.1100599.

48 European Expert Group on Sexuality Education, 17

49 United Nations Population Fund, *Programme of Action of the International Conference on Population Development*, 20th Anniversary Edition (UNDP, 2014).

50 European Expert Group on Sexuality Education, 427–431.

information". This right has been confirmed by the United Nations Committee on the Rights of the Child,[51] the Committee on the Elimination of Discrimination against Women,[52] the Committee on Economic, Social and Cultural Rights,[53] and also the United Nations Convention on the Rights of Persons with Disabilities.[54] Furthermore, sexuality education is advocated for in the 1994 Programme of Action of the International Conference on Population and Development,[55] and its importance has been underscored by the United Nations Special Rapporteur on the Right to Education in a 2010 report to the United Nations General Assembly devoted exclusively to this topic.[56]

There are several international standards and agreements relating to sexuality education (see Table 1).

51 "Adolescents have the right to access adequate information essential for their health and development and for their ability to participate meaningfully in society. It is the obligation of States parties to ensure that all adolescent girls and boys, both in and out of school, are provided with, and not denied, accurate and appropriate information on how to protect their health and development and practise healthy behaviours. This should include information on the use and abuse, of tobacco, alcohol and other substances, safe and respectful social and sexual behaviours, diet and physical activity." (CRC/GC/2003/4, para 26).

52 Committee on the Elimination of Discrimination against Women. General recommendation No. 28 on the core obligations of States parties under article 2 of the *Convention on the Elimination of All Forms of Discrimination against Women*, http://www2.ohchr.org/english/bodies/cedaw/comments.htm. See also the Beijing Declaration and Platform for Action of the Fourth United Nations Conference on Women (Beijing, China, 1995), http://www.un.org/womenwatch/daw/beijing/platform/.

53 The Committee interprets the right to health, as defined in article 12.1, as an inclusive right extending not only to timely and appropriate health care but also to the underlying determinants of health, such as [...] access to health-related education and information, including on sexual and reproductive health." (Committee on Economic, Social and Cultural Rights, General Comment No. 14, para. 11, available from www.ohchr.org).

54 Article 25 — Health. United Nations Convention on the Rights of Persons with Disabilities. A/61/611 (6 December, 2006).

55 UNDF, *The 1994 ICPD Programme of Action* (paragraphs 4.29, 7.37, 7.41, 7.47) explicitly calls on governments to provide sexuality education to promote the well-being of adolescents and specifies key features of such education. https://www.unfpa.org/sites/default/files/pub-pdf/programme_of_action_Web%20ENGLISH.pdf.

56 UN, "Report of the United Nations Special Rapporteur on the right to education", A/65/162, (2010) https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/UNSR_Sexual_Education_2010.pdf

Table 1. International standards and agreements that relate to children and young people's right to receive sexuality education and national governments' obligations to provide this education[57]

Title of the document	Year
The United Nations Convention on the Rights of the Child includes the provision of measures to protect children from all types of abuse, including educational measures to avoid sexual abuse (article 19)	1990
The International Conference on Population and Development's Cairo Agenda	1994
European Regional Strategy on Sexual and Reproductive Health	2001
General Comment from the Committee on the Rights of the Child	2003
Resolution 2009/1 from the International Conference on Population and Development₂	2009
Standards for Sexuality Education in Europe from the World Health Organisation (WHO)	2010
Resolution 2012/1 on adolescents and youth from the International Conference on Population and Development	2012
General Comment from the Committee on the Rights of the Child	2013
The United Nations Sustainable Development goals (SDGs): ▪ SDG3: Ensure healthy lives and promote well-being for all at all ages ▪ SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all ▪ SDG5: Achieve gender equality and empower all women and girls	2015
General Comment from the Committee on the Rights of the Child	2016
International technical guidance from UNESCO was released in 2009 and updated in 2018	2018

As given in Table 1, in 2018, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) issued the 2nd edition of the revised International Technical Guidance on Sexuality Education. The purpose of this publication is to assist the administration of education, health care and other authoritative institutions in the design and development of comprehensive sexuality education programmes and methodological materials both within and outside the general education school.[58] According to the publication, comprehensive sexuality education (CSE) is — "a curriculum-based

57 *European Commission Sexuality education across the European Union: an overview* (Luxembourg: Publications Office of the European Union, 2020), 4.

58 UNESCO. *International technical guidance on sexuality education. An evidence-informed approach*, (UNESCO, Paris: 2018), 12.

process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality. It aims to equip children and young people with knowledge, skills, attitudes and values that will empower them to: realise their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others; and, understand and ensure the protection of their rights throughout their lives".[59] CSE — provided in both formal and informal settings. One of the most important criteria for describing it is comprehensive, which, according to the guidelines, means that "CSE provides opportunities to acquire comprehensive, accurate, evidence-informed and age-appropriate information on sexuality. It addresses sexual and reproductive health issues, including, but not limited to: sexual and reproductive anatomy and physiology; puberty and menstruation; reproduction, modern contraception, pregnancy and childbirth; and STIs, including HIV and AIDS. CSE covers the full range of topics that are important for all learners to know, including those that may be challenging in some social and cultural contexts. It supports learners' empowerment by improving their analytical, communication and other life skills for health and well-being in relation to sexuality, human rights, healthy and respectful family life and interpersonal relationships, personal and shared values, cultural and social norms, gender equality, non-discrimination, sexual behaviour, violence and gender-based violence (GBV), consent and bodily integrity, sexual abuse and harmful practices such as child, early and forced marriage and female genital mutilation/cutting. "Comprehensive" also refers to the breadth and depth of topics and to content that is consistently delivered to learners over time, throughout their education, rather than a one-off lesson or intervention".[60] Thus, according to this description, CSE claims to cover all areas of human sexuality, both the physical side and the cultural and social aspects.

In short, the fact that contemporary sexuality education claims to cover all the dimensions of human sexuality, the fact that it is based on various global Conventions, and the fact that it constantly reminds us that it is based on science, leads to the conclusion that it claims to be the world's accepted and only correct discipline.

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59 UNESCO. *International technical guidance on sexuality education. An evidence-informed approach*, (UNESCO, Paris: 2018), 16.

60 Ibid.

However, this does not negate the fact that compulsory CSE is a source of great dissatisfaction in society. Increasingly, it is being confirmed that the risks associated with adolescent sexual activity, for both girls and boys, reach beyond pregnancy and STI. Whether or not a pregnancy or STI occurs, sexual initiation has been associated with poorer emotional health for adolescents, including lower self-esteem, the regret of sexual activity, depression, and suicide, as well as a higher likelihood of experiencing sexual exploitation.[61] Therefore, the issue of adolescent sexual activity and its consequences should be considered within the Risk Avoidance or Risk Reduction paradigms as a framework for understanding the adolescent sexual activity. These paradigms are based on different worldviews and understandings of human sexuality and freedom. Risk reduction — argues that most teenagers are going to have sex and that their sexual activity is not necessarily problematic in and of itself. This approach defines the real problem as being the pregnancy and STI consequences of teen sexual activity.[62] CSE does not aim to encourage adolescents to give up risky behaviour but seeks to provide knowledge and skills on how to reduce the consequences of risky behaviour. Measures to reduce the consequences of harm — contraception, abortions. It's like double hedging in case of pregnancy. The risk reduction strategy has one major shortcoming, it presupposes the activation of the so-called risk compensation mechanism: the adolescent does not change risky behaviour, but compensates it with harm reduction measures. The comparison with driving instructions seems appropriate here. Instead of teaching responsible behaviour on the roads in driving schools — not to exceed the speed limits, to follow road signs, and not to drive after drinking alcohol, we simply suggest that you wear a seat belt and check that the airbags are working. In the long run, the measures taken to reduce the harm of risky behaviour appear to be short-lived. Unfortunately, as the researchers of the University of Navarre warn, led by one of the most famous epidemiologists, prof. Jokin de Irala,[63] these phenomena, can be observed only at the population level and over a longer period of time.

61 Stan E. Weed, Thomas Lickona, "Abstinence Education in Context: History, Evidence, Premises, and Comparison To Comprehensive Sexuality Education", in *Sex Education* (Hauppauge, Ny: Nova Science Publishers, 2014).

62 Ibid.

63 Matthew Hanley, Jokin De Irala, *Affirming love, avoiding AIDS* (The National Catholic Bioethics Center, 2010).

A second, fundamentally different approach to the problems posed by teen sexual activity emphasises primary prevention by encouraging *risk avoidance* through abstinence from unmarried sexual activity.[64] The WHO classifies early sexual intercourse as risky behaviour for adolescents.[65] A risk avoidance strategy is to abandon risky behaviour. Everyone understands that the right direction of education is to help adolescents understand why they need to change risky behaviour, such as giving up smoking, drugs, alcohol, rather than learning to use them safely.

> However, it is noticed, that precisely the information that would give a girl and a woman freedom of choice is lacking in sexuality education. Risk reduction strategies directly affect only girls and women: hormonal contraception including long-term, i.e. spirals and abortion are for the girl and woman exclusively. Therefore, it can be assumed that sexuality education is very unfavourable to women's health.

64 Weed, Lickona, "Abstinence Education".

65 WHO, *Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report* (WHO, 2020), II, https://apps.who.int/iris/bitstream/handle/10665/332104/9789289055017-eng.pdf. The abstract of the Report states that: "The data focus on social context (relations with family, peers, school and online communication), health outcomes (subjective health, mental health, overweight and obesity, and injuries), health behaviours (patterns of eating, physical activity and toothbrushing) and risk behaviours (use of tobacco, alcohol and cannabis, sexual behaviour, fighting and bullying) relevant to young people's health and well-being".

Part 2

Women's fertility and health

2.1. Fertility awareness and woman's health

2.1.1. The importance of fertility awareness for a woman's free informed decision and health

No one can deny that healthy fertility functions are among the most important components of the quality of a person's life. Fertility is the natural person's good through which a woman and man give life to their child while fulfilling the desires of parenthood. Fertility is not just a function of the human body in the same way as the digestive system or blood system, because the realisation of human fertility is directly related to three persons: the man, woman, and child.[1] A disorder in the fertility function and an inability to have children are significant challenges for women. Today, there is a lot of talk about the causes of infertility, the diagnosis, and treatment. Infertility affects both men and women and is directly related to poor psychological wellbeing, depression, and low self-esteem.[2] Experience of infertility is a source of psychological distress: infertile women are more likely to experience higher levels of distress than comparable groups, infertility has been observed as a reason for divorce, and the loss of economic resources.[3] Dr. Ruchi Galundia's study[4] showed that married women with primary infertility, experience

1 Birutė Obelenienė, Andrius Narbekovas, "Evaluation of Content about Human Sexuality and Procreation of School Textbooks in Lithuania", *The European Proceedings of Social & Behavioural Sciences* (2017): 197, https://doi.org/10.15405/epsbs.2017.01.02.20.

2 Juliana Rigol Chachamovich, Eduardo Chachamovich, Helene Ezer et al., "Investigating quality of life and health-related quality of life in infertility: a systematic review", Journal of Psychosomatic Obstetrics and Gynecology 3, (2010): 101–110.

3 Arthur L. Greil, Kathleen Slauson-Blevins, Julia McQuillan, "The experience of infertility: a review of recent literature", *Social Health Illn* 32, (2010): 140–162.

4 Ruchi Galundia, "To Understand the Impact of Anxiety and Depression amongst Infertile Males and Females: Gender Issues", *International Journal of Humanities and Social Science* 6 (7) (2016): 85–91.

deeper emotional distress compared to men. The spread of infertility is different in every country. The *National, Regional, and Global Trends in Infertility Prevalence Since 1990: A Systematic Analysis of 277 Health Surveys*,[5] which sought to determine the tendencies of the spread of infertility in 190 countries by comparing data from 1990 and 2010 and evaluating many factors causing infertility, presents conclusions that in 2010, among women aged between 20 and–44, who were exposed to the risk of pregnancy, 1.9% were unable to attain a live birth (primary infertility). Out of the women who had had at least one live birth and were exposed to the risk of pregnancy, 10.5% were unable to have another child (secondary infertility).

According to WHO, sexually transmitted infections are the main preventable cause of infertility, particularly in women.[6] It is difficult to comment on the most prevalent causes of infertility in Lithuania because no representative studies have been carried out. The only available data comes from private infertility clinics providing modern assisted reproductive technologies, which show that among those actively seeking treatment, the main cause of infertility in women in 2001 was damage to the fallopian tubes, reflected in the high rates of STDs.[7]

More often, people know how their chosen lifestyles affect their health. Quite a lot of attention is paid to this both through general school education programmes and questionable behavioral prevention programmes. However, understanding the changes in the body, the internal processes that control them, is just as important as knowing the most basic truths about the impact of lifestyle choices on health, especially when it comes to a woman's fertility and health. However, as shown by a systematic review of studies related to fertility awareness, respondents demonstrate relatively little knowledge of their reproductive function and fertility awareness.[8]

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5 Maya N. Mascarenhas, Seth R. Flaxman, Ties Boerma, Sheryl Vanderpoel, Gretchen A. Stevens, "National, Regional, and Global Trends in Infertility Prevalence Since 1990: A Systematic Analysis of 277 Health Surveys", PLOS *Medicine*, Dec., 9, (12) (2012), https://doi.org/10.1371/journal.pmed.1001356.

6 WHO, *Global strategy for the prevention and control of sexually transmitted infections: 2006–2015: breaking the chain of transmission* (WHO: 2007). https://apps.who.int/iris/bitstream/handle/10665/43853/9789241563475_eng.pdf?sequence=1&isAllowed=y.

7 Ramunė Kalėdienė, Rūta Nadišauskienė, "Women's Health, Changes and Challenges in Health Policy Development in Lithuania", *Reproductive Health Matters* 10 (20) (2002): 117–126, https://doi.org/10.1016/s0968-8080(02)00081-2.

8 Juliana Pedro, Tânia Brandão, Lone Schmidt, Maria E. Costa & Mariana V. Martins, "What do people know about fertility? A systematic review on fertility awareness and its associated factors",

The fertility awareness is important not only for family planning but as a general cognitive process that accompanies a woman and helps her to orientate toward every situation in her life. During adolescence, during a period of difficult puberty, the fertility awareness helps the woman to understand not only the changes in her body, but also the mood swings and emotions that are also affected by the sexual hormones. The fertility awareness expands a woman's limits of freedom, increases her choices, and even the mutual understanding between spouses. By constantly monitoring the changes in the menstrual cycle, a woman not only recognises the period conducive to conception, but it can say a lot more about her health, including recognising the first signs of some of the more common gynecological diseases.

Fertility awareness means the knowledge of how one's own procreation system functions, and the biological and sociological facts about human fertility. It means the ability to know if a woman is fertile or infertile in order to determine if having sexual intercourse on a particular day could result in pregnancy. It is the full appreciation of one's own sexuality and procreative power. Knowing one's body and fertility empowers the person to make a truly healthy, informed, and responsible decision on their sexual behavior. Fertility awareness constitutes a fundamental knowledge for every woman — a valuable tool that allows the woman to recognise her health status.[9]

Fertility awareness is a way to help young people understand their maturing bodies, and how to protect their own reproductive health. Discussing physical and emotional changes and signs of fertility during puberty helps young people become more knowledgeable about how their bodies function and empowers them to make appropriate decisions about sexual behaviour. Helping young people understand their fertility dispels myths and misconceptions about reproductive health and makes them better prepared for adulthood.[10] The main aspects that teens should be introduced to while learning about fertility are the neurophysiology of the human sexual system,

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Upsala Journal of Medical Sciences, 123 (2) (2018): 71–81, https://doi.org/10.1080/03009734.2018.1480186.

9 Pilar Vigil, Leonard F. Blackwell and Manuel E. Cortés, "The Importance of Fertility Awareness in the Assessment of a Woman's Health a Review", *Linacre Quarterly*, November 79 (4) (2012): 426–450.

10 Birutė Obelenienė, Andrius Narbekovas, "Evaluation of Content about Human Sexuality and Procreation of School Textbooks in Lithuania", *The European Proceedings of Social & Behavioural Sciences* (2017): 197–205. https://doi.org/10.15405/epsbs.2017.01.02.20.

the hypothalamus-pituitary axis and the regulation of the menstrual cycle of a woman, the real signs of fertility and how to recognise them.[11]

However, it can be seen that the information available from sexuality education providers often lacks consistent knowledge about a woman's fertility and the functioning of the reproductive system. The brief information provided in the methodological tools is related only to the function of the internal genitals, not to mention the effect of natural steroid sex hormones on the condition of the entire female body and its subsequent health. The evaluation of the content of textbooks used in the Lithuanian general education biology programme related to human reproduction and sexuality revealed that not all evaluated textbooks, which talk about human procreation, show the difference between human procreation and animal reproduction. In the evaluated textbooks, the essential information about fertility awareness is not presented. Only one textbook presents the neurophysiological regulation of the menstrual cycle of women and correctly names gonadotrophic (follicle stimulating and luteinizing hormones) and sexual (estrogens and progesterone) hormones, regulating the woman's menstrual cycle, and their interaction. Other textbooks do not name these hormones, they are called "some sexual hormones" and furthermore, the meaning of sex hormones for a woman's general health is not presented.[12]

The tendency to present a woman's menstrual cycle only as a change in a woman's internal genitals, without explaining which hormones control it, how important it is to a woman's health, or how this cyclical hormonal change affects a woman's behaviour, decision making, and life, is seen in sexuality education. For example, the well-known tool for sexuality education *It's All One Curriculum* the menstrual cycle provides only the following information:

> **What is the menstrual or ovulatory cycle?**
> We often think of menstruation as the climax of the cycle, but menstruation is just one part of an amazing array of changes that take place during the cycle. These changes are the body's way of preparing for a potential pregnancy. They include producing mucus at the cervix, growing and releasing an egg, and changes in the lining of the uterus. These changes are controlled by hormones (natural chemicals produced by glands in the body

11 Anna Direito, "Scientific bases of fertility awareness", *Health science* 21 (3) (2011): 69–73. http://sm-hs.eu/index.php/smhs/article/view/57/pdf.

12 Obelenienė, Narbekovas, "Evaluation of content", 197–205.

and carried in the bloodstream). These hormonal changes affect many parts of the female body, and also how women feel and function. Knowing about these changes can give a girl or woman a sense of greater comfort and control regarding her own body. A woman can learn simple techniques for identifying when she is ovulating and when her menstrual period is due.[13]

The menstrual cycle, is designed to ensure the maturation of the female gamete (ovum), and to allow a woman to successfully fertilise and implant the embryo, in other words, to ensure a woman's fertility and the opportunity to give birth to a child, is much more than just menstruation and ovulation. It can be stated that a woman's entire fertile life, which begins in adolescence, is embedded in the menstrual cycle. The woman lives in this rhythm. Sexual maturation is known to begin when the hypothalamic-pituitary-gonadal axis is activated when the hypothalamus initiates the release of the pulsating gonadotropin-releasing hormone (GnRH), and the anterior pituitary gland secretes the follicle-stimulating hormone, which in turn triggers the biosynthesis of the sex steroid hormones estrogen and progesterone in the ovary.[14] Fertility-ensuring processes in a woman's life begin as early as her embryonic period, when the female foetus begins to form primordial germ cells. Their number is maximised in the fifth month of prenatal development and reaches up to 7 million.[15] When a girl is born, she has between one and two million primordial follicles, of which only 400–500 complete the genesis of the follicle during ovulation throughout a woman's life,[16] i.e. only a few hundred ova are matured in a woman's entire life. Thus, girls unlike boys, are born with primordial follicles and their numbers are finite. Meanwhile, with boys gametes begin to mature at the onset of adolescence and spermatogenesis occurs continuously. Throughout a man's life, the hard-to-perceive number of gametes (sperm cells) matures, while the number of female gametes (ova)

13 The Population Council, *It's All One Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights Education*, 1 (New York: Population Council, 2011), 261.

14 Pilar Vigil, Leonard F. Blackwell and Manuel E. Cortés, "The Importance of Fertility Awareness in the Assessment of a Woman's Health a Review", *Linacre Quarterly*, Nov. 79 (4) (2012): 426–450.

15 Angelija Valančiūtė, "Prenatal development of the child", in *Medicine, ethics and law about human until birth*. Monography, edit by Andrius Narbekovas, Birutė Obelenienė, in Lith. (Kaunas: Vytautas Magnus university, 2012), 14.

16 Vigil, Blackwell and Cortés, *The Importance of Fertility Awareness*.

does the opposite: in every woman, their numbers only decrease from the time a girl is born until the menopause begins.

The natural change of gonadotropic and sex hormones, estrogens, and progesterone, their fluctuations undoubtedly affect a woman's body, her psyche, and cognitive abilities.[17] The female procreational system is a complex consisting of many hormonal and regulatory components. The proper functioning of this system is critical not only to a woman's fertility, but to her overall health. The regulation of the female procreation system consists of complex interactions between endocrine feedback loops of the hypothalamus, anterior pituitary, and ovary.[18] Therefore, information on the neurohormonal regulation of a woman's menstrual cycle is particularly important in terms of relevant information related to a woman's health, the possession of which gives a woman freedom of choice.

2.1.2. Neurohormonal regulation of the female menstrual cycle

Very often, when it comes to a woman's sexual health, there is a narrow focus on the activities of individual fragments of the woman's reproductive system, most commonly, the ovaries and uterus, as if they were functioning autonomously. The reproductive function of a healthy woman is ensured by a complex, multi-component system that can be compared to a well-composed orchestra, as it is a continuous interaction and feedback-based activity of the female body. No member of this complex system operates autonomously, but is hierarchically subordinate and performs the function assigned to it strictly, thus ensuring the coherent operation of the whole system. This constant communication between a woman's brain centre and the ovaries is called the hypothalamic-pituitary-ovarian (HPO) axis. The hypothalamic-pituitary-ovarian (HPO) axis is a tightly regulated system controlling female procreation.[19] The HPO axis is the functional relationship between the three organs, which

17 Caroline Gurvich, Kate Hoy, Natalie Thomas and Jayashri Kulkarni, "Sex Differences and the Influence of Sex Hormones on Cognition through Adulthood and the Aging Process", *Brain Science* 8 (2018): 163.

18 Hope C. Davis and Anthony C. Hackney, *The Hypothalamic–Pituitary–Ovarian Axis and Oral Contraceptives: Regulation and Function. Sex Hormones, Exercise, and Women* (Switzerland: Springer International Publishing 2017), 1–19.

19 Sasha Mikhael, Advaita Punjala-Patel, Larisa Gavrilova-Jordan, "Hypothalamic-Pituitary-Ovarian Axis Disorders Impacting Female Fertility", *Biomedicines* Mar 7(1) (2019): 5.

control the menstrual cycle: the *hypothalamus* at the base of the brain, the *anterior pituitary gland* just below the hypothalamus and *two ovaries*, one on each side of the pelvis. The pituitary gland acts as an intermediary between the hypothalamus and the ovaries. The exchange of information in the HPO axis takes place thanks to five different hormones secreted by the hypothalamus, pituitary gland, and ovary. These are:[20]

1. **Gonadotrophin releasing hormone** (Greek: *gonas* — gonad, *trophos* — nourishing). Its secretion is stimulated by the hypothalamus. The hypothalamus is located in the central part of the brain and produces several neuroendocrine active substances, the most important of which is a gonadal tropine-releasing hormone (GnRH). Gonadotropins regulate the secretion of sex hormones estrogens, progesterone and androgens. GnRH is rhythmically released every 60–120 minutes and enters the pituitary gland by blood, which stimulates the synthesis of follicle-stimulating hormone;
2. **Follicle-stimulating hormone** (FSH) is a hormone secreted by the pituitary gland that is necessary for the development and maturation of the ovum and for the secretion of estrogen in the follicle cells.
3. **Luteinising hormone** (LH). Another hormone secreted by the anterior pituitary gland that LH in the ovary initiates ovulation, *corpus luteum* maturation and progesterone biosynthesis.
4. **Estrogens** are one of the most important female sex hormones secreted by the ovaries due to HPO axis activity. They determine the formation of a woman's genitals and the development of secondary sexual characteristics.[21] The adrenal cortex and the testicles of men produce small amounts of estrogen. During pregnancy, estrogen is released by the placenta. Estrogens promote maturation of ovum; prepare the female body for fertilisation, foetal delivery, childbirth and nutrition. It affects the metabolism. When a woman's estrogen levels fall, the menopause begins.
5. **Progesterone** is synthesised by a corpus luteum formed after ovulation in a woman's ovary at the site of a ruptured follicle. Progesterone prepares a woman's body to carry and give birth, as well as to feed

20 Birutė Obelenienė, Andrius Narbekovas, Virgilijus Rudzinskas, *Vaisingumo pažinimas ir natūralus šeimos planavimas* (Kaunas: VDU, 2011), 73–74.

21 Davis and Hackney, *The Hypothalamic–Pituitary–Ovarian Axis*.

the newborn. Progesterone is also produced by the placenta during pregnancy.

These hormones and their interactions regulate the entire menstrual cycle, during which the most important events for human reproduction take place: in one of the ovaries the ovum matures, the cervical mucus changes, which becomes sperm-friendly and helps to perform their most important function — fertilise the ovum implantation if fertilisation occurs.

Table 2. HPO axis hormone and its action[22]

Hormone	Source	Action
GnRH	Hypothalamus	Stimulates the release of LH and FSH
FSH	Anterior pituitary	Stimulates E_2 release
LH	Anterior pituitary	Stimulates ovulation
E_2	Ovary	Follicular development, uterine lining
Progesterone	Ovary (minor source), corpus luteum, placenta	Maintains uterine lining

A regular menstrual cycle lasts the entire fertile period of a healthy woman's life, interrupted only by pregnancy and breastfeeding. When the reserve of follicles has been depleted, the production of estrogens decreases, and ovulation becomes rarer until menopause occurs.

Hormonal interactions on the HPO axis, as already mentioned, are regulated by a reversible mechanism through which information from genital changes is transmitted to the brain centers, thus inhibiting or promoting their regulatory activity.

22 Janna S. Gordon-Elliott, Carrie L. Ernst, Madeleine E. Fersh, Elizabeth Albertini, Shari I. Lusskin, Margaret Altemus, "The Hypothalamic-Pituitary-Gonadal Axis and Women's Mental Health: PCOS, Premenstrual Dysphoric Disorder, and Perimenopause", *Psychiatric Times*, Vol. 34, No 10, (2017), https://www.psychiatrictimes.com/view/hypothalamic-pituitary-gonadal-axis-and-womens-mental-health.

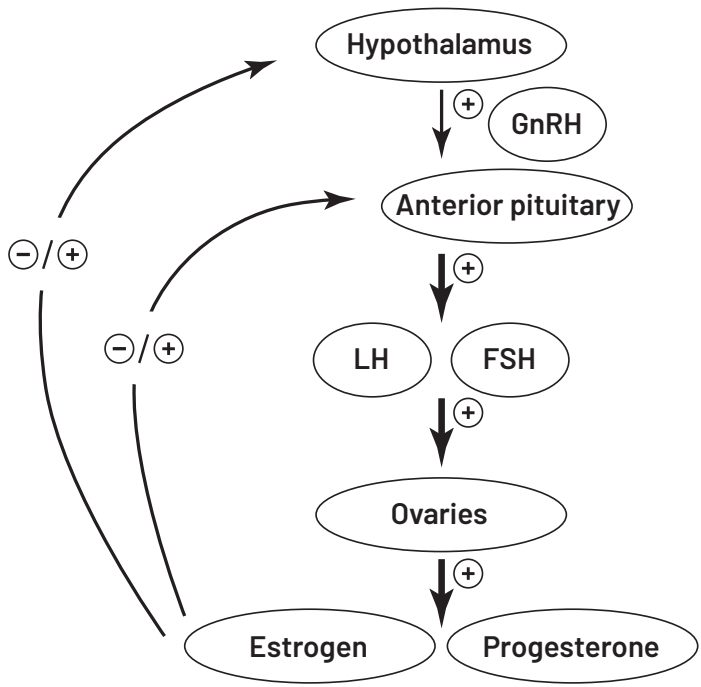

Figure 1. The hypothalamic-pituitary-ovarian (HPO) axis. The hypothalamus secretes GnRH, which prompts the production and secretion of LH and FSH from the anterior pituitary gland, which stimulates the ovary to produce steroids estrogen and progesterone. The normal menstrual cycle is controlled by the predominant negative feedback of estrogen. Mid-cycle, rising estrogen levels exert positive feedback on the system, promoting the LH surge, which triggers ovulation and production of the corpus luteum[23]

2.1.3. The sequence of events in a woman's normal menstrual cycle

Every woman's menstrual cycle is of a different duration. For most women, it lasts 25 to 35 days. The menstrual cycle begins on the first day of menstruation and lasts until the last day before the next menstruation.[24]

23 Ibid.

24 Michel Ferin, "The Hypothalamic-Hypophyseal-Ovarian Axis and the Menstrual Cycle", *The Global Library of Women's Medicine's* (2008), https://doi.org/10.3843/GLOWM.10283.

The menstrual cycle is divided into two successive phases:

I **The follicular phase** which represents the process whereby a follicle is selected and becomes a mature follicle destined to ovulate. This first phase is dominated by estradiol secretion.

II **The luteal phase** when ovulation in response to a large release of gonadotropins, signals the beginning of the second phase, the luteal phase, in which the ovulated follicle is transformed into a corpus luteum.[25]

To understand the factors affecting female fertility, it is necessary to understand the stages of the menstrual cycle process. The main events during the menstrual cycle are as follows:[26]

I The follicular phase

1. At the beginning of the menstrual cycle, when estrogens and progesterone levels are low, this leads to the release of FSH from the pituitary gland, which is initiated by the hypothalamic-secreting gonadotropin-releasing hormone (GnRH);
2. FSH stimulates the development of ovarian follicles. As the follicles grow, they release estrogens. The increasing amount of estrogens cause the following effects:
   2.1. endometrial proliferation: the inner layer of the inner lining of the uterus begins to recover and grow,
   2.2. the secretion of cervical mucus, which varies depending on the amount of estrogens, from adverse sperm survival to helping to fertilise the egg. In fertile mucus, sperm can maintain viability for up to 5 days,
   2.3. the cervix rises, softens, opens up so that sperm can enter more easily. The activity of his glands intensifies.
3. Approximately six days before ovulation, one of the maturing follicles begins to dominate and the others regress.
4. High levels of estrogens secreted from the dominant follicle, together with inhibin B, inhibit FSH secretion from the pituitary gland in order to stop the maturation of new follicles (negative reversible mechanism on the HPO axis). However, the dominant follicle continues to grow.

25 Ibid.
26 Vigil, Blackwell and Cortés, "The Importance of Fertility".

5. As the dominant follicle grows in the ovary, more and more estrogens are released. Peak estrogens levels in the blood are reached when the ovum matures in the follicle. The peak of estrogens stimulates the secretion of luteinizing hormone in the pituitary gland (LH spike), which lasts for 48 hours (positive HPO axis feedback). LH causes ovulation, during which the follicle enlarges and rises on the surface of the ovary. At this stage, the follicle can be up to 2.5 cm in size. Ovulation occurs after 12–24 hours from the peak of LH release. LH is mainly excreted after maximal blood estrogens levels. Under the influence of these hormones, the ovum with follicular fluid is expelled into the abdominal cavity.[27]

II The luteal phase

After ovulation, a *corpus luteum* producing progesterone begins to form at the site of the ruptured follicle.

- Progesterone levels in the blood rises;
- Base body temperature (BBT) rises due to an increase in progesterone. BBT after ovulation rises from 0.2° to 0.4° C;
- The cervix lowers again, hardens, and closes. It reproduces the protective mucus (progesterone-type mucus) that clings to the cervical canal;
- An increase in progesterone affects endometrial proliferation (secretion phase). It lasts approximately from day 15 to 28 of the cycle. The progesterone-induced uterine mucosa thickens. Endometrial gland cells store glycogen. In this phase, the endometrial glands of the uterus take on a spiral shape, become tortuous, and are filled with nutrients, thus preparing to accept new life;[28]
- If fertilisation does not occur, the *corpus luteum* regresses, causing progesterone levels to drop. This means that the *corpus luteum* has a limited lifespan in the absence of pregnancy and will break down approximately 14 days after ovulation, resulting in a reduction in progesterone and estrogens levels;

27 Angelija Valančiūtė, "Vaiko prenatalinė raida", in *Medicina, etika ir teisė apie žmogų iki gimimo* (Kaunas: VDU, 2012), 12–49.

28 Ibid.

- Falling estrogens and progesterone to a critically low level causes two effects (a) if fertilisation has not occurred, the endometrium is no longer supported by progesterone and begins to divide (elimination phase); menstruation begins approximately 14 days after ovulation, (b) inhibition of FSH and LH secretion is abolished, and a new cycle begins.

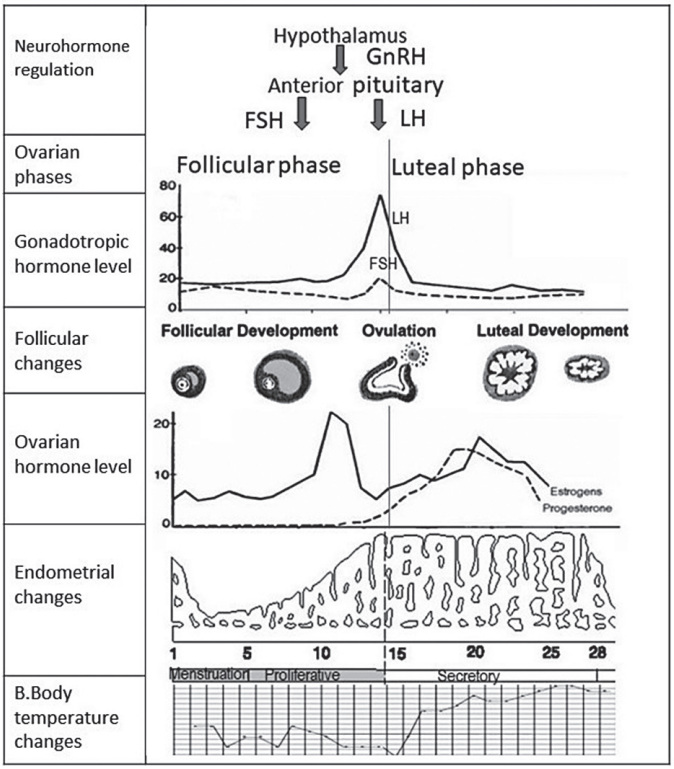

Figure 2. Menstrual cycle. Hormone Levels and Endometrial Changes During the Normal Menstrual Cycle

The phases of the menstrual cycle are usually divided according to which symptoms are observed:[29]

1. Synthesis of gonadotropins — two phases FSH and LH;

29 Obelenienė, Narbekovas et al., *Vaisingumo pažininimas ir natūralus šeimos planavimas*, 92.

2. Synthesis of ovarian hormones — two phases — estrogenic and progesterone;
3. Uterine mucosal changes — phase 3 elimination (menstrual) proliferation (prosperity), secretions;
4. Base body temperatures — two phases: low temperature and elevated temperature

The figure 2 shows a general view of the menstrual cycle, showing all the above phases.

During the menstrual cycle, some of the effects of ovarian hormones — changes in the cervix and its mucus and an increase in base body temperature, can be observed externally. The daily observation of these effects and their records is the basis the fertility awareness.

2.1.4. Functions and importance of cervical mucus in female fertility

Cervical mucus is essential to achieve pregnancy. Indeed pregnancy cannot occur without the presence of mucus. Cervical mucus has an indispensable role as it controls the movement and filtering of sperm from the vagina (where they are deposited) into the cervix and from there to the uterine cavity. Furthermore, cervical mucus functions as a filter for sperm[30]. The work of researchers and in particular, Professor Erik Odeblad, has contributed greatly towards an understanding of the role of cervical mucus in fertility. Cervical mucus consists essentially of two parts: an aqueous solution and the mucin which are glycoproteins forming a three dimensional network.[31] Cervical mucus is produced at a different location in the cervix and at different times during the menstrual cycle. Mucus is classified (classification according to E. Odeblad) by marking them with one capital letter derived from the first English word that describes the most important function of the mucus.[32]

30 European Institute for Family Life Education, *NFP Teachers' Training Course* (FEDRA Workgroups, 2017), 121.

31 Direito, "Scientific bases of fertility awareness", 69–73.

32 Mikaela Menarguez, Erik Odeblad, Helvia Temprano, "Recent research in cervical secretion: some biophysical aspects", *Health science* 21, No. 3 (2011): 55–60.

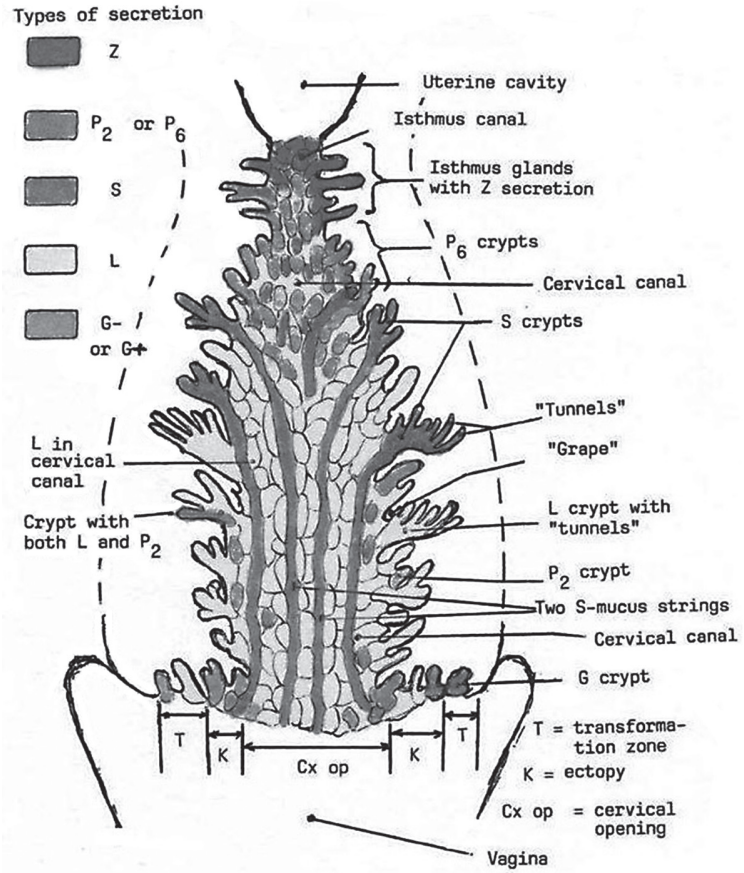

Figure 3. Odeblad's diagram shows that the four mucus types are produced in specific crypts in different areas of the cervix[33]

G (Gestagen — progesterone) protective mucus is formed by an increase in progesterone in the blood, i.e. in the infertile phase. Two subtypes of G mucus have been identified: G — occurs immediately after menstruation and G+ — after ovulation. These mucus are thick, and contain 90% water which does not crystallise. Type G mucus plays a protective role — it sticks to the cervix immediately after menstruation and after ovulation, thus protecting

33 Ibid.

a woman's genitals from infection. During pregnancy, they form a tight stopper that seals the cervical opening. The mucus are also impermeable to sperm.

L (Locking-in mucus) is a mucus that acts as a biological filter. They begin to produce at a moderate level, increasing estrogens levels during the fertile phase. This mucus performs several very important functions:

- neutralise the acidic vaginal environment, thus protecting sperm,
- traps and stops defective sperm from entering into the uterus.

Mucus contains 95–96% water. The mucus contains Na+ and K+ ions, so they crystallise to form fern-like crystals. This feature is used for the instrumental recognition of the fertile phase.

S — (sperm transmission mucus- sperm-transporting) mucus is produced in the upper part of the cervix at high estrogens levels, 2–3 days before ovulation.[34] These are the most liquified mucus with up to 98% water. With their help, the sperm are able to swim to the egg and fertilise it. S mucus crystallises and forms structures in parallel lines. S mucus is the most fertile mucus, i.e. they have the longest survival rate of sperm. Magnetic resonance imaging has shown that the water in this mucus greatly facilitates the movement of sperm towards the ovum.

The mucin fibres in the S mucus are arranged along the channel from the sides surrounded by L mucus, forming crystals in the form of "fern leaves". Viable sperm rises through the S mucus like tubules up the cervical canal. Most of them stay in the cervical niches for several hours or even days, and the concentration of normal sperm found in the abdominal cavity is higher than the concentration of normal sperm in the cervical mucus and the worse ones are stuck in the thicker L mucus. There is obvious filtration because healthy sperm found in the cervix are more present than in the cervical mucus.

P mucus: their production is influenced by the amount of estrogens, and they occur during the peak days of mucus, which means the day of ovulation and the following day.[35] They form very specific hexagonal crystals. On the days of their appearance, there is also an increase in the mucolytic enzyme that drains from the constricted part of the uterus. P mucus, according to Odeblad, consists of two subtypes: P2 mucus, which acts mucolytically, and P6 mucus, which directs the seed from the S crypts towards the uterus.

34 Ibid.
35 Ibid.

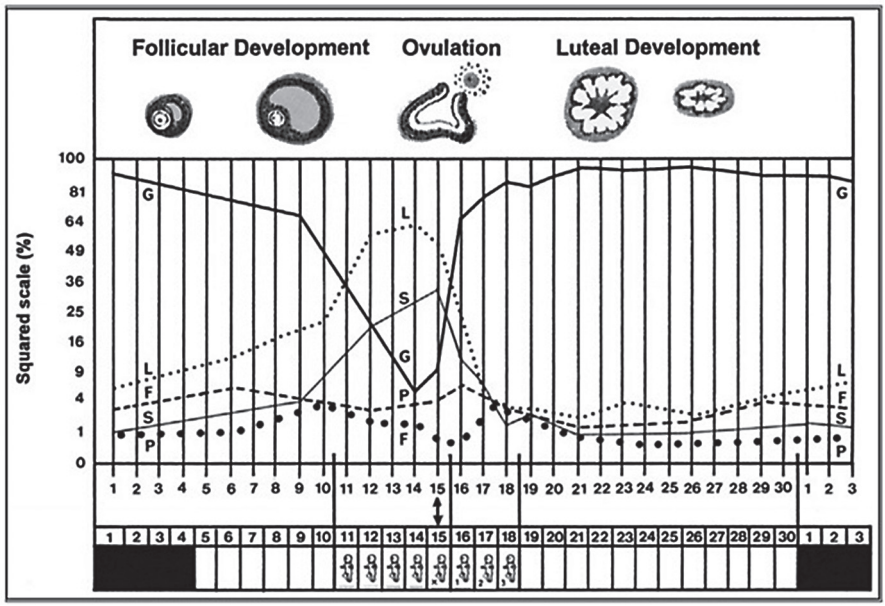

Figure 4. The percentages of mucus subtypes during the cycle. The cycle is from a 15-year-old high school girl charting with BOM. The relative amounts of S, L, G, P, and F are shown, as well as the day of ovulation[36]

As a woman ages, the ratio of cells in the cervical niches that produce different mucus changes. Young girls are dominated by S mucus-producing cells, which later transform into L cells and as the menopause approaches towards G. Pregnancy, the aging process is slowed in these niches, and hormonal contraceptives accelerate.

Every fertile woman can testify that more or less mucus appears from the vagina during the cycle. Prior to the ovulatory phase, mucus production in the cervical niches gradually increases from 2 to 60 mg to 700 mg per day. In parallel, mucus density and cellularity decrease, pH increases. The increasing amount of estrogen in the fertile phase stimulates the activity of the cervical glands; the mucus produced appears on the outside.[37]

36 Direito, "Scientific bases of fertility awareness".
37 Obelenienė, Narbekovas et al., *Vaisingumo pažininimas ir natūralus šeimos* planavimas, 101.

2.1.5. Fertilisation

Fertilisation takes place in the widest part of the fallopian tube — the ampoule. To this point, the sperm travel almost 20 cm to the woman's genitals. Sperm travel the distance of their body length per second, so it takes them about an hour to reach the outer third of the fallopian tube.

The ovum and the surrounding follicular cells secrete certain chemicals that help the sperm move towards the ovum.[38] Although many sperm usually reach the ovum, at the time of fertilisation only one of them, with the help of enzymes, penetrates through the outer layer of the ovum and merges with the ovum. New human life begins with fertilisation.

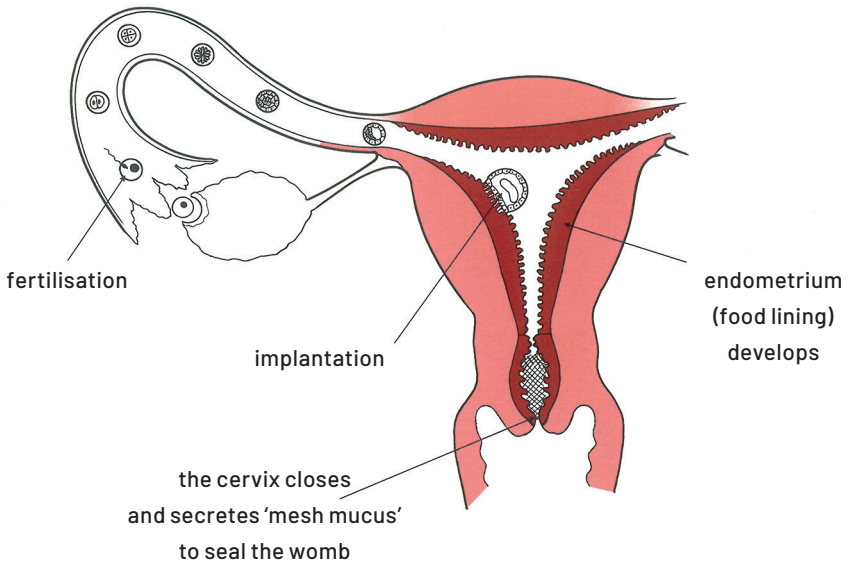

Figure 5. Female internal genitalia, fertilization and implantation scheme

The characteristics and sex of the new human are determined at the moment of ovum and sperm DNA fusion. Immediately after fertilisation, a single-cell embryo begins to grow by constantly dividing into new cells. Approximately 30 hours after fertilisation, the embryo is made up of two cells.

38 Valančiūtė, "Vaiko prenatalinė raida".

After 68 hours, there are 16 cells. At the same time, with the help of the hair covering the fallopian tube (*cilia*) and the contraction of the fallopian tube muscles, the embryo is carried towards the uterus. When the embryo reaches the uterus, the lining of the uterus is ready for implantation and pregnancy. About six to nine days after fertilisation, the embryo settles in the wall of the uterus, where it will live for the next nine months.

As mentioned previuosly, fertility is not a purely personal trait, as it requires a person of the opposite sex to make it happen, i.e. only through a woman can a man become a father and only through a man can a woman become a mother. In this case, it can be argued that fertility is a general category. However, two different germ cells are not enough to start a new life, as is usually the case when speaking about fertilisation, because the beginning of life requires six compatible components:

1. A healthy and viable ovum.
2. Healthy and viable sperm.
3. Healthy fallopian tubes that perform several functions: during ovulation, the fallopian tube begins to move actively. Its cones approach the ovary and only then can the ovum enter the fallopian tube after ovulation. Substances secreted by the mother's fallopian tube affect fertilisation. Secretory cell products provide ovum nutrition. The secretion of these cells also activates and sperm. Peristalsis of the fallopian tubes is necessary for the embryo to successfully reach the uterus and to implant.[39]
4. A healthy inner layer of the uterus attached to it (implanted) and fed to the embryo.
5. Fertile mucus, as it is the only way to keep sperm viable, to be able to move and to fertilise the ovum.
6. Harmonious spousal relations.

39 Valančiūtė, "Vaiko prenatalinė raida".

2.2. Similarities and differences in female and male fertility

Both female and male fertility are ensured by the activity of the hypothalamic-pituitary-ovarian / testicular axis. There are some similarities and differences between female and male fertility.

Similarity:

- Depends on the activity of the hypothalamus — pituitary — gonadal axis hormones.
- Hormones from both the brain and gonads affect the maturation of gametes.
- A new life begins with the merging of one female and one male gamete, and an equal number of 23 chromosomes are involved in starting a new life;
- Hormones from both female and male gonads (estrogens and progesterone, which are synthesised in a woman's ovaries, and testosterone, which is synthesised in a man's testicles), lead to the formation of primary and secondary sexual characteristics.

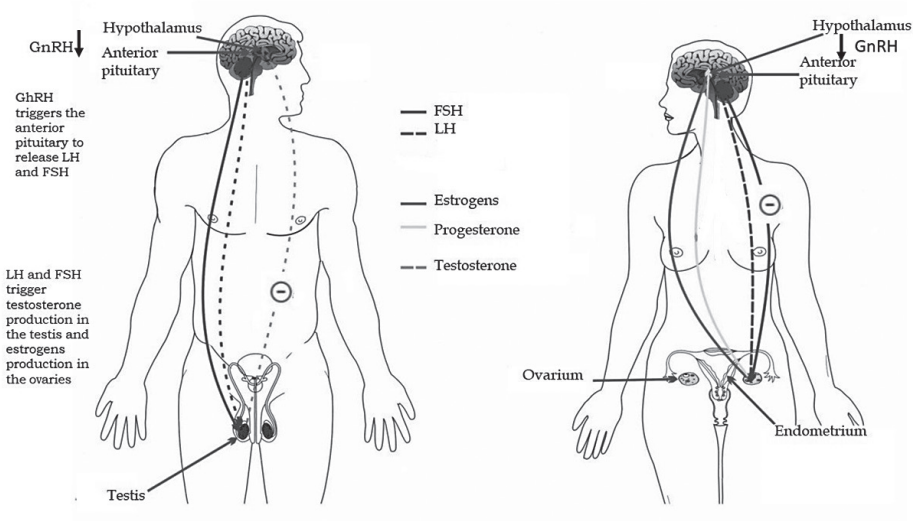

Figure 6. The schema of neurohormone regulation

Comparing the signs of female and male fertility as shown in Table 3, one can clearly see the essential differences between female and male fertility.

Table 3. Differences in female and male fertility[40]

Features	Woman	Man
Fertile throughout life	≈13–50 (±5) years	≈ From 13 until old age
Fertile throughout month	≈8–10 days	30–31 days
Gamete size	Ovum The largest cell in the human body, visible to the naked eye	Sperm cell One of the smallest cells, 2000 times smaller than the ovum
life span	After ovulation, it survives in the fallopian tube for up to 24 hours	Once in the female genital tract during the fertile phase of the cycle, it survives for up to 5 days; during the infertile phase — only a few hours

40 Obelenienė, Narbekovas et al. *Vaisingumo pažinimas ir natūralus šeimos planavimas*, 87.

Features	Woman	Man
number	One ovum matures in a month and about 400 in a woman's entire life. A girl is born with a finite number of primordial follicles	≈1000 units per second; about 300–500 million per sexual intercourse
place of maturation	In the ovaries, the genitals are inside the body	in the testicles, the genitals are outside the body
Sex of the child	Does not determine the sex of the child	Determines the sex of the child
Procreational act	It begins with sexual intercourse It takes place in own (female) body	Ends with sexual intercourse Takes place in another person (woman's) body
Germ cell maturation	Cyclic	Constant
Sex hormones	Estrogens, progesterone	Testosterone

Based on this comparison, a very important conclusion can be made about female and male fertility. Female fertility is variable. A woman is fertile only for a certain part of her life and only for a few days each month. Male fertility is permanent. A man is constantly fertile, his gametes are produced constantly, and there a lot of them. Consequently, the cyclical changes in a woman's body with one gamete maturing each month can hardly be equated to the millions of sperm maturing in a man's body in a short time.

2.2.1. The effects of natural steroid sex hormones on the female body

Very often when talking about a woman's sex hormones — estrogens and progesterone, they are usually remembered for their importance as part of a woman's reproductive function, and for the formation of primary and secondary sexual characteristics. However, steroid sex hormones — estrogens and progesterone — are essential not only for a woman's sexual health and for fertility, but also for a woman's overall well-being — her health, social, and spiritual life. Estrogens, the so-called target organs, act through the corresponding estrogens receptors, which are present in the tissues of the

mammary glands, cells of the cardiovascular system organs, liver, skin, lungs, and internal organs. Receptors are also located in different areas of the brain.[41]

The effects of ovarian sex hormones on the female reproductive system and their influence on the overall function of the body are presented in table 4.

Table 4. Effects of natural steroid sex hormones[42]

	The effect of estrogens on the female body	The effect of progesterone on the female body
The genital system	promotes genital development, breast growth, and pigmentation; promotes vaginal epithelial growth and horniness; important for the development of secondary sexual characteristics	promotes the development of mammary glands
	stimulates the cervical glands to produce fertile mucus	the cervical glands only produce thick, sticky, protective mucus
	the cervix softens, rises, and opens	the cervix lowers, closes, hardens
	promotes regeneration and growth of the endometrium after menstruation	stimulates the secretion of the uterine lining, finally preparing the uterine lining for the implantation of an embryo
	promotes maturation of the ovum	important for the maintenance of pregnancy, progesterone affects the rise in base body temperature (BBT)
	important for sexual behaviour	restricts the development of primary follicles
For other body systems	Promotes the synthesis of proteins in the liver that bind iron, sex hormones in the blood	increases the sensitivity of the respiratory center to CO_2
	Promotes the accumulation of calcium in the bones	inhibits the central nervous system
	Promotes blood clotting and inhibits antithrombin synthesis in the liver	reduces the amount of amino acids in the serum, promotes the excretion of nitrogenous substances in the urine
	Expands blood vessel capillaries	
	Supports the tone and elasticity of the structures of the genital and urinary systems	

41 Rūta Nadišauskienė (sud.), *Ginekologinė endokrinologija* (Kaunas: Vitae Litera, 2009), 11.

42 Obelenienė, Narbekovas et al. *Vaisingumo pažinimas ir natūralus šeimos planavimas*, 82.

In recent decades, there has been particular interest in the effects of female exogenous sex hormones on a woman's brain function, partner choice, appearance changes, and so on. Studies have shown that cyclic changes in estrogen and progesterone are strongly associated with the assessment of a woman's attractiveness to the male — a woman is most attractive when the amount of estrogens is at its highest, i.e. near ovulation.[43]

43 David A. Puts, Drew H. Bailey, Rodrigo A. Cárdenas, Robert P. Burriss, Lisa L. M. Welling, John R. Wheatley, "Women's attractiveness changes with estradiol and progesterone across the ovulatory cycle", *Hormones and Behavior*, Jan. 63 (1) (2013), 13–19. https://doi.org/10.1016/j.yhbeh.2012.11.007.

2.3. Differences in the sexual drive between a woman and a man

Throughout living nature, the sexual instinct is a condition for the survival of a species. In this sense, the human sexual drive is also a condition for the existence of humanity as a species of *homosapiens*. "The existence of the whole species *Homo* depends directly on it. The species could not exist if it were not for sexual urge and its natural results."[44] A human can function and create only because he is, of this kind, i.e. the presence of the species, "existence of the species *Homo* is the first and basic good for that species. All other goods derive from this basic good".[45] Consequently, human sexual drive is not only a natural force, but also the only condition that guarantees human existence, so it has another, more important than natural, existential meaning. Human existence is not only the object of research in the natural sciences, but in the study of philosophy. Therefore, only by looking philosophically at the sexual drive as the very cause of human existence can one find its true meaning. "If the sexual urge has an existential character if it is bound up with the very existence of the human person — that first and most basic good — then it must be subjected to the principles which are binding respect of the person".[46] A truly humane approach to sexual drive must be based not only on the principles of science but also on philosophy and ethics, because the sexual drive is related to the beginning of human life — fertilisation and human life is a core value of medical ethics.[47]

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44 Karol Wojtyla, *Love and Responsibility* (San Francisco: Ignatius Press, 1993), 51.

45 Ibid.

46 Ibid., 52.

47 Andrius Narbekovas, "Prenatalinė etika", *Medicina, etika ir teisė apie žmogų iki gimimo* (Kaunas: VDU, 2012), 142.

2.3.1. Differences in sexual drive and sexual instinct

Sexual drive as a condition of human existence is an undoubted good. However, this natural, generative power is made truly human and personal by the ability to control it. Self-control, as a defensive reaction to the forcible invasion of the blind force of nature, is always related to the person's ability to decide." The person feels the need, natural to a reasonable being, to defend itself against the forces of sensuality and concupiscence, above all because their invasion threatens its natural power of self-determination".[48] Sexual drive differs from sexual instinct in that the essence of drive lies in the ability to control and of self-determination. The animal is controlled by instincts: in case of any need (hunger), the same external stimuli (smell of prey, image) inevitably encourage the same actions (attack, grab). Drive is a certain orientation (directionality) of the whole human being related to the very nature of that being. However, one is able to reflect on the relationship between the means and the goal and chooses the means according to the goal pursued.[49] In other words, the nature of sexual drive, unlike instinct, involves the human mind and will, i.e. the human person is not just his body.

2.3.2. Two dimensions of sexual drive: personal and social

The fact that sexual drive is a condition of human existence, and the fact that sexual drive is a characteristic common to all people, makes it, in a sense, ambiguous: on the one hand, it has to do with a very personal human space, and until recently, it was even indecent to speak in public about one's sexual drive. On the other hand, it is societal becoming more and more public and often the public space is simply overflowing with various discussions and images on topics that arouse sexual drive. The fact that the sexual drive is a condition of human existence, and that the sexual drive is a characteristic common to all people, makes it in a sense, ambiguous: on the one hand, it has to do with a very personal human space, and until recently, it was even indecent to speak in public about one's sexual drive and desire. Entertainment has been enriched with information about the ways of arousing sexual

48 Wojtyla, *Love and Responsibility*, 196.
49 Ibid.

desire and the psychophysical experiences it causes for women and men. The latter, for the most part, make up the bulk of the written and visual works of the humorous genre. However, on a personal level, people are not inclined to share their own experiences caused by their sexual drive. Therefore, this trait, more than any other, is speculated in the public sphere to reinforce the consumerist side of sexual drive. In the most popular concept, sexual pleasure is equated with sexuality as its synonym. But sexuality encompasses all sides of human existence — physical, mental and spiritual. The sexual drive and sexual pleasure are an integral part of it.

The sexual drive and desire are inseparable from sexual intention. Sexual drive as generative power seeks self-realisation. Sexual drive is an integral part of human sexuality; every human sexual desire can have different sexual intentions. The dominance of different intentions forces a person to behave differently. In a general sense, there are three sexual intentions:

1. To express love, which includes responsibility, sensuality, and intimacy.
2. Procreational intention — to create a baby;
3. To experience sexual pleasure.

Christian anthropology treats the human person as an inseparable sexual, bodily person. The expression of sexual drive is made the most human act when these three intentions are inseparable too. "Hence, although the sexual urge is there for man to use, it must never be used in the absence of, or worse still, in a way which contradicts, love for the person".[50] It follows then that "sexual intercourse does not express a comprehensive human experience, but is merely quenching of sexual desire, then we are talking about the dehumanizing of sexual intercourse. Dehumanising occurs when a physiological sensation becomes a substitute for love, when the purpose of such an act is sexual satisfaction rather than a union of individuals".[51]

A woman's sexuality is judged by how well she is able to arouse the sexual desire of a person of the opposite sex. However, her sexuality is judged, not in the context of fertility, although it is precisely the cyclical changes that take place in a woman's body and the attitudes that affect them that are precisely related to generational power: as mentioned, a woman becomes much more attractive during the fertile phase. The societal dimension of sexual drive

50 Ibid.

51 Birutė Obelenienė, Andrius Narbekovas, Jonas Juškevičius, "Anthropological and methodical differences of natural family planning and fertility awareness-based methods", *Linacre Quarterly* 88 (1) (2021): 18, https://doi.org/10.1177/0024363919886517.

today more than ever, has acquired a consumerist expression that it seeks to present as a human right, i.e. a person's right to sexual pleasure. The fact that there is no law with the opposing statement: that a person has no right to sexual pleasure, is the question of *why should this right exist*?

The right to sexual pleasure is nothing more than the right to have sex without obligation, love, marriage, violence, coercion, and the consequences (commonly referred to as STIs, pregnancy, and HIV). In other words, the essentials of human existence: love, marriage, commitment, and children are shaken by criminal acts like coercion and violence or by a sexually transmitted infection. The social dimension of the sexual drive is focused only on sexual pleasure.

Gradually, the sexual drive becomes more and more social, displacing the personal dimension. According to Michel Foucault, today sex is the most speculative, ideal element of sexuality, which business structures and government begin to regulate, capturing the body, its materiality, its strength, sensations, and pleasures.[52] The artificially developed theory of lust (sexuality) has performed many functions, from which, according to Foucault, the three most important functions can be distinguished:

- the concept of "sex" allowed to regroup of anatomical elements, biological functions (to distinguish sexual intercourse from procreation), actions (to present this as the basis of human freedom and rights), feelings, and pleasures according to an artificially created order,
- allowed this fictitious compound to function as the cause of the decisive principle, the ubiquitous meaning, the mystery that must be demonstrated everywhere,
- the third function permeates and supports the first two, i.e. through sex — as an imaginary target set by lust — must pass through anyone who tries to perceive himself and achieve his/her identity, because "sex" connects them with a special personal history, i.e. sex makes you feel like a sexual being.

Artificial birth control is also part of the human control system brought about by turning sex into a commodity, so the portrayal of a woman as a sex object and birth control are inseparable, and sexuality education in this case

52 Michel Foucault, *Seksualumo istorija*, (Vilnius: Vaga. 1999), 120.

serves as one of the means of birth control and objectifying as well as the enslavement of women.[53]

As mentioned earlier, only the ability to direct the sexual drive, as a truly natural, generative power, the "raw material of love" towards a person of the opposite sex (not just the body) and use it to create love, personifies and liberates the person, making them whole in themselves. Otherwise, the people allow themselves to be overwhelmed by the social dimension of sexual drive and lose their freedom.

2.3.3. Is the realisation of sexual drive vital for a person?

The construction of sexual pleasure as a human right, together with all other human rights, presupposes the understanding that the realisation of this right is vital. However, sexual drive is different from other physiologically vital human needs, such as food and drink. Food and drink are necessary to sustain a person's life and sexual drive — for the survival of the species *Homo sapiens.* However, attempts have often been made to prove that the satisfaction of the sexual drive of a person is as vital as eating and drinking. The presumption of hunger (the body's signal that the body needs food) and sexual drive (the signal that sexual discharge is necessary) presupposes irresponsible sexual behaviour, the main characteristic being the use of another person. Another quite common mistake, often occurring in sexuality education: is when sexual desire is separated from a generation and sex is understood as the fastest and probably the only way to perceive oneself as a sexual being. In the latter case, the human sexual drive is not properly perceived in either an existential or natural sense. The sexual drive as a condition of human existence, the raw material of love is a huge power (good in itself). However, it becomes a moral good only when it is transformed and personalised by the inner, mental, and spiritual powers of the person. Although love grows and is formed on the basis of sexual attraction, according to Wojtyla, it is created "by the person of his own free, will" i.e. integrates sexual drive into love through active willpower.[54] Therefore, truly mature sexuality is characterised by integrity of

53 Birutė Obelenienė, Andrius Narbekovas, "Moters lytinio tapatumo paieškos modernėjančioje visuomenėje", *Soter* 21 (49) (2007): 43–63

54 Wojtyla, *Love and Responsibility.*

lust and love, which, according to Coleman, is expressed by intimacy.[55] Not only does intimacy make sexuality truly human and authentic, but integrity and intimacy separate the person from the animal.[56] E. Erikson emphasises that true intimacy "adheres to commitments" that require "ethical forces" and that this goal may require an "ability to sacrifice".[57] Fully human, sexuality also integrates lust and tenderness, which one does not exist without the other, as tenderness in human sexuality becomes the bond between two persons. Gentleness, unlike lust, expresses a desire to be together and a human task to try to integrate them into a truly "human conversation."[58]

2.3.4. The differences in the expressions of female and male sexual drive

The different natures of women and men also influence the different expressions of their sexual drive. The cyclical nature of a woman's gametes cell maturation makes her fertility variable, rhythmic. Meanwhile, male fertility is not rhythmic, i.e. male fertility is constant, female fertility is variable. A new life begins and grows in a woman's body. A man's generative (procreative) act ends with sexual intercourse, a woman's opposite — it begins and continues in her body throughout the development of new life until birth. Thus, a woman naturally associates sexual intercourse with higher experiences than a man would. A woman's sexual drive is more personalised, more focused on the feelings rather than the senses, more realised in mental, emotional love, and in the man's case — more sensual. Existing literature reviews indicate that men "tend to hold more positive attitudes toward casual (uncommitted) sexual activity, and report engaging in various forms of sexual activity to a greater extent than women".[59] For a man, an image of any part of a woman's body or a piece of clothing can become a sexual stimulus. The male sexual impulse rises suddenly, caused by irritating images. Their source may not necessarily be a familiar, real, and a woman might not be close at hand,

55 G. D. Coleman, *Human sexuality. An All-Embracing Gift* (NY: Alba House, 1997).
56 Wojtyla, *Love and Responsibility*, 56.
57 Erick Erikson, *Childhood and Civilization* (New York: W. W. Norton & Co., 1963), 263.
58 Wojtyla, *Love and Responsibility*.
59 Pamela C. Regan, Leah Atkins, "Sex Differences and Similarities in Frequency and Intensity of Sexual Desire", *Social Behavior and Personality* 34 (1) (2006): 97.

so he is more primitive in this regard. Meanwhile, for a woman, sexual drive is caused not by the man's appearance, but by the inner qualities revealed in the man's behaviour first in speech. Therefore, the actualisation of a woman's sexual drive requires the presence of the person himself and is more personalised. It takes more time for a woman to actualise her drive than for a man. She also needs more time to return to her original state of rest. A man's lust is more impulsive, requiring more immediate fulfillment, activating an impersonal image of a woman's body or parts of it, and not requiring the presence of the person themself. It takes less time for both a man's sexual impulses to rise and to calm down. Thus, for a man, sexual impulses are caused by the image of a woman's (not necessarily real) body, and for a woman by the presence of a specific person (conversation, touch, etc.). A woman's expression of sexual drive is more continuous than a man's. In sex, she is more likely to see tenderness, love, and care. The results of the P. E. Regan and L. Atkins study confirmed that men have stronger and more frequent sexual desires than do women.[60] Based on a number of studies reviewed, it can be concluded that there are four fundamental differences between women and men in the field of sexual desire. First, men show greater sexual desire than women. Second, women place more emphasis on committed relationships than men in the context of sexual pleasure. Third, aggression is more associated with male sexuality than with women. Fourth, women's sexual desire is more plastic, and can change over time. These sexual differences between people of different genders are pervasive, affecting thoughts and feelings as well as behaviour, and they describe not only heterosexuals but also homosexuals.[61]

Roy F. Baumenster and his co-authors conducted a systematic review of the scientific literature on the subject to identify differences in sexual desire between women and men. At the beginning of the study, a summary of all articles published in the Journal of Sex Research from 1965 to 2001 were read, and articles on sexual motivation were selected accordingly. The authors then reviewed the Archives of Sexual Behaviour in search of articles on the same principle up to 1990. Selected articles review the cited literature sources in search of data on the difference in sexual motivation. Finally, from the electronic databases, PsychINFO (1967–2001), MEDLINE (1966–2001), articles

60 Ibid.

61 Letitia Anne Peplau, "Human Sexuality: How Do Men and Women Differ?" *Current Directions In Psychological Science* 12 (2) (2003), https://peplau.psych.ucla.edu/wp-content/uploads/sites/141/2017/07/Peplau-2003.pdf.

were searched by keywords, from which only those that analyse the usual population and physiological aspects of sexuality were selected. The authors of the study sought to answer the question by selecting several sexuality criteria: sexual motivation, change of sexual partners, sexual fantasies, and the frequency of desired sex. Different studies based on meta-analyses suggest that men's sexual fantasies are more frequent and diverse They involve more different partners than women in fantasies and involve a wider range of sexual intercourse practices than women. These fantasy differences indicate higher sexual desire in men.[62]

Desired frequency of sex. Evidence from many sources reviewed proves that men want sex more often than women. The authors seem to argue that this is true in both homosexual and heterosexual relationships and at all ages and stages of relationships.[63]

Desired number of sexual partners. The data analysed in the study show that men are more motivated than women to have a significantly higher number of sexual partners.[64]

Men, much more often than women, associate sexual intent with pleasure alone -masturbation and watching pornography. All of the studies that were consulted, found that men masturbate more often than women, and the reason seems to be related to the desire for the satisfaction that is derived from sexual pleasure. For example, a study in Germany of 16 and 17 year-olds found that 80% of boys and only 25% of girls masturbated during the previous year, boys did it at least 5 times a month, girls — once.[65] Women are much less interested in pornography and spend significantly less money on it than men. Thus, lower masturbation in women leads to the conclusion that they have a milder libido than men.[66]

Attitudes towards sex differences between women and men. The results of all the studies that women's and men's attitudes to casual sex consistently show that women are significantly more virtuous than men and that they are

62 Roy F. Baumeister, Kathleen R. Catanese and Kathleen D. Vohsis, "Is There a Gender Difference in Strength of Sex Drive? Theoretical Views, Conceptual Distinctions, and a Review of Relevant Evidence", *Personality and Social Psychology Review*, Vol. 5, No. 3 (2001): 246.

63 Ibid., 247.

64 Ibid., 251.

65 Ibid., 262.

66 Ibid., 255.

much more critical of laxity, promissiveness, prostitution, extramarital sex than men.[67]

Sexual abstinence. A review of many studies has found that women are much more likely than men to endure long-term sexual abstinence due to changes in life situations, loss of a partner, or voluntary choice. Even for catholic priests and nuns for whom the single standard of absolute purity it is clear yet the evidence suggests that nuns are far more successful than priests at achieving this ideal. Thus, aggregated research data confirmed that it is significantly easier for women than men to forego sexual satisfaction.[68]

A systematic review of the literature published by Ihab Younis and Sherine H. Abdel-Rahman aims to answer the question, "Is there a difference between a woman's and a man's sexual desire". The study found that men experience more frequent and intense sexual desire than women. This applies to both quantitative and qualitative aspects.[69]

In a general sense, sexual motivation can be separated into the internal and external. Intrinsic motivation is described as the desire to perform an action in the name of direct satisfaction from performing the action itself. In contrast, extrinsic motivation (arising from the outside) is described as the desire to take action because of the consequences that the action will bring. In other words, for those with external motivation, the action is a means to achieve the goal (consequences), and for those with internal motivation, the action itself is a goal.[70] When applied to sex, the extrinsic motivation concept means that people may desire to engage in sex, not for the sake of enjoying the sexual activity itself, but because it serves as a means toward a desired end. Although extrinsic motivations do not attest to the existence of in intrinsic drive and hence are not directly relevant to the question of drive strength, they can be quite powerful and effective at affacting behaviour. Extrinsic motivation may be especially relevant to female sexual motivation because of the plasticity of the female sex drive. Based on a broad literature review, it can be argued that the female sex drive is more responsive than the male drive to situational and cultural influences, and a greater susceptibility to extrinsic

67 Ibid., 259.
68 Ibid., 256
69 Ihab Younis and Sherine H. Abdel-Rahman, "Sex difference in libido", *Human Andrology* 3 (2013): 85–89.
70 Baumeister et al., "Is There a Gender Difference", 262.

motivators would be a plausible extension of that pattern.[71] Regan and Berscheid (1996) found that more women than men (35% / 13%) described love and emotional intimacy as important goals of sexual desire; whereas men were more likely than women (70% / 43%) to say that, the sexual activity itself was the goal of sexual desire. These results are consistent with the view that men are more intrinsically, and women more extrinsically motivated by sex. Male desire aims at the sexual activity itself, whereas female desire aims beyond it towards other outcomes and consequences.[72] Unfaithful men far outnumbered women in the category of one-night stands (29% / 5%), whereas unfaithful women outnumbered men in the category of long-term love relationships (41% / 11%).The use of sex to obtain love is related to the motive to maintain a relationship. The most common reason stated by women regarding initiating sexual activity was to receive love and intimacy.[73]

2.3.5. Sexual pleasure, sexual rights, and consent: is it favourable to a woman?

As mentioned previously, the definition of reproductive health was adopted in 1994 at the Social Development Conference in Cairo at the 1994 International Conference on Population and Development (ICPD) and at the 1995 Fourth World Conference on Women, in Beijing (FWCW). In recent decades, there has been a growing debate not only about reproductive health but also about sexual health, which clarifies the concept of reproductive health by naming what in the concept of reproductive health could only be counted between "lines", "abortion" and "sexual pleasure". According to the WHO description, "Sexual health today is widely understood as a state of physical, emotional, mental and social wellbeing in relation to sexuality. It encompasses not only certain aspects of reproductive health — such as being able to control one's fertility through access to contraception and abortion, and being free from sexually transmitted infections (STIs), sexual dysfunction and sequelae related to sexual violence or female genital mutilation — but also the possibility of having pleasurable and safe sexual experiences, free of coercion,

71 Ibid., 263
72 Ibid.
73 Ibid.

discrimination and violence."[74] According to Jennifer Oriel, the Association of Sexologists has worked closely with WHO since 1983 to describe sexuality and sexual health. The work was completed at a meeting between WHO and the American Health Association in 2000, during which WHO agreed to endorse the World Sex Association's Declaration of Sexual Rights.[75] According to this declaration, sexual rights are fundamental human rights and the right to sexual pleasure is listed among the eleven most important principles.[76] There are currently up to five declarations or documents pertaining to sexual rights, and as many as four of them offer the recognition of sexual pleasure as a human right. According to Oriel, the authors of these declarations use gender-neutral language to describe sexual rights and sexual pleasure, and nowhere is it explained how sexual rights and sexual pleasure as human rights can affect a woman and a man differently.[77] As already discussed, the sexual desires of men and women are completely different. The use of gender-neutral language in relation to the right to sexual pleasure, despite these fundamental differences, can be very dangerous for a woman, especially if the concept of the human right to sexual pleasure and agreement is introduced from adolescence, i.e. mutual consent as a prerequisite before achieving it. The UNESCO International technical guidance on sexuality education (Guidance) pays a great deal of attention to consent, which is one of the key concepts under discussion:

> Everyone has the right to be in control of what they will and will not do sexually, and should actively communicate and recognise consent from their partners[78].

It must be acknowledged that the Guidance emphasises the differences between the male and female body with regard to sexual behaviour: "Compare and contrast how a man's and a woman's body are treated differently, and the

74 WHO. *Sexual health, human rights and the law* (WHO: 2015), https://www.who.int/reproductivehealth/publications/sexual_health/sexual-health-human-rights-law/en/.

75 Jennifer Oriel, "Sexual pleasure as a human right: Harmful or helpful to women in the context of HIV/AIDS?", *Women's Studies International Forum* 28 (5) (2005): 392–404, https://doi.org/10.1016/j.wsif.2005.05.002.

76 Pan American Health Organization and World Health Organization, *Promotion of Sexual Health: Recommendations for Action* (Guatemala: Antigua Guatemala, 2000), http://iris.paho.org/bitstream/handle/10665.2/42416/promotionsexualhealth.pdf?sequence=1&isAllowed=y.

77 Oriel, "Sexual pleasure as a human right".

78 UNESCO, *International technical guidance*, 56.

double standards of sexual behaviour that can affect consensual sexual behaviour",[79] but it must be emphasised that free consent is not limited to bodily differences. A man significantly more aggressive compared to a woman and tends to seek sexual pleasure, according to research, and is much stronger, more vigorous, than a woman. It uses a variety of persuasion techniques that men have mastered quite well. Some scholars argue that having sex is proof of masculinity. It is even argued that a man's sexual pleasure is intimately related to the construct of masculinity. Sexual intercourse is a kind of act of conquest for a man — "manhood is proven most effectively when men use another person as an object to satisfy male sexual pleasure. He adds that this is true for heterosexual and homosexual men."[80] Hong, for example, explains that masculinity requires male sexual aggression, and this encourages men to use sexual intercourse as a means of domination or conquest. "Men become masculine during sexual intercourse only to the extent that they can dominate women. He distinguishes between the way women and men view sexual intercourse. Sexuality is revealed as different for women from men because it enables men to conquer or gain power."[81]

A girl's silence is often interpreted by boys and understood as consent. "This sort of consent by omission, or the construction of a woman's silence as consent, has been adopted as the definition of consent by courts around the world".[82] Studies show that girls are significantly more likely than boys to be sexually abused. A study of adolescent sexuality in the five countries of the Baltic region found that more than twice as many girls as boys confirmed that their bodies had been touched by another person in an inappropriate way. The researchers state that generally, girls in the five countries were more often victims of sexual abuse than boys.[83] WHO provides studies showing evidence that the number of rapes or sexual assaults is higher among women. Moreover, surveys asking women about an "unwanted" sexual debut tend to

79 Ibid.

80 Oriel, "Sexual pleasure as a human right".

81 Hong Luoluo, "Towards a transformed approach to prevention: Breaking the link between masculinity and violence", *Journal of American College Health* 48, (2000): 269– 279.

82 Oriel, "Sexual pleasure as a human right", 396.

83 Norwegian Social Research, *The Baltic Sea Region Study on Adolescents' sexuality* (2007), https://fagarkivet.oslomet.no/bitstream/handle/20.500.12199/3245/2812_1.pdf?sequence=1&isAllowed=y.

find several times the frequency of forced debuts.[84] Consent seems to be an inappropriate means of preventing male sexual violence because it is clear that it cannot be avoided. The idea that a woman can give and withdraw consent for sexual pleasure is detrimental because as practice shows, it protects not the victims but the sex offenders.[85]

In answer to the question of the title of this chapter, it is appropriate to quote Oriel's J. Oriel: thoughts:

> While sexual pleasure is presented as a gender-neutral right in sexual rights literature, the application of feminist research and theory to it reveals it as a deeply political right that opposes a range of women's human rights. The use of sexual pleasure to oppress women is evident in research demonstrating that male sexual pleasure reinforces male sexual dominance over women in the forms of compulsory coitus, coercive sex, rape, and prostitution. In this sense, the male demand for sexual pleasure produces an attendant demand for women to participate in the types of sexual activity that place them at high risk of HIV infection. While the authors of the five major sexual rights documents stipulate that violence, coercion, and exploitation are unacceptable (in the absence of consent), they do not address the fact that masculinity requires the sexual subordination and exploitation of women as a male right and as a form of the male pleasure.[86]

2.3.6. Motives of teenage girls and boys to start having sexual relationships and the satisfaction it gives

Considering the fact that a woman's and a man's sexual desire and sexual intent are fundamentally different, when it comes to adolescent sexuality education, it is necessary to evaluate and highlight these differences. The motives of young girls and boys for sexual closeness are completely different. For girls, love and constant relationships are much more important than sex, whereas for boys, on the contrary, the pursuit of sexual pleasure is much more important than love. Iljin provides data from a study that aimed to determine the motives of girls and boys to start premarital sex. According to this study,

84 WHO & PAHO, *Understanding and addressing violence against women* (WHO, 2012), https://apps.who.int/iris/bitstream/handle/10665/77434/who_rhr_12.37_eng.pdf9;jsessionid=2E5CA8B3163147A7669C135FF5C272DE?sequence=1.

85 Oriel, "Sexual pleasure as a human right", 396.

86 Ibid.

90% of the surveyed boys said that it was "strong sexual desire", among girls, 23% chose this motive.[87] Furthermore, when evaluating casual sex, research shows, boys are more prone to it than girls. Sexual intercourse for the first time is considered an important event in life, but it is not always a pleasant experience, especially for girls. According to a study by Susan Sprecher, Anita Barbee, and Pepper Schwartz, which collected data from 1,659 college students, men were found to have experienced more pleasure and anxiety than women have, but significantly fewer experienced guilt than women.[88]

A study was conducted in El Salvador, Peru, and the Philippines to determine adolescents' motivations to have sex (8,495 adolescents aged 14–18, — 49.2% boys and 50.8% girls). Girls chose the answer, "I was in love" when answering the question, "What motives led to the first sexual intercourse", while boys were much more likely to choose the answer, "I was curious about what it is", "I wanted to have fun" and so on.[89]

These studies show that the motivation of boys and girls to have sex also differs significantly between girls. "These differences can explain the sex-specific affective reactions to first coitus found in other studies and which are generally less positive for females. For example, research shows that females report less physiological and psychological satisfaction and more sadness, guilt, nervousness, tension, embarrassment, and fear in Eastern Europe, Turkey, and the US, allowing for religiosity, planning of the sexual encounter, making the first step or contraceptive use."[90]

Alister Hooke, Simon Capewell, and Meg Whyte, combined illustrated short story and questionnaire methods to determine adolescent attitudes toward early sexual intercourse and adolescent pregnancy. 73% of girls advocated shared responsibility to prevent pregnancy in adolescence, compared with 46% of boys ($p < 0.01$). Furthermore, significantly more boys (21%) than girls (5%) did not see anything wrong with casual sex. Significantly fewer boys than girls maintained commitment in sexual intercourse (27% v 54%,

87 Евгений Ильин, *Дифференциальная психофизиология мужчины и женщины*, (Питер, 2006), 221.

88 Susan Sprecher, Anita Barbee &Pepper Schwartz,"Was it good for you, too?: Gender differences in first sexual intercourse experience", *The Journal of Sex Research 32 (1), (published online 2010),* DOI/abs/10.1080/00224499509551769.

89 Alfonso Osorio, Cristina López-del Burgo et al., „First sexual intercourse and subsequent regret in three developing countries", *Journal of Adolescent Health* 50 (2012): 271–278.

90 Ibid.

$P < 0.01$). The authors of the study emphasise that "sex education programmes should explore these gender-related disparities."[91]

Boys were significantly more likely than girls to report feeling good about sex-related consequences, popularity, pregnancy, or sexually transmitted infections. Meanwhile, girls were much more likely than boys to say they felt bad and exploited.[92]

> To summarise part 2 briefly, it should be stressed that, in order to provide sexuality education from the perspective of women's health and informed choice, it should inevitably include information on women's knowledge of fertility awareness and the neurophysiology of the menstrual cycle (HPO axis), the differences between women's and men's fertility, and the differences in the expression sexual drive. The content of sexuality education must take into account findings of scientific research that girls are much more likely than boys to express concern about the consequences of sex and that the experiences of sexual intercourse for the first time differ in both age and intention. Studies by different authors in different countries show that girls and boys have different intentions for having sex. Girls associate it with love and commitment; boys associate it with sexual pleasure. In addition, boys are much more likely to say they are happy with their sexual experiences; girls are much more likely to regret and feel exploited.

91 Alister Hooke, Simon Capewell, Meg Whyte, "Gender differences in Ayrshire teenagers' attitudes to sexual relationships, responsibility and unintended pregnancies", Journal of Adolescence 23 (4) (2000): 477–486, https://doi.org/10.1006/jado.2000.0332.

92 Sonya S. Brady and Bonnie L. Halpern-Felsher, "Adolescents' Reported Consequences of Having Oral Sex Versus Vaginal Sex", *Pediatrics* 119 (2) (2007), 229–236; https://doi.org/10.1542/peds.2006-1727.

Part 3

Mechanism of action of hormonal contraception and effects on women's health and well-being

Contraception is presented as a symbol of freedom of choice, whereas most women do not even know what they are doing when they choose not to get pregnant[1].

1 Brambilla Giorgia, "What your gynecologist wont tell you", in *Sexuality, gender & Education* (Roma: If press, 2018), 3–13.

3.1. The nature of hormonal contraception

3.1.1. Transformation of the term "contraception"

Contraception is introduced in all sexuality education teaching aids as a means of avoiding pregnancy. However, the very structure of the term "contraception" does not correspond to its widespread concept. Clarification of terms is of utmost importance in order to specify the moral nature of acts. There is a widely accepted notion that contraception protects against pregnancy[2]. The term *contraception* is derived from the Latin words: *contra* — against and *conceptio* — fertilization. The pioneers of contraception and the general public understood contraception as the prevention of conception. By their very nature, contraceptives had nothing to do with the destruction of human embryos[3]. A human embryo is a developing human body from the moment of fertilization (the formation of a human zygote) to the end of a woman's eighth week of pregnancy. This shift in concepts is related to the description of the onset of pregnancy. The new definitions were introduced in the field of medicine by the Committee on Terminology of the American College of Obstetricians and Gynecologists (ACOG). "The conception is not defined as the fertilization of the oocyte by the sperm but as the implantation of the blastocyst"[4].

Of course, nobody can doubt that implantation is a crucial moment in the development of a new human being, but it is no more important than fertilization, because after fertilization at least one living human being exists,

2 Renzo Puccetti, "Does contraception prevent abortion? An empirical analysis", *Studia Bioethica* 1 (2–3) (2008), 133–141.

3 Gonzalo Herranz, Pilar Leon Sanz, Jose Maria Pardo and Jokin de Irala, "Reading between the lines. A critical history of contraception" (Leipzig: Amazon Distribution, 2020), 93.

4 Herrans et al., "Reading between the lines. A critical history of contraception", 107.

irrespectively of his[5]. While there is a dispute among medical experts about whether pregnancy begins at fertilization or implantation up to half of the women in national polls in the United States believe that human life begins at fertilization.[6] A survey in which two opinions of Lithuanian university students about the beginning of human life participated (in total 725 students, 56 % of them — women). The analysis of the obtained data showed that nearly all students stated that human life begins from the moment of conception.[7] For these women, a birth control method that could act occasionally after fertilization may conflict with personal, ethical, or religious beliefs.[8] In a study performed in Spain, beliefs about when human life begins were associated with women's potential decisions about using family planning methods with postfertilization and postimplantation effects.[9]

3.1.2. Mechanism of action of hormonal contraception (HC)

As mentioned above, the principle of free and informed consent consists of two requirements: on the one hand, the obligation to disclose information and, on the other hand, the right to choose. According to WHO, information related to family planning should include, at a minimum, the following for each method: effectiveness, correct use, mechanism of action, side-effects, health risks and benefits, reversibility, and protection against sexually transmitted infections[10]. The guidelines of WHO "Ensuring human rights in the provision of contraceptive information and services" note that: "the principle of autonomy, expressed through free, full and informed decision-making, is

5 Puccetti, "Does contraception prevent abortion? An empirical analysis".

6 Huong M. Dye, Joseph B. Stanford, Stephen C. Alder, Han S. Kim, Patricia A. Murphy, "Women and postfertilization effects of birth control: consistency of beliefs, intentions and reported use", *BMC Women's Health* 5 (2005): 11, https://doi.org/10.1186/1472-6874-5-11.

7 Birutė Obelenienė, Andrius Narbekovas, Zita Liubarskienė, Vita Daudaravičienė, "The Problematic Of The Beginning Of Human Life And Its Protection From The Viewpoint Of Lithuanian Students", *Soter* 43 (71) (2012).

8 Dye, Stanford et al., "Women and postfertilization effects of birth control".

9 Cristina Lopez-del Burgo, Carmen Marina Lopez-de Fez, Alfonso Osorio, José Lopez Guzmán, Jokin de Irala "Spanish women's attitudes towards post-fertilization effects of birth control methods", *European Journal of Obstetrics & Gynecology and Reproductive Biology* 151 (2010): 56–61, https://doi.org/10.1016/j.ejogrb.2010.03.012.

10 World Health Organization, *Improving access to quality care in family planning: Medical eligibility criteria for contraceptive use* (2004), http://www.who.int/reproductive-health/publications/mec/mec.pdf.

a central theme in medical ethics and is embodied in human rights law. People should be able to choose contraception but also to refuse it. In order to make an informed decision about safe and reliable contraceptive measures, comprehensive information, counseling and support should be accessible for all people [...] The information provided to people so that they can make an informed choice about contraception should emphasize the advantages and disadvantages, the health benefits, risks and side-effects, and should enable comparison of various contraceptive methods. Censoring, withholding or intentionally misrepresenting information about contraception can put health and basic human rights in jeopardy".[11]

Notwithstanding this recommendation, the mechanism of action of hormonal contraception is only partially presented in the content of sexuality education programs. In describing the impact of HC, the general aim is to give the impression that HC is acting as a barrier, i.e. that the "pink pill" thickens the cervical mucus and prevents sperm from moving to the ovum. Also, the hormonal pill stops ovulation, so the ovum does not mature in the ovaries and ovulation does not take place. For example, in one of the most visited websites for young people on the topic of contraception "Your life", the mechanism of action of contraception is described very briefly:

> The combined pill contains estrogen and progestin, which stop the ovaries from releasing eggs. It also thickens the cervical mucus, which keeps the sperm from getting to the egg.[12]

The International Planned Parenting Federation, a World leader in sexuality education, provided guidelines for a unified approach to sexuality, gender, HIV, and human rights education "It's All One Curriculum" describes the mechanism of action of hormonal contraception only as follows:

> Small pills containing synthetic hormones (estrogen and progestin, or only progestin) that prevent ovulation and interfere in sperm migration by thickening the cervical mucus.[13]

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11 World Health Organization, *Ensuring human rights in the provision of contraceptive information and services: guidance and recommendations* (2014), 19. https://www.ncbi.nlm.nih.gov/books/NBK195054/.

12 Your Life, *The pills*, https://www.your-life.com/en/contraception-methods/short-acting-contraception/the-pill/.

13 The Population Council, *It's All One Curriculum*, 253.

The information provided on the mechanism of action of HC lacks detailed information on how HC affects the function of the hypothalamic-pituitary-ovarian axis, as the cessation of ovulation and the thickening of cervical mucus are the only a consequence of HPO axis cessation. Also, kept in silence is the effect of HC on the uterine mucosa or is reported to cause "morphological changes" in the uterine lining, about which girls and young women usually have no information. Therefore, problematic questions arise in this case: how is the omission of vital information, such as the "mechanism of action, side-effects, health risks", compatible with a woman's right to information? How should a young woman's choice be treated if vital information is not provided for her health and well-being?

3.1.3. Composition of hormonal contraception

The mechanism of action of hormonal contraception depends on its composition, i.e. what hormones and in what components are included in a particular form of hormonal contraception. According to the hormonal composition hormonal contraception is divided to CHC (combined hormonal contraception) — which contains low doses of 2 synthetic hormones—a progestin and estrogen[14] and a single hormone — that contains very low doses of synthetic progestin and does not contain estrogen. Progestin-only pills (POPs) are also called "minipills" and progestin-only oral contraceptives[15].

Since 1957 the first contraceptive pill, Enovid,[16] developed by the US Food and Drug Administration (FDA), was approved, both the composition and the properties of the synthesized hormones have changed significantly in HC. Currently used CHC pills contain an estrogen paired with a progestogen in different formulations. The vast majority of CHC pills currently in use usually contain synthetic estrogens replacement estradiol in different doses. Its named disadvantage is the interaction with liver enzymes and the

14 World Health Organization Department of Reproductive Health and Research, *Family Planning A Global Handbook For Providers* (Baltimore and Geneva: CCP and WHO, 2018), 1.

15 WHO, Family *Planning A Global Handbook For Providers*, 29.

16 Marc Dhont, "History of oral contraception", *The European Journal of Contraception & Reproductive Health Care* 15 (2) (2010): 12–18, https://doi.org/10.3109/13625187.2010.513071.

modulating effect on the body's hemostatic parameters.[17] The synthetic progestins used for contraception are structurally related either to testosterone (T) or to progesterone.[18]

The variety of progestins is quite large and they are sometimes grouped by four 'generations', according to the time they were first marketed as constituents of oral CHC.[19] Most progestins used in COCs of the first and second generation were chemically related to testosterone. They have dose-related undesirable androgenic side effects such as acne, oily skin, and hair growth, as well as the negative effect on high-density lipoproteins (HDL).[20] Thus progestins do not exclusively bind to the progesterone receptor but can also to a certain degree activate other sexual steroid receptors.[21] The effects of progestins are defined by what receptors they interact with and what effect they have on a woman's body. Many progestin molecules, depending on their chemical structure, can interact with different receptors: androgen (male sex hormone) receptors (AR), estrogen, glucocorticoid, or mineralocorticoid receptors. According to interactions with androgen receptors, progestins are divided into two main groups — androgenic (AR receptor agonists, which activate the receptor and cause a maximal response) and anti-androgenic (AR receptor antagonists, i.e. those that bind to the receptor but do not activate it). The strongest androgenic effects are seen with so-called older generations of progestins, such as levonorgestrel, which is an intrauterine device (IUD). Subsequent generations of progestins do not have an adrogenic effect and have anti-androgenic effects of varying strength[22]. Table 5 shows the progestin generation and androgenicity properties.

17 Ramunė Grikšėnienė, *Hormoninės kontracepcijos įtaka moterų kognityviosioms funkcijoms. Daktaro disertacija*. (Vilnius: VU, 2011), 26.

18 Regine Sitruk-Ware & Anita Nath, "Metabolic effects of contraceptive steroids", *Reviews in Endocrine and Metabolic Disorders* 12 (2011): 63–75, https://doi.org/10.1007/s11154-011-9182-4.

19 Faculty of Sexual & Reproductive Healthcare, *FSRH Guideline Combined Hormonal Contraception* (UK: FSRH, 2019), 4, https://www.fsrh.org/standards-and-guidance/documents/combined-hormonal-contraception.

20 Sitruk-Ware & Nath, "Metabolic effects of contraceptive steroids".

21 Dhont, "History of oral contraception".

22 Grikšėnienė, *Hormoninės kontracepcijos įtaka moterų kognityviosioms funkcijoms*, 26.

Table 5. The generations and androgenity of progestins[23]

Generation	Progestin	Androgenity
First	Norethisterone Norgestrel	Androgenic
Second	Levonorgestrel	Androgenic
Third	Desogestrel, Gestodene, Norgestimate*	Androgenic (week)
Fourth	Drospirenone (DRSP),	Non-androgenic

Lower androgenic activity minimizes androgenic side effects such as acne, hirsutism, nausea and lipid changes.[24] Although the effects of progestins on the female reproductive system are being studied extensively, their effects on central nervous system functions remain unclear.[25]

3.1.4. Mechanism of action of combined hormonal contraception (CHC)

Mechanisms of action of HC depends on the hormones included in the formula of the pill: Estrogens suppress the rise of FSH and, as a result, follicular growth. Progestins are suppressing the ovulatory LH surge. They also thicken the cervical mucus, thereby hindering sperm migration into the upper genital tract, and they have antiproliferative effect on the endometrium, making it less receptive for implantation[26]. In other words, CHC disturbs process of conception and pregnancy in two ways: they inhibit ovuation by intervening in the *hypothalamo — pituitary –ovarian axis* (central inhibitory

23 Faculty of Sexual & Reproductive Healthcare, *FSRH Guideline Combined Hormonal Contraception*, 2019, https://www.fsrh.org/standards-and-guidance/documents/combined-hormonal-contraception/.

24 WHO, International Agency For Research On Cancer, "Combined Estrogen–Progestogen Contraceptives", *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans* 97 (France: Lyon 2007), 45.7

25 Grikšėnienė, *Hormoninės kontracepcijos įtaka moterų kognityviosioms funkcijoms*, 28.

26 Dhont, "History of oral contraception".

effect). They also inhibit the activity of the genital organs by a direct effect on the ovaries, endometrium, tubes and cervix[27].

Thus, by maintaining a constant level of sex hormones: progesterone and estrogen in the blood, hormonal contraceptives inhibit gonadotropic hormone-releasing hormone (GnRH) in the hypothalamus, thus blocking the production of pituitary follicle-stimulating (FSH) and luteinizing hormones (LH) i.e. terminates the suppressed negative feedback (see Figure 7).

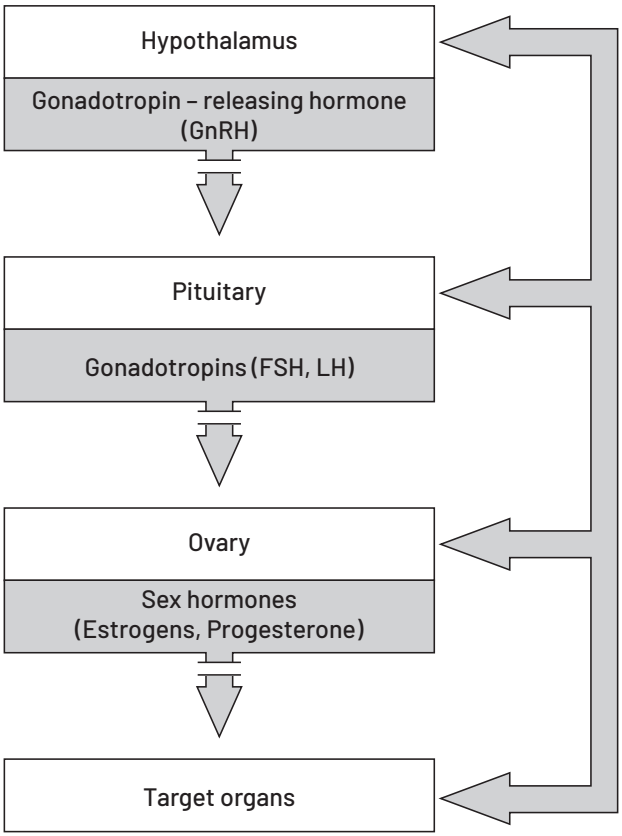

Figure 7. Potential points of intervention of hormonal contraceptives. HK suppresed a negative feed back[28]

27 Wolf B. Muhlenkamp, Uta Prokop and Wolfgang Schulz, *Hormonal Contraception* (Berlin: Schering AG. 1993), 3–12.

28 Muhlenkamp et al., *Hormonal Contraception*.

In this way, CHC causes a number of changes in a woman's body: (as it was mentioned, depending on the composition of CHC):

1. *Blocks ovulation*. The *estrogens* in birth control pills inhibit ovulation via the effect on the hypothalamus and the subsequent suppression of pituitary FSH and LH. Because FSH stimulates the maturation of ovarian follicles, and LH stimulates the release of a mature ovum from the follicle — ovulation, the lack of these hormones causes functional inactivity of the ovaries and inhibits ovarian release, resulting in 95–98% of cycles do not ovulate. Without ovulation, naturally, fertilization is not possible[29]:
2. *Changes in tubal motility* through the obstruction. In the tube progestin influences secretion and especially contraction. A change in motility can cause during the use the pill — a desynchronized arrival of the embryo to the uterine cavity relative to the "implantation window" resulting in an anti-implantation effect.[30]
3. *Modification of the endometrium.* Progestin changes the structure of the endometrium, rendering it unsuitable for embryonic implantation. Combined preparations lead to cyclical changes at the endometrium which have the effect of inhibiting nidation. The proliferative phase is shortened compared to the natural cycle, that means — the endometrium can not grow as hight as usual and embryo can not to implant.[31] Normal endometrial thickness around ovulation is 10 mm. IVF studies have shown that 8.5 mm of thickness is needed for successful implantation. In one study, an estrogen–progestin pill produced a median endometrial thickness of 6.5 mm.[32]
4. *Alteration of the cervical mucus*. HC changes the consistency (thickens) of the mucous membranes of the uterus and changes the pH, creating an inhospitable environment for sperm and interfering with their journey to the ovum.

Very often, adolescents think that HC regulates the menstrual cycle. However, regulation of the menstrual cycle by the pill is of course purely

29 Brambilla, "What your gynecologist won't tell you", 8
30 Ibid.
31 Muhlenkamp et al., *Hormonal Contraception*, 3–14.
32 Ibid.

symptomatic and it suppresses the physiological function and meaning of menstruation[33].

Thus, the mechanism of action of CHC in terms of effects on fertilization and implantation is divided into prie fertilization and post-fertilization (see Table 6).

Table 6. Dual mechanism of action of CHC

Dual mechanism of action of CHC	
Prefertilization	**Post-fertilization**
Effects on hypothalamus ▪ suppresses the release of GnRH **Effects on pituitary:** ▪ suppresses the release of Gonadotropins ▪ decreased FSH level prevents ovarian folliculogenesis. **Effects on ovarium** ▪ Inhibits follicular maturation ▪ Inhibition of ovulation **Effects on mucus** ▪ Changes cervical mucus (reduces volume and increases viscosity) They also thicken the cervical mucus, thereby hindering sperm migration into the upper genital tract **Effects on Fallopian tube** ▪ impairs fallopian tube peristalsis and thereby inhibiting sperm ascension.	**Effects on endometrium:** ▪ Inhibits endometrial proliferation, thereby preventing the implantation of the embryo. antiproliferative effect on the endometrium, making it less receptive for implantation. **Effects on Fallopian tube** ▪ impairs fallopian tube peristalsis and thereby stopping the embryo from moving towards the uterus

Recent medical research has affirmed that the HC not only acts as a contraceptive but also acts as an abortifacient[34].

33 Dhont, "History of oral contraception".

34 Angela Lanfranchi, "A Scientific Basis for Humanae Vitae and Natural Law: The Role of Human Pheromones on Human Sexual Behavior Preferences by Oral Contraceptives and the Abortifacient Effects of Oral Contraceptives", *The Linacre Quarterly* 85 (2) (2018): 148–154.

3.1.5. Mechanism of action of HC with Progestins only

Progestin-only pills are also called "minipills" and progestin-only oral contraceptives[35]. Gonadotropin secretion is not adequately inhibited by the use of minipills due to low progesterone levels. Therefore, both follicular maturation and ovulation are most common with these preparations. The contraceptive effect of minipills is mainly based on the local progestational effect on the endometrium and cervix. Progestins stop endometrial proliferation. The effect of these endometrial changes is to inhibit nidation[36]. It also stops the movement of sperm by thickening the cervical mucus. The effects of progestins on intrauterine changes and implantation prevention are not reported in sexuality education programs or in other literature available to adolescents. Even the WHO's *Family Planning: A Global Handbook for Providers* for healthcare professionals briefly describes the effects of mini-pills, mentioning only their barrier mechanism of action.

> Progestin-only pills (POPs) are also called "minipills" and progestin-only oral contraceptives work primarily by:
> – Thickening cervical mucus (this blocks sperm from meeting an egg),
> – Disrupting the menstrual cycle, including preventing the release of eggs from the ovaries (ovulation).[37]

Effects of progestins on the uterine endometrium. The preparation of the uterine lining for embryo implantation takes place during each menstrual cycle. It is a complex process regulated by both gonadotropic and sex hormones. The inner lining of the uterus — the endometrium, consists of 2 layers: functional and basal. These layers consist of epithelial and connective tissues. The epithelial tissue lines the uterine cavity and forms the endometrial glands, while the connective tissue forms the so-called *stroma*, which encloses the glands and provides support. The functional layer of the endometrium is formed by multiplying the tissues of the base layer and changes regularly during the fertile years of a woman's life due to the changing

35 WHO, *Family Planning: A Global Handbook for Providers*.
36 Muhlenkamp et al., *Hormonal Contraception*, 3–15
37 WHO, *Family Planning: A Global Handbook for Providers*, 29.

amount of female sex hormones produced in the ovaries[38]. After ovulation, progesterone levels begin to rise in the early secretory phase. Progesterone promotes the development of endometrial glands. Endometrial gland cells store glycogen. Endometrial gland secretion is the source of nourishment for the embryo prior to implantation. Progesterone also inhibits uterine mucosal smooth muscle contractions, thus helping the embryo to implant[39]. The process by which the shape and biochemical composition of endometrial stromal cells change is called *decidualization.* The term '**decidualization**' is derived from the Latin verb '*decidere*' which means to 'fall off".[40]. Decidualization of the woman's endometrium involves a dramatic morphological and functional differentiation of woman's endometrial stromal cells. The decidual reaction plays a central role in the establishment of pregnancy. The decidualized cells play essential roles in protecting the embryo from maternal immunological rejection and provide nutritional support for the developing embryo prior to placental formation. This process is one of the most critical and remarkable events that occurs within the woman's endometrium during pregnancy[41]. The progestins contained in HC inhibit this process of endometrial preparation for implantation. With progestin-only pills, ovulation occurs in approximately 50 percent of all cycles[42]. Women who become pregnant while using such contraception abort their pregnancy without knowing it themselves. The pill causes changes that interfere with the successful implantation of the embryo[43]. Studies in 5 European countries have confirmed that more than a third of women would refuse to use contraception if they knew it worked after conception[44].

38 Shannon M. Hawkins and Martin M. Matzuk, "Menstrual Cycle: Basic Biology", *The Menstrual Cycle and Adolescent health* 1135 (1), (2008): 10–18, https://doi.org/10.1196/annals.1429.018.

39 Valančiūtė, "Vaiko prenatalinė raida", 19.

40 Birgit Gellersen and Jan Brosens, "Cyclic AMP and progesterone receptor cross-talk in human endometrium: a decidualized affair", *Journal of Endocrinology* 178 (2003): 357–372, https://doi.org/10.1677/joe.0.1780357.

41 Hidetaka Okada, Tomoko Tsuzuki and Hiromi Murata. "Decidualization of the human endometrium". *Reproductive Medicine and Biology* 17 (2018): 220–227, https://doi.org/10.1002/rmb2.12088.

42 Alexandra Alvergne and Virpi Lummaa, "Does the contraceptive pill alter mate choice in humans?", *Trends in Ecology & Evolution* 25 (2010): 171–179, https://doi.org/10.1016/j.tree.2009.08.003.

43 Alvergne and Lummaa, "Does the contraceptive pill alter mate choice in humans?"

44 Cristina López-del Burgo, Rafael Mikolajczyk, Alfonso Osorio, Tania Errasti, Jokin de Irala, "Women's attitudes towards mechanisms of action of birth control methods: a cross-sectional study in five European countries", *Journal of Clinical Nursing* 22 (21–22) (2013): 3006–3015, https://doi.org/10.1111/jocn.12180.

Recently, for adolescents have been recommended not only oral contraceptive pills but also intrauterine devices (IUD), especially those with lower levonorgestrel (LNG) levels. Many international societies have stated that intrauterine devices (IUD) are a safe first line choice for adolescents[45]. Adolescents are usually offered an IUD containing levonorgestrel 13.5 mg, inserted into the adolescent uterus for 3 years. The adolescent learns about the mechanism of action of IUDs in the *It's All One Curriculum* that it is only a barrier to interfering with the sperm-egg meeting, but there is no mention of the dramatic effects on the endometrium and implantation:

> They keep the sperm from reaching the egg. Some types of IUDs can work for as long as ten years.[46]

Meanwhile, the scientific literature presents completely different facts about the effects of IUD on a woman's uterine lining. Effects depend on progestin doses and duration of exposure. Elaborate studies on the endometrium using LNG for a period of 1–6 months have shown a strong suppression and atrophy of the glandular endometrium with the stroma becoming swollen and decidualized the mucosa thins out and the epithelium becomes inactive. This transformation of the endometrium is incompatible with pregnancy.[47] Secretory activity within epithelial glands ceases and the proliferative activity of the endometrium is inhibited. This results in the general thinning of the functional layer of the endometrium.[48] The high local levels of LNG lead to morphological changes including stromal pseudodecidualization, glandular atrophy, a leukocytic infiltration and a decrease in glandular and stromal mitoses. In clinical trials with IUD containing levonorgestrel, ovulation was observed in the majority of a subset of subjects studied. Evidence of ovulation was seen in 34 out of 35 women in the first year, in 26 out of 27 women in the

45 Nicole Todd, Amanda Black, "Contraception for Adolescents", *Journal of Clinical Research in Pediatric Endocrinology* 12 (1) (2020): 28–40, https://doi.org/10.4274/jcrpe.galenos.2019.2019.S0003.

46 The Population Council, *It's All One Curriculum,* 254.

47 Sonia Malik, "Levonorgestrel-IUS system and endometrial manipulation", *Journal of Mid-life Health* 4(1) (2013): 6–7, https://doi.org/10.4103/0976-7800.109625.

48 Rebecca L. Jones and Hilary O. D. Critchley, "Morphological and functional changes in human endometrium following intrauterine levonorgestrel delivery", *Human Reproduction* 15 (3) (2000): 162–172.

second year, and in all 26 women in the third year[49]. Thus, a teenager with a IUD within three years, i.e. period recommended for an IUD with LNG 13.5 may lose more than one embryo. Even not to mention the moral side of this phenomenon, a young woman who is offered to use an IUD has a right to know about its effects. Otherwise, her self-determination and choice of the contraceptive cannot be called a free and informed choice.

49 *Prescribing Information of Skyla (levonorgestrel-releasing intrauterine system)*, NDA 203159 Skyla Draft (13 Feb. 2017), https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/203159s007lbl.pdf.

3.2. The effects of hormonal contraception on a woman's health and well-being (side-effects and health risks)

During the menstrual cycle, a woman experiences huge fluctuations of hormones. Recently, there is growing scientific evidence that these fluctuations are vital to a woman's health and well-being. The use of hormonal contraception completely distorts this hormonal fluctuation and at the same time affects a woman's health and quality of life.

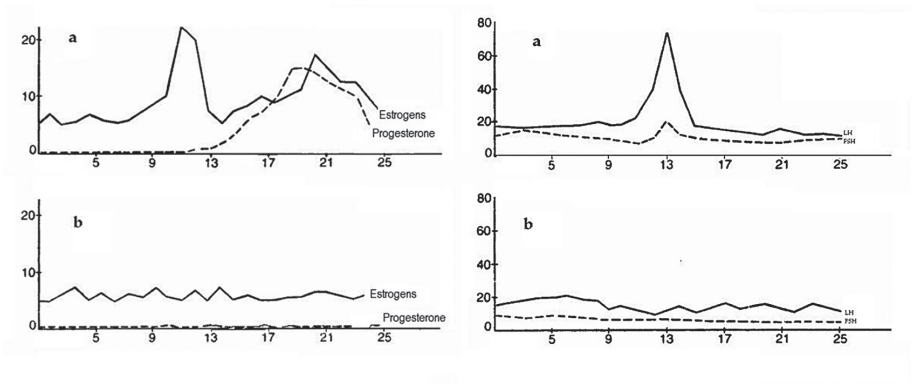

Figure 8. Hormonal regulation of the menstrual cycle in (a) normally cycling women and (b) pill users. Vertical axis — hormone concentration, horizontal axis — day of menstrual cycle[50]

50 Danielius Serapinas, Vaisingumo pažinimas ir hormoninė kontracepcija, *Vaisingumo pažinimas ir natūralus šeimos planavimas,* Kaunas, VDU, 2012, 173.

3.2.1. The influence of HC using on a woman's brain

In most cases, information about the mechanism of action of HC is only available to professionals, not consumers, so women who use hormonal contraceptives for family planning often think that they only affect their genitals. However, hormones from the contraceptive enter the bloodstream and travel throughout the body. They easily penetrate the blood-brain barrier and act on targets in the brain. Receptors for both sex hormones are found in high concentration in the hypothalamus, which has a well-documented role in sexual behaviors and functioning. However, receptors for these hormones are not restricted to brain regions associated with sex and sexual behavior. The highest concentrations of estradiol receptors outside of the hypothalamus have been found in others places of the brain such as the *substantia nigra,* followed by the prefrontal cortex and the highest concentrations of progesterone receptors outside of the hypothalamus have been found in the *amygdala* and *cerebellum*[51].

Studies show that sex hormones and their metabolites influence brain areas that regulate mood, behavior, and cognitive abilities[52], because, as has been said, hormonal contraception affects the brain centers directly, not the ovaries themselves. Magnetic resonance imaging (MRI) researchers have found that women who use hormonal contraceptives even experience structural and functional changes in the brain[53]. Hormonal contraceptives sustain the menstrual cycle in the same — lutein phase — continuously. These hormonal changes not only inhibit ovulation, but also "imitate" pregnancy, because it is during pregnancy that a constant progesterone background dominates. For the women's body, this is not a physiological state and has an effect not only on physiological (fluid accumulation and weight gain) but also on psychological processes (mood swings)[54]. According to Skovlund CW, Mørch LS,

51 Nicole Petersen, Alexandra Touroutoglou, Joseph M. Andreano, Larry Cahill, "Oral Contraceptive Pill Use is Associated With Localized Decreases in Cortical Thickness", *Human Brain Mapping* 36 (2015): 2644–2654, https://doi.org/10.1002/hbm.22797.

52 Juan Pablo del Río, Maria L. Alliende, Natalia Molina, Filipe G. Serrano, Santiago Molina and Pilar Vigil, "Steroid Hormones and Their Action in Women's Brains: The Importance of Hormonal Balance", *Frontiers in Public Health* 6 (2018): 141, https://doi.org/10.3389/fpubh.2018.00141.

53 M. Baroncini et al., "Sex steroid hormones-related structural plasticity in the human hypothalamus", *Neuroimage* 50 (2010), 428–433.

54 Danielius Serapinas, "Vaisingumo pažinimas ir hormoninė kontracepcija", in *Vaisingumo pažinimas ir natūralus šeimos planavimas* (Kaunas: VDU, 2011), 172–192.

Kessing LV, and Lidegaard nationwide prospective cohort study combined data from the National Prescription Register and the Psychiatric Central Research Register in Denmark, which included a total of 1.061.997 women and adolescents aged 15–34 years who were living in Denmark and had no prior depression diagnosis. Use of hormonal contraception, especially among adolescents, was associated with "subsequent use of antidepressants and the first diagnosis of depression, suggesting depression as a potential adverse effect of hormonal contraceptive use"[55].

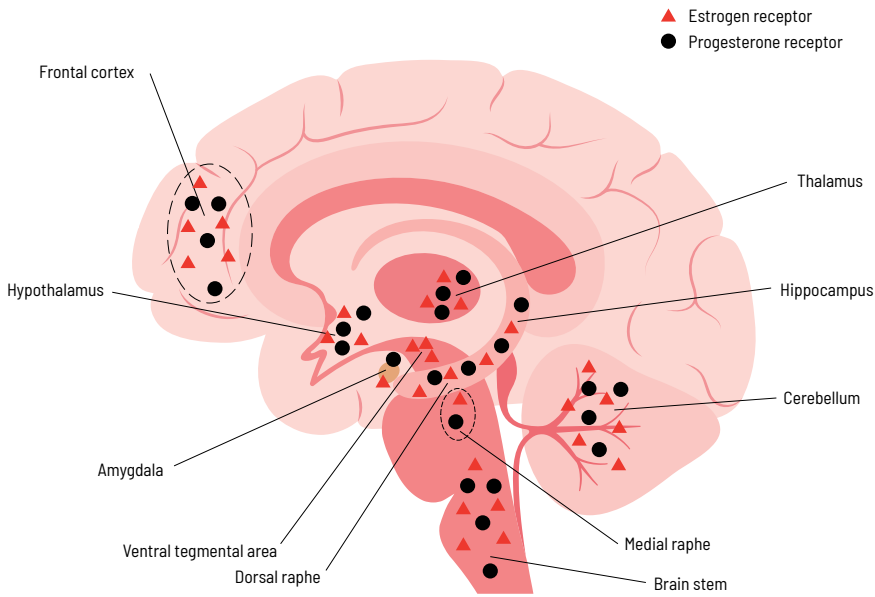

Figure 9. Location of sex hormone receptors in the brain[56]

Another publication of the same group has shown that HC users have an increase in the incidence of suicide attempts and actual suicide[57]. Considering to the studies proving that hormonal contraceptives can cause certain

55 Charlotte Wessel Skovlund, Lina Steinrud Mørch, Lars Vedel Kessing, Øjvind Lidegaard, "Association of hormonal contraception with depression", *JAMA Psychiatry* 73 (2016): 1154–1162, https://doi.org/10.1001/jamapsychiatry.2016.2387.

56 Christina P. Boyle, Cyrus A. Raji et al., "Estrogen, brain structure, and cognition in postmenopausal women", *Human brain maping* 42 (1) (2021): 24–35, https://doi.org/10.1002/hbm.25200.

57 Río, Alliende, Molina et al., "Steroid Hormones and Their Action in Women's Brains".

psychological disorders; it is especially important to take these facts into account when recommending hormonal contraception to adolescent girls "whose brains are undergoing a process of remodeling by the action of sex steroids. We believe that the scientific community has not devoted enough effort to studying the effects of exogenous steroids on their users' brain development"[58]. The greater effect of sex hormones on mood and suicidal attempts among adolescents can partially be explained by the fact that this is a period of neuronal plasticity, that is, that hormone levels can induce changes in neurons and direct the architectural and structural functionality of the brain[59].

The results of research conducted by R. Grikšėnienė and colleagues showed the effect of hormonal contraceptives on the performance of specific linguistic and spatial tasks, but perhaps in the future they may also affect certain work or daily tasks. In the present study mental rotation performance was compared between women using anti-androgenic oral contraceptives (n = 35), naturally cycling (NC) women (n = 33) and men (n = 29). On average, oral HC users were less accurate than NC women and men. Researchers concluded that lower performance accuracy of oral HC users could be related to a less efficient performance strategy[60].

Scientists warn that "if a majority of women use hormonal contraception, such behavioral changes could cause a shift in society dynamics"[61].

3.2.2. HC effects on woman's fertility

Long-term use of hormonal contraceptives inhibits ovarian function. The follicles hardly develop[62]. As it was already mentioned, girls are born with a specific number of primary follicles. It is a kind of ovarian reserve that dwindles

58 Pilar Vigil, Juan Pablo Del Río, Barbara Carrera, Florencia C ArAnguiz, Hernán Rioseco and Manuel E. Cortés, "Influence of sex steroid hormones on the adolescent brain and behavior: An update", *The Linacre Quarterly* 83 (3) (2016): 308–329.

59 Río, Alliende, Molina et al., "Steroid Hormones and Their Action in Women's Brains", 141.

60 Ramunė Grikšiene, Rasa Monciunskaitė, Aurina Arnatkeviciute and Osvaldas Ruksenas, "Does the use of hormonal contraceptives affect performance of mental rotation?", *Hormones and Behavior*, Apr. 100 (2018), 29–38, https://doi.org/10.1016/j.yhbeh.2018.03.004.

61 Belinda A. Pletzer and Hubert H. Kerschbaum, "350 years of hormonal contraception — time to find out, what it does to our brain", *Frontiers in Neuroscience* 8, (2014): 256, https://doi.org/10.3389/fnins.2014.00256.

62 Danielius Serapinas, "Hormoninės kontracepcijos poveikis moters fiziologijai, vaisingumui ir embriono raidai", in *Vaisingumo pažinimas ir natūralus šeimos planavimas* (Kaunas: VDU, 2011), 172.

over the years. It goes without saying that the higher this reserve, the greater the woman's chances of having children. Studies show that HC reduces ovarian reserve. After adjusting for age, ovarian reserve parameters were lower among users than among non-users of hormonal contraception[63]. Although fertility is restored rapidly after discontinuation of hormonal contraceptives, approximately 75% of female ovulation occurs during the first cycle[64], but there is evidence in the scientific literature that women who have used contraceptives may become more difficult to conceive than ever before. M. B. Bracken and co-authors observed that women after using hormonal contraceptives became pregnant after 5.88 cycles (95% CI 5.38–6.38), and women who were not using hormonal contraceptives after 3.64 cycles (95% CI 3.49–3.79). These differences suggest that those who use hormonal contraceptives become pregnant about twice as later. This is especially true for women who have a genetic predisposition to impaired ovulatory function[65]. However, data on fertility recovery after hormonal contraceptive use are inconclusive. Studies published in the journal *Fertility and Sterility* conclude that after using hormonal contraceptives, the probability of pregnancy in the 12-month period is 72–94 percent and is similar to that after uterine IUD use (71–92 percent), condoms (91 percent), and natural family planning (92 percent)[66].

The effects of hormonal contraceptives on subsequent infertility are particularly significant in women with a genetic predisposition to ovulation disorders and infertility. There is even evidence that HC consumption affects the onset of menopause[67]. In one large study (n = 4523), women using estrogen for a long period (3 years) in a high dose (>50 lg) were reported to enter menopause at a slightly younger age than women who did not use oral contraceptives or women using lower doses of oral contraceptives[68].

63 Jane G. Bentzen, J. L. Forman, A. Pinborg et al., "Ovarian reserve parameters: a comparison between users and non-users of hormonal contraception", *Reprod Biomed Online* 25 (6) (2012), 612–619, https://doi.org/10.1016/j.rbmo.2012.09.001.

64 Danielius Serapinas, "Vaisingumo pažinimas ir hormoninė kontracepcija", 172–196.

65 Michael B. Bracken, Karen G. Hellenbrand, Theodore R. Holford, "Conception delay after oral contraceptive use: the effect of estrogen dose", *Fertility and Sterility*, 53(1) (1990), 21–27, https://doi.org/10.1016/S0015-0282(16)53210-5.

66 Kurt T. Barnhart, Courtney A. Schreibe, "Return to fertility following discontinuation of oral contraceptives", *Fertility and Sterility* 91(3) (2009), 659–663, https://doi.org/10.1016/j.fertnstert.2009.01.003.

67 Serapinas, "Vaisingumo pažinimas ir hormoninė kontracepcija".

68 Bentzen, Forman, Pinborg et al., "Ovarian reserve parameters".

3.2.3. HC effects on woman's immunity

The effects of hormonal contraceptives on fertility are not only related to the inhibition of ovulation, but also to their effects on the body's susceptibility to infections. Birth control pills are particularly conducive to chlamydial infection, because studies have shown that HC can suppress natural antimicrobial gene transcription in the endometrium. The endometrium of women taking combined oral contraceptives has poorly developed glands. Studies have shown that women taking combined oral contraceptives have higher rates of chlamydia and HIV infection and loss of the increased levels of antimicrobials premenstrually and perimenstrually may contribute to this susceptibility to infection.[69] Hormonal intrauterine device use resulted in both inflammatory and immunosuppressive alterations.[70] Research showed that significant differences were identified in the immune microenvironment of the upper female reproductive tract in LNG-IUD users. In the endocervical canal, LNG-IUD use was associated with significantly increased concentrations of several inflammatory cytokines.[71]

3.2.4. HC impact on partner choice

As it was mentioned, HC users have consistently the same levels of estrogen and progesterone to "mimic" hormonal condition that occurs during pregnancy. Recent research has shown that this absence of natural hormonal fluctuations during a woman's cycle can affect even a man's choice. The researchers found that women with a cycle of normal hormonal fluctuations and ovulation choose a man for close relationships based on specific facial, voice, and character traits[72]. It turns out, this subconsciously helps to choose the most genetically appropriate father for the future child, who would be

69 Diana C. Fleming, Anne A. King, Alistair R. W. Williams, Hilary O. Critchley, Rodney W. Kelly, "Hormonal contraception can suppress natural antimicrobial gene transcription in human endometrium", *Fertility and Sterility* 79 (2003): 856–863.

70 Uma Shanmugasundaram, Joan F. Hilton et al., "Effects of the levonorgestrel-releasing intrauterine device on the immune microenvironment of the human cervix and endometrium", *American Journal of Reproductive Immunology* 76, (2016), 137–148, https://doi.org/10.1111/aji.12535.

71 Ibid.

72 Alexandra Alvergne, Virpi Lummaa, "Does the contraceptive pill alter mate choice in humans?", *Trends in Ecology & Evolution* 25 (2010): 171–179.

more different from her own gene set. The scientific literature indicates that the genetic set of female children who use hormonal contraceptives is more homozygous (having identical genes on paired chromosomes), which can lead to immune system disorders, poorer health, or even less attractiveness.[73] Women who experience ovulation, cannot explain why they are more likely to choose men who have higher levels of the male sex hormone testosterone in their blood. This is again related to the subconscious desire to have healthy children. Because higher levels of testosterone have already been shown to have immunosuppressive effects. This means that this person has other genes that lead to strong health and resistance to infections, i.e. he is genetically resistant to various infections, has higher genetic quality[74]. Women who use hormonal contraceptives pay less attention to the symmetry of the male face when choosing a man, which is considered to be a feature of phenotype and genotype quality, voice characteristics and other characteristics that determine a man's genetic quality and genetic difference[75]. There have been many studies confirming that women are most attractive in their fertile phase and that when they are not taking the pill find as most attractive men[76]. Consequently, HC users lose the greater natural attractiveness to men, which is typical for women experiencing natural (ovulatory) cycles.

3.2.5. Health risks associated with CHC use

Venous thromboembolism (VTE) (including deep vein thrombosis and pulmonary embolism). In 2014, the EMA published estimated figures for the absolute risk of VTE in users of CHC (see Table 7).

73 S. Craig Roberts, Anthony C. Little, L. Morris Gosling, Benedict C. Jones, David I. Perrett, Vaughan Carter and Marion Petrie, "MHC-assortative facial preferences in humans", *Biology Letters* 1 (2005): 400–403, https://doi.org/10.1098/rsbl.2005.0343.

74 Serapinas, "Vaisingumo pažinimas ir hormoninė kontracepcija".

75 David R. Feinberg, Lisa M. DeBruine, Ben Jones, Anthony C. Little, "Correlated preferences for men's facial and vocal masculinity", *Evolution and Human Behavior* 29 (2008): 233–241.

76 Angela Lanfranchi, "A Scientific Basis for Humanae Vitae and Natural Law: The Role of Human Pheromones on Human Sexual Behavior Preferences by Oral Contraceptives and the Abortifacient Effects of Oral Contraceptives", *The Linacre Quarterly* 85 (2) (2018), 152.

Table 7. European Medicines Agency estimated risk of developing venous thromboembolism (VTE) in a year according to the type of combined hormonal contraception (CHC) used[77]

Type of CHC used	Risk of developing a VTE in a year (incidence in 10 000 women)
Women not using combined hormonal pill/patch/ring and not pregnant	~2
Women using CHC containing levonorgestrel, norethisterone or norgestimate	~5–7
Women using CHC containing etonogestrel or norelgestromin	~6–12
Women using CHC containing drospirenone, gestodene or desogestrel	~9–12

HC users have increased risk of myocardial infarction (MI). A Cochrane Review of 24 observational studies found a significantly increased risk of MI for current users of COC compared with non-users[78].

HC users have an increased risk of cervical cancer. Collaborative analysis 298 of data from 24 worldwide observational studies, including large UK cohort studies, suggested that current use of COC for more than 5 years approximately doubled the risk of invasive cervical cancer (RR 1·90; 95% CI 1·69–2·13) compared with never-use of COC. The risk declined after stopping COC, becoming the same as that for never-users about 10 years after cessation. The analysis reported no significant increase in risk of invasive cervical cancer associated with use of COC for less than 5 years.[79]

A report by the Belgian Human Papillomavirus (HPV) Information Center (2019) notes that the use of long-term hormonal contraception is one of the cofactors enabling HPV to progress to cervical cancer.[80]

77 Faculty of Sexual & Reproductive Healthcare, *Combined Hormonal Contraception* (UK: FSRH, 2019), 30.

78 Ibid., 31.

79 Ibid., 37.

80 L. Bruni, G. Albero, B. Serrano, M. Mena, D. Gómez, J. Muñoz, F. X. Bosch, S. de Sanjosé, *Human Papillomavirus and Related Diseases in Belgium* (ICO/IARC Information Centre on HPV and Cancer, HPV Information Centre, 2019), Summary Report 17.

Summarizing Part 3, which presents only the most important science-based facts on the effects of HC on women, can be stated that in the absence of detailed information on the mechanism of action of HC both central (hypothalamic-pituitary-ovarian axis and negative feedback termination) and local (effects on uterine endometrium and obstruction embryo implantation), about the effects of HC on brain function, fertility and health, the adolescent and woman's decision and choice to use HC cannot be considered free or informed.

Part 4

“Unwanted” pregnancy and “safe” abortion

4.1. Why is there a negative attitude towards pregnancy and a positive attitude about abortion?

Sexuality education uses a distinctive style of language which is like its business card. In order to create a new reality, it is a language that must be internalized first. Language is an instrument that "programs" the channels through which accepted norms are passed on to others, creating an objective world. The constant use of the same language to objectify accumulated experience is a fundamental fact of support for reality because everyone who speaks the same language supports others[1]. The style of sexuality education language is easy to recognize by reading the content of various guidelines, programs, and methodological tools. One of the features of this style that permeates the content of all sexuality education documents (from legislation to teaching aids) is the prevailing negative attitude towards pregnancy and positive attitude towards abortion. Frequently used adjectives while describing a pregnancy are "unexpected", and "unplanned." When describing the consequences of "unsafe" sex, three consequences are always mentioned: unplanned pregnancy, sexually transmitted infections, HIV/AIDS.

"Before they have sex, most adolescents talk thoroughly with their partner about whether they both feel comfortable and want to have sex, as well as about how to protect against infection and pregnancy."[2]

In this way, pregnancy is always presumed to be a condition for sexually transmitted infections and has even fatal ending. However, when it comes to abortion, in sexuality education the adjective "safe" is used to create a positive attitude.

1 Peter L. Berger, Thomas Luckmann, *Socialinis tikrovės konstravimas* (Vilnius: Pradai, 1999), 193.

2 International Sexuality and HIV Curriculum Working Group. *It's All One Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights* (The Population Council, Inc., 2011), 71.

> Almost all of these deaths could be prevented with skilled attendance at delivery and timely emergency obstetric care for complications, use of family planning methods to reduce unintended pregnancies, and access to safe abortion services.[3]

It has to be said that safety is one of the basic human needs, and a woman's need for safety is greater than that of a man, especially in an environment that is unfriendly to a woman. It has been found that women are significantly more likely to experience domestic violence than men. As stated in the WHO report "Overall, 35% of women worldwide have experienced either physical and/or sexual intimate partner violence or non-partner sexual violence. While there are many other forms of violence that women may be exposed to, this already represents a large proportion of the world's women."[4]

4.1.1. Negative attitudes towards pregnancy set a precedent for disrespect for girls and young women and for diminishing the value of the child

Pregnancy is the term used to describe the period in which a fetus develops inside a woman's womb. Undoubtedly everyone understands that a woman is pregnant with a child, i.e. that a new human being will grow, develop in her body, and be born 40 weeks after the implantation. Until then, the new human life is inseparable from his mother. The language of sexuality education makes a distinction between pregnancy as a girl/woman status and a child. The talk of pregnancy in sexuality education is focused as if it were a certain condition of a woman, detrimental to her health and social well-being, with little or no mention that it is directly related to the growth and maturing of new life in the mother's womb and expectation of birth. From the beginning of pregnancy, a woman acquires another status — a pregnant mother. When it comes to pregnancy just as a woman's condition, eliminating the prenatal developmental stage of a new human life, pregnancy can seem very unattractive to a girl because of changes in her body, well-being, life plans, and many other things related to it. Especially in a sexualized society where the ideal of

3 International Sexuality and HIV Curriculum Working Group, *It's All One Curriculum*, 250.

4 WHO, *Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence* (World Health Organization 2013), 2, www.who.int/publications/i/item/9789241564625.

a thin female body prevails. In the content of sexuality education, pregnancy is presented not only as an unwanted, unplanned, to be prevented, but also as a deadly danger for girls. For example, in *It's All One Curriculum* is written:

> How often do you think a woman or girl dies somewhere in the world from pregnancy-related causes? One every week? Every ten minutes? Every day? [*Allow some guesses.*] The answer is every minute of every day, every day of the year. During the hour we spend learning about the issue of maternal mortality, sixty women and girls will die from this cause. Every year, this equals a half-million deaths. A far greater number of women and girls do not die but suffer other pregnancy-related problems.[5]

A negative attitude towards pregnancy presupposes the formation of a general negative attitude towards the child. It is common to hear the phrase "mother instinct" used not only for female animals but also for women. But a woman as an intelligent and free person, i.e. of a person not subject to natural determinism, motherhood is far more complex than an instinct phenomenon, dependent on both nature and upbringing. The female gender only provides an opportunity. Everything else is a matter of upbringing, which depends on the values cherished and passed on by the family, as well as on the traditional and cultural attitudes of society that affect the identity of every woman's motherhood. When a girl at school constantly hears that pregnancy is bad, no doubt, it can adjust her conception of motherhood and her future plans to have children and become a mother.

As a child, a girl usually identifies with her mother. Through games and toys, one of the favorites of which is a doll-baby, she easily discovers the meaning of femininity in motherhood. The whole world in which she lives from infancy to adolescence is the mother who is the most important person to her. The love of both mother and father allows the girl to understand that she is the most important person. Unfortunately, in adolescence, this pattern begins to collapse for several reasons: a changing body, the onset of natural synthesis of female hormones, a rapidly changing mood, and difficult-to-manage feelings make one feel discomfort every time. New interests seem to force the teenager to rediscover herself every time. At school, in sexuality education, or biology lessons, she learns that pregnancy (that is, the growth and development of a new life in a mother's womb for up to

5 International Sexuality and HIV Curriculum Working Group. *It's All One Curriculum*, 144.

40 weeks) is not a good thing. "Not recommended", "unplanned", "undesirable", "how to avoid" — these and many other negative attitudes towards pregnancy actively contribute to the emergence of the concept of "pregnancy, baby = bad" in the girl's worldview. However, "the content of the worldview in childhood usually determines the content of the adult worldview in the future."[6] In school sexuality education lessons, the hierarchy of adolescents' values is remodeled, bringing sexual pleasure to the forefront and attributing pregnancy and the baby to its side effects. The emphasis of responsibility shifts from avoiding risky behavior (early sexual intercourse) to the reduction of the consequences. In other words, the adolescent has a sense that it is not bad, maybe even normal, if a teenager starts having sex early, but very badly, maybe even fatal, if she gets pregnant or gets STI or AIDS/HIV. Adolescence is a time of self-expression, search for self-identification. So, the changing body turns out not at all so that it could ever carry and give birth to a baby whose image was so cute in childhood, but to already experience sexual pleasure. Under the influence of these intoxicatingly sweet ideas, the exclusive privilege of the female sex — the innate ability to conceive and give birth to a baby — is finally wiped out in the girls' consciousness. It is also defeated in the boy's self-consciousness because the woman's privilege — to carry and give birth to a baby — becomes the main obstacle to experiencing sexual pleasure without restriction.

4.1.1.1. A negative attitude towards pregnancy lays the foundations for disrespect for a woman in a boy's self-consciousness

In the case of safe or safer sexual intercourse between individuals with the aim of "preventing" an "unwanted or unplanned pregnancy", this is a person's use which is incompatible with neither dignity nor respectful relations. Due to his inherent dignity, a person cannot be never considered an object.[7] Respect, in a general sense, means the ability to value a person as he is, not as what he is to me "needed as the object of my needs".[8] Respect for a person is a freely chosen moral attitude of a person based on the recognition of another person's dignity and free choice. Each person has a dignity unique to him,

6 Kęstutis Pukelis, *Mokytojų rengimas ir filosofinės studijos* (Kaunas, 1998), 98.
7 Emanuėlis Munje, *Personalizmas* (Vilnius: Pradai 1996).
8 Ėrichas Fromas, "Menas mylėti" in *Meilės menas* (Vilnius: Asveja, 1999), 137.

which obliges the other person to always treat him only as a goal but never as a means to achieve his goal. Because dignity is "a feature of personality that shows a constant readiness to defend, preserve, maintain one's human value. It prevents the personality from trading himself, accepting himself as an object, a tool of another's will and purpose".[9] Hence, respect and dignity are inseparable, since man has a dignity inherent in him, and respect is the recognition and constant affirmation of that dignity in relation to another person. Thus, the basis of a respectful relationship between a woman and a man is the recognition of the dignity of a person of the opposite sex, both in words and in actions.[10] The adolescent is neither able to commit nor take responsibility for another person, nor is he/she mature enough for parenthood. Therefore, it is right to talk about sex not only in the context of physical, but also mental and social maturity, the ability to commit, and take responsibility for oneself and another person, and the ability to build long-term sustainable relationships. However, the introduction of the term "unwanted", "unplanned", "contraceptive measures", "safe sex" in childhood and adolescence not only introduces the provision that pregnancy is bad, but also that a bad person is a person who "infects with pregnancy" (boyfriend) or can cause problems by getting pregnant (girlfriend). A negative attitude towards pregnancy pre-programs the opposition between a man and a woman. There is also a mechanism that leads to irresponsible behavior, that it is not the cause (sexual intercourse between adolescents) but the consequences (pregnancy) that must be avoided.[11]

Maternal identity is the incorporation of a new personal system into a woman's self-awareness.[12] This psychological incorporation of maternal identity begins and develops with each pregnancy. Prior to pregnancy, a woman's interpersonal relationships with her family, work, and social interests form a balance that provides the woman with emotional comfort. Pregnancy alters a woman's inner balance and established sense of self-identity. Pregnancy can be seen as a process of a woman's emotional and mental adjustment and preparation, enabling her to accept a new person — a child — into her

9 Krescencijus Stoškus, *Etiketas ir žmonių bendravimas* (Vilnius: Mintis, 1981), 34.

10 Birutė Obelenienė, "Keywords towards Reconstruction of Respectful Relationship between Men and Women", *Logos* 101 (2019): 192–198, https://doi.org/10.24101/logos.2019.

11 Ibid.

12 F. H. Nichols, Sh. Smith Humenick, *Childbirth education: practice, research, and theory* (W. B. Saunders Company, 1988), 41.

life. Maternal identity is particularly important during pregnancy because it ensures the emergence of a bond between the child and the mother. F. H. Nichols, Sh. Smith Humenick argues that planning, securing, and accepting a pregnancy are the first steps in determining the success of maternal identity and pregnancy as a true adaptive process. However, if a woman's worldview is formed from adolescence, that pregnancy is a bad determining condition for a woman, such an adaptation period can be very unfavorable.

Of course, it would be wrong to say that teenage pregnancy and childbirth are safe for a girl's health. With regard to the pregnancy of adolescent girls, a very clear distinction must first be made with regard to the age of the girls (18-year-old pregnant girls are not included in the risk group). Secondly, the issue of pregnancy should not be in the context of a girl's fear of dying, but in the context of female privilege, with particular emphasis on responsibility, the need for physical and mental maturity and preparation for motherhood. Likewise, the responsibility of the guy in the context of preparation for parenthood.

4.1.2. The rhetoric of safe abortion is the veil of the reality of the coercion

According to WHO "unsafe abortion is defined as a procedure for terminating an unintended pregnancy, carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both"[13]. Consequently, a safe abortion is an abortion that has been performed in a medical institution by a licensed specialist. An abortion performed outside a medical institution or by a doctor who does not have a license for it is called an "illegal abortion" according to the Lithuanian Criminal Code, for which a doctor, a health care professional or another person who does not have the right to perform it is punished.[14] The question therefore arises as to why abortion is referred to as "safe abortion" in sexuality education rather than "legal abortion", why the adjective "safe" has been chosen instead of the word "legal" to describe the essence of the phenomenon more

13 WHO, *Safe abortion: technical and policy guidance for health systems* (Geneva, World Health Organization, 2012), 18.

14 Lietuvos Respublikos baudžiamasis kodeksas, 142 straipsnis. *Neteisėtas abortas*, http://www.infolex.lt/ta/66150:str142.

clearly. Perhaps an excerpt from the already mentioned sexuality education tool *It's All One Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights* can provide an answer to this, so to speak, rhetorical question.

> Is abortion safe?
> When performed under proper conditions, abortion is a simple and safe procedure. The procedure must be conducted by a trained health care provider using proper equipment, technique, and sanitary standards. Abortion is safest early in pregnancy. When performed during the first half of pregnancy (as virtually all abortions are), **it is much safer than having a baby**[15] [bolded by author].

The phrase "safe abortion" used in language creates the image that abortion is a completely insignificant thing that doesn't need much attention, all the more so as it is much safer than having a baby. Also, the phrase "safe abortion" is often reinforced by women's rights, i.e., a woman must have the right to a "safe abortion". However, the consequences of abortion for a woman's physical and mental health are not mentioned. It only mentions the consequences, including fatal ones, that only unsafe abortion can have: "Evidence shows that major physiological, financial and emotional costs are incurred by women who undergo unsafe abortion."[16] As for the consequences of abortion, focusing on them after unsafe abortion can create a false image that after safe abortion, i.e., legal abortion, there will be no consequences.

However, abortion, while a technically simple procedure, is inseparable from the moral side of the matter. Medicine is inherently related to morals. The physician and the patient, as intelligent and free beings, together play a role in achieving the medical goal of benefiting the patient. The pursuit of good for the patient is a moral obligation arising from the nature of medicine. A doctor who harms any patient's well-being is harming his profession. Therefore, not only theoretical and technical professional preparation is important for a doctor, but also the observance of moral norms that protect the value and dignity of the human.[17] The ethical norm that would protect

15 International Sexuality and HIV Curriculum Working Group. *It's All One Curriculum*, 247.
16 WHO, *Safe abortion: technical and policy guidance for health systems* (Geneva, World Health Organization, 2012), 20.
17 Andrius Narbekovas, "Prenatalinė etika" in *Medicina, etika ir teisė apie žmogų iki gimimo*, monografija (Kaunas: VDU, 2012), 142.

a woman's value and dignity, in this case, is her free and informed consent. Therefore, this chapter raises the problematic question of whether a woman seeking abortion can properly express her desire, i.e., whether she has really received all the information necessary for her decision and is guided by her free will. Each of these two components of consent — awareness and free will — is influenced by a variety of circumstances, the disregard of which makes a woman's consent both uninformed and captive, in other words, coercive.

4.2. Abortion and Free Informed Consent (FIC)

The principles of human dignity, the integrity of the human body, personal integrity, and personal autonomy have helped shape the doctrine of free and informed patient consent (FIC).[18] At Chapter II of *Consent of the Convention For The Protection Of Human Rights And Dignity Of The Human Being With Regard To The Application Of Biology And Medicine: Convention On Human Rights And Biomedicine* (1997) is stated that "An intervention in the health field may only be carried out after the person concerned has given free and informed consent to it. This person shall beforehand be given appropriate information as to the purpose and nature of the intervention as well as on its consequences and risks. The person concerned may freely withdraw consent at any time"[19].

According to the description formulated by the Lithuanian Bioethics Committee, the informed patient's consent is considered true and valid if: the patient is able to give consent, i.e. can properly express their will; the patient has been provided with sufficient information about the treatment or examination to enable him or her to make an informed decision; the patient must act of his own free will, not because the other person desires it.[20] Informed patient consent is not only a legal but also an ethical and moral obligation, the implementation which depends on both the healthcare professional and the patient. Informed patient consent actually consists of two requirements. On the one hand, the obligation to disclose information, on the other hand,

18 Modestas Sriubas, "Informuoto paciento sutikimo pažeidimo atvejai", *Teisės problemos* 1 (71) (2011): 41, http://teise.org/wp-content/uploads/2016/10/2011-1-sriubas.pdf.

19 *Convention For The Protection Of Human Rights And Dignity Of The Human Being With Regard To The Application Of Biology And Medicine: Convention On Human Rights And Biomedicine,* Oviedo, 04.IV.1997, https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.130089?jfwid=-8xfwh9qxp.

20 Lietuvos bioetikos komitetas. *Informuoto paciento sutikimas. Kas tai?* (Vilnius, 2013), 3.

the right to choose.[21] The competence of the person responsible for making the decision is a mandatory condition of the FIC. A competent person is a person who:

- is sufficiently mature to have consistent goals and values on which to base decisions;
- is able to understand the information provided about the intervention and its possible consequences;
- is able to substantiate his choice.

The more important and risky the decision to be made, the greater the competence required[22]. Termination of pregnancy, in an ethical sense, is definitely an important decision. Therefore, the competence of a woman who has to give her consent to an abortion is a prerequisite for her choice to be considered FIC.

4.2.1. Competence of a woman seeking abortion: constant goals and available values

Women seeking abortion tend to realize that abortion is not just abortion, it is the unconditional destruction of the unborn human life. The majority of women who have had an abortion or have decided to terminate their pregnancy usually perceive it as something more than a simple medical procedure. 49.2 % of respondents in the study "A woman's emotional state after an abortion" (participated 987 women who applied to the US Crisis Pregnancy Centers for help after an abortion) knew that the life of an unborn person is lost during an abortion, 67,5% said abortion was one of the most difficult decisions in their lives[23]. There is a lack of comprehensive research on this issue in Lithuania, but previous studies have found that it has been difficult for women to decide to terminate their pregnancies: of the 311 women who came to terminate a pregnancy, more than a third said it was very difficult to

21 Ibid.

22 Irena Paukštytė, "Informuoto asmens sutikimo sampratos raida sveikatos priežiūroje", *Visuomenės sveikata (Public health)* 1 (48) (2010): 22.

23 Priscilla K. Coleman, Kaitlyn Boswell, Katrina Etzkorn, Rachel Turnwald, "Women Who Suffered Emotionally from Abortion: A Qualitative Synthesis of Their Experiences", *Journal of American Physicians and Surgeons* 22, 4 (2017).

make a decision, only 16,7 said that it was easy[24]. Most often, a woman knows that a person's life is lost during an abortion: 60.3% of respondents who terminated their first pregnancy in Lithuania answered positively to the question of whether abortion is fetus death[25]. Of the 98 interviewed women who came to consult an obstetrician-gynecologist on termination of pregnancy in Visaginas and Švenčionys hospitals, 71% claimed that life begins with fertilization[26]. The fact that a new life dies during an abortion is also known to young women. According to a survey of students from two universities in Lithuania, which was attended by over 800 students, 86% of the respondents (90.3% of females and 69% of males, this difference is statistically significant) stated that human life begins with fertilization. Contrary to the predominant opinion that abortion is a social issue, the majority of students selected the response: "Abortion is a moral issue".[27]

Human life is definitely a value. The question therefore arises, what makes a woman who realizes that human life is inside of her to choose abortion? Such an unplanned and/or unwanted pregnancy is not just a matter of family planning or not planning, as it causes a woman a crisis. Pregnancy is defined as a crisis pregnancy if it started as a crisis, even if the crisis was later resolved, or if the pregnancy results in a crisis before childbirth due to a change in circumstances.[28] Experts advising patients in crisis argue that such people are more vulnerable and dependent on the opinions of outsiders than those who are not in such situation. Such individuals have a "less connection to reality." They are more likely to experience an influx of fatigue, despair, anger, and disorganization. People in crisis are more likely to stay away and allow others to make decisions for them.[29] Such people need help.[30] This could

24 Vanda Vanagienė, "Moterų požiūris į kontraceptines priemones ir nėštumo nutraukimą", *Sveikatos mokslai* 3 (2004): 48–53.

25 Rita Jakubčionytė, "Nėštumo nutraukimą įtakojantys faktoriai", daktaro disertacija (Kaunas: KMU, 2000).

26 Lijana Gvaldaitė, Jekaterija Bordun, "Abortas kaip socialinė problema: prevencijos poreikio aspektas", *Tiltai* 1 (2013): 147–167.

27 Birutė Obelenienė, Andrius Narbekovas, Zita Liubarskienė, Vita Daudaravičienė, "The Problematic of the Beginning of Human Life and its Protection from the Viewpoint of Lithuanian students" (in Lith), *SOTER* 43 (2012): 7–22.

28 HSE, *Crisis pregnancy program: Crisis pregnancy Counselling skills A practice guide: 2015 edition*, 11, https://www.sexualwellbeing.ie/for-professionals/supports/care-guidelines/crisis-pregnancy-counselling-skills-practice-guide-final-pdf-version-2015.pdf.

29 Amy Sobie, David C. Reardon, "Who is making the choice? Women's heightened vulnerability During Crisis Pregnancy", *The Post-abortion Review*, 8 (1) (2000).

30 Ona K, Polukordienė, *Psichologinės krizės ir jų įveikimas* (Vilnius: Heksagrama, 2003), 10.

explain why a pregnant woman, especially if she is unmarried, is a teenager with interpersonal, financial or other difficulties is so vulnerable. A woman who has previously been able to control her life and make decisions in her favor suddenly becomes dependent on the opinions of others. In most cases, she is simply unable to withstand the pressure of her surrounding. Given the unfavorable circumstances, of which severe occur at the same time, it is worth questioning the validity of statements such as "abortion is a woman's right to choose". In some Western European countries, unlike in Lithuania, there is a well-developed, state system of assistance to women experiencing a pregnancy crisis. I.e., In Germany, abortion is regulated by the Penal Code and since 1995 the Act on Assistance to Avoid and Cope with Conflicts in Pregnancy was adopted. Under Article 218 of the German Penal Code, abortion is a criminal offense for all persons involved, with a few exceptions, the first of which is "if a pregnant woman requests termination of pregnancy and provides a certificate to a doctor under section 219 PC that she received counseling at least three days in advance before surgery"[31]. The German Act on Assistance to Avoid and Cope with Conflicts in Pregnancy contains a basic provision on counseling a pregnant woman: "The counseling provision recognizes the fact that unborn human life can only be protected in the early phase of pregnancy by supporting the woman and not by acting against her"[32]. In Germany, counseling of a woman seeking an abortion, which explains the reasons why the woman wishes to terminate the pregnancy, and the provision of assistance that can reverse these reasons is considered a mandatory condition for the implementation of a woman's free informed choice. Evidence-based social support, including counseling, is vital in the context of unwanted, unplanned pregnancy, or when a pregnant woman is unsure whether she can cope with it.[33]

In Ireland, in 2001 a state crisis pregnancy agency was established to provide free crisis pregnancy counseling services to both women and men, available in more than 50 locations across the country. In Ireland, 35% of pregnant

31 Federal Ministry for Family Affairs, Senior Citizens, Women and Youth. *Pregnancy counseling § 218*. Information on the Act on Assistance to Avoid and Cope with conflicts in Pregnancy and Statutory Regulations Pertaining to section 2018 of the German Criminal code (Berlin, 2015), 8.

32 Federal Ministry for Family Affairs, Senior Citizens, Women and Youth. *Pregnancy counseling § 218,* 11.

33 Greg Pike, *Abortion and women's health. An evidence-based review for medical professionals of the impact of abortion on women's physical and mental health* (UK: London: 2017), 6.

women and 21% of their partners are experiencing a crisis pregnancy.[34] It is a difficult experience that 35% described the women surveyed as "shock", and 53% — "completely unexpected".[35] The Agency's Guide *Crisis Pregnancy Counseling Skills* lists more than twenty common causes of a woman's pregnancy crisis.[36] Both German and Irish crisis pregnancy counseling are based on explicit requirements for both the professionals who can counsel a woman in crisis and the content of the information that needs to be provided to the woman.

What women went through when considering abortion, what kind of help they needed most at the time, was sought in a retrospective study called "The Need for Help in a Crisis Pregnancy". In this study, the method of in-depth interviews was used to gather the personal experience of women who, after experiencing an abortion, sought help from one of the family centers in Lithuania that provides crisis pregnancy counseling services. The analysis of study data, after grouping them into categories and subcategories according to the transcribed text, revealed that women before abortion experienced[37]:

1. *Ambiguous feelings* that manifested as a horrible feeling of life that has no perspective of being born; children's fathers' and pregnant women's confusion and flouncing were felt.
2. *Various fears:* women feared progressing pregnancy because of unawareness; they feared to be left alone with the child, their mothers' opinion, and public condemnation; they feared that they would not be able to have children in the future and felt vague fear.
3. *Inner desire to have a child* that was conceived as the joy of motherhood and love for children.
4. Women's decision to have an abortion can be considered as a *forced-choice* which they describe as: husband's psychological violence forcing to have an abortion; father's absence of love for a child because the

34 Orla McBride, Karen Morgan and Hannah McGee, "Irish Contraception and Crisis Pregnancy Study 2010 (ICCP-2010): A survey of the general population", *Crisis Pregnancy Programme Report* 24 (2012).

35 Catherine Conlon, Mixed Methods Research of Crisis Pregnancy Counselling and Support Services. *Crisis Pregnancy Agency Report 12* (Dublin, 2005), 29.

36 *HSE Crisis pregnancy programme*.

37 Birutė Obelenienė, Aušrelė Krunglevičiūtė, "Pastoral care for women with regret for the loss of an unborn child", *Procedia social and behavioral sciences* 159 (2014): 517–523, https://doi.org/10.1016/j.sbspro.2014.12.416.

mother worried about how a child, unwanted by father, would feel; inner resistance due to the objection to abortion; petrification, unwillingness to have an abortion, hoping for the situation to change and that husband would change his attitude after consultation; weeping, intense crying.

5. Pregnant women had *self-esteem problems*: they lacked courage, did not love babies' fathers, although they expect their babies, did not comprehend their low self-esteem, and felt vulnerable.
6. *The lack of responsibility*, as defined by women, is manifested by men's inability to take responsibility and their own lack of responsibility.
7. *The lack of help by relatives,* because women felt dependent. It manifested as: false understanding of the right to give birth; thinking that only civil marriage gives the right to give birth and not listen to others; the influence of relatives; not having were to live; the need for material assistance; non-existing possibilities to give birth.

The answers of the women who participated in this study to the question: "What kind of help would they have wanted and what kind of help would have changed their decision to choose abortion" were divided into four categories: (1) psychological help; (2) opportunities to discuss the decision with doctors; (3) objective information on abortion and the beginning of human life; (4) non-promotion of abortion, but encouragement to motherhood.[38] In another study conducted in Lithuania, women interviewed before abortion indicated that they would like more information. As much as 51% of women interviewed before an abortion would like to consult a psychologist.[39]

The presented research data and the experience of other countries in crisis pregnancy counseling suggest that the decision to terminate the pregnancy is not easy to make. Unwanted pregnancies cause a woman to have a crisis, and those in crisis, as mentioned, tend to divert decisions to others. In Lithuania, there is no systematic counseling on crisis pregnancies, there are no defined requirements for counselors, nor are there clear guidelines for the content of counseling or information. Therefore, it can be assumed that women do not receive the necessary counseling assistance.

38 Birutė Obelenienė, Aušrelė Krunglevičiūtė, "Pagalbos poreikis moterims krizinio nėštumo metu: retrospektyvus tyrimas", *SOTER* 48 (76) (2013): 115–128.

39 Gvaldaitė, Bordun, "Abortas kaip socialinė problema", 147–161.

4.2.2. Can a woman's decision to have an abortion be considered free?

The expression of free will is based on a person's autonomy, which ensures that consent is given by a person independent of any external force, that his decision is not influenced by any form of restriction of will, such as violence, deception, coercion. There are "very subtle or indirect forms of coercion to obtain consent when individuals are directly dependent, subordinate, illiterate or poor."[40]

Pressure on a woman to choose abortion can take many forms, including misinformation about fetus development, lying about possible alternatives, or distorting scientific truth that "the embryo is part of a woman's body."[41] According to research conducted in foreign countries and Lithuania, the pressure on a woman to choose an abortion is experienced not only in the close environment, but also indirectly in the public sphere.[42] According to P. Coleman's study "Women's Emotional Experiences After Abortion: A Qualitative Synthesis of Their Experiences", which included 987 women seeking help after an abortion in US crisis pregnancy centers, as many as 73.8% of respondents said that their decision to have an abortion was not completely free, 58.3% of all respondents said they wanted to satisfy other people, and 28.4 % did abortion for fear of losing a partner. The answers were far from repeating feminist rhetoric. The women surveyed did not talk about empowerment or the ability to control their reproduction or liberation from partner abuse, and so on. On the contrary, the study's authors state that many women said that the experience of abortion was not beneficial to their personal situation.[43]

There have been a number of studies in past in Europe and around the world that confirm a statistically significant link between abortion and violence against women.[44] A report by the American Psychological Association's Working Group on Mental Health and Abortion[45] states that a link has been established between violence and abortion. Women who have experienced

40 Paukštytė, "Informuoto asmens sutikimo sampratos raida", 21.

41 Melinda Tankard-Reist, *Giving Sorrow Words* (Springfield, IL: Acorn Books, 2007).

42 Obelenienė et al., "Žmogaus gyvybės pradžios ir apsaugos problematika", 7–22.

43 Coleman et al., "Women Who Suffered Emotionally from Abortion".

44 Birutė Obelenienė, Eimantas Švedas, "Laisvo apsisprendimo nutraukti nėštumą ir moters teisės į informaciją realizavimo galimybės", *Sveikatos mokslai* 1–2 (42–43) (2006): 131–137.

45 American Psychological Association, *Task Force on Mental Health and Abortion: Report of the Task Force on Mental Health and Abortion* (Washington: DC, 2008), http://www.apa.org/pi/wpo/mental-health-abortion-report.pdf.

childhood violence or are abused by a partner are more likely to experience unwanted pregnancies and abortions.[46]

A WHO (2013) multilateral study on women's health and domestic violence found that women are at higher risk of experiencing unwanted pregnancies, and almost three times more at risk of an abortion if a partner commits violence.[47] Wokoma et al.'s study published in 2013 found that women seeking abortion were 6 times more likely to experience violence than those in pregnancy care[48]. In a study conducted by Italian scientists, which performed in the only maternity hospital in Trieste, where all the births and abortions in the city take place. The cases comprised all consecutive elective abortions (445) occurring from March 2006 to July 2007, performed at less than 12 weeks of pregnancy. The unmatched control group included all consecutive live births (438), occurring from March 2006 to August 2006 in the same hospital. The data analysis of the research confirmed that women seeking an elective abortion were more likely to report any kind of violence than post-partum women.[49] Researchers studying the links between abortion and violence note that women seeking repetitive abortion are significantly more likely to experience domestic violence. And warns that repetitive abortion can be an indicator of violence. Researchers recommend a careful examination of a woman's history of abortion — whether she is a victim of abuse or violence. "Just ask the woman who else wants this abortion?" the study said.[50] These are just a few examples from the many published studies that have identified the link between violence and abortion. Consequently, it can be assumed that a woman seeking an abortion is likely to experience violence. It can also be assumed that a woman's decision to choose abortion can be considered

46 APA, *Task Force on Mental Health and Abortion: Report of the Task Force on Mental Health and Abortion*, 13.

47 Christina C. Pallitto, Claudia García-Moreno, Henrica A.F. M. Jansen, Lori Heise, Mary Ellsberg, Charlotte Watts, "Intimate partner violence, abortion, and unintended pregnancy: results from the WHO Multi-country Study on Women's Health and Domestic Violence", *International Journal Gynecology &Obstetrics* 120 (2012): 3–9, https://doi.org/10.1016/j.ijgo.2012.07.003.

48 Tinye T. Wokoma, M. Jampala, Helen Bexhell H., Guthrie K & Lindow S, "A comparative study of the prevalence of domestic violence in women requesting a termination of pregnancy and those attending an antenatal clinic", *BJOG* 121 (2014): 627–633, https://doi.org/10.1111/1471-0528.12609.

49 Vicenta Escribà-Agüir, Laura Pomicino, Chiara Lucchetta, Federica Scrimin and Janet Molzan Turan, "Violence in the Lives of Women in Italy who have an Elective Abortion", *Womens Health Issues,* 19 (5) (2005): 335–343, https://doi.org/10.1016/j.whi.2009.07.004.

50 William A. Fisher, Sukhbir S. Singh, Paul A. Shuper, Mark Carey, Felicia Otchet, Deborah MacLean-Brine, Diane Dal Bello, and Jennifer Gunter, "Characteristics of women undergoing repeat induced abortion", *CMAJ* 172 (5) (2005): 637–641.

not a free but a forced choice of a woman if the woman does not receive help in surviving the pregnancy crisis and it is not established that she does not experience coercion or domestic violence. Some states, such as the state of Michigan, are conducting a comprehensive study to prevent forced abortion. Under Michigan law, it is illegal to coerce a woman to have an abortion. Actions like assault, making threats to hurt, embarrass, or cause psychological or financial problems to any person, as well as harassing, restraining, or taking important legal documents are all forms of coercion.[51] To this end, a special 7-page research tool and guidelines for medical staff on how to deal with a woman being forced to have an abortion have been developed. Based on it, Michigan abortion providers are required to orally screen all patients for coercion to abort at the time the patient first presents to the office or facility to obtain an abortion.[52]

The role of a man in an abortion drama is certainly not the last. According to study of A. Bankole, S. Singh, and T. Haas "Reasons Why Women Have Induced Abortions: Evidence from 27 Countries" relationship problems are one of the most common reasons for abortion. The authors of the study state, "Underlying this general reason are such specific ones as that the partner threatened to abandon the woman if she gives birth, that the partner or the woman herself refuses to marry to legitimate the birth, that a break-up is imminent for reasons other than the pregnancy, that the pregnancy resulted from an extramarital including the partner's objection to relationship, that the husband or partner mistreated the woman because of her pregnancy, or that the husband or partner simply does not want the child. Sometimes women combined these reasons with not being able to afford a baby, suggesting the importance of having a partner who can offer both emotional and financial support."[53]

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51 *Michigan's Coercive Abortion Prevention Law Information for Patients. Prescreening Summary*, https://www.michigan.gov/documents/mdhhs/Prescreening_Summary_on_the_Prevention_of_Coercion_to_Abort_640354_7.pdf.

52 *Screening for Coercive Abortion, Intimate Partner Violence and Domestic Abuse: Screening Tool and Protocol for Abortion Providers*, https://www.michigan.gov/documents/mdhhs/Screening-Tool-and-Protocol_636516_7.docx.

53 Akinrinola Bankole, Susheela Singh and Taylor Haas, "Reasons Why Women Have Induced Abortions: Evidence from 27 Countries", *International Family Planning Perspectives* 24 (3) (1998), 117–127; 152.

4.2.3. Is a woman's decision to have an abortion well informed?

In Lithuania, more than half of all abortions are performed every year according to the woman's wishes[54] in accordance with the "Procedure for termination of pregnancy" established in 1994 by order of the Minister of Health, and the Law on Patients' Rights and Compensation for Damage to Health.[55] The declaration of a woman's wish to terminate a pregnancy must be subject to certain requirements, in particular the person's express consent to the intervention and the information on the intervention that the medical staff must provide. The abortion procedure stipulates that a woman's "decision" to terminate a pregnancy must be "made in writing prior to the abortion operation"[56], the information must be provided by "the referring obstetrician and, in the case of the first pregnancy, the doctor and the female counselor".[57] The above-mentioned legal act also describes the content of the mandatory information: to inform about the "damage to a woman's health, physical and moral damage to both spouses".[58] The Law of the Republic of Lithuania on Patients' Rights and Compensation for Damage to Health states that a person's consent to intervention is considered reasonable information and appropriate if it meets 4 conditions: (1) it is given by a person who can properly express their will; (2) is given upon receipt of sufficient and clear information; (3) is given voluntarily by the patient (his representative); (4) complies with the formal requirements established by legal acts.[59] Although abortion is considered a medically straightforward service to be provided in health care facilities, as has been mentioned, it cannot be ethically equated with routine surgical interventions. The Law on Patients' Rights and Compensation for Damage to Health stipulates that consent to an intervention can only be given by a person who can properly express their will and has received sufficient and clear information.

54 Lietuvos sveikatos apsaugos ministerija, Higienos instituto Sveikatos informacijos centras, *Lietuvos sveikatos statistika 2016* (Health Statistics of Lithuania), (Vilnius, 2017), 20.

55 Lietuvos Respublikos pacientų teisių ir žalos sveikatai atlyginimo įstatymas, *Valstybės žinios*, 1996, Nr. 102–2317; 2004, Nr. 115–4284; 2009, Nr. 145–6425.

56 Dėl nėštumo nutraukimo operacijos atlikimo tvarkos, str. 1.9.

57 Ibid., 1.5.

58 Ibid.

59 Lietuvos Respublikos pacientų teisių ir žalos sveikatai atlyginimo įstatymas, suvestinė redakcija nuo 2016 01 01 iki 2018 06 30, https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.31932/uKRbBTqZXL.

With regard to the content of mandatory pre-intervention information referred to in the order of Lithuanian Ministry of Health "Pregnancy Termination Procedure", it should be noted that there are no defined criteria for assessing a woman's ability to understand the provided information. The formal signing of the consent form for the abortion procedure does not, in an ethical sense, suggest that the woman understood what she signed. Women who applied for help at one crisis pregnancy center in Lithuania were asked to fill in an anonymous questionnaire about the FIC before an abortion. The answers to the questions, "If you remember the text you signed, can you briefly describe what information was provided in the document", read[60]:

- *Can't remember if I signed, I was stressed.*
- *I don't remember.*
- *Unfortunately, at the time I was very emotionally stressed and, frankly, I only remember the fact of signing the document. What was written there, I cannot say. It seems to me that this was the patient's consent to the procedure. But I can be wrong.*
- *I don't remember signing something. I wanted to be done with everything as soon as possible, so I didn't go into details and would have signed anything without reading.*
- *Actually, I don't remember if I have signed any document.*

Thus, it can be assumed that women seeking abortion in Lithuania may not be sufficiently informed about the adoption of FIC.

As it was mentioned before, at the Convention "For The Protection Of Human Rights And Dignity Of The Human Being" stated, that appropriate information has four components: the purpose of the intervention, the nature of the intervention, the risks and the consequences.[61]

60 Birutė Obelenienė, "Is abortion always a woman's free and informed consent?" (in Lith.), report presented at a scientific conference *The State's Duty to Help Women in Crisis Pregnancy: Opportunities and Challenges*, Vilnius, 30 October, 2020.

61 *Convention For The Protection Of Human Rights And Dignity Of The Human Being With Regard To The Application Of Biology And Medicine: Convention On Human Rights And Biomedicine*, Oviedo, 04.Iv.1997, Chapter II, https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.130089?jfwid=-8xfwh9qxp.

4.2.4. The nature of the intervention

Abortion is not just the end of pregnancy as a woman's condition. Abortion is always the unconditional destruction of an unborn human being. And a woman has a right to know this, otherwise, it can be said that her consent is neither free nor informed. Misleading statements such as "the integrity of a woman's body", "the right of this woman's body", "my body is my right" are unscientific rhetoric. The knowledge that a human embryo is a human life must play a crucial role in the formation of human conscience because in an ambiguous situation, only conscience can dictate which action is good and which is bad. False conscience, for instance, is based on false information, simply enslaves and destroys personal freedom.[62] If it is recognized that human life does not begin at the moment of conception, then abortion will not terminate human life and no moral problems should arise. However, if it is human life, then "the moral principles of respect and inviolability"[63] must be applied. As it is already proven by natural science, human life begins at conception and the embryo is the new separate human being. Several main biological arguments have been identified to prove that the human embryo is a separate, independent living organism[64]:

- the embryo is a separate biological system;
- genetically different from their parents;
- has all the genetic information necessary to develop into an adult;
- leads its growth and development;
- actively and purposefully (not chaotically) develops (but does not being developed) towards final maturity.

Adolescents need to get the right information about the beginning of human life as early as possible

It is known from the theory of social learning that a person's values and beliefs have a profound effect on their chosen pattern of behavior. "Attitudes toward the behavior, subjective norms with respect to the behavior, and

62 D. N. Irving, "The Woman and the Physician Facing Abortion: The Role of Correct Science in the Formation of Conscience and the Moral Decision Making Process", *The Linacre Quarterly*, vol. 67 (4) (2000): 21–55.

63 H. A. M. J. ten Have, R. H. J. ter Meulen, E. Van Leeuwen, *Medicinos etika* (Vilnius: Charibdė, 2003), 283.

64 Robert P. George, Chisropher Tollefsen, *Embryo: A Defense of Human Life* (New York: Doubleday, 2008), 39–41.

perceived control over the behavior are usually found to predict behavioral intentions with a high degree of accuracy".[65] Teens' choice between a healthy lifestyle and risky sexual behavior, which can have many negative consequences, such as getting infected with STIs, AIDS/HIV, and teen pregnancy, very much depend on their beliefs. The strongest risk and protective factors are teens' own sexual beliefs, values, attitudes, skills, and intentions. Teens are more likely to have sex, to have sex more frequently, and to have more partners, if they have permissive attitudes toward premarital sex.[66] Therefore, the prevention of early sexual activities should be the most important goal of health and sexuality education for teens. In order to help teenagers, make more informed decisions about when to begin sexual activity, it is necessary that they receive all the relevant information to make the decision.[67] Based on the research can be stated that "personal values better predict individuals' mental construal and intentions for distant future behaviors than near future behaviors. Personal values seem to provide a general interpretive frame and behavioral guide for the relatively distant future".[68] Therefore, it is very important that adolescents receive scientific evidence-based knowledge about the beginning of human life at school as early as possible. This should guide not only sexuality education programs but also biology lessons. For example, according to the findings in a study "Evaluation of Content about Human Sexuality and Procreation of School Textbooks in Lithuania", only one out of all evaluated Biology subject textbooks states that new life begins from the moment of conception. None of the textbooks contain the term "embryo" to describe new life. The terms used are: "germ", "fertilized egg cell", "zygote", "ball of cells".[69] Therefore, it can be assumed that the omission of the begin-

65 Icek Ajzen, "The Theory of Planned Behavior", *Organizational Behavior And Human Decision Processes* 50, (1991): 179–211, https://doi.org/10.1016/0749-5978(91)90020-T.

66 Douglas Kirby, Gina Lepore, Jennifer Ryan, *Sexual Risk and Protective Factors Factors Affecting Teen Sexual Behavior, Pregnancy, Childbearing And Sexually Transmitted Disease: Which Are Important? Which Can You Change?* (The National Campaign To Prevent Teen Pregnancy, Washington, DC, 2005).

67 Jokin de Irala, I. Gómara Urdiain, Cristina López Del Burgo, "Analysis of content about sexuality and human reproduction in school textbooks in Spain", *Public Health* 122 (10) (2008): 1093–1103, https://doi.org/10.1016/j.puhe.2008.01.005. Epub 2008 Jul 9.

68 Tal Eyala, Michael D. Sagristanob, Yaacov Tropec, Nira Libermand and Shelly Chaikene, "When values matter: Expressing values in behavioral intentions for the near vs. distant future", *Journal of Experimental Social Psychology* 45 (1) (2009): 35–43, https://doi.org/10.1016/j.jesp.2008.07.023.

69 Birutė Obelenienė, Andrius Narbekovas, "Evaluaton of Content about Human Sexuality and Procreation of School Textbooks In Lithuania", *The European Proceedings of Social & Behavioural Sciences*, https://doi.org/10.15405/epsbs.2017.01.02.20.

ning of a person's life at school, the negative attitude towards pregnancy and the positive attitude towards abortion, and information about sexual pleasure as a human right, will influence the choice of a young pregnant woman between giving birth and terminating the pregnancy. Intentions of action "are assumed to capture the motivational factors that influence behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior. As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance."[70]

Positive attitude towards abortion, i.e. "safe" abortion attitude provision reinforces toward behavior. When analyzing the underlying causes of abortion, it is necessary to assess all the factors that determine them. Because the emotional state unfavorable to pregnancy is exacerbated by the negative attitude towards pregnancy acquired during adolescence.

4.2.5. The consequences of the intervention

Knowledge of the consequences of abortion is essential for free choice. The consequences, in a general sense, can be divided according to the time of onset, i.e. short-term and long-term. When it comes to the consequences of abortion, it is more important to pay attention to the long-term consequences, those that may affect a woman's life in the future: effects on a woman's mental health or the links between abortion and premature birth. According to the evidence, there is a link between preterm birth (which is dangerous to both a woman's and baby's health) and abortion. U.S. researchers Brent Rooney and Byron C. Calhoun in 2003 published a systematic analysis of 49 studies that showed that preterm birth is directly related to previous abortions. I.e., an Australian study of 121,305 cases of preterm birth found that if a woman had one abortion before the wanted pregnancy, her risk of preterm birth increased 1.6 times during 20–27 weeks of gestation, 2 abortions increase this risk by 2.5 times, 3 abortions — 5,6 times. A study in Bavaria (Germany) covering 106,345 cases of preterm birth confirmed that one abortion increases the risk of preterm birth 2.5 times during a 32-week

70 Icek Ajzen, "The Theory of Planned Behavior", *Organizational Behavior And Human Decision Processes* 50, (1991): 181.

gestation period, 2 abortions — 5.2 times, and 3 abortions — even 8 times[71]. S. KC, M. Gissler, S. M. Virtanen and R. Klemetti in a study analyzing all the first-time mothers (n = 419 879) with a singleton birth during 1996–2013 in Finland. Finland was identified from the Medical Birth Register and linked to the Abortion Register. The researchers conclude from the analysis that a significantly high risk for extremely preterm birth was found among the women having had repeated surgical abortions when compared to women with no termination of pregnancy[72]. The abortions experienced and the long-term effects on a woman's mental health are the most controversial.

4.2.5.1. Abortion and a woman's mental health

In most cases, sexuality education programs do not include the consequences after abortion at all. The experiences of a woman after an abortion are described by sexuality education specialists as propaganda of life advocates. However, research conducted by different scientists confirms that this is not true. 2008 The Royal College of Psychiatrists issued a statement that consent to abortion could not be considered free without providing information on the risks to physical and mental health:

"The Royal College of Psychiatrists recognizes that good practice in relation to abortion will include informed consent. Consent cannot be informed without the provision of adequate and appropriate information regarding the possible risks and benefits to physical and mental health. This may require the updating of patient information leaflets approved by the relevant Royal Colleges, and education and training to relevant health care professionals, in order to develop a good practice pathway."[73]

It is important to note that this institution in 1994 had expressed a completely different view that abortion has no psychological consequences: "The Royal College of Psychiatrists finds the risks to psychological health from termination of pregnancy in the first trimester much less than the risks

71 Brent Rooney, Byron C. Calhoun, "Induced Abortion and Risk of Later Premature Birth", *Journal of American Physician and Surgeons*, 8 (2), (2003), 46–49.

72 Situ KC, Mika Gissler, Suvi M. Virtanen, Reija Klemetti, "Risks of Adverse Perinatal Outcomes after Repeat Terminations of Pregnancy by their Methods: a Nationwide Register-based Cohort Study in Finland 1996–2013", *Paediatric and Perinatal Epidemiology* 31 (6) (2017), https://doi.org/10.1111/ppe.12389.

73 David M. Fergusson, "Abortion and mental health", *Psychiatric Bulletin* 32 (2008), 321–324, https://doi.org/10.1192/pb.bp.108.021022.

associated with proceeding with a pregnancy that is clearly harming the mother's mental health. There is no evidence in such cases of major psychiatric risk or long-lasting psychological distress."[74]

Researchers studying the consequences of abortion find that having an abortion for an average of 8 years after termination of pregnancy remains a risk factor for depression. Women whose first pregnancy ended in abortion accounted for 65% are more likely to experience clinical depression than women whose first pregnancy ended in childbirth.[75]

In P. K. Coleman's systematic study, *Abortion and Mental Health: Quantitative Synthesis*, in which she analyzed studies of the links between abortion and mental illness published in the scientific press from 1995 to 2009, 22 studies, 36 measures of effect and 877 181 participants of which 163 831 experienced an abortion). The results of the study showed that "Women who had undergone an abortion experienced an 81% increased risk of mental health problems, and nearly 10% of the incidence of mental health problems was shown to be attributable to abortion. The strongest subgroup estimates of increased risk occurred when abortion was compared with term pregnancy and when the outcomes pertained to substance use and suicidal behavior."[76] Summarizing the study conducted by P. K. Coleman concludes that "this review offers the largest quantitative estimate of mental health risks associated with abortion available in the world literature. Calling into question the conclusions from traditional reviews, the results revealed a moderate to highly increased risk of mental health problems after abortion. Consistent with the tenets of evidence-based medicine, this information should inform the delivery of abortion services."[77]

The report of the American Psychological Association's (2008) "Task Force on Mental Health and Abortion TFMHA)", concluded that "it is clear that some women do experience sadness, grief, and feelings of loss following termination of a pregnancy, and some experience clinically significant

74 Ibid.

75 Jesse R. Cougle, David C. Reardon, Priscilla K. Coleman, "Depression associated with abortion and childbirth: a long-term analysis of the NLSY cohort", *Medical Science Monitor* 9 (4) (2003): 157–164.

76 Priscilla K. Coleman, "Abortion and mental health: quantitative synthesis and analysis of research published 1995–2009", *The British Journal of Psychiatry* 199 (3) (2011): 180–186, https://doi.org/10.1192/bjp.bp.110.077230.

77 Ibid.

disorders, including depression and anxiety."[78] According to D. Reardon, the TFMHA itself identified at least 15 risk factors for increased risk of negative reactions. At study "The abortion and mental health controversy: A comprehensive literature review of common ground agreements, disagreements, actionable recommendations, and research opportunities" D. Reardon provides ranges of the incidence of ranges of each TFMHA risk factor as reported in the literature.

Table 8. Risk factors for mental health problems after an abortion identified by the American Psychological Association's Task Force on Mental Health and Abortion (TFMHA) in 2008[79]

TFMHA identified risk factors	Percentage of women at risk in different sources*
Perceived pressure from others to terminate a pregnancy	20%[48]; 23%;[38] 32%;[49]64%[50]
Terminating a pregnancy that is wanted or meaningful	30%–63%;[48] 26%–39%;[38] 11%–56%;[51] 25% fetus human, taking life:[52] 50.7% morally wrong[50]
Perceived opposition to the abortion from partners, family, and/or friends	10%–20%[38]
Lack of perceived social support from others	44%[38]
Feelings of stigma; perceived need for secrecy	47%–56%[53]
Exposure to antiabortion picketing	87%[54]
Low perceived or anticipated social support for the abortion decision Percent at risk not reported	Percent at risk, not reported[55,56]
A prior history of mental health problems	31%–51%[57]
Personality factors such as low self-esteem and low perceived control over her life	53%[51]
Use of avoidance and denial coping strategies	19%–51%;[58] 17%;[59] 75%[60]
Feelings of commitment to the pregnancy	15%–18%;[50] 30%[48]

78 American Psychological Association, *Task Force on Mental Health and Abortion. Report of the Task Force on Mental Health and Abortion* (Washington DC, 2008), 105. Retrieved from http://www.apa.org/pi/wpo/mental-health-abortion-report.pdf.

79 David C. Reardon, "The abortion and mental health controversy: A comprehensive literature review of common ground agreements, disagreements, actionable recommendations, and research opportunities", *SAGE Open Medicine* 6 (2018): 3, https://doi.org/10.1177/2050312118807624.

TFMHA identified risk factors	Percentage of women at risk in different sources*
Ambivalence about the abortion decision	38%–54%;[50] 30%–44%;[61] 65%; [62]22%; [63] 11%–29%;[38] 35%[48]
Low perceived ability to cope with the abortion prior to its occurrence	36%;[38] 40%[51]
A history of prior abortion	48%–52%[64]
Abortion after the first trimester	9%[65]

*The index next to the percentage number indicates the number of the source in the bibliographic list of the David C. Reardon publication.

D. Reardon states that: "The incidence rates are shown in Table 8 clearly suggest that the majority of women seeking abortion have one or more of the TFMHA identified risk factors".[80]

Natalie P. Mota, Margaret Burnett et al. conducted the study, which analyzes data from the National Comorbidity Survey Replication (n = 3310 women, aged 18 years and older) confirms a strong association between abortion and mental disorders (Table 9):

Table 9. Percentage of people with age of onset of mental disorder after age of first abortion[81]

Lifetime psychiatric diagnostic category	Mental disorder after abortion % (95% CI)
Major depression	48.8 (40.1–57.5)
Generalized anxiety disorder	45.3 (35.5–56.7)
Social phobia	9.7 (5.9–16.1)
Alcohol abuse	44.7 (33.9–56.1)
Alcohol dependence	45.9 (30.6–62.1)

80 Ibid.

81 Natalie P. Mota, Margaret Burnett, Jitender Sareen, "Associations Between Abortion, Mental Disorders, and Suicidal Behaviour in a Nationally Representative Sample", *The Canadian Journal of Psychiatry* 55, (4) (2010): 239–247, https://doi.org/10.1177/070674371005500407.

Lifetime psychiatric diagnostic category	Mental disorder after abortion % (95% CI)
Drug abuse	41.9 (29.9–55.0)
Drug dependence	49.5 (31.0–68.1)
Suicidal ideation	29.9 (21.7–39.6)
Suicidal attempt	23.1 (13.6–36.2)

In a study conducted in Lithuania, which interviewed women who had experienced abortion through qualitative in-depth interviews, they describe their experiences after abortion as a desire to escape from the problem, trying to distance themselves from loss, thoughts of having an unborn child, inability to express oneself, fear, malaise, crying, hatred, guilt, low self-esteem, subsequent perception of loss and change, survival of death, disbelief, and distrust of God. Some of these women felt unwell and began to seek help not immediately after the termination of the pregnancy, but more than five years later.[82]

4.2.5.2. Abortions and female suicides

Ms. Gissler together with co-authors analyzed the Finnish National Center for Research and Development for Health and Welfare for all women of childbearing age (15–49) who were pregnant during 12 month period before their death, the causes of death from 1987 to 1994. According to the official statistics, 31 deaths were defined as early maternal deaths. With the register linkage, researchers found in total 281 pregnancy-associated deaths, of which 78 occurred within 42 days of the end of the pregnancy. The pregnancy-associated mortality rate was 41.4 per 100,000 registered pregnancies. The risk for death after birth was notably lower than that for women without a completed pregnancy during the last year of living. After an abortion, the mortality risk was increased for accidents, suicides, and homicides (see Table 10).

82 Obelenienė, Krunglevičiūtė, "Pastoral Care for Women", 517–523.

Table 10. Pregnancy-associated mortality per 100 000 cases and age-adjusted odds ratios by the type of end of pregnancy compared to other women, Finland 1987–1994[83]

Cause of death	End of pregnancy			
	Birth	Miscarriage	Abortion	No pregnancy*
Number of deaths	137	40	84	8931
Mortality: Crude, total	26.7	47.8	100.5	91.6
Age-adjusted, total	29.4	51.3	1003.2	58.8
OR** Total mortality	0.50 (0.32–0.78)	0.87 (0.60–1.27)	1.76 1.76 (1.27–2.42)	1.0
Natural deaths	0.49 (0.27–0.89)	0.43 (0.23–0.80)	0.8 (0.48–1.33)	1.0
Accidents	0.49 (0.18–1.33)	1.4 (0.66–2.98)	2.08 (1.03–4.20)	1
Suicides	0.57 (0.22–1.48)	1.44 (0.68–3.05)	3.68 (1.92–7.04)	1.0
Homicides	0.31 (0.02–4.42)	1.82 (0.36–9.10)	4.33 (1.03–18.2)	1.0

* Women aged 15–49 not having a completed pregnancy during their last year of living, including 20 deaths of pregnant women.

** Age-adjusted odds ratio of mortality after birth, miscarriage, or abortion compared to the mortality of other women (95% confidence intervals in parentheses).

As can be seen from the table, female suicides after abortion are several times more common than after natural childbirth. The fact that abortion is associated with female suicide, thoughts of suicide, attempts to do so are confirmed by Natalie P. Mota and oth. study "Associations Between Abortion, Mental Disorders, and Suicidal Behaviour in a Nationally Representative Sample" (Table 9).

Thus, given that abortion is closely linked to violence, that a woman may experience a crisis due to an unwanted pregnancy, that she may not be able

83 Mika Gissler, Riitta Kauppila, Jouni Merilainen, Henri Toukomaa, Elina Hemminki, "Pregnancy-associated deaths in Finland 1987–1994 — definition problems and benefits of record linkage", *Acta Obstetricia et Gynecologica Scandinavica* 76 (7) (1997): 651–657.

to make her own decisions during a crisis, and that lack of help and environmental pressures only exacerbate the crisis, a woman's decision can be seen as non-free and uninformed. Therefore, declarations such as "a woman's freedom of choice" and her "right to abortion and to her own body" are based on key arguments: a woman without the right to her own body loses competitiveness in the labor market is nothing more than science-based anti-female rhetoric. Teresa Stanton Collett, Professor of Law, University of St. Thomas School of Law, Minneapolis, Minnesota at the hearing of the Consequences of Roe V. Wade and Doe at the Committee on the Judiciary United States Senate stated that abortion pushed women back in their struggle for equal rights. She said yes "the early feminists, Susan B. Anthony and Elizabeth Cady Stanton, opposed abortion. They demanded equality as full women, not as chemically or surgically-altered surrogates of men. The early feminists understood that abortion on demand, not motherhood, posed the real threat to women's rights. The early feminists recognized that abortion was the product not of choice, but of pressure, particularly from men in women's lives all too often."[84] It is so common that a man or partner threatens to leave a woman if she decides to give birth, that pregnancy becomes the main cause of divorce, when the pregnancy is the result of extramarital affairs, or when the partner or husband does not want a baby. Sometimes for a woman, all of these reasons form one compound and she succumbs to the emotional and financial pressure of a partner or man. This fact has remained unchanged since the 19th century. Abortion is a man's decision, which he himself sees as a "woman's" problem. 1994 The Program of Action adopted at the Cairo Conference emphasized that adolescent boys must be educated in such a way that they do not interfere in crucial deliberations and respect any decision of a woman, both if she chooses to have an abortion and if she decides to give birth. Educating boys "should be combined with the education of young men to respect women's self-determination and to share responsibility with women in matters of sexuality and reproduction."[85] In other words, it is the woman's unilateral decision determines a man's status as a father whether he will be a father or not.

84 The Consequences of Roe V. Wade And Doe V. Bolton, *Hearing Before the Subcommittee on the Constitution, Civil Rights and Property Rights of the Committee on the Judiciary United States Senate One Hundred Ninth Congress First Session June 23* (U. S. Government Printing Office, 2009), 23, https://www.govinfo.gov/content/pkg/CHRG-109shrg47069/pdf/CHRG-109shrg47069.pdf.

85 Report of the International Conference on Population and Development Cairo, 5–13 September 1994, 7.41, https://undocs.org/en/A/CONF.171/13/Rev.1.

From the point of view of shared responsibility, to maintain the position of "a woman's right to abortion" is to maintain a position in favor of a man, in which he gladly gives full responsibility for sexual behavior to a woman. Therefore, such a position (a woman's right to an abortion) should be considered anti-feminine.

To summarise part 4, it can be said that only girls or women are directly affected by the abortion procedure. And in this procedure, the role of the guy/man, no matter how much effort has been put into claiming gender equality, will never be equal to a woman's experience, which, based on the scientific evidence presented, usually leaves a painful mark.

The presented research data and the experience of other countries in crisis pregnancy counseling suggest that an unwanted pregnancy causes a woman a crisis and without additional help, it may be very difficult for her to find a way out of the situation and make an appropriate decision.

An analysis of studies showing links between abortion and violence suggests that a woman's desire to terminate a pregnancy can be considered a reliable indication that a woman is experiencing domestic violence. Therefore, it can be assumed that a woman's decision to choose abortion can be considered not a free but a forced choice of a woman if the woman surviving the pregnancy crisis has not been provided with counseling and has not been investigated for coercion or domestic violence.

Declarations: "Woman's right to abortion" and "woman's right to her body" are anti-feminine and scientifically invalid. The denying of the scientific fact that the embryo is the beginning of a new human life, should be seen as a precondition for a forced abortion. If a woman/girl is not provided with all the necessary information about the procedure, about the prenatal development of human life from conception, about the consequences of the abortion procedure, about possible direct or indirect oppress to do the abortion, in the absence of full professional assistance, such decision should be considered uninformed and forced.

Part 5

The evaluation of content of sexuality education from the perspective of women's health and free informed decision making

5.1. The parameters of the sexuality education evaluation model

As was mentioned in Part 1 of the monograph, the importance of appropriate and health-related information in the curriculum is emphasised in many international conventions and documents. Knowledge of how the fertility system works for both women and men, and an understanding of the different needs of women and men in the expression of sexuality, can be treated as health literacy. WHO describes health literacy as "the level of knowledge, personal skills, and confidence in order to improve personal and community health by changing personal lifestyle and living conditions."[1] Health literacy is an important determinant of health, and poor health literacy among adolescents is correlated with high-risk health behaviours and adverse health outcomes into adulthood.[2] It has been noticed that teenagers, who are introduced to the physiological processes of their body and learn to recognise their fertility in sexuality education programmes, value their and others of the same age group sexuality and the ability to express emotions. In addition, young people are beginning to perceive fertility as a natural feature of their development, better understand fertility and the beginning of life, seeing them as important gifts to be understood, valued, and passed on. Therefore, awareness of fertility should be the core of education programmes, thus becoming a very useful tool for both the pedagogical and personal self-monitoring of health. Moreover, when this knowledge is acquired in adolescence alongside the formation that covers all aspects of the personality, it has been proven to be an important tool in strengthening a girl's sense of identity and self-esteem and is an excellent prevention of adolescent

1 WHO, *Improving health literacy*, https://www.who.int/activities/improving-health literacy.

2 Lori MacLean, "A Literature Review of Health Literacy of Adolescents During Pregnancy", *Nursing for Women's Health* 24 (6) (2020): 431–439, https://doi.org/10.1016/j.nwh.2020.09.004.

pregnancy.[3] The study, *The Effect of Sexual Literacy on Adolescent Pregnancy in Colombia* examined 8,525 adolescents aged from 13 to 19 years old, to determine how the knowledge of information related to sexuality affected girls' pregnancies. Researchers found that knowledge of the body's physiology and anatomy is associated with a significantly lower number of teen pregnancies: "The largest difference in the prevalence of pregnancy was found between those who had and did not have knowledge regarding anatomical and physiological changes in the body. Participants who received information on how sexual organs work had a teenage pregnancy prevalence of 11.6% compared with 23.5% among those who did not receive that information. Teenagers who had information concerning changes resulting from puberty had a teen pregnancy prevalence of 12.3% compared with 24.6% among those who did not know anything about this."[4] Furthermore, the results of the study denied the prevailing opinion that knowledge about contraception is directly related to a decrease in adolescent pregnancy. "Teenagers who received information regarding the use of contraception had a higher teenage pregnancy prevalence (13.7%) compared with those who did not receive information regarding the use of contraception (8.3%)."[5] The authors of this study provide a very important insight into the relationship between the source of information and the decrease in the number of teenage pregnancies, stating that the most important source of knowledge directly related to the decrease in the teenage pregnancies is the educational institution: "When adolescents were first given information from educational institutions, pregnancy prevalence tended to be lower".[6] Based on what has been said, it can be stated that the knowledge acquired at school is very important for a woman's health and for free informed decision making.

Both women and men are bodily, sexual persons. Their corporeality is more than a material reality, because with their bodies they act, create, and communicate with each other. Interpersonal connections are made with the help of the body. The body is the mediator between individuals. Therefore,

3 Pilar Vigil, Leonard F. Blackwell and Manuel E. Cortés, "The Importance of Fertility Awareness in the Assessment of a Woman's Health a Review", *Linacre Quaterly* 79 (4) (2012): 426–450.

4 Monica M. Alzate, Deepa Dongarwar, Jennifer L. Matas, Hamisu M. Salihu, "The Effect of Sexual Literacy on Adolescent Pregnancy in Colombia", *Journal of Pediatric and Adolescent Gynecology* 33 (2020): 72–82, https://doi.org/10.1016/j.jpag.2019.09.005.

5 Ibid., 76.

6 Ibid.

ignoring the dimensions of a person's corporeality and the need to know the body, and not recognising the role of corporeality in a person's life, can be seen as a way of controlling one's freedom of self-determination.

In both disciplines biology and sexuality education (if taught in a school as a separate discipline), detailed information about the body, the functioning of the fertility, and reproductive system is relevant and has to be provided to adolescents. In order to determine whether sexuality education programmes contain appropriate and health-related information, an evaluation model is needed that includes the assessment parameters (dimensions, criteria, and indicators), an assessment methodology, and an evaluation scale to assess whether the information in sexuality education curriculum is appropriate in terms of women's health and free informed decision making (FID). According to Professor Kestutis Pukelis, the logic of classification of research construct parameters is determined by the research aim.[7] The aim of the sexuality education evaluation model is to evaluate the adequacy of the information provided in the sexuality education curriculum in terms of women's health and self-determination. In order to determine the adequacy of the information, its particularity will be assessed in a few key areas, which are identified as dimensions. The parameters of the evaluation construct — dimensions, criteria, and indicators are conditional. When classifying the parameters of the evaluation model, it is very important to differentiate them, so that the dimensions, criteria, and indicators together, as well as each type of parameter separately, do not duplicate or overlap with each other. The dimensions must clearly represent separate parts of the search object (in this case, sexuality education), which would not be repetitive, duplicated, or overlap.[8] The construct of the sexuality education evaluation model (SEEM) is defined by three parameters: dimensions (parts of the object to be researched), dimension criteria, and criteria indicators. Dimensions describe the most important parts of the researched object. Criteria show the intensity of the expression of that part of the object (dimension), and the indicator specifies the expressions of the criteria.[9] A dimension can be defined by several criteria (questions), and a separate dimension's criteria — by several indicators (answers). Dimension criteria are the basis for formulating questions (or observations).

7 Kęstutis Pukelis, "Teorinis tyrimas: tyrimo konstrukto parametrai", June 2021, https://doi.org/10.7220/2335-2205.3.

8 Ibid.

9 Ibid.

The success of an evaluation depends on the indicators' justification. The indicator is an uninterpretable fact,[10] and is the main measure of whether a criteria is present or absent.

The parameters of the sexuality education evaluation model (SEEM) are distinguished according to the UNESCO International Technical Guidance on Sexuality Education (2018) concepts of sexuality and sexuality education. Both concepts emphasise the importance of body cognition. One of the first components in the concept of sexuality is the body cognition dimension "understanding of, and relationship to, the human body".[11] The description of comprehensive sexuality education (CSE) states that comprehensive sexuality education "provides opportunities to acquire comprehensive, accurate, evidence-informed and age-appropriate information on sexuality. It addresses sexual and reproductive health issues, including, but not limited to: sexual and reproductive anatomy and physiology; puberty and menstruation; reproduction, modern contraception, pregnancy and childbirth; and STIs, including HIV and AIDS".[12] Based on these descriptions, evaluation areas can be distinguished as sexual and reproductive anatomy and physiology; puberty and menstruation; reproduction, modern contraception, pregnancy and childbirth; and sexually transmitted infections, including HIV and AIDS.[13] Thus, it can be assumed that the guidelines should pay a lot of attention to the knowledge of the body and its processes. Moreover, in the guidelines, the term "comprehensive" is described as "the width and depth of topics and content that is consistently conveyed to students throughout the learning period, rather than during one-time lesson or intervention."[14]

According to the description of sexuality and the purpose and topics of comprehensive sexuality education in the guidelines, it is possible to distinguish four main areas within the sexuality education evaluation model concerning women's health and free decision making:

10 Ibid.

11 UNESCO, *International Technical Giudance on Sexuality Education* (2018), 16.

12 Ibid. "Sexuality may thus be understood as a core dimension of being human which includes: the understanding of, and relationship to, the human body; emotional attachment and love; sex; gender; gender identity; sexual orientation; sexual intimacy; pleasure and reproduction".

13 Ibid.

14 Ibid. "Comprehensive also refers to the breadth and depth of topics and to content that is consistently delivered to learners overtime, throughout their education, rather than a one-off lesson or intervention".

- Comprehensive knowledge of the body's physiology related to fertility and reproduction, which includes the menstrual cycle, differences between male and female fertility, and reproductive systems;
- Modern contraception, especially hormonal contraception and how it affects a woman's health. As was mentioned, by WHO, information about contraception must include the mechanism of action, side effects, and health risks[15];
- Pregnancy and childbirth, including the beginning of human life;
- Consequences of risky sexual behaviour: sexually transmitted diseases and abortions. Discuss abortion consequences for girls and the different chances of girls and boys being infected with STIs.

5.1.1. The parameters for measuring information on the female fertility system and procreation physiology

As mentioned in Part 2, "Female Fertility and Health", the content in sexuality education usually presents the activities of a woman's genitals as autonomous and independent from the activities of higher, brain centers. Appropriate information related to a woman's health and freedom of choice can only include information that provides a detailed overview of the neurophysiology of a woman's menstrual cycle, describing both gonadotropic and ovarian hormone activity, the hypothalamic-pituitary-ovarian axis, presenting the menstrual cycle as a natural, constant change in hormones and changes in the body caused by it. In other words, information revealing the menstrual cycle as a course of constant, recurring events, the purpose of which is to prepare a woman's body for fertilisation and for the coming of new life and not to equate it with a single phase of the cycle — the removal of the uterine lining (menstruation). Summarising what was examined in Part 2, it is possible to distinguish the dimensions of this field, its criteria and indicators that show whether the criteria of a specific dimension are present or not in the evaluated sexuality education text (see Table 11). As has been previously

15 World Health Organization, *Improving access to quality care in family planning: Medical eligibility criteria for contraceptive use* (2004), http://www.who.int/reproductive-health/publications/mec/mec.pdf.

mentioned, the indicator is an uninterpretable fact, i.e. the "smaller" it is, the more accurate the evaluation is.

Table 11. Parameters for measuring information on the female fertility system and procreation physiology from the perspective of women's health and FID

Dimensions	Criteria (P.1.1.–P.1.12)	Indicators (R1.1–R.1.39)
Hypothalamic pituitary ovarian axis	1. Names of gonadotropins and ovarian sex hormones	1. The full name of the hypothalamic gonadotropic hormone GnRH and its activity is given
		2. Presented pituitary gonadotropic hormones (LH and FSH)
		3. Presented ovarian sex hormones: estrogens and progesterones
	2. Effects of gonadotropins on ovarian sex hormones	4. Named effects of gonadotropin realizing hormone (GnRH) on pituitary gonadotropin hormones (LH and FSH)
		5. Named effects of pituitary gonadotropins (effects of FSH) on ovarian hormones
		6. Named effect of pituitary gonadotropin LH on ovarian hormones
		7. Explained return mechanism
	3. Activity of ovarian sex hormones	8. Effects of estrogens on ovum maturation
		9. Effects of estrogens on cervical mucus
		10. Effects of estrogens on the uterine lining
		11. Effects of estrogens on a woman's overall health
		12. Effects of progesterone on the uterine lining
		13. Effects of progesterone on embryo implantation
		14. Effects of progesterone on cervical mucus
		15. Effects of progesterone on a woman's overall health
Menstrual cycle	4. Menstrual cycle purpose	16. To prepare a woman's body to accept new life
		17. The menstrual cycle (MC) is not equated with menstruation — the one phase of MC (the removal of the uterus lining).
		18. The role of MC in women's health and well-being

Dimensions	Criteria (P.1.1.–P.1.12)	Indicators (R1.1–R.1.39)
Menstrual cycle	5. Menstrual cycle phases	19. It is explained that there are different menstrual cycle phases
		20. Menstrual cycle phases are presented in terms of gonadotropic hormone alteration
		21. Menstrual cycle phases are presented in terms of changes in ovarian (estrogen, progesterone) hormones
		22. Menstrual cycle phases are presented in the aspect of egg maturation
		23. Menstrual cycle phases are presented in terms of uterine mucosal changes
		24. Menstrual cycle phases are presented in terms of the fertile period (chances of getting pregnant)
	6. Cervical mucus	**25.** Described different cervical mucus
		26. Described functions of cervical mucus
Differences in female and male fertility	7. Number of germ cells	27. The ovum — one during the menstrual cycle
		28. Sperm count per 1 hour or/and during 1 intercourse
	8. Survival of the germ cell	29. Female 18–24 hours after ovulation
		30. Male up to 5 days in the female genital tract
	9. Beginning of the germ cell production	31. Male since the beginning of puberty
		32. A girl is born with the primordial follicles
	10. Fertility duration (ability to conceive and infertile)	33. A girl can only get pregnant for a certain amount of time during her menstrual cycle and only for a certain amount of time during her life.
		34. The male is always fertile from the puberty
	11. Men's sexual drive	35. It is different from a girl's in all aspects
		36. Action-oriented
	12. Woman's sexual drive	37. It is different from man in all aspects
		38. Consequence-oriented
		39. It intensifies during the estrogenic phase

5.1.2. Parameters for measuring information on hormonal contraception (HC) for women's health and FID

As mentioned in Part 3, in the content of sexuality education, information about hormonal contraception is often not mentioned or is mentioned very succinctly, including which hormones are involved in the process of contraception and what is its mechanism of action. However, in the interests of a woman's health, it is essential that a young woman receives detailed information about the effects it can have on her body, psyche, and her quality of life. Therefore, for the sexuality education content evaluation, the area of HC is described in detail through 3 dimensions, 10 criteria and 26 distinguished indicators proving their presence in the text (see Table 12).

Table 12. Parameters of measuring the information on hormonal contraception in favor of women's health and FID

Dimensions	Criteria (P2.1–P2.10)	Indicators (R2.1–R2.25)
HC composition	1. Compound HC	1. Presented HC composition
		2. Androgenic effects of HC
		3. Antiandrogenic effects of HC
HC mechanism of action	2. Effect on the feedback of HPO axis	4. HC terminates the feedback
		5. HC effects on gonadotropic hormones
		6. HC effects on ovarian sex hormones
		7. HC effects on the uterine lining
	3. Pre-fertalisation mechanism of action	8. Supresses release of GnRH
		9. Suppresses release of pituitary's: gonadotropins
		10. Decreased FSH level prevents ovarian folliculogenesis
		11. Inhibits follicular maturation
		12. Inhibition of ovulation

Dimensions	Criteria (P2.1–P2.10)	Indicators (R2.1–R2.25)
HC mechanism of action	3. Pre-fertalisation mechanism of action	13. Changes cervical mucus (reduces volume and increases viscosity) They also thicken the cervical mucus, thereby hindering sperm migration into the upper genital tract
		14. Impairs fallopian tube peristalsis and thereby inhibiting sperm ascension
	4. Post-fertilisation mechanism of action	15. Inhibits endometrial proliferation, thereby preventing the implantation of the embryo. antiproliferative effect on the endometrium, making it less receptive for implantation
HC side effects on health and well-being	5. Effects on the brain	16. Hormonal contraception affects the brain centers directly, not the ovaries themselves.
		17. Affects cognitive functions
	6. Effects on fertility	18. May affect fertilisation
		19. May affect "ovarian reservoir"
	7. Effects on the immune system	20. Weakens immune system
	8. Effects on mood	21. May affect mood swings
		22. May provoke a depressed mood
	9. Effect on partner choice	23. May have a negative impact on partner selection
	10. Risk of illness	24. Increases the risk of thromboembolism
		25. Spirals with levonorgestrel increase cervical cancer risk

5.1.3. Parameters for measuring information on the onset of human life, provisions for pregnancy in favour of women's health and FID

As has been already mentioned, the understanding that the embryo is the actual beginning of the human body from the moment of fertilization, i.e. the

beginning of human life, is a key factor in shaping a person's conscience. Incorrect information can lead to the wrong choice of action. Therefore, sexuality education content must provide very clear and precise information about the beginning of a person's life. Particularly when information is solely focused on pregnancy as being a certain state of a woman, decoupling it from the prenatal period of human development, and especially in order to give the impression that this inconvenient condition can be avoided by shifting responsibility for one's behaviour from personal commitment to the "pregnancy prevention" measures used. A woman's decision is always personal, but it can be influenced by incorrect information or distorted scientific facts about the onset of human life and pregnancy as a prenatal period of human life.

The language used in the curriculum is particularly important for a woman's free and informed decision. Language is a very common everyday thing; therefore, one can consider it as a means of communication and information sharing. However, language is far more significant. As already mentioned, language creates reality. Negative attitudes towards pregnancy (language combinations such as unplanned, unwanted, unexpected pregnancy, pregnancy prevention, and treating the adverse effects of pregnancy and sexually transmitted infections and HIV together) have become very entrenched in the language of sexuality education and have become normal. The concept of unplanned pregnancy has been used by researchers to understand the birth rate of the population and the unmet need for contraception, also known as birth control, and family planning. The concept of unplanned pregnancy has been very important for demographers seeking to understand fertility, for public health professionals working to prevent unwanted childbirth, and for both groups promoting women's ability to decide whether and when to have children. The accurate measurement of the intention to conceive is important in order to understand fertility-related behaviours, predict birth rates, assess unmet contraceptive needs, develop family planning programmes, and evaluate their effectiveness [...] preventing unplanned pregnancies. The emergence of terms related to unplanned pregnancies and their assessment can be traced back to the first population surveys on fertility behaviour and intentions, beginning with an Indianapolis study in 1941. Unwanted and misplanned

pregnancies were first distinguished in 1965 in the National Birth Survey, and in 1973 included in the first National Survey of Family Growth (NSFG).[16]

Table 13. Parameters for measuring information about the beginning of human life and the provisions towards pregnancy

Dimensions	Criteria (P3.1–P3.5)	Indicators (R3.1–R3.12)
Information about the beginning of human life	1. Beginning from the fertilisation moment	1. The embryo is the beginning of the development of a new human body from the moment of fertilisation
		2. An embryo is genetically different from its parents
		3. An embryo is a separate organism, and not a part of a woman's body
	2. The prenatal period of human life	4. Presents the fetus development in the prenatal phase with changes in the mother's body and psyche
Delivery	3. Maternal age and consequences	5. 18–19 years old expectant mothers are not included in the risk group
Pregnancy	4. No negative attitude such as	6. Pregnancy prevention
		7. Not identified as STD/I and HIV
		8. Unplanned pregnancy
		9. Unwanted pregnancy
		10. Unexpected pregnancy
		11. Before pregnancy
		12. Not stated that abortion is safer than pregnancy and childbirth

However, these marketing concepts have been successfully embedded in the curriculum and in the language of medicine. Sexuality education (a strategy based on risk reduction) has a distinctive language that makes it easy to separate the process from preparation for a family (risk avoidance strategy).

16 John Santelli, Roger Rochat et al., "The Measurement and Meaning of Unintended Pregnancy", *Perspectives on Sexual and Reproductive Health* 35 (2) (2003).

Unfortunately, these two different processes are deliberately confused. The language of sexuality education is negative about pregnancy and positive about abortion: "unplanned, unwanted, unexpected pregnancy, prevent pregnancy" and "safe abortion". The negative attitude towards pregnancy in the content of general education programmes (e.g. biology), which is reinforced by the images of a thin, naked woman idealised by a sexualised mass culture, causes great harm to women's self-esteem, the proper development of a relationship between persons of different genders, and the perception of the unconditional value of human life. The negative attitude towards pregnancy used in the media, used in the language of health care workers, inevitably exacerbates and can lead to a crisis situation when a woman becomes pregnant. Table 13 shows the parameters used to measure the pregnancy provisions.

5.1.3. Parameters for measuring information on the consequences of risky sexual behaviour and attitudes towards abortion in relation to a woman's health and FID

The WHO classifies early adolescent sexual intercourse as risky sexual behaviour. With regard to the consequences and in particular the impact of these consequences on a woman's health, it is necessary to present the consequences of abortion in both the physical and mental aspects. Advance access to information is a much more effective tool for free and informed decision making than information received during a crisis. Therefore, while still in school, a young girl needs to know about the consequences of abortion for her mental and physical health. Undoubtedly, information about the different chances of girls and boys getting infected with STIs is necessary.

Table 14. Parameters for measuring the consequences of risky sexual behaviour and provisions towards abortion in favor of women's health and FID

Dimensions	Criteria (P4.1–P4.4)	Indicators (R4.1–R4.11)
Abortion	1. Abortion consequences for mental health	1. The consequences related to the risk of addictions
		2. The consequences related to the risk of suicide
	2. Abortion consequences for physical health	3. The link between abortion and female deaths
		4. The link between abortion and health disorders
		5. The link between abortion and infertility
	3. The concept of forced abortion	6. The link between abortion and violence
		7. Criteria for recognising forced abortion
		8. Assistance in crisis pregnancy as prevention of forced abortion
	4. Family planning	9. Abortion is not a means of family planning
	5. Language used	10. Not stated that abortion is safer than childbirth
		11. The term "safe abortion" is not used
		12. Measures to promote abortion are not proposed
STI	6. Different chances for girls and boys to get infected with STIs	13. Girls are at higher risk of getting infected with STDs due to the anatomical differences
		14. Girls with IUDs are more likely to get infected with HPV
		15. Getting infected with HPV girls can develop cervical cancer, which can be fatal

5.2. An instrument and process of the evaluating the content of sexuality education in favour of women's health and FID

When evaluating the content of a sexuality education programme, guidelines or teaching aids, a separate evaluation sheet is prepared for each evaluation area (described in Chapter 5.1) — 4 evaluation sheets in total, in which the indicators are the main evaluation units. In the evaluation sheet every indicator is given a quantitative score from "+1" to "–1", where 1 means that the statement in the text corresponds to the indicator, 0 means no information in the text and "–1" in the text contradicts the indicator and is inconsistent with the favourable information about women's health and FID. Below is an evaluation sheet for one area, "Information about hormonal contraception (HC) for women's health and free informed decision".

Table 15. An evaluation sheet for evaluating information about hormonal contraception (HC) in the favour of women's health and FID

Indicators	Score		
	1	0	-1
HC composition			
1. Presented HC composition			
2. Explained androgenic effects of HC			
3. Explained antiandrogenic effects of HC			
Explained feedback			
4. HC terminates the feedback			
5. HC effects on gonadotropic hormones			
6. HC effects on ovarian sex hormones			
7. HC effects on the uterine lining			

Indicators	Score		
	1	0	-1
Explained prefertilisation mechanism for HC measures			
8. HC supresses release of GnRH			
9. HC suppresses release of Pituitary's Gonadotropins			
10. HC decreased FSH level prevents ovarian folliculogenesis			
11. HC inhibits follicular maturation			
12. HC inhibition of ovulation			
13. HC changes the cervical mucus (reduces volume and increases viscosity). They also thicken the cervical mucus, thereby hindering sperm migration into the upper genital tract			
14. HK impairs Fallopian tube peristalsis and thereby inhibiting sperm ascension			
Explained post-fertilisation mechanism for HC measures			
15. HK Inhibits **endometrial** proliferation, thereby preventing the implantation of the embryo. antiproliferative effect on the endometrium, making it less receptive for implantation			
Explained HC side effects			
16. HC affects the brain centers directly, not the ovaries themselves			
17. Affects cognitive functions			
18. May affect pregnancy			
19. May affect "ovarian reservoir"			
20. May weaken the immune system			
21. May affect mood swings			
22. May provoke a depressed state			
23. May have a negative impact on partner selection			
24. Increases the risk of thromboembolism			
25. IUD with levonorgestrel increase the risk of cervical cancer			

5.2.1. The process of evaluation of sexuality education content

The process of evaluation of sexuality education is carried out in five stages:

I. The main keywords are distinguished from each evaluation area according to the indicators highlighted in the evaluation sheets.
II. Based on the selected keywords (all word inflections are evaluated), a computer based search is performed on the evaluating text using the

MAXQDA 2020 program (or a search command in text pdf format), which allows to determine the frequency and context of repetition of these words through the search engine.

III. The context of the keywords is evaluated through content analysis and determined how the text you are evaluating matches the indicators highlighted on the evaluation sheet.

IV. The evaluation sheet gives a score for each indicator based on the result found in the evaluation text.

V. The results are summarised and the level of favorability of the content of the evaluated document for women's health and FID is evaluated. Five categories of favourability are used to determine the favourability of sexuality education content for women's health and FID (see Table 16).

Table 16. Scores of favourability for women's health and FID in sex education content

Level of favourability	Favorable/ friendly to a woman	Moderately favorable	Slightly favorable	Unfavorable, unfriendly to a woman	Completely unfavorable
Percentage range of indicators	100–75	74–50	49–25	24–0	The negative sum of indicators

If the sum of the indicators in the evaluation sheet and the sum of the indicators in the evaluated text coincide or makeup 100 — 75% of the sum of the evaluation indicators, it can be stated that the content of the evaluated document is favorable for women's health and FID, if less than 25% — it is unfavorable to a woman's health and FID.

5.3. The sexuality education evaluation model (SEEM) in favor of women's health and free informed decision (FID)

Model of evaluation of sexuality education (MESEC) consists of 6 components (see at Fig.12). Of which 5 are described in detail. These are:

I. Selection of a sexuality education document for evaluation;
II. Exclusion of evaluation areas;
III. Exclusion of SE evaluation parameters;
IV. Development of a SE evaluation tool (evaluation sheet) for each evaluation area;
V. 5-steps SE content evaluation process;
VI. Level determination of favourability to a woman's health and FID.

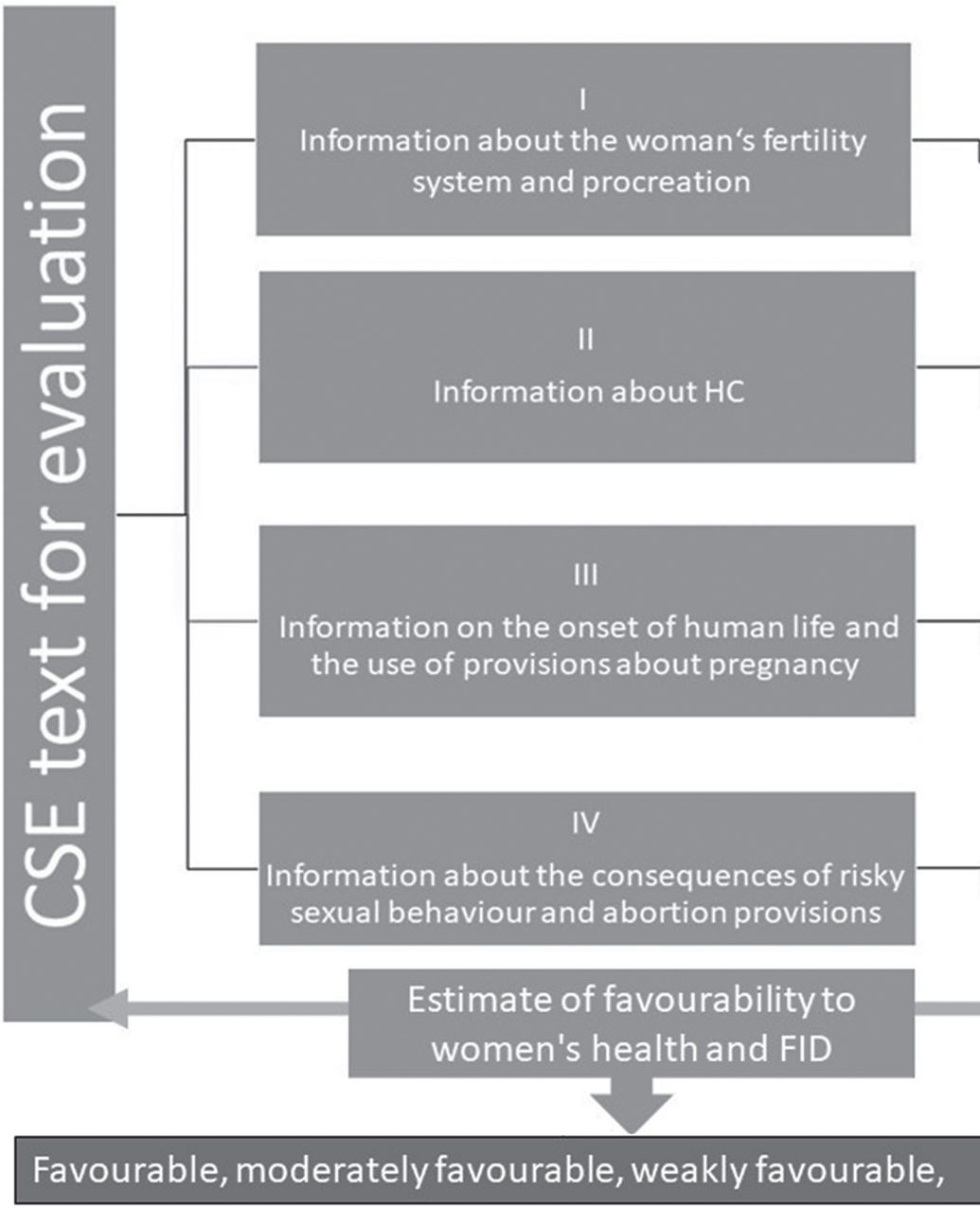

Figure 10. Evaluation model of sexuality education (SEEM) content in the aspect of favorability to women's health and free informed decision

Dimensions	Characteristics (P1.1.-P1.12)	Indicators
Hypothalamic pituitary ovarian axis	Names of endogenous and exogenous sex hormones	R1.1-R1.3
	Effects of gonadotropins on ovarian sex hormones	R.1.4-R1.7
	Effects of ovarian sex hormones on fertility	R1.8-R1.15
Menstrual cycle	Purpose of the menstrual cycle	R1.16-R1.18
	Phases of the menstrual cycle	R1.19-R1.24
	Cervical mucus	R1.25-R1.26
Differences in female and male fertility	Germ cell count	R1.27-R1.28
	Germ cell survival	R1.29-R1.30
	Start of germ cell production	R1.31-R1.32
	Duration of fertility	R1.33-R1.34
Differences of male and female sexual drive	Man's sexual drive	R1.35-R1.36
	Woman's sexual drive	R1.37-R1.39

Dimensions	Criteria (P2.1.-P2.10)	Indicators
HC composition	Compound HC	R2.1-R2.3
HC mechanism of action	Effect on Feedback of HPO axis	R2.4.-R2.7
	Prefertalization mechanism of action	R2.8-R2.14
	Post-fertilization mechanism of action	R2.15
HC side effects	Effects on the brain	R2.16-R2.17
	Effects on fertility	R2.18-R2.19
	Effects on the immune system	R2.20
	Effects on mood	R2.21-R2.22
	Impact on partner choice	R2.23
	Risk of illness	R2.23-R2.25

Dimensions	Criteria (P3.1.-P3.4)	Indicators
Information about the beginning of human life	Beginning from the moment of fertilisation	R3.1-R3.3
	The prenatal period of human life	R3.4
Child delivery	Maternal age and consequences	R.3.5
Language used	There is no negative attitude towards pregnancy	R3.6-R3.12

Dimensions	Criteria (P4.1.-P4.6)	Indicators
Information about abortion	Abortion consequences for mental health	R4.1-R4.2
	Abortion consequences for physical health	R4.3-R4.5
	The concept of forced abortion	R4.6-R4.8
	Family planning	R4.9
	Language used	R4.10-R4.12
Information about STI/D	Different chances for boys and girls getting infected with STIs	R4.13-R4.15

Tools for evaluation

unfavourable

5.4. Results of evaluation

5.4.1. Selection of sexuality education documents for the evaluation with SEEM

SEEM can be applied to various sexuality education documents and guidelines for programmes for both formal and informal education in the education systems of one or several countries. Several basic requirements were set for the sexuality education documents evaluated in this work:

- Free online access and full text;
- Intended for widespread use, not limited to one country;
- Prepared by authoritative, well-known institutions;
- Released no later than 2011;

Based on the selection criteria set out above, two documents were selected for the evaluation:

1. UNESCO. International technical guidance on sexuality education, 2018. Full text is available on the internet.
2. Population Council. It's All One Curriculum, 2011. Vol 1 Guidelines, Vol.2. Activities. Full text is available on the internet.

5.4.2. Evaluation results of *International technical guidance on sexuality education* (Guidelines^{ITG_SE})

The UNESCO International technical guidance on sexuality education (2018) was selected for the evaluation because it is appropriate for a global audience. In the guidelines^{ITG_SE} it is noted that "Education is UNESCO's top priority because it is a basic human right and the foundation on which to build peace and drive sustainable development. UNESCO, as the United Nations

specialised agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030."[17] As stated in these guidelines, they have been prepared for the purpose "to assist education, health, and other relevant authorities in the development and implementation of school-based and out-of-school comprehensive sexuality education programmes and materials. It is immediately relevant for government education ministers and their professional staff, including curriculum developers, school principals, and teachers."[18]

5.4.2.1. Assessment of information, related to the female fertility system and reproductive physiology for women's health and FID, presented in the Guidelines^{ITG_SE}

After the evaluation, using the SEEM according to the dimensions identified in this area, their characteristics, and the indicators showing them in the text, the total amount of indicators was calculated according to the formula:

$$\sum_{R=1}^{n=3} + \sum_{R=0}^{n=35} + \sum_{R=-1}^{n=1} = 2$$

where "n" is the number of indicators, "R" is the value of the indicator, determined that the total sum of indicators in the evaluated text is equal to 2 (see Table 17).

It can be seen from the results that the Guidelines $^{ITG\_SE}$ does not require the provision of essential knowledge of a woman's fertility neurophysiology that is relevant to a woman's health and lifestyle choices. Neither the names of sex and gonadotropic hormones nor their activity and influence on the functioning of a woman's genitals and reproductive system, as well as the overall health of a woman, are understood as a state of physical and mental well-being, are marked. In the Guidelines^{ITG_SE} there is no requirement to report differences in female and male fertility or differences in sexual drive between a woman and a man. It means that the information that is very important for a woman's sexual health literacy and for a young woman's decision to start having sex is not provided at all.

17 UNESCO, *International tecnical guidance on sexuality education*, 2018, 3.
18 Ibid., 13.

Table 17. Evaluation summary of provided information about female fertility system and procreation physiology in regard to women's health and FID at Guidelines ITG_SE

Dimensions	Characteristics (P1.1.–P1.12)	Indicators	Sum of indicators
Hypothalamic pituitary ovarian axis	Names of endogenous and exogenous sex hormones	R1.1–R1.3	0
	Effects of gonadotropins on ovarian sex hormones	R.1.4–R1.7	0
	Effects of ovarian sex hormones on fertility	R1.8–R1.15	0
Menstrual cycle	Purpose of the menstrual cycle	R1.16–R1.18	–1
	Phases of the menstrual cycle	R1.19–R1.24	2
	Cervical mucus	R1.25–R1.26	0
Differences in female and male fertility	Germ cell count	R1.27–R1.28	0
	Germ cell survival	R1.29–R1.30	0
	Start of germ cell production	R1.31–R1.32	0
	Duration of fertility	R1.33–R1.34	1
Differences of male and female sexual drive	Man's sexual drive	R1.35–R1.36	0
	Woman's sexual drive	R1.37–R1.39	0
Sum of indicators			2

In this evaluation area, the indicator, "purpose of the menstrual cycle" is negative, and the indicators, "duration of fertility" and "phases of the menstrual cycle" are assessed positively, so it can be assumed that some information relevant to women's health in the evaluated text is present. These found indicators require a more detailed analysis. To that end, the keyword "menstruation" was entered into a text search in the MAXQDA 2020 computer program after uploading the evaluated text. The results obtained with the context of the searched keyword are saved as a separate document named "Menstruation". This document was uploaded to the MAXQDA 2020 document section, and analysed for context content, extracting the codes and their subcodes from the evaluation document. For visual purposes, these found subcodes graphically

depicted and visualised with the Code Cloude command (see Figure 12). Visualisation is required for the SEEM performed assessment.

According to with the SEEM performed analysis, it was established that the purpose of the woman's menstrual cycle is not presented in the text. The two indicators R16 (to prepare a woman's body for a new life) and R18 (importance of the menstrual cycle for a woman's health and well-being) are not reflected in the Guidelines^{ITG_SE}, and the indicator R17 (menstrual cycle is not equated with menstruation, i.e. one of the phases of the cycle) is rated "–1". Consequently, it can be assumed that in the Guidelines $^{ITG\_SE}$ the menstrual cycle and one phase of this cycle are identical. Therefore, in order to clarify this, the information on menstruation provided in the evaluated document "Menstruation" in a qualitative content analysis method, were distinguished two pariental codes: (1) menstruation as cycle, (2) menstruation as phase of the menstruation cycle. In the process of the content analysis, reading the text with the help of the MAXQDA 2020 program, each of the pariental codes is given the text subcodes that interpret the text (see Table 18).

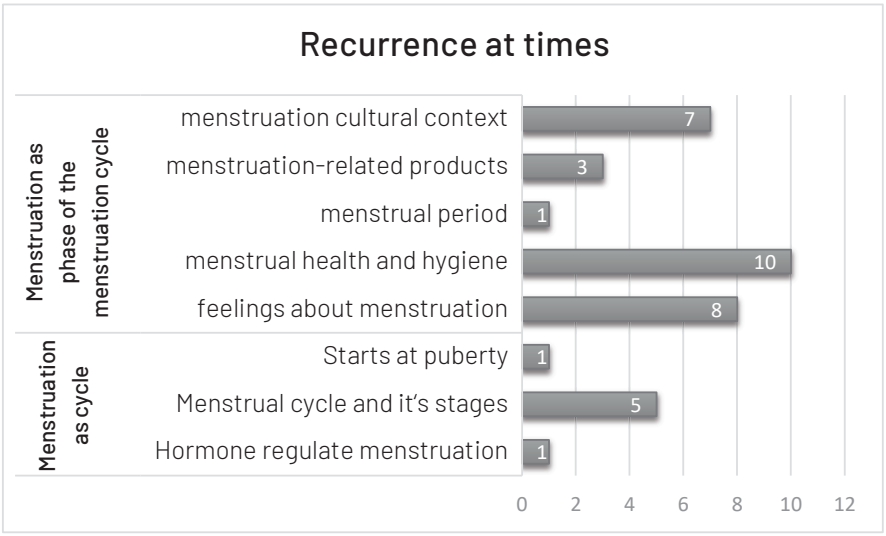

Figure 11. Word "menstruation" context repetition frequency

Table 18. Guidelines[ITG–SE] document "Menstruation" content evaluation analysis summary

Pariental code	Subcode	Supporting text (examples)
Menstruation as cycle	Hormone regulate menstruation	that changes in hormones regulate menstruation and when a pregnancy is most likely to occur
	Menstrual cycle and it's stages	but not limited to:sexual and reproductiveanatomy and physiology;puberty and menstruation;reproduction, moderncontraception, pregnancy and childbirth; Women's bodies can release eggs during the menstrual cycle, and men's bodies may make and ejaculate sperm, both of which are needed for reproduction; express confidence in understanding how the menstrual cycle or ejaculation of sperm happens; The menstrual cycle has different stages, including the time around ovulation in which, if sperm are present, pregnancy is most able to occur.
	Starts at puberty	For many girls, menstruation is seen as the start of puberty
Menstruation as phase of the menstruation cycle	Feelings about menstruation	Menstruation is a generally neglected issue, and substantial numbers of girls in many countries have knowledge gaps and misconceptions about menstruation that cause fear and anxiety and leave them unprepared when they begin menstruating; will be able to: reflect on their feelings about menstruation; Menstruation is a normal and natural part of a girls' physical development and should not be treated with secrecy or stigma
	Menstrual health and hygiene	recognise that it is important for all girls to have access to sanitary pads and other menstrual aids, clean water and private toilet facilities during their menstruation
	Menstrual period	test that can be taken as soon as the menstrual period is missed or late
	Menstruation-related products	In many countries, schools do not have toilets that facilitate privacy, cleanliness or proper disposal of menstruation-related products.
	Menstruation cultural context	considered sensitive in some cultural contexts, such as menstruation and gender equality. For example, failure to discuss menstruation can contribute to the persistence of negative social and cultural attitudes towards it.

After statistical analysis of codes and subcodes, the number of recurrences of menstrual contexts was determined, see Figure 11.

The Code Cloud command allows to visually identify the most common recurring meanings for the word "menstruation" (see Figure 12).

Figure 12. Subcode recurrence frequency in the document "Menstruation". The text in largest font indicates the most frequently repeated meaning of menstruation

To sum up the evaluation results of first area, the Guidelines $^{ITG\_SE}$ do not provide information on the importance of the menstrual cycle for a woman's health, their cyclical process as a woman's preparation for fertilisation and embryo implantation throughout a woman's fertile life (from adolescence to premenopause). Neither the phases of the menstrual cycle nor the dominance of different hormones during the different phases and how they affect a woman's health have been described. The menstrual cycle is usually identified with one phase of the cycle — menstruation. A lot of attention is given to the hygiene and sanitation. Thus, with regard to the menstrual cycle, it can be assumed that the guidelines are aimed at less developed countries where girls face non-compliance with sanitation standards and a lack of special hygiene products.

5.4.2.2. Assessment of information, related to the hormonal contraception, favourability to women's health and FID presented in the Guidelines^{ITG_SE} (area II)

After the evaluation with SEEM according to the identified evaluation dimensions in the area of hormonal contraception, their features, and the

indicators showing them in the text, the total sum of indicators was calculated according to the formula:

$$\sum_{R=0}^{n=25} = 0$$

where "n" is the number of indicators, "R" is the value of the indicator. It is determined that the total sum of indicators in the evaluation text is equal to "0" (see Table 19).

Table 19. Guidelines $^{ITG\_SE}$ provided information on the HC's favourability to women's health and FID evaluation summary

Dimensions	Criteria (P2.1.–P2.10)	Indicators	Sum of indicators
HC composition	Compound HC	R2.1–R2.3	0
HC mechanism of action	Effect on Feedback of HPO axis	R2.4.–R2.7	0
	Prefertalization mechanism of action	R2.8–R2.14	0
	Post-fertilization mechanism of action	R2.15	0
HC side effects	Effects on the brain	R2.16–R2.17	0
	Effects on fertility	R2.18–R2.19	0
	Effects on the immune system	R2.20	0
	Effects on mood	R2.21–R2.22	0
	Impact on partner choice	R2.23	0
	Risk of illness	R2.23–R2.25	0
Sum of indicators			0

The evaluation of the information on HC provided by the Guidelines^{ITG_SE} with the SEEM revealed that the information provided on hormonal contraception is unfavorable for a woman's health and free choice. Hormonal contraception is a product, therefore it can be assumed that the nature of the information provided in Guideline^{ITG_SE} on hormonal contraception is more of a marketing nature. This is evident from the terms used in the text to describe the product, such as "modern", "safe", "accessibility", "increasing consumption", and so on. In order to determine the nature of the information

on hormonal contraception provided in the Guidelines^{ITG_SE}, entering the keyword *contraception* in the text of the Guidelines^{ITG_SE} with the help of the MAXQDA 2020 computer program, found words and their context is extracted and saved in a separate document *Contraception*. For this document, a contextual content analysis was performed, separating the codes and subcodes from the evaluated document, and for the excluded subcodes, for the visual purposes, a statistical analysis was performed, depicting the found subcodes graphically and visualizing them with the *code cloud* command. By performing qualitative content analysis for the *Contraception* document two parental codes were distinguished: (1) marketing terms, (2) other information about contraception. In the course of content analysis, reading the text with the help of the MAXQDA 2020 program, each of the pariental codes is given text subcodes that interpret the text (see Figure 13).

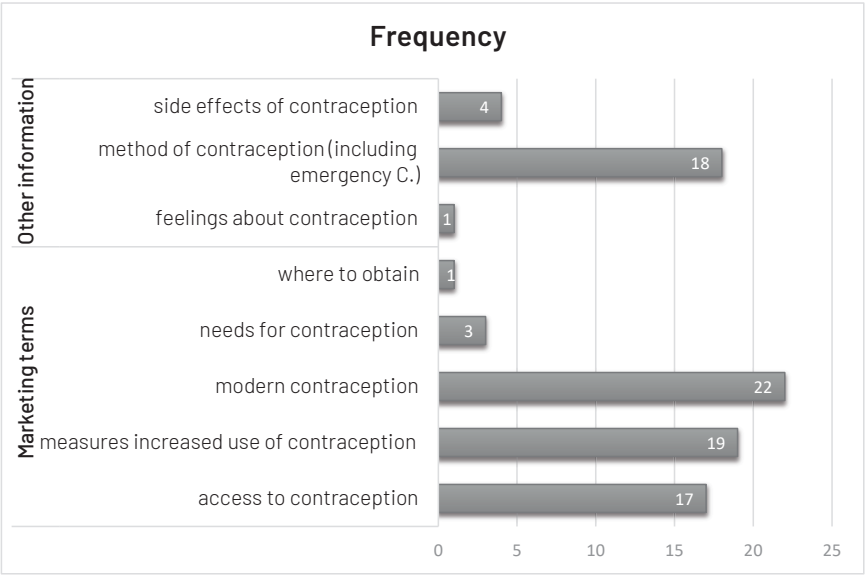

Figure 13. The context of the term contraception is found in Guidelines^{ITG_SE} (recurrence by times)

A subcode cloud was created to determine the frequency of recurrences, which clearly demonstrates what context is most commonly used to describe contraception:

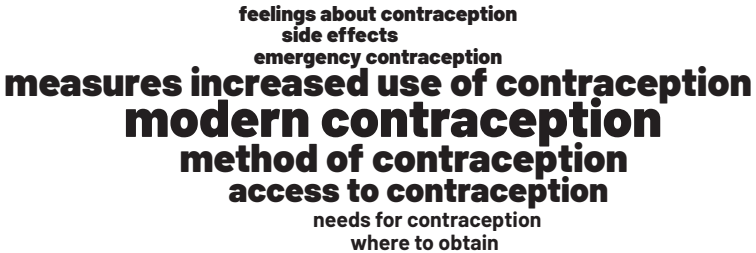

Figure 14. Guidelines^{ITG_SE} contraception term context visualisation with the *Code Cloud* command. The text in largest font indicates the most frequently repeated meaning

In the Guidelines^{ITG_SE} the term used is "modern contraception" instead of hormonal contraception, which is commonly understood as hormonal contraception. The term "modern contraceptives" has been introduced as an umbrella term grouping together barrier methods, injectable and oral contraceptives, and sterilisation.[19] The Guidelilnes^{ITG_SE} also use the term *emergency contraception*, which is known to contain hormones. The authors David Hubacher and James Trussell describe Modern Contraception as, "A product or medical procedure that interferes with reproduction from acts of sexual intercourse are technological advances designed to overcome biology" that "enable couples to have sexual intercourse at any mutually desired time."[20] According to the authors, the division of contraceptive methods into modern and non-modern, facilitates the classification of methods. However, the classification of contraceptive methods according to their response to the spontaneity of partners' sexual needs, but not to their composition, form, mode of action, effectiveness, and other criteria adopted for the general classification of products, proves that the most important requirement for hormonal contraception is to respond to the sexual needs of individuals. In other words, the most important requirement of modern contraception is the satisfaction of spontaneous sexual needs, but not its safety understood as the absence of

19 Kirsten Austad, Anita Chary, Alejandra Colom, Rodrigo Barillas, Danessa Luna, Cecilia Menjívar, Brent Metz, Amy Petrocy, Anne Ruch and Peter Rohloff, "Fertility Awareness Methods Are Not Modern Contraceptives: Defining Contraception to Reflect Our Priorities", *Global Health: Science and Practice* 4 (2) (2016): 342–345, https://doi.org/10.9745/GHSP-D-16-00044

20 David Hubacher, James Trussell, "Definition of modern contraceptive methods", *Contraception* 92 (5) (2015): 420–421.

side effects. Furthermore, "modern" in this context is not entirely consistent with the common understanding of the word "modern" as a phenomenon describing today's technological achievemients. In the Oxford Dictionary for example, the meaning of the word *modern* is given as follows: "Characterised by or using the most up-to-date techniques, ideas, or equipment"[21]. Not only is the regard for sexual mismanagement as a sign of modernity questionable, but so is this idea's presentation to young people. As was written in Part 2, spontaneity is more noticed in a man's sexual desire than in a woman. Consequently, the use of the term "modern contraception" in the Guidelines^{ITG_SE} does not meet a woman's health needs and may influence the decision: "changing the definition of modern "may confuse couples and jeopardise their informed choice process".[22]

The term "modern contraception" in the Guidelines^{ITG_SE} contrasts with natural family planning, calling it the traditional method of family planning, which is only proposed in the absence of modern contraception:

> state that natural contraceptive methods are not as reliable as modern methods but, in the absence of modern methods, natural methods are better than nothing and may be considered with advice from a health professional[23].

Summarising the evaluation results in II area, it can be stated that the Guidelines $^{ITG\_SE}$ do not provide any information on the composition of hormonal contraception, nor on the mechanism of action or the side effects of HC to a woman's health. Therefore, the absence of a requirement in the Guideline $^{ITG\_SE}$ to provide detailed information about a woman's fertility and reproductive system, the fact that the menstrual cycle is usually equated with only one phase of the cycle, giving priority to hygiene measures, and the neglect of natural family planning, which is impossible without a thorough knowledge of the female fertility system reinforces the presumption that the information on contraception provided in the Guidelines^{ITG_SE} serves more to promote the use of contraception, i.e. for commercial purposes than for women's health.

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21 Oxford English and Spanish Dictionary, "Modern", https://www.lexico.com/definition/modern.

22 Cristina López del Burgo, Jokin de Irala, "Modern contraceptive methods: a new misleading definition", *Contraception* 93 (2016): 565–566.

23 UNESCO, 75.

5.4.2.3. Assessment of information on the onset of human life and the use of provisions about pregnancy in the Guidelines^{ITG_SE} and its favourability to women's health and FID (area III)

After evaluating the text of the Guidelines^{ITG_SE}, according to its provisions regarding the beginning of human life, and the provision regarding the dimensions of pregnancy, their critera, and the indicators that show them in the text, the total sum of the indicators according to the formula was calculated:

$$\sum_{R=0}^{n=4} + \sum_{R=-1}^{n=8} = -8$$

where "n" is the number of indicators, "R" is the value of the indicator (1 to –1). It is determined that the total sum of indicators in the evaluation text is equal to "–8", i.e. the information presented in this area is completely unfavorable to women's health and FID.

Table 20. Guidelines^{ITG_SE} provided information on the onset of human life and the provisions used in relation to pregnancy evaluation summary

Dimensions	Criteria (P3.1.–P3.4)	Indicators	Sum of indicators
Information about the beginning of human life	Beginning from the moment of fertilisation	R3.1–R3.3	0
	The prenatal period of human life	R3.4	0
Child delivery	Maternal age and consequences	R.3.5	–1
Language used	There is no negative attitude towards pregnancy	R3.6–R3.12	–7
Sum of indicators			**–8**

1.Information about the beginning of human life. The word embryo is not used to describe human life in the text of the Guidelines^{ITG_SE}. There is no requirement to provide adolescents with information about human development in the prenatal phase, linking it to a woman's physical (preparation for giving birth) and mental changes. The Guidelines^{ITG_SE} state that:

A pregnancy begins when an egg and sperm unite and implant in the uterus (p. 66);
describe the process of reproduction — specifically that a sperm and egg must both join and then implant in the uterus for a pregnancy to begin (p.66);
In order for a pregnancy to begin, criteria must be just right for sperm to join with an egg and implant in the uterus (p.66);
recall that pregnancy begins when egg and sperm unite and implant in the uterus (p.74).

Thus, unequivocally the information required by the Guidelines^{ITG_SE} considers the onset of pregnancy not from fertilisation, but from implantation. As discussed in Part 3, the semantic shift of the term "contraception" from the true meaning of changing "before conception" to "before pregnancy" simultaneously required a new definition of the beginning of pregnancy. Therefore, the onset of pregnancy has been associated with implantation. As noted in the *American Journal of Terminology for Obstetrics and Gynecology*, the "Family Planning" industry finally succeeded, when in 1965 the American College of Obstetricians and Gynecologists published its first Terminology Journal, which states: "It is important to note that this change in terminology was clearly not based on new scientific discoveries, but was a political decision to calm birth control activists."[24] Almost two decades after the publication of the above-mentioned terminology journal, Dr. J. Richard Sosnowski acknowledged that this is an unscientific change: "I don't think it would be great to play semantic gymnastics in the respect of the profession. I am more concerned that, in the absence of any scientific evidence to support this change, the definition of conception as the successful penetration of sperm into an ovum has been redefined as implantation of a fertilized egg. It seems that the only reason for this was the dilemma posed by the possibility that an intrauterine contraceptive might cause an abortion. In other words, manufacturers of abortion measures call their products "contraceptives" not because they prevent pregnancy, but because they prevent implantation. But this semantic equilibrism is not based on any scientific facts."[25]

2. In the Guidelines^{ITG_SE} it is *stated that childbirth is dangerous for all adolescents*. The guidelines $^{ITG\_SE}$ treat adolescent girls between the ages of 15

24 American College of Obstetrics and Gynecology, "Terms Used in Reference to the Fetus", in *Terminology Bulletin* (Chicago: ACOG, September 1965).

25 J. Richard Sosnowski, "The Pursuit of Excellence: Have We Apprehended and Comprehended It?" *American Journal of Obstetrics and Gynecology* 15 (1984): 117.

and 19, who have a large difference in both physical and mental maturation, speaking pregnancy and childbirth, as one adolescent age group:

> Early pregnancy and childbirth can have serious health and social consequences and is the second cause of death among girls under 19 years old (p. 22)

However, young women over the age of 18 are already adults and are not on the maternity risk list. For example, the Order of the Lithuanian Minister of Health "On the Approval of the Description of Health Care Procedures for Pregnant Women, Mothers and Newborns"[26] recognises a high-risk pregnant woman as "a pregnant woman who is giving birth for the first time and is under 18", i.e. for girls, who are 18 and over, in the absence of other risk factors, childbirth and pregnancy are not dangerous conditions.

The question may arise as to why, in terms of adolescent sexual health, it is important to know the situation of each age group separately, even though medical statistics assign girls and young women aged 15–19 to one group of adolescents. According to the existing legal norms in Lithuania, this group includes 3 different age groups: up to 16 years old, until adulthood (16–17 years), and adults (18–19 years). Persons under 18 years old are considered to be children. And the situation in each of these age groups is very different. For example, in Lithuania, according to the data of the Department of Statistics of the Republic of Lithuania, in 2016, under the age of 16, 26 girls gave birth; in the 16–17 years old age group, 255, and in the adult group of 18–19 year old young women, 697. Presenting such different ages, the numbers in the youngest age group (where sex is not constant) significantly increases and decreases in the adult group (where sex can be called constant). Such data interpretations create unequivocal impressions that can be misleading and thus hamper public health and educational interventions that seek to delay the adolescent sexual first time experience and improve their sexual health. Therefore, it can be assumed that the claim that early pregnancy and childbirth before the age of 19 can have serious consequences and that this is the second leading cause of death for young women may have a favourable purpose for the marketing of contraceptives. It is known that the majority of

26 Lietuvos sveikatos apsaugos ministro 2013 m. rugsėjo 23 d. Įsakymo Nr. V-900 „Dėl nėščiųjų, gimdyvių ir naujagimių sveikatos priežiūros tvarkos aprašo patvirtinimo" pakeitimas (2020 m. Birželio 26 d. Nr. V-1544, Vilnius).

pregnancies and childbirths in the specified age group (15–19 years) are between 18 and 19-year-old women, and girls in this age group are more likely to have sex compared to younger ones. Consequently, potential users of contraception are in this group.

3. Negative provision towards pregnancy in the Guidelines ITG_SE. In order to determine the nature of the information about pregnancy in the GuidelinesITG_SE, entering the keyword pregnancy from the text GuidelinesITG_SE with the help of the MAXQDA 2020 computer program found words and their context is extracted and saved in a separate document, *Pregnancy_Guidance*. For the text of this document, the content of the pregnancy context was analysed by extracting the codes and subcodes from the evaluated document, and for the excluded subcodes, for visual purposes, a statistical analysis was performed by graphically depicting found subcodes and visualising them with the *Code Cloud* command.

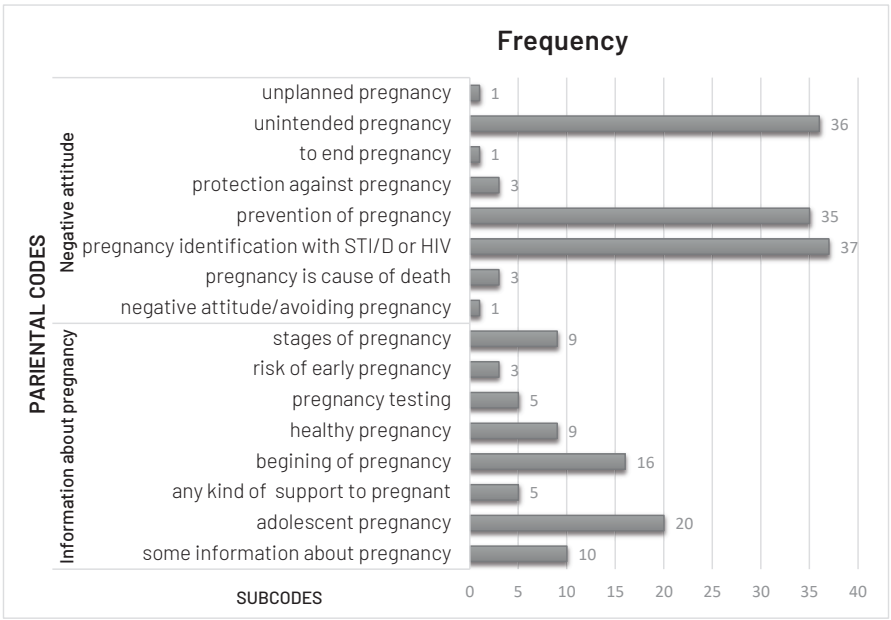

Figure 15. In the GuidelinesITG_SE content analysis was carried out to identify negative provisions towards pregnancy

Qualitative content analysis for *Pregnancy Guidance* distinguishes two parental codes: (1) Information about pregnancy, (2) Negative attitude toward pregnancy. In the course of the content analysis, reading the text with the help of the MAXQDA 2020 program, each of the parental codes was given subcodes that interpret the text (see Figure 17).

Figure 16. *Code Cloud* shows the use of negative provisions towards pregnancy in the Guidelines $^{ITG\_SE}$. The text written in the largest font indicates the most frequently repeated meaning of pregnancy.

From both Figure 15 and Figure 16 Code Cloud commands, it is clear that in the Guidelines^{ITG_SE} the word pregnancy is most commonly used in conjunction with STI's and HIV. Examples of the most common text in the Guidelines^{ITG_SE}:

> information on condom use as a method of dual protection against unintended pregnancy and HIV/STIs (p. 23);
> including increasing knowledge about different aspects of sexuality, behaviours and risks of pregnancy or HIV and other STIs (p. 28)
> that have been studied increase knowledge about different aspects of sexuality and the risk of pregnancy or HIV and other STIs (p. 29)
> programmes at achieving health outcomes such as reducing rates of unintended pregnancy or STIs (p. 29)
> Focuses on programmes designed to reduce unintended pregnancy or STIs, including HIV (p. 30)

Calculating the percentage of common pregnancy information and negative pregnancy provisions, it is found that more than 60% of total pregnancy information has a negative provision:

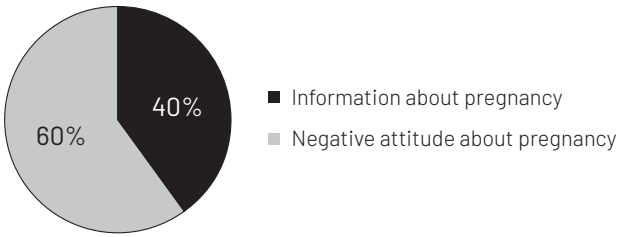

Figure 17. Negative pregnancy provisions (percentage) in the information about pregnancy provided in the Guidelines[ITG_SE]

5.4.2.4. Assessment of the information about the consequences of risky sexual behaviour and abortion provisions in the Guidelines [ITG_SE] (area IV) from the perspective of women's health and FID

After evaluating the text of the Guidelines[ITG_SE], according to the dimensions of the scope of the discussion concerning the consequences of risky sexual behaviour and the provisions towards abortion and the indicators that show them in the text, the total amount of indicators was calculated according to the formula:

$$\sum_{R=1}^{n=2} + \sum_{R=0}^{n=13} + \sum_{R=-1}^{n=2} = 0$$

where **n** is the number of indicators, **R** is the value of the indicator (from 1 to –1). It is determined that the total sum of indicators in the evaluated text is equal to "0", i.e. in this area; none of the indicators corresponding to the necessary information were detected in the text. There is no information on the consequences of abortion for a woman's physical and mental health, and no information is provided on forced abortion. Speaking about abortion, the term "safe abortion" is used, i.e. the term of abortion corresponding to legal abortion and the term of illegal abortion corresponding to "unsafe abortion". No information is provided on the different possibilities for boys and girls of getting infected with STIs (see Table 21).

Table 21. Guidelines[ITG_SE] provided information on the consequences of risky sexual behaviour and the provisions towards abortion favourability to women's health and FID summary

Dimensions	Criteria (P4.1.–P4.6)	Indicators	Sum of indicators
Information about abortion	Abortion consequences for mental health	R4.1–R4.2	0
	Abortion consequences for physical health	R4.3–R4.5	0
	The concept of forced abortion	R4.6–R4.8	0
	Family planning	R4.9	1
	Language used	R4.10–R4.12	–1
Information about STI/D	Different chances for boys and girls getting infected with STIs	R4.13–R4.15	0
Sum of indicators			**0**

The only indicator that receives a positive evaluation is the information in the Guidelines[ITG_SE] that abortion is not a family planning tool (R4.9 = 1):

> In no case should abortion be promoted as a method of family planning (p. 63)
> Governments should take appropriate steps to help women to avoid abortion, which in no case should be promoted as a method of family planning (p. 121).

In the Guidelines [ITG_SE] provision of information about abortion, the language used gives the impression that only unsafe abortions can have negative consequences, even in relation to the cause of death.

> understand that unsafe abortion poses a serious health risk to women and girls (p. 75);
> Global and regional estimates of the incidence of unsafe abortion and associated mortality (p. 109);
> Adolescent girls suffer a significant and disproportionate share of deaths and disability from unsafe abortion practices compared to women over 20 years of age (p. 23).

However, legal abortions are safe:

> In circumstances in which abortion is not against the law, such abortion should be safe (p. 63).

5.4.2.5. Overall assessment of the information provided in the Guidelines $^{ITG\_SE}$

As foreseen in SEEM (see Figure 10), after evaluating all 4 areas and calculating the values of the all 4 areas indicators, their amount is recalculated as a percentage and an evaluation is given according to the provided evaluation scale (Table 16). The total amount of indicators found in Guidelines^{ITG_SE}:

Table 22. The total amount of indicators found in Guidelines $^{ITG\_SE}$.

Area under evaluation	Indicators	Sum of indicators
I	R1.1–R1.39	2
II	R2.1–R2.25	0
III	R3.1–R3.12	–8
IV	R4.1–R4.15	0
Total		**–6**

Based on the results of the assessment, the information provided in the Guidelines^{ITG_SE} is completely unfavourable to women's health and their freedom of choice.

5.4.3. Results of the evaluation of the *It's All One Curriculum* guidelines (Guidelines^{IAOC})

5.4.3.1. Assessment of information related to the female fertility system and reproductive physiology for women's health and FID, presented in the Guidelines ^{IAOC}

After the evaluation, according to the distinguished dimensions, their characteristics and the indicators showing them in the text, the total amount of indicators was calculated according to the formula:

$$\sum_{R=1}^{n=13} + \sum_{R=0}^{n=26} = 13$$

where **n** is the number of indicators, **R** is the value of the indicator from 1 to –1. It is determined that the total sum of indicators in the evaluated text is 13 (see Table 23).

Table 23. Guidelines [IAOC] provided information about female fertility system and procreation physiology in regard to women's health and FID evaluation summary

Dimensions	Criteria (P1.1.–P1.12)	Indicators	Sum of indicators
Hypothalamic pituitary ovarian axis	Names of endogenous and exogenous sex hormones	R1.1–R1.3	1
	Effects of gonadotropins on ovarian sex hormones	R.1.4–R1.7	0
	Effects of ovarian sex hormones on fertility	R1.8–R1.15	0
Menstrual cycle	Purpose of the menstrual cycle	R1.16–R1.18	2
Phases of the menstrual cycle		R1.19–R1.24	3
	Cervical mucus	R1.25–R1.26	1
Differences in female and male fertility	Germ cell count	R1.27–R1.28	1
	Germ cell survival	R1.29–R1.30	2
	Start of germ cell production	R1.31–R1.32	0
	Duration of fertility	R1.33–R1.34	2
Differences male and female libido	Man's libido	R1.35–R1.36	0
	Woman's libido	R1.37–R1.39	1
Sum of indicators			**13**

The Guidelilnes[IAOC] provides significantly more information on the female fertility system compared to the previously evaluated Guidelines[ITG_SE]. However, the neurophysiological regulation of the fertility function is not described, nor is the activity of the hypothalamic-pituitary-ovarian axis, nor

the influence of gonadotropic hormones on a woman's menstrual cycle and fertility. It focuses only on the description of the anatomy of a woman's genitals and their function as if they were functioning autonomously. The names of the female sex hormones estrogen and progesterone are given in the context of the composition of hormonal contraceptive pills. Estrogens and progesterone are mentioned once (R1.3) in the text, presenting the anatomy of the female genital system, but their significance for women's health is not described:

> The **ovaries**, two organs, each the size of an almond or a grape, store the immature eggs in follicles, produce and secrete female hormones (estrogen and progesterone), and produce and release mature eggs. (p. 274)

Menstrual cycle. Purpose of the menstrual cycle (R1.16). While describing the purpose of the menstrual cycle, it is mentioned that it's function is to prepare a woman's body for pregnancy, but only the activities of the genitals are mentioned, not the changes in the whole body.

> We often think of menstruation as the climax of the cycle, but menstruation is just one part of an amazing array of changes that take place during the cycle. These changes are the body's way of preparing for a potential pregnancy. They include producing mucus at the cervix, growing, and releasing an egg, and changes in the lining of the uterus. (p. 261)

Furthermore, mention is not made as to which hormones affect the changes throughout the menstrual cycle (R1.8–R1.15): and their role. only the common name "hormones" is used.

> These changes are controlled by hormones (natural chemicals produced by glands in the body and carried in the bloodstream). (p. 261)

The menstrual cycle according to the Guidelines^{IAOC} is not equated with a single phase of the cycle — menstruation (R1.17 = 1).

> The most obvious part of the cycle is menstrual bleeding, also called menstruation or the "period". (p. 261)

However, no information is provided on the importance of the menstrual cycle for a woman's health (R1.18 = 0).

The guidelines explain that there are different phases of the menstrual cycle, but the changes that take place during them are not detailed (R1.19 = 1):

> During each cycle, the female body goes through many changes (p. 261)
> The release of the egg from the ovary is called ovulation. The days just before and around the time of ovulation are the time when a girl or woman can become pregnant. These are sometimes called her "fertile days. (p. 135)

In the Guidelines [IAOC] there is mention of the cervical mucus (R1.25 = 1):

> After a few days, as her body releases more hormones, the woman (or girl) may notice a vaginal discharge of mucus. At first, this mucus is cloudy-white or yellowish and may feel sticky. At the same time, although she cannot detect it, the lining of her uterus begins to thicken and an egg (also called the ovum) "ripens". (p. 261)
> *Clear mucus/ovulation* — As the egg ripens, the mucus becomes clearer and slippery, often similar to raw egg white. (p. 261);

However, their functions are not specified (R1.26 = 0). There is also no description of all the types of mucus and their different functions. Only one type of mucus function has been identified:

> This clear mucus nourishes sperm and helps them to move toward the egg. At this time, a woman's sexual desire may also increase.

Differences in male and female fertility. The Guidelines [IAOC] only refer to the number of female gametes per cycle (R1.27 = 1):

> Starting at puberty, girls begin to ovulate; that is, they generally release a mature egg with each ovulatory menstrual cycle. (p. 172)

It is not mentioned that a girl is born with primordial foliculus (R1.32 = 0). In the case of boys, the number of gametes is presented in a very abstract way:

> Starting at puberty, boys continually produce millions of tiny cells called sperm. (p. 172)

Different germ cell survival (R1.29 = 1; R1.30 = 1) In the Guidelines[IAOC] evaluated text it shows:

> The fertile period includes the day of ovulation and the five previous days. Sperm can survive in the female genital tract for as long as five or six days, and the egg (if it is not fertilised) survives for as long as 24 hours. (p. 135)

Different duration of female and male fertility. The evaluated text provides information on the different duration of fertility both in one cycle and in life (R1.33 = 1; R1.34 = 1):

> A woman's fertility varies over the course of her ovulatory-menstrual cycle. (p. 172)
> A man's fertility does not vary on a cyclical basis. (p. 172)
> Fertility declines naturally with age in both women and men, although this decline takes place earlier in women". (p. 172)

Differences in sexual drive. Regarding the differences in sexual drive between a woman and a man, it is mentioned that only during the fertile phase that a woman's sexual desire increases (R1.39 = 1):

> The female body goes through other changes around this time as well. For example, some women experience an increase in sexual desire and in their sense of well-being for a few days.

Summarizing the information provided by the Guidelines [IAOC] on the female fertility system and procreation, it can be stated that the information is only about the anatomy of the genitals, without linking them to all the activities of the female body, partially revealing the differences between female and male fertility. The information provided can be considered unfavorable for a woman's health and her free choice

5.4.3.2. Assessment of information related to hormonal contraception in regard to women's health and FID (area II) provided in Guidelines [IAOC]

After the evaluation with SEEM according to the identified evaluation dimensions in the area II of hormonal contraception, their features, and the

indicators showing them in the text, the total sum of indicators was calculated according to the formula:

$$\sum_{R=1}^{n=3} + \sum_{R=0}^{n=21} + \sum_{R=-1}^{n=1} = 2$$

where **n** is the number of indicators, **R** is the value of the indicator. It is determined that the total sum of indicators in the evaluation text is equal to 2.

The Guidelines [IAOC] do not provide detailed information on the composition of hormonal contraception, the mechanism of action, or the side effects of HC on a woman's health (see Table 24).

Table 24. Guidelines [IAOC] provided information on the hormonal contraception's favourability to women's health and FID evaluation summary

Dimensions	Criteria (P2.1.–P2.10)	Indicators	Sum of indicators
HC composition	Compound HC	R2.1–R2.3	1
HC mechanism of action	Effect on Feedback of HPO axis	R2.4.–R2.7	0
	Prefertalisation mechanism of action	R2.8–R2.14	2
	Post-fertilisation mechanism of action	R2.15	0
HC side effects	Effects on the brain	R2.16–R2.17	0
	Effects on fertility	R2.18–R2.19	0
	Effects on immune system	R2.20	0
	Effects on mood	R2.21–R2.22	0
	Impact on partner choice	R2.23	0
	Risk of illness	R2.23–R2.25	–1
Sum of indicators			**2**

HC composition. As was said before, in the Guidelines [IAOC] the composition of hormonal contraception is mentioned (R2.1 = 1):

> Small pills containing synthetic hormones (estrogen and progestin, or only progestin). (p. 253)

However, the effects of different androgenic and antiandrogenic hormones are not discussed. Furthermore, the effect of HC on the reversible mechanism of sex hormones is not explained.

The mechanism of action of HC is partially explained. Only the prefertilisation effect of the mechanism of action on ovulation and mucus is mentioned (R2.12 = 1; R2.13 = 1):

> That prevents ovulation and interferes in sperm migration by thickening the cervical mucus. They are taken orally every day by the woman for 21 or 28 days, depending on the brand and type. (p. 252–253)
> A small adhesive patch applied to the skin that slowly releases progestin and estrogen through the skin to prevent ovulation and thicken the cervical mucus. (p. 252–253)
> One or two small, soft rods implanted in the woman's upper arm that release a steady low dose of progestin over a period of three to five years. Thickens the cervical mucus and inhibits ovulation. (p. 252–253)

The post-fertilization mechanism of action of the IUD is briefly mentioned.

> Copper-releasing IUDs are believed to work by interfering with implantation. (p. 270)

As for emergency contraception, it is said to have an exclusively and prefertilisation and pre-implantation mechanism of action, but no effect after implantation.

> EC pills work by preventing ovulation [...] preventing an egg and sperm from joining, or preventing implantation, whereby a fertilized egg attaches to the uterus. EC does not cause an abortion, because it does not work if the woman is already pregnant. (p. 270)

However, this does not correspond with the research. Rebecca Peck, Walter Rella, et al. performed a systematical analysis and concluded: "Our review of the research suggests that it could act in a pre-fertilisation capacity, and we estimate that it could prevent ovulation in only 15 percent or less of cases. The drug has no ability to alter sperm function and limited ability to

suppress ovulation. Further, data suggest that when administered pre-ovulation, it may have a post-fertilization mechanism of action (MOA). Plan B is the most widely used emergency contraceptive available. It is important for patients and physicians to clearly understand the drug's mechanism of action. The drug was originally thought to work by preventing fertilisation. Recent research has cast doubt on this. Our review of the research suggests that it could act in a pre-fertilization capacity, and we estimate that it could prevent ovulation in only 15 percent or less of cases. The drug has no ability to alter sperm function and limited ability to suppress ovulation. Further, data suggest that when administered pre-ovulation, it may have a post-fertilisation MOA."[27]

It should be noted that this systematic analysis conclusion was published in 2016 and the Guidelines[IAOC] were issued earlier in 2011. However, they are widely available online and the information has not been updated, which can be considered as misleading.

No side effects of HC are presented. On the contrary, it presents potentially positive effects on a woman's health.

> It may reduce menstrual cramps and the risk of certain kinds of cancer, anemia, breast problems, and pelvic inflammatory disease. (p. 253)
> It may decrease the risk of certain kinds of cancer. (p. 254)

Summarising the assessment of the information on hormonal contraception provided in the Guidelines [IAOC], it should be noted that the composition of HC and the effects of different hormones on a woman's health are not described. The mechanism of action of HC (except for effects on ovulation and mucus) and the effect of HC on the regulation of the female neurophysiological cycle are not presented, giving the impression that HC acts locally and exclusively on the female genitals. The information provided on emergency contraception does not corresponds with scientific data. It is also worth noting that the Guidelines [IAOC] provide 14 methods of contraception, 12 of which are exclusively for women. According to the data, the nature of the

27 Rebecca Peck, Walter Rella, Julio Tudela, Justo Aznar and Bruno Mozzanega, "Does levonorgestrel emergency contraceptive have a post-fertilization effect? A review of its mechanism of action", *The Linacre Quarterly* 83 (1) 2016, 35–51.

information provided in the Guidelines ^{IAOC} should be considered unfavorable to women's health and FID.

5.4.3.3. Assessment of the information on the onset of human life and the use of provisions about pregnancy (area III) in the Guidelines^{IAOC} and its favourability to woman's health and FID

After evaluating the text of the Guidelines^{IAOC}, according to the identified the beginning of human life and the provision regarding pregnancy dimensions, their criteria and the indicators that show them in the text, the total sum of indicators was calculated according to the formula:

$$\sum_{R=1}^{n=1} + \sum_{R=0}^{n=4} + \sum_{R=-1}^{n=7} = -6$$

where **n** is the number of indicators, **R** is the value of the indicator (1 to –1). It is determined that the total sum of indicators in the evaluation text is equal to "–6" (see Table 25).

Table 25. Guidelines ^{IAOC} provided information on the onset of human life and the provisions used in relation to pregnancy evaluation summary

Dimensions	Criteria (P3.1.–P3.4)	Indicators	Sum of indicators
Information about the beginning of human life	Beginning from the moment of fertilisation	R3.1–R3.3	1
	The prenatal period of human life	R3.4	0
Child delivery	Maternal age and consequences	R.3.5	0
Language used	There is no negative attitude towards pregnancy	R3.6–R3.12	–7
Sum of indicators			**–6**

Beginning of human life. Unlike the evaluated Guidelines $^{ITG\_OSE}$, the Guidelines ^{IAOC} mentions the embryo as the beginning of human life (R3.1=1):

> When a sperm joins with an egg (fertilisation), an embryo may be formed. The sex of the embryo is determined by the man's sperm, not by the woman's egg. (p. 172)
> A pregnancy results if the embryo attaches to (is implanted in) the lining of the uterus. It is this embryo that will develop into a fetus if the pregnancy continues. (p. 172)
> This journey takes about five days. After it has been divided once, it is called an embryo. Within two days of reaching the uterus, the embryo attaches or implants itself in the lining of the uterus. (p. 282)

The prenatal period of human life is briefly described:

> Human pregnancy lasts 38 weeks after fertilisation (about 40 weeks from the last menstrual period). Pregnancy is divided into three periods of about three months each, called trimesters. During the first trimester, until the twelfth week, all of the major organs and structures of the body are formed: the brain, heart, lungs, eyes, ears, arms and legs. After the eighth week, the embryo is called a fetus. (p. 283)

but not related to the natural changes of the expectant woman's body and mental state, but exclusively negative experiences during pregnancy (R3.4=0):

> Women commonly feel nauseous during the first trimester; the nausea is sometimes called "morning sickness." During the second trimester, from the 13th to approximately the 27th or 28th week, the fetus grows rapidly, and usually around the 19th week, the woman can feel fetal movement. Most women begin to put on weight during the second trimester. In the third trimester, the fetus continues to gain weight, and its movements become stronger and more frequent. (p. 283)

Used language in connection with the pregnancy. In order to determine the nature of the information on pregnancy provided in the Guidelines^{IAOC}, the words and their context are extracted from the text of the Guidelines^{IAOC} with the help of the MAXQDA 2020 computer program and saved as a separate document Pregnancy_Guidance_2. For the text of this document, the context content analysis is performed by extracting the codes and subcodes from the evaluation document, and for the extracted subcodes, for visual purposes, a statistical analysis is performed by graphically depicting found subcodes and visualising them with the Code Cloude command. Qualitative

content analysis for Pregnancy_Guidance_2 distinguishes two pariental codes: (1) Information about pregnancy, (2) Negative attitude toward pregnancy. In the course of the content analysis, reading the text with the help of the MAXQDA 2020 program, each of the pariental codes is given text subcodes that interpret the text (see Figure 18).

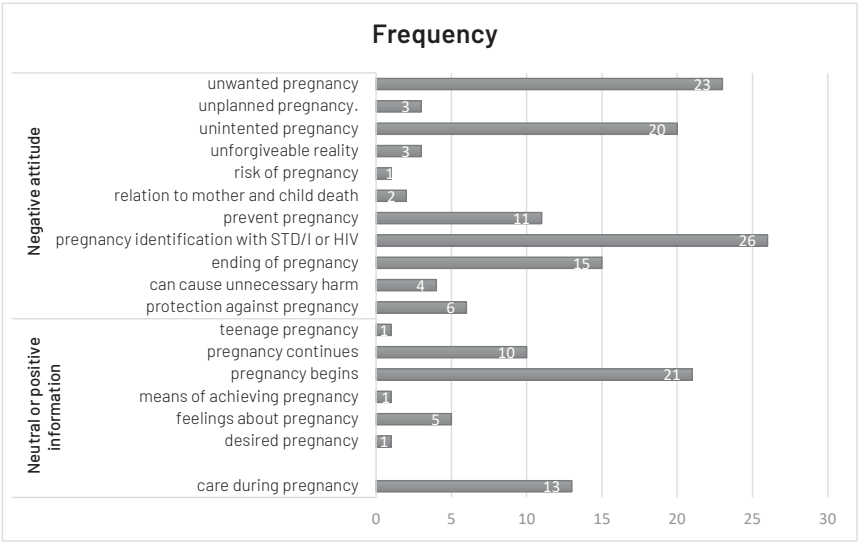

Figure 18. Diagram of the language used in the Guidelines [IAOC] in regard to pregnancy

After summing the subcodes of both codes separately and converting them to a percentage, it was found that the negative provision regarding pregnancy in the evaluated text is 69% (see Figure 19).

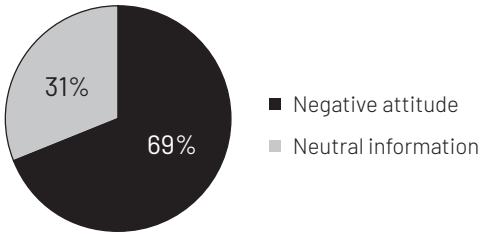

Figure 19. Percentage of the negative provisions towards pregnancy in the Guidelines[IAOC]

Below is a visualised negative provisions towards pregnancy in the Guidelines, determined with the Code Cloud command.

Figure 20. Visualisation of the language used in the Guidelines [IAOC] in regard to pregnancy

In conclusion, the information presented in area III of the Guidelines[IAOC] is completely unfavorable to a woman's health and free choice and creates favorable conditions for the occurrence of a crisis pregnancy.

5.4.3.4. Assessment of the information about the consequences of risky sexual behaviour and abortion provisions (area IV) in the Guidelines [IAOC] in regard to women's health and FID

After evaluating the text of the Guidelines [IAOC] with the SEEM, according to the dimensions of the scope of the discussion in regard to the consequences of risky sexual behaviour, provisions towards abortion and the indicators that show them in the text, the total amount of indicators was calculated according to the formula:

$$\sum_{R=1}^{n=3} + \sum_{R=0}^{n=10} + \sum_{R=-1}^{n=3} = 0$$

where **n** is the number of indicators, **R** is the value of the indicator (from 1 to –1). It is determined that the total sum of indicators in the evaluated text is equal to "0", i.e in this area, none of the indicators corresponding to the necessary information were detected in the text (see Table 26).

Table 26. Guidelines[IAOC] provided information on the consequwnces of risky sexual behaviour and provisions towards abortion evaluating favourability to women's health and FID summary

Dimensions	Criteria (P4.1.–P4.6)	Indicators	Sum of indicators
Information about abortion	Abortion consequences for mental health	R4.1–R4.2	0
	Abortion consequences for physical health	R4.3–R4.5	0
	The concept of forced abortion	R4.6–R4.8	1
	Family planning	R4.9	0
	Language used	R4.10–R4.12	–3
Information about STI/D	Different chances for boys and girls getting infected with STIs	R4.13–R4.15	2
Total Sum of indicators			0

The Guidelines[IAOC] do not provide information on the consequences of abortion for a woman's physical and mental health (R4.3–R4.5). However, unlike the previously evaluated Guidelines[ITG_SE], forced abortion is mentioned (R4.7 = 1) and it is suggested that programme participants determine it themselves.

> Ask the first group to read its case study and allow five to seven minutes to discuss the following questions:
>
> - Why did this girl choose to have an abortion?
> - Does everyone agree that these were her reasons?
>
> Were there any other reasons? *[Using questions, probe for other reasons that are relevant to the case.]* (p. 166–167, vol 2)

The Guidelines[IAOC] use the misleading concept of safe abortion (R.4.11 = –1).

> In general, abortion is far more likely to be safe when it is legal (p. 229)

> People and governments may support legal access to safe abortion because they are dedicated to reducing maternal mortality, including death resulting from unsafe abortion. (p. 230)

Abortion is also presented as a possible measure to prevent deaths during delivery (R1.10 = –1):

> Nearly all of these deaths occur in developing countries. Almost all of these deaths could be prevented with skilled attendance at delivery and timely emergency obstetric care for complications, use of family planning methods to reduce unintended pregnancies, and access to safe abortion services. (p. 264)

It is stated that the possible consequences, even fatal ones, are only from unsafe (illegal abortion):

> Globally, nearly half of all abortions are unsafe, and nearly all of these (95 percent) are performed in developing countries. The risk is often greatest in rural areas. As a result, nearly 70,000 women and girls die every year from complications of unsafe abortion (p. 247)

Information about STI/D. The Guidelines [IAOC] provides information on the different consequences of getting infected with STIs in girls and boys (R4.13 = 1):

> Women are more likely than men to suffer serious consequences (including infertility) from a non-sexually transmitted RTI. (p. 204)
> STIs can have serious health consequences for men and women [...]. Many common STIs are difficult to detect among women, however, and some have more serious consequences for women than for men. For example, the spread of chlamydia or gonorrhea to the upper reproductive organs is a common cause of infertility among women. Infection with certain STIs increases the likelihood of acquiring or transmitting HIV infection. Some, but not all, STIs are curable. (p. 277)

It has also been noted that girls with HPV may develop cervical cancer:

> HPV can be asymptomatic. Some strains cause genital warts. Others cause cancer. This includes head, neck, and anal cancer, penile cancer in men; and — most commonly — cervical cancer in women. (p. 278)

Summarising the results of the evaluation of the Guidelines[IAOC] on the consequences of risky sexual behaviour and provisions towards abortion (area IV) it can be stated that the evaluated text does not provide information on the consequences of abortion on a woman's physical and mental health. The text uses the misleading term "safe" abortion (equivalent to legal abortion). The impression is that only illegal abortion can have fatal consequences, that many women die from pregnancy and childbirth, and that safe abortion can save them. This information in the Guidelines[IAOC] is considered unfavorable for women's health and free informed decision.

5.4.4. Overall evaluation of the Guidelines IAOC

As forseen in the model (see Figure 10), after evaluating all 4 areas the number of indicators in all 4 areas has been recalculated as a percentage and an evaluationt is given according to the provided evaluation scale (Table 15). The total amount of indicators in Guidelines [IAOC].

Table 27. The total amount of indicators in Guidelines [IAOC]

Area under evaluation	Indicators	Sum of indicators
I	R1.1–R1.39	13
II	R2.1–R2.25	2
III	R3.1–R3.12	–6
IV	R4.1–R4.15	0
Total sum of Indicators		**9**

The sum of all indicators corresponds to **9.8 percent.** Based on the evaluation result, it can be stated that **the information provided in the Guidelilnes IAOC is unfavorable for women's health and free informed decision.**

Conclusions

In order to provide sexuality education from the perspective of women's health and free informed choice, it should inevitably include information on women's knowledge of fertility awareness and the neurophysiology of the menstrual cycle (HPO axis), the differences between women's and men's fertility, and the differences in the expression of sexual drive. The content of sexuality education must take into account the findings of scientific research that girls are much more likely than boys to express concern about the consequences of sex, and that the experiences of sexual intercourse for the first time differ in both age and intention. Studies by different authors in different countries show that girls and boys have different intentions for having sex. Girls associate it with love and commitment; boys associate it with sexual pleasure. In addition, boys are much more likely to say they are happy with their sexual experiences; girls are much more likely to regret and feel exploited.

After theoretical analysis which presents only the most important science-based facts on the effects of hormonal contraception (HC) on women, can it be stated that in the absence of detailed information on the mechanism of action of HC both the central (hypothalamic-pituitary-ovarian axis and negative feedback termination) and local — (effects on uterine endometrium and obstruction embryo implantation), the effects of HC on brain function, fertility and health, the adolescent and woman's decision and choice to use HC cannot be considered free or informed.

Only girls or women are directly affected by the abortion procedure. In this procedure, the role of the man, no matter how much effort has been put into claiming gender equality, will never be equal to a woman's experience, which, based on the scientific evidence presented, usually leaves a painful mark. The presented research data and the experience of other countries in crisis pregnancy counseling suggest that an unwanted pregnancy causes a crisis for a woman and without additional help, it may be very difficult for her to find a way out of the situation and make an appropriate decision. An

analysis of studies showing links between abortion and violence suggests that a woman's desire to terminate a pregnancy can be considered a reliable indication that a woman is experiencing domestic violence. Therefore, it can be assumed that a woman's decision to choose abortion can be seen as not a free but a forced-choice particularly if the woman surviving the pregnancy crisis has not been provided with counseling and has not been asked about possible coercion or domestic violence.

The denial of the scientific fact that the embryo is the beginning of a new human life should be seen as a precondition for a forced abortion. If a woman/girl is not provided with all the necessary information about the prenatal development of human life from conception, about the consequences of the abortion procedure, about possible direct or indirect consequences regarding an abortion, in the absence of full professional assistance, such a decision should be considered uninformed and forced.

Based on the results of the evaluation, the Guidelines^{ITG_SE} do not provide information on the importance of the menstrual cycle for women's health, as a cyclical process of preparation of the female body for fertilisation and embryo implantation, which takes place throughout the entire childbearing period of a woman's life (from adolescence to premenopause). There is no description of the phases of the menstrual cycle, nor of the predominance of different hormones during the different phases and how they affect women's health. The menstrual cycle is usually identified with one phase of the cycle, the menstrual period. Much attention is paid to hygiene measures and sanitation. Consequently, when it comes to the menstrual cycle, it can be assumed that the guidelines are aimed at less developed countries, where girls are faced with a lack of respect for sanitation norms and a lack of special facilities.

The results show that the Guidelines^{ITG_SE} do not require the necessary knowledge of female physiology, which is important for women's health and lifestyle choices. Neither the names of the sex hormones nor the gonadotropic hormones are mentioned, nor are their activities and influence on the functioning of the female reproductive and reproductive system and on the overall health of the woman, understood as a state of physical and mental well-being. There is no requirement in the Guidelines^{ITG_SE} to present differences in fertility between women and men, or in sex drive between women and men. That is to say, information that is crucial for women's sexual health literacy and for a young woman's decision to start her sexual life is not provided at all.

The Guidelines^{ITG_SE} do not provide any information on the composition of hormonal contraception, its mechanism of action or the side effects of HC on women's health. Therefore, the fact that the Guidelines^{ITG_SE} do not require a detailed description of the functioning of a woman's fertility and reproductive system, the fact that the menstrual cycle is usually identified with only one phase of the cycle, with the need for hygiene measures at the forefront of the picture, and the fact that the undermining of natural family planning, the use of which is impossible without a thorough knowledge of the female reproductive system, reinforces the assumption that the information on contraception in the Guidelines^{ITG_SE} serves the purpose of promoting the use of contraceptives, i.e. for commercial purposes, rather than for the purposes of women's health.

According to the results of an evaluation of the Guidelines^{IAOC} , it can be said that the information is limited to the anatomy of the reproductive organs, without linking them to the female body as a whole, and partially revealing the differences between male and female fertility. The information provided can be seen as unfavorable to a woman's health and free choice. The information on hormonal contraception in the Guidelines^{IAOC}, the composition of HCs and the effects of different hormones on women's health are not described. The mechanism of action of HCs is not provided (except for effects on ovulation and mucus), nor is the effect of HCs on the neurophysiological regulation of the female cycle, giving the impression that HCs act topically and exclusively on the female reproductive organs. The information given on emergency contraception is not consistent with the scientific evidence. It is also worth noting that the IOC Guidelines contain 14 contraceptive methods, of which 12 are exclusively for women. Based on the survey data, the nature of the information provided in the IOC-Guidelines should be seen as unfavorable to women's health and to the FID.

Summarising the results of the evaluation of the Guidelines^{IAOC} information on the consequences of risky sexual behaviour and attitudes towards abortion, it can be stated that the evaluation text does not provide information on the consequences of abortion for women's physical and mental health. The text uses the misleading term "safe" abortion (equivalent to legal abortion). The impression is given that only illegal abortion can lead to fatal consequences, that many women die from pregnancy and childbirth and that safe abortion could save them. The information in the Guidelines^{IAOC} is seen as unfavorable to women's health and free informed choice.

The more accurate information that would give a girl and a woman freedom of choice is lacking in sexuality education. Risk reduction strategies directly affect only girls and women: hormonal contraception including long-term, i.e. spirals and abortion are for the girl and woman exclusively. Therefore, it can be assumed that sexuality education is very unfavorable towards women's health. Consequently, based on the results of the study, comprehensive sexuality education can be understood as being a way to control women's sexuality.

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Summary

The importance of appropriate and health-related information in the school curriculum is emphasised in many international conventions and documents. Knowledge of how the fertility system works for both women and men, and an understanding of the different needs of women and men in the expression of sexuality, can be treated as health literacy. WHO describes health literacy as "the level of knowledge, personal skills, and confidence in order to improve personal and community health by changing personal lifestyle and living conditions." Health literacy is an important determinant of health, and poor health literacy among adolescents is correlated with high-risk health behaviours and adverse health outcomes into adulthood. It has been noticed that teenagers, who are introduced to the physiological processes of their body and learn to recognise their fertility in sexuality education programmes, value their and others of the same age group sexuality and the ability to express emotions. In addition, young people are beginning to perceive fertility as a natural feature of their development, better understand fertility and the beginning of life, seeing them as important gifts to be understood, valued, and passed on. Therefore, awareness of fertility should be the core of education programmes, thus becoming a very useful tool for both the pedagogical and personal self-monitoring of health. Moreover, when this knowledge is acquired in adolescence alongside the formation that covers all aspects of the personality, it has been proven to be an important tool in strengthening a girl's sense of identity and self-esteem and is an excellent prevention of adolescent pregnancy. The authors of the study, *The Effect of Sexual Literacy on Adolescent Pregnancy in Colombia* examined adolescents aged from 13 to 19 years old, to determine how the knowledge of information related to sexuality affected girls' pregnancies. found that knowledge of the body's physiology and anatomy is associated with a significantly lower number of teen pregnancies: Furthermore, the results of the study denied the prevailing opinion that knowledge about contraception is directly related to a decrease in adolescent

pregnancy. The authors of this study provide a very important insight into the relationship between the source of information and the decrease in the number of teenage pregnancies, stating that the most important source of knowledge directly related to the decrease in the teenage pregnancies is the educational institution.

Sexuality education is known to be an interdisciplinary subject as it covers different disciplines (biomedicine, social sciences, and humanities). Sexuality education documents make ambiguous references to the right to adequate health related information, but this is the type of information that is most lacking in sexuality education. This monograph will seek to answer the question what information is needed about a woman's health, which determines her free choice, and will aim to assess the content of comprehensive sexuality education from the perspective of women's health and free informed decision making.

The monograph consists of five parts. The first four parts refine the parameters of the sexuality education assessment model, which consists of the four most important information areas for a woman's health and free informed decision: (1) information about the woman's fertility system and reproductive physiology; (2) information about hormonal contraception, (3) information about the beginning of human life, pregnancy, and the language used in sexuality education; (4) information on the consequences of risky sexual behaviour for a woman and the implemented provisions regarding abortion. In the fifth part, the model of sexuality education evaluation is created and two documents on sexuality education, (UNESCO. *International technical guidance on sexuality education. An evidence-informed approach*. Paris: UNESCO, 2018. The Population Council. *It's All One Curriculum: Guidelines and Activities for a Unified Approach to Sexuality, Gender, HIV, and Human Rights Education:* Activities, vol. 2. New York: Population Council, 2011) are evaluated in regard of the benefits for women's health and free informed choice. Based on the evaluation results and the degree scale of favorability, the content of the chosen documents is evaluated in terms of the degree of favorability to a woman's health and the aspect of a woman's free informed choice.

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Abstract

From Birth Control to Self-Awareness and free Decision Making. A model for the evaluation of comprehensive sexuality education from the perspective of women's health and free informed choice

The importance of appropriate and health-related information in the school curriculum is emphasised in many international conventions and documents. Knowledge of how the fertility system works for both women and men, and an understanding of the different needs of women and men in the expression of sexuality, can be treated as health literacy. Health literacy is an important determinant of health, and poor health literacy among adolescents is correlated with high-risk health behaviours and adverse health outcomes into adulthood. It has been noticed that teenagers, who are introduced to the physiological processes of their body and learn to recognise their fertility in sexuality education programmes, value their and others of the same age group's sexuality and the ability to express emotions. In addition, young people are beginning to perceive fertility as a natural feature of their development, better understanding fertility and the beginning of life, and seeing them as important gifts to be understood, valued, and passed on. Sexuality education is known to be an interdisciplinary subject as it covers different disciplines (biomedicine, social sciences, and humanities). Sexuality education documents make ambiguous references to the right to adequate health-related information, but this is the type of information that is most lacking in sexuality education. This monograph will seek to answer the question of what information is needed about a woman's health, which determines her free choice, and will aim to assess the content of comprehensive sexuality

education from the perspective of women's health and free informed decision making.

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About the author

Birutė Obelenienė is a Doctor of Social Science, professor of the Theology Department and senior researcher of the Research center on Marriage and Family at Vytautas Magnus University. She has completed her Master's studies at Kaunas Medical Institute in Pharmacy faculty, defended her doctoral dissertation at Vytautas Magnus University in 2007. She is the author of more than 40 scientific publications, compiler, and co-author of the scientific monography "Medicine, ethics, and law about human until birth", two books "Ethics of sexuality education" and "Fertility awareness and natural family planning". Birutė Obelenienė is a vice-chairwoman of the editorial board of scientific journal SOTER of Faculty of Catholic Theology, manager of the master study program "Family research", and NFP teachers training program, ethics of sexuality education, bioethics, conjugal ethics, natural family planning, youth preparation for marriage and family life.

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