BEDNARZ, Karolina, BASIAGA, Bartosz, ŻĄDECKA-KOBIAŁKA, Klaudia, PUTRA, Anna, MARCHAJ, Magdalena, NOWICKA-JASIŃSKA, Monika, FRĄCZYK, Paweł, BIENIEK-ZAJĄC, Sara, BACZKOWSKI, Sebastian and KRAWIEC, Klaudia. The Consequences of Adolescent Pregnancy: A Social, Medical, and Psychological Analysis. Journal of Education, Health and Sport. 2024;65:49912. eISSN 2391-8306.
https://dx.doi.org/10.12775/JEHS.2024.65.013
https://apcz.umk.pl/JEHS/article/view/49912
https://zenodo.org/records/10974117

The journal has had 40 points in Minister of Science and Higher Education of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of 05.01.2024 No. 32318. Has a Journal's Unique Identifier: 201159. Scientific disciplines assigned: Physical culture sciences (Field of medical and health sciences); Health Sciences (Field of medical and health sciences).
Punkty Ministerialne 40 punktów. Załącznik do komunikatu Ministra Nauki i Szkolnictwa Wyższego z dnia 05.01.2024 Lp. 32318. Posiada Unikatowy Identyfikator Czasopisma: 201159. Przypisane dyscypliny naukowe: Nauki o kulturze fizycznej (Dziedzina nauk medycznych i nauk o zdrowiu); Nauki o zdrowiu (Dziedzina nauk medycznych i nauk o zdrowiu).© The Authors 2024;

The authors declare that there is no conflict of interests regarding the publication of this paper.
Received: 20.03.2024. Revised: 10.04.2024. Accepted: 13.04.2024. Published: 15.04.2024.

The Consequences of Adolescent Pregnancy: A Social, Medical, and Psychological Analysis

MD Karolina Bednarz 1, MD Bartosz Basiaga 2, MD Klaudia Żądecka-Kobiałka 3, MD Anna Putra 4, MD Magdalena Marchaj 5, PhD Monika Nowicka-Jasińska 6, Paweł Frączyk 7, MD Sara Bieniek-Zając 8, MD Sebastian Baczkowski 9, MD Klaudia Krawiec 10

1. SP ZOZ MSWiA in Katowice named after Sergeant Grzegorz Załoga, Wita Stwosza 41, 40-514 Katowice, Poland karolina.bednarz24@gmail.com
ORCID: 0009-0003-1565-3944

2. Bonifraterskie Medical Center Limited Liability Company Branch in Krakow, Trynitarska 11, 31-061 Kraków. bartoszbasiaga@gmail.com
ORCID: 0009-0009-8300-0674

3. Lower Silesian Center of Oncology, Pulmonology, and Hematology
Square Ludwika Hirszfelda 12, 53-413 Wrocław, Poland
klaudiazadecka@gmail.com
ORCID: 0009-0003-5268-1709

4. SP ZOZ MSWiA in Katowice named after Sergeant Grzegorz Załoga, Wita Stwosza 41, 40-514 Katowice, Poland
Annaputra1997@gmail.com
ORCID: 0009-0005-6953-9308

5. Municipal Hospitals Group in Chorzów, Strzelców bytomskich 11, 41-500 Chorzów, Poland
Magdalenamarchaj@interia.pl
ORCID: 0009-0003-4930-8698

6. Academy Humanitas in Sosnowiec ul. Jana Kilińskiego 43, 41-200 Sosnowiec, Poland
monikanowickaprawnik@gmail.com
ORCID: 0000-0001-6703-254X

7. Medical University of Silesia, Faculty of Medical Sciences in Zabrze, Poniatowskiego 15; 40-055 Katowice, Poland
pawkoo@icloud.com
ORCID: 0009-0005-0123-9886

8.Wrocław Medical University
Wybrzeże Ludwika Pasteura 1,
50-367 Wrocław, Poland
Sara.e.bieniek@gmail.com
ORCID: 0009-0001-2642-8393

9. Independent Public Healthcare Facility in Bochnia, Blessed Marty Wiecka County Hospital, Krakowska 31, 32-700 Bochnia, sbaczkowski1991@gmail.com
ORCID: 0009-0006-7628-0602

10. Lower Silesian Center of Oncology, Pulmonology, and Hematology
Square Ludwika Hirszfelda 12, 53-413 Wrocław, Poland
klaudiakrawiec97@gmail.com
ORCID: 0009-0003-3624-3346

ABSTRACT:

Introduction: Adolescent pregnancy remains a contentious issue despite improvements in quality of life and increased access to sexual education. The average age of first pregnancy has shifted due to financial instability among young people, leading to delayed pregnancies until financial stability is achieved. Teenage mothers face social stigma, and early sexual initiation not only increases the risk of pregnancy but also sexually transmitted infections (STIs). Often, adolescent pregnancies are unwanted, resulting in delayed medical consultation due to fear or ignorance.

Aim of the Study: This study aims to investigate the medical and social implications of adolescent pregnancy, emphasizing the importance of early sexual education and comprehensive healthcare support.

Description of the State of Knowledge: Adolescent pregnancy, defined as pregnancy between ages 10 and 19, is a global concern with millions of cases annually. It poses significant health risks, including premature birth, low birth weight, and intrauterine growth restriction. Socially, it affects educational attainment and financial stability, with adolescents from lower socioeconomic backgrounds facing greater challenges. Early sexual initiation and risky sexual

behaviors further compound the issue, increasing the risk of STIs. Lack of comprehensive sexual education exacerbates these risks, highlighting the need for multidisciplinary support from healthcare professionals.

Conclusions: Adolescent pregnancy requires a holistic approach encompassing medical, social, and legal dimensions. Effective sexual education programs, involving gynecologists, pediatricians, and educators, are essential for prevention. Legal frameworks must protect adolescents and address issues of consent and sexual health. Additionally, access to comprehensive healthcare services, including prenatal care and contraception, is crucial for mitigating the adverse effects of adolescent pregnancy on both individuals and society.

KEY WORDS: Adolescent pregnancy, Sexual education, Comprehensive healthcare, Risky sexual behaviors

INTRODUCTION:

The phenomenon of adolescent pregnancy continues to be a subject of considerable controversy, notwithstanding improvements in quality of life and enhanced access to sexual education [1]. Despite these advancements, there has been a notable shift in the average age at which adolescents experience their first pregnancy, often attributed to the increasingly challenging financial circumstances faced by young individuals contemplating starting a family [2]. This socioeconomic backdrop has resulted in a postponement of parenthood until achieving a certain level of financial stability. Consequently, teenage mothers find themselves subjected to heightened scrutiny from both society and their peers compared to previous decades [1.2,3].

Furthermore, early sexual initiation not only escalates the risk of pregnancy but also increases vulnerability to sexually transmitted diseases (STDs). The prevalence of unwanted pregnancies among adolescents is significant, leading to a tendency for mothers to delay seeking medical care due to fear or a lack of awareness. Addressing this issue requires healthcare professionals to adopt a more empathetic and permissive approach in guiding adolescent women through this critical period [4,6]

It is important to recognize the multifaceted nature of adolescent pregnancy, which presents not only medical challenges but also social and economic implications [5]. By understanding and addressing the underlying factors contributing to this phenomenon, healthcare providers and policymakers can work towards implementing comprehensive

strategies aimed at reducing the incidence of adolescent pregnancy and providing better support for teenage mothers[1,6].

Social Background

Adolescent pregnancy presents challenges not only medically but also socially[1,7]. Currently, a lowered age of menarche is observed, linked to improved nutrition and enhanced standards of living and healthcare accessibility. Unplanned pregnancies are more prevalent in socioeconomically disadvantaged groups, although they impact all strata of society due to limited education access, financial constraints on contraception, and familial influences [5,7].

Additionally, teenagers face elevated risks of malnourishment, delayed pregnancy detection, and restricted prenatal care accessibility. Emotional stress accompanies teenage pregnancy, leading to increased substance use during pregnancy. Teenage mothers exhibit higher rates of tobacco use (36% compared to 7% of adult women) and alcohol and drug consumption (1.1% compared to 0.2%)[1,8,9,10]. They also experience heightened instances of partner violence and abandonment, exposing them to unstable and unsafe home environments [5]. Balancing motherhood with education significantly diminishes the likelihood of completing high school, consequently impeding further educational pursuits for the mother [1,11]. Consequently, many teenage mothers confront exacerbated financial circumstances in the future [11] Conversely, those who opt to resume schooling postpartum exhibit reduced vulnerability to rapid repeat pregnancies, underscoring the imperative of fostering continued education for teenagers.

Recent years have witnessed a noticeable decline in the age of sexual debut. Research findings indicate an average age of sexual initiation at 14.7 years, with 9.2% of fifteen-year-old girls reporting sexual activity [12,13]. Alarmingly, 27% of sexually active fifteen-year-olds acknowledged foregoing contraceptive methods during their most recent sexual encounter. Similarly, among sexually active eighteen-year-olds, one in four individuals reported three or more sexual partners, with 49% resorting to ineffective contraceptive methods such as withdrawal or natural methods. Such unsafe sexual behaviors not only elevate the risk of unintended pregnancies but also heighten susceptibility to sexually transmitted infections (STIs) [12,13].

Sexual education

Sexual education is a comprehensive approach aimed at imparting knowledge about both the physiological and psychological aspects of human reproduction [14,15]. It plays a crucial role in promoting healthy sexual behaviors and relationships among adolescents.[16] However, the absence of a well-defined and comprehensive sexual education curriculum in Poland for the age group most vulnerable to sexual health issues poses significant challenges [17].

Inadequate sexual education often leads to adolescents engaging in risky sexual behaviors, such as unprotected intercourse, which can result in unintended pregnancies and exposure to sexually transmitted infections (STIs) [16]. This highlights the importance of implementing effective sexual education programs tailored to the specific needs and developmental stages of adolescents [14].

Furthermore, the individuals tasked with delivering sexual education programs must possess the requisite knowledge, training, and sensitivity to address the diverse needs and concerns of adolescents. Unfortunately, there is often a lack of qualified educators in this field, leading to ineffective or inconsistent delivery of sexual education in schools and other settings [14].

To address these challenges, it is essential to involve a multidisciplinary approach to sexual education, involving not only gynecologists but also pediatricians. Pediatricians, who are often the primary healthcare providers for adolescents, are well-positioned to provide comprehensive sexual education and counseling, including information on contraception, STI prevention, and healthy relationships [18].

By integrating sexual education into routine healthcare visits and promoting open and nonjudgmental discussions about sexual health, healthcare providers can empower adolescents to make informed decisions about their sexual and reproductive health. Additionally, involving parents and caregivers in sexual education initiatives can help create a supportive environment for adolescents to navigate these sensitive topics [14-18].

Overall, comprehensive sexual education programs, delivered by qualified healthcare professionals in collaboration with educators and parents, are essential for promoting healthy sexual behaviors, reducing the incidence of teenage pregnancies and STIs, and fostering positive relationships among adolescents [18].

Legal Aspect:

Under Polish criminal law, individuals who engage in sexual activity with a minor below the age of 15, or coerce them into participating in such acts, are subject to imprisonment ranging from 2 to 12 years [19].

The legislature contends that any person involved in sexual acts with a minor (<15 years old) infringes upon their sexual autonomy, not because they defy their consent explicitly, but due to the minor's inability to provide a legally valid decision regarding consent to these actions [20].

Consequently, a potential father of a child conceived through intercourse with a minor under 15 years old must acknowledge the potential accusation of pedophilia [19].

It is mandatory for both public and administrative institutions to immediately report any suspicion of the aforementioned prohibited behaviors to law enforcement authorities [19].

Furthermore, Polish law emphasizes the protection of minors from sexual exploitation and abuse, with strict penalties imposed on perpetrators. The legal framework aims to safeguard the rights and well-being of minors, recognizing their vulnerability and the need for enhanced protection against any form of sexual misconduct. This legislative approach underscores the importance of prioritizing the welfare of minors and holding accountable those who violate their rights through unlawful sexual activities [19].

Pregnancy Management:

Navigating adolescent pregnancy entails confronting significant challenges, particularly for girls aged 11-14. The intricate interplay of heightened stress levels, nutritional deficiencies, substance abuse, and financial instability complicates the trajectory of pregnancy. Moreover, pregnant teens may grapple with amplified stressors stemming from housing insecurities, domestic violence, or abandonment by their partners [21]. Hence, early detection of pregnancy becomes pivotal in mitigating perinatal risks.

The World Health Organization (WHO) advocates for a minimum of four prenatal visits for uncomplicated pregnancies, strategically scheduled at 16 weeks, between 24 and 28 weeks, at 32 weeks, and at 36 weeks. Essentially, the medical oversight for pregnant adolescents mirrors that of pregnant adults, underscoring the need for comprehensive care [2].

Adolescents may present with hallmark symptoms of puberty during clinic visits, such as irregular menstruation, abdominal discomfort, dizziness, vomiting, or spotting. However, it's imperative to acknowledge that teenagers often withhold information regarding sexual activity, especially when accompanied by their parents during consultations [21,22,23].

The principal complications confronting pregnant minors encompass premature delivery, low birth weight, intrauterine growth restriction, or stillbirth [23]. These adversities are often intricately linked to uterine immaturity [22]. Studies have underscored a correlation between sexual maturation and the volumetric and structural changes in the endometrium, with growth persisting into early adulthood [24,25].

Educational interventions on proper nutrition constitute a cornerstone during the initial prenatal visit. Pregnancy heightens the demand for essential nutrients, including folic acid, iron, and iodine. Dietary guidelines for pregnant adolescents, as delineated by the WHO, encompass [2,26]: Tailored caloric intake ranging from approximately 2200 to 2500 kcal, contingent upon individual nutritional status. Supplementation with 0.4 mg of folic acid and 30-60 mg of elemental iron over a 3-month period. Notably, the Polish Society of Gynecologists and Obstetricians (PTGiP) permits iron supplementation up to 30 mg/day for non-anemic women with ferritin levels below 60 mcg/l after the 16th week of pregnancy, aiming to avert the adverse effects of iron overload. Adequate iodine intake of 200 μg per day. Daily consumption of 200 mg of DHA. Provision of 1500-2000 IU of vitamin D [26].

Subsequently, screening for sexually transmitted diseases (STDs) should be integrated into the visit. Given adolescents' propensity for engaging in risky sexual behaviors, it becomes imperative to rule out potential infections with HIV, Chlamydia trachomatis, Neisseria gonorrhoeae, Treponema pallidum, HPV, or HSV [2].

The delivery of perinatal care for individuals up to the age of 19 should adhere to the guidelines outlined by the Polish Society of Gynecologists and Obstetricians and the Minister of Health's Regulation on the Organizational Standard of Perinatal Care dated August 16, 2018 [2, 27]

CONTRACEPTION

Obstacles hindering access to contraceptive knowledge and resources encompass cultural stigmas, legal constraints, attitudes of healthcare providers (HCPs), and the structure of healthcare systems [28,29]. The accessibility and acceptance of contraception among adolescents fluctuate across regions and even among countries within the same geographic area.

Adolescents may encounter obstacles when seeking contraception. Healthcare providers (HCPs) themselves may exacerbate these obstacles by imposing their own values or moral beliefs, enforcing improper medical contraindications for contraceptive use, needlessly postponing the start of contraception, demanding unnecessary investigations before initiating contraception, or perpetuating misconceptions about contraceptive methods [30].

Adolescents should have unrestricted access to comprehensive and confidential contraceptive services. It's crucial to discuss the extent and boundaries of confidentiality with adolescents and their caregivers, emphasizing it further when the adolescent is alone. Adolescents should also be informed about situations where confidentiality may be breached [31]. Respect for adolescents' contraceptive choices is paramount, and coercion should never be tolerated [32].

Clinics should create a welcoming environment for adolescents, offering flexible scheduling, convenient hours (aligned with school schedules), and age-appropriate educational materials. Scheduled follow-up visits are essential to assess method suitability and ensure ongoing contraceptive compliance [33].

Adolescents should receive counseling on the necessity of using latex condoms consistently to lower the risk of sexually transmitted infections (dual protection). Regardless of the method of contraception chosen, HCPs need to debunk prevalent myths and misunderstandings and discuss potential side effects openly. Age alone should not be considered a reason to avoid any contraceptive method [34].

Adolescents should be informed about emergency contraception (EC) regardless of their chosen contraceptive method and understand its utility in cases of contraceptive failure, such as condom breakage, inconsistent use of hormonal contraception, or lack of contraception altogether. Increased access to hormonal EC does not lead to more instances of unprotected intercourse (UPI), higher risk-taking behavior, or reduced use of effective contraception. Hormonal EC can be taken up to 120 hours after UPI, with LNG-EC being more effective when taken sooner. UPA-EC may be more effective than LNG-EC in obese adolescents and can be used up to five days after UPI [35].

EC serves as a backup method for condom use, providing an additional layer of protection in case of condom failure or non-use. However, the efficacy of hormonal EC is lower than regular contraceptive use, and its preventive efficacy should not be overestimated. In most cases, EC provision should be viewed as an opportunity for counseling and prompt initiation of continuous and effective contraception [36].

Intrauterine Contraception

Intrauterine Contraception it's a highly effective and suitable for all ages, intrauterine contraception (IUC) represents a safe option for adolescents. Despite increased expulsion rates among adolescents compared to older women, IUCs are endorsed by numerous international societies as a primary contraceptive choice for adolescents [37]. With a 99% efficacy rate and over 80% continuation at one year, both copper and levonorgestrel intrauterine devices (Cu-IUD, LNG-IUS) offer reliable pregnancy prevention [37]. While Cu-IUD users may experience heavier menstrual bleeding and dysmenorrhea, LNG-IUS users may appreciate reduced menstrual bleeding and non-contraceptive benefits such as treatment for heavy menstrual bleeding. Regardless of the type chosen, IUC insertion success rates in adolescents are high at 96% [38].

LNG-IUS may be preferred by adolescents for its non-contraceptive benefits, although some may experience hormonal side effects. Handouts outlining important considerations, such as the need for ongoing condom use for STI protection and common side effects, can aid in patient education [37,38].

Progestin-Only Contraceptive Options

Progestin-only contraceptives offer a hormone-based alternative suitable for adolescents unable to use estrogen-containing methods. The contraceptive implant, a WHO Tier 1 method, provides discreet, long-term protection with minimal user action required. Depo-medroxyprogesterone acetate (DMPA) injections, although effective, may lead to weight gain and reversible bone mineral density loss, particularly in adolescents. The progestin-only pill (POP) requires daily adherence and may result in unscheduled bleeding, making consistent use challenging [39].

Combined Hormonal Contraception

Combined hormonal contraception (CHC), comprising estrogen and progestin, is a versatile option for adolescents. While CHC users may experience side effects such as unscheduled bleeding and headaches, extended cycle use offers benefits such as reduced menstrual symptoms. Methods like the contraceptive patch and vaginal ring provide discreet,

user-friendly alternatives to oral pills. Despite concerns about venous thromboembolism and mood changes, CHC remains a safe and effective choice for many adolescents [40].

Barrier Contraception

Male condoms, widely used among adolescents, offer affordable and accessible protection against pregnancy and STIs. While dual method use remains a challenge, HCPs play a crucial role in promoting consistent condom use alongside other contraceptive methods. Regardless of the chosen method, encouraging adolescents to prioritize condom use for STI prevention and contraceptive backup is essential [32].

CONCLUSIONS

Adolescent pregnancy presents multifaceted challenges that necessitate comprehensive intervention strategies. The intricate web of socioeconomic disparities, educational deficiencies, and inadequate access to reproductive health services underscores the urgency of addressing this public health issue.

Effective management of adolescent pregnancy demands a multidisciplinary approach, encompassing robust educational initiatives, accessible healthcare services, and targeted interventions to mitigate social determinants of health.

Furthermore, legal frameworks must be reinforced to safeguard the rights and well-being of pregnant adolescents, while stringent measures are warranted to address instances of sexual exploitation and abuse.

In conclusion, concerted efforts are imperative to empower pregnant adolescents with the necessary resources, support, and education to navigate pregnancy successfully and ensure optimal maternal and child health outcomes. By fostering a conducive environment for adolescent health and well-being, we can strive towards a future where every young person has the opportunity to thrive.

Author's contribution

Conceptualization KB, PF; methodology, BB,KŻ-K; software,AP,MM; check,SB-Z,SB, and KK; formal analysis, MN-J, KB, BB; investigation, PF, KŻ-K, AP; resources, SB-Z, MM; data curation, KK,MN-J; writing-rough preparation, KB; writing-review and editing, KB,PF,BB; visualization, KŻ-K, AP; supervision, MM, SB-Z, SB; project administration, SB. All authors have read and agreed with the published version of the manuscript.

Funding Statement

This research received no external funding.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

Not applicable.

Acknowledgments

Not Applicable.

Conflicts of Interest

The authors declare no conflict of interest.

REFERENCES

[1] Diabelková J, Rimárová K, Dorko E, Urdzík P, Houžvičková A, Argalášová Ľ. Adolescent Pregnancy Outcomes and Risk Factors. Int J Environ Res Public Health. 2023 Feb 25;20(5):4113. doi: 10.3390/ijerph20054113. PMID: 36901128; PMCID: PMC10002018.

[2] World Health Organization. "Adolescent pregnancy." (2004).

[3] Mann L, Bateson D, Black KI. Teenage pregnancy. Aust J Gen Pract. 2020 Jun;49(6):310-316. doi: 10.31128/AJGP-02-20-5224. PMID: 32464731.

[4] Girlhood, Not Motherhood: Preventing Adolescent Pregnancy Published by the United Nations Population Fund UNFPA, New York 2015 ISBN: 978-0-89714-986-0

[5]Sezgin AU, Punamäki RL. Impacts of early marriage and adolescent pregnancy on mental and somatic health: the role of partner violence. Arch Womens Ment Health. 2020 Apr;23(2):155-166. doi: 10.1007/s00737-019-00960-w. Epub 2019 Apr 6. Erratum in: Arch Womens Ment Health. 2019 May 18;: PMID: 30955087; PMCID: PMC7183488.

[6] Workowski K.A., Berman S.: Sexually transmitted diseases treatment guidelines, 2010. MMWR Recomm Rep 2010; 59: pp. 1-110.

[7] Todhunter L, Hogan-Roy M, Pressman EK. Complications of Pregnancy in Adolescents. Semin Reprod Med. 2022 Mar;40(1-02):98-106. doi: 10.1055/s-0041-1734020. Epub 2021 Aug 10. PMID: 34375993.

[8] Neal S, Matthews Z, Frost M, et al. Childbearing in adolescents aged 12–15 years in low resource countries: a neglected issue. New estimates from demographic and household surveys in 42 countries. Acta Obstet Gynecol Scand 2012;91: 1114–18. Every Woman Every Child. The Global Strategy for Women`s, Children`s and Adolescents` Health (2016-2030). Geneva: Every Woman Every Child, 2015.

[9] Dalby J., Hayon R., Carlson J.: Adolescent pregnancy and contraception. Prim Care 2014; 41: pp. 607-629.

[10] Mollborn S., Morningstar E.: Investigating the relationship between teenage childbearing and psychological distress using longitudinal evidence. J Health Soc Behav 2009; 50: pp. 310-326.

[11] Juras R, Kelsey M, Steinka-Fry K, Lipsey M, Layzer J, Tanner-Smith E. Meta-analysis of Federally Funded Adolescent Pregnancy Prevention Program Evaluations. Prev Sci. 2022 Oct;23(7):1169-1195. doi: 10.1007/s11121-022-01405-0. Epub 2022 Jul 16. PMID: 35841494.

[12] Sowińska-Przepiera E, Andrysiak-Mamos E, Syrenicz A. Adolescent as a patient in the developmental gynecology outpatient clinic. Endokrynol Pol. 2008, 59, 412-419

[13] WHO. Global health estimates 2015: deaths by cause, age, sex, by country and by region, 2000–2015. Geneva: WHO; 2016

[14] Rowlands A, Juergensen EC, Prescivalli AP, Salvante KG, Nepomnaschy PA. Social and Biological Transgenerational Underpinnings of Adolescent Pregnancy. Int J Environ Res Public Health. 2021 Nov 19;18(22):12152. doi: 10.3390/ijerph182212152. PMID: 34831907; PMCID: PMC8620033.

[15] French V, Steinauer J. Sexual and reproductive health teaching in undergraduate medical education: A narrative review. Int J Gynaecol Obstet. 2023 Oct;163(1):23-30. doi: 10.1002/ijgo.14759. Epub 2023 Mar 23. PMID: 36951645.

[16] Hu Z, Fu Y, Wang X, Zhang H, Guo F, Hee J, Tang K. Effects of Sexuality Education on Sexual Knowledge, Sexual Attitudes, and Sexual Behaviors of Youths in China: A Cluster-Randomized Controlled Trial. J Adolesc Health. 2023 Apr;72(4):607-615. doi: 10.1016/j.jadohealth.2022.11.006. Epub 2023 Jan 4. PMID: 36604206.

[17] Woynarowska B, Izdebski Z, Kołoło H [et al.]. "Sexual Initiation and Condom Use and Other Pregnancy Prevention Methods Among 15-Year-Old Adolescents in Poland and Other Countries" Ginekol Pol. 2004, 75(8), 621-

[18] Baldwin M.K., Edelman A.B.: The effect of long-acting reversible contraception on rapid repeat pregnancy in adolescents: a review. J Adolesc Health 2013; 52: pp. S47-S53

[19] Article 200 § 1 of the Act of June 6, 1997, the Penal Code (Journal of Laws No. 88, item 553, as amended).

[20]Krajewski, Radosław. "Criminal aspects of voluntary sexual activity of minors." Prosecutor and Law 10.10 (2012).

[21] Chen X-K, Wen SW, Fleming N, Demissie K, Rhoads GG, Walker M. Teenage pregnancy and adverse birth outcomes: a large population based retrospective cohort study. Int J Epidemiol. 2007;36(2):368–73.

[22] Dalby J., Hayon R., Carlson J.: Adolescent pregnancy and contraception. Prim Care 2014; 41: pp. 607-629.

[23] Mukhopadhyay P, Chaudhuri RN, Paul B. Hospital-based perinatal outcomes and complications in teenage pregnancy in India. J Health Popul Nutr. 2010;28(5):494–500.

[24] Brosens I, Muter J, Gargett CE, Puttemans P, Benagiano G, Brosens JJ. The impact of uterine immaturity on obstetrical syndromes during adolescence. Am J Obstet Gynecol. 2017 Nov;217(5):546-555. doi: 10.1016/j.ajog.2017.05.059. Epub 2017 May 31. PMID: 28578177.

[25] I. Brosens, R. Pijnenborg, L. Vercruysse, R. Romero The "Great Obstetrical Syndromes" are associated with disorders of deep placentation Am J Obstet Gynecol, 204 (2011), pp. 193-201

[26] Zimmer M., Sieroszewski P., Oszukowski P. et al. Polish Society of Gynecologists and Obstetricians recommendations on supplementation in pregnancy. Ginekol Pol. 2020;91(10): 644–653. doi: 10.5603/GP.2020.0159

[27] Annex to the Regulation of the Minister of Health of 16th August 2018 (pos. 1756)

[28] Bitzer J, Abalos V, Apter D, Martin R, Black A; Global CARE (Contraception: Access, Education) Group. Targeting factors for change: contraceptive counselling and care of female adolescents. *Eur J Contracept Reprod Health Care.* 2016;21:417–430

[29] *World Health Organization. Adolescent Sexual Reproductive Health. 2020. Last Accessed date: January 3, 2020. Available from:* [Internet] https://www.who.int/southeastasia/activities/adolescent-sexual-reproductive-health .

[30] Black A, Guilbert E; Co-Authors, Costescu D, Dunn S, Fisher W, Kives S, Mirosh M, Norman WV, Pymar H, Reid R, Roy G, Varto H, Waddington A, Wagner MS, Whelan AM, Ferguson C, Fortin C, Kielly M, Mansouri S, Todd N; Society of Obstetricians and Gynaecologists of Canada; Special Contributors. Canadian Contraception Consensus (Part 1 of 4) *J Obstet Gynaecol Can.* 2015;37:936–942.

[31] No Authors List. The American College of Obstetricians and Gynecologists. ACOG Committee Opinion: Adolescent Pregnancy, Contraception, and Sexual Activity. 2017;699.

[32] *Faculty of Sexual & Reproductive Healthcare Clinical Guidance. Contraceptive choices for young people. 2019. Last Accessed date: January 5, 2020. Available from:* [Internet] https://www.fsrh.org/standards-andguidance/documents/cec-ceu-guidance-young-people-mar-2010/

[33] No Authors List. Committee on Adolescent Health Care. Committee Opinion No. 710: Counselling adolescents about contraception. *Obstet Gynecol.* 2017;130:74–80.

[34] Curtis KM, Jatlaoui TC, Tepper NK, Zapata LB, Horton LG, Jamieson DJ, Whiteman MK U.S. Selected Practice Recommendations for Contraceptive Use, 2016. *MMWR Recomm Rep.* 2016;65:1–66

[35] *Faculty of Sexual and Reproductive Healthcare. Emergency Contraception March 2017 (Amended December 2017). Last Accessed date: January 5, 2020. Available from:* [Internet] https://www.fsrh.org/standardsand-guidance/current-clinical-guidance/emergency-contraception/

[36] Apter D. Contraception options: Aspects unique to adolescent and young adult. *Best Pract Res Clin Obstet Gynaecol.* 2018;48:115–127.

[37] Black A, Guilbert E, Costescu D, Dunn S, Fisher W, Kives S, Mirosh M, Norman W, Pymar H, Reid R, Roy G, Varto H, Waddington A, Wagner MS, Whelan AM, Mansouri S. Canadian Contraception Consensus (Part 3 of 4): Chapter 7-- Intrauterine Contraception. *J Obstet Gynaecol Can.* 2016;38:182–222.

[38] Teal SB, Romer SE, Goldthwaite LM, Peters MG, Kaplan DW, Sheeder J. Insertion characteristics of intrauterine devices in adolescents and young women: success, ancillary measures, and complications. *Am J Obstet Gynecol.* 2015;213:515.

[39] No Authors List. World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP) KfHP. Family Planning: A Global Handbook for Providers (2018 update).Baltimore and Geneva: *CCP and WHO.* 2018.

[40] No Authors List. World Health Organization. Medical Eligibility Criteria for Contraceptive Use. 5th Edition. *Geneva, Switzerland.* 2015.