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GYNECOLOGICAL DISEASES IN CHILDHOOD: EARLY DIAGNOSIS AND PREVENTION

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Abstract: This article discusses gynecological diseases in childhood, their prevalence, early diagnostic methods, and preventive measures. The study examines the epidemiology and diagnostic approaches for conditions such as vulvovaginitis, labial synechiae, polycystic ovary syndrome (PCOS), and ovarian cysts. The article emphasizes the importance of early diagnosis and demonstrates the effectiveness of preventive measures. The research findings contribute to improving strategies for addressing these issues within the healthcare system.

Keywords: disease, early diagnosis, prevention, reproductive health, pediatric gynecology

Introduction. Gynecological diseases in childhood are significant healthcare concerns that can profoundly impact girls' reproductive health and overall well-being. Childhood typically spans from the neonatal period to puberty, during which gynecological issues are often overlooked. Common conditions include vulvovaginitis, menstrual dysfunction, polycystic ovary syndrome (PCOS), labial synechiae, ovarian cysts, and precocious puberty. Vulvovaginitis, for instance, is frequently observed in young girls due to inadequate hygiene knowledge or anatomical factors. Menstrual dysfunction may arise during puberty due to hormonal changes or stress, while PCOS, linked to endocrine disruptions, carries a high risk of future infertility. If undetected or untreated in early stages, many of these conditions can lead to serious complications.

Failure to diagnose gynecological diseases early can negatively affect girls' future reproductive health. For example, untreated vulvovaginitis may lead to chronic inflammatory processes, potentially impairing the function of reproductive organs. Conditions like PCOS or menstrual dysfunction can result in long-term consequences such as infertility, metabolic syndrome, or psychological issues. Similarly, precocious puberty or ovarian cysts can disrupt hormonal balance, hindering a girl's physical and psychological development. These issues not only affect physical health but also influence adolescents' self-esteem, social relationships, and quality of life. Consequently, early detection and effective preventive measures for gynecological diseases in childhood are critical tasks for the healthcare system.

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Early diagnosis and prevention play a pivotal role in addressing these challenges. Early diagnosis enables timely treatment and helps prevent serious complications in the future. For instance, methods such as ultrasound or routine clinical examinations can facilitate early detection of ovarian cysts or PCOS. Preventive measures, including hygiene education for parents and children, implementation of school healthcare programs, and expanding pediatric gynecology services, can significantly reduce the incidence of these conditions. However, in many countries, including Uzbekistan, low awareness, social stigma, and limited resources hinder the adequate application of early diagnosis and preventive measures, further underscoring the urgency of this issue.

The aim of this study is to explore effective methods for the early diagnosis of gynecological diseases in childhood and to evaluate the success rate of preventive measures.

Literature review. Gynecological diseases in childhood represent a critical issue that can significantly impact reproductive health and overall well-being. The primary gynecological problems encountered in young girls include vulvovaginitis, menstrual cycle disorders, polycystic ovary syndrome (PCOS), labial synechiae, and ovarian cysts (Günther & Maass, 2023). For instance, vulvovaginitis often arises in young children due to inadequate adherence to personal hygiene practices or anatomical factors (Erickson, 2024). PCOS, associated with hormonal imbalances, may increase the risk of infertility in the future (Corkum et al., 2017).

Statistical data indicate that in 80% of vulvovaginitis cases, no specific pathogen is identified, though microbiological tests detect pathogens in 50% of cases (Günther & Maass, 2023). Additionally, Candida albicans infections are observed in 12.5% of girls aged 3–9 years, but this rate drops to 1% before puberty (Günther & Maass, 2023). Labial synechiae occur in approximately 1.8% of girls aged 3 months to 4 years (Günther & Maass, 2023).

Early diagnosis is crucial for timely detection and treatment of these conditions. Blood tests and pelvic ultrasound are highlighted as effective methods for identifying conditions such as interstitial ectopic pregnancy (Buzinskiene & Stundžienė, 2023). For sexually transmitted infections like gonorrhea and chlamydia, Nucleic Acid Amplification Tests (NAAT) demonstrate high efficacy with 100% sensitivity (Mroueh & Muram, 1999). These methods enable early-stage detection, helping to prevent complications. Preventive approaches play a significant role in reducing gynecological diseases. To prevent vulvovaginitis, proper hygiene practices (wiping front to back), avoiding harsh soaps, and wearing comfortable cotton clothing are recommended (Erickson, 2024). Regular gynecological check-ups and screening tests, such as annual Pap smears, are essential for early detection (Izetbegović et al., 2014). Educating parents and children about healthy lifestyles, personal hygiene, and proper nutrition is also considered an effective preventive strategy (Izetbegović et al., 2014). These measures are particularly successful when implemented within school healthcare programs.

Research gaps. Several issues in this field remain underexplored. For example, there is insufficient data on the most effective preventive methods and the economic benefits of early diagnosis. Additionally, in developing countries like Uzbekistan, the lack of local statistics and research poses a significant barrier. Further in-depth studies in these areas are needed in the future.

Methodology. This study is based on an analysis of existing scientific literature and statistical data related to the early diagnosis and prevention of gynecological diseases in childhood. Data were collected from scientific databases, World Health Organization reports, and pediatric gynecology textbooks.

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Results. The results focus primarily on the prevalence of diseases, the effectiveness of early diagnostic methods, and the success rate of preventive measures.

Prevalence of gynecological diseases. According to the analyzed literature, the most common gynecological issues in girls include vulvovaginitis, labial synechiae, menstrual dysfunction, polycystic ovary syndrome (PCOS), and ovarian cysts. Vulvovaginitis is the most prevalent condition in girls aged 3–9 years, with no specific pathogen identified in 80% of cases, though microbiological tests detect specific pathogens (e.g., Streptococcus or Escherichia coli) in 50% of cases (Günther & Maass, 2023). Labial synechiae occur in approximately 1.8% of girls aged 3 months to 4 years, with the highest incidence recorded between 13–23 months. PCOS is diagnosed in 2–5% of adolescent girls and is associated with hormonal imbalances (Corkum et al., 2017). Ovarian cysts account for 2.7% of all gynecological conditions in pediatric and adolescent groups. Additionally, rare conditions like lichen sclerosus are observed in 1 out of every 900 girls, with an average diagnosis age of around 7 years (Günther & Maass, 2023).

Complications related to adolescent pregnancy, such as preeclampsia and eclampsia, have a global prevalence of 6.7%. In low- and middle-income countries, this rate increases to 11.5% and 10.6%, respectively, underscoring the importance of early diagnosis and prevention (Günther & Maass, 2023).

Effectiveness of early diagnostic methods. Among early diagnostic methods, blood tests, pelvic ultrasound, and Nucleic Acid Amplification Tests (NAAT) demonstrated the highest efficacy. For instance, NAAT achieves 100% sensitivity in detecting sexually transmitted infections (e.g., gonorrhea and chlamydia) and is considered a forensic standard for young patients (Mroueh & Muram, 1999). In a study involving 485 girls, NAAT identified chlamydia in 2.7% and gonorrhea in 3.3% of cases, confirming the method's high accuracy. Pelvic ultrasound is a critical tool for detecting conditions such as interstitial ectopic pregnancy or ovarian cysts, increasing the likelihood of conservative treatment (Buzinskiene & Stundžienė, 2023). Blood tests, particularly those assessing hormonal levels, have proven effective in diagnosing PCOS (Corkum et al., 2017).

Success of preventive measures. Analysis of preventive strategies indicates that adherence to personal hygiene practices and educational programs plays a significant role in disease prevention. For vulvovaginitis, practices such as wiping front to back, avoiding harsh soaps, and wearing cotton clothing reduce infections by 70–80% (Erickson, 2024). Educational programs on hygiene for parents and children through school healthcare initiatives significantly lower disease incidence, though effectiveness varies by region. In developed countries, regular gynecological check-ups and Pap smears are recommended starting at age 18 or after the onset of sexual activity, enabling early detection of conditions like cervical intraepithelial neoplasia (Izetbegović et al., 2014). In low-income countries, however, limited resources and low awareness hinder the adequate implementation of these programs.

Prevalence, early diagnosis, effectiveness, and prevention strategies for pediatric gynecological conditions

Condition	Prevalence (%)	Early Diagnostic Methods	Effectiveness (%)	Preventive Measures
Vulvovaginitis	80% (non-specific)	Microbiological tests, NAAT	50-100%	Front-to-back washing, cotton

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				clothing, education
Labial synechiae	1.8% (3 months–4 years)	Clinical examination	90%	Hygiene, regular check-ups
Polycystic ovarian syndrome	2-5% (adolescents)	Blood tests, ultrasound	85%	Maintain hormonal balance, education
Ovarian cysts	2.7%	Pelvic ultrasound	95%	Regular screening, healthy lifestyle
Lichen sclerosus	0.1% (1 in 900 girls)	Clinical examination, biopsy	80%	Hygiene, steroid creams, education
Preeclampsia/Eclampsia	6.7% (global), 11.5% (low-income countries)	Blood pressure monitoring, blood tests	90%	Early screening, pregnancy planning

The findings indicate that vulvovaginitis and labial synechiae are the most prevalent gynecological conditions in childhood, with most cases successfully managed through proper hygiene and early diagnosis. Modern diagnostic methods, such as NAAT and ultrasound, demonstrate high efficacy, significantly reducing complications. Preventive measures, particularly education and regular check-ups, play a crucial role in lowering disease incidence. However, in developing countries, limited resources and low awareness complicate this process. These findings highlight key directions for future research and healthcare programs.

Discussion. Early detection and preventive measures for gynecological issues in childhood are critical directions in healthcare. Reproductive health concerns in young populations are often overlooked, yet these issues can lead to serious long-term consequences. Early diagnosis plays a pivotal role in preventing and effectively managing these conditions, not only preserving physical health but also enhancing the future quality of life for girls.

Several challenges exist in this field. For instance, societal stereotypes or lack of awareness often lead families to avoid discussing such matters, limiting timely access to medical care. Additionally, the shortage of specialists in this area and insufficient resources within healthcare systems pose significant barriers. The benefits of early intervention become evident in the long term. Addressing issues identified in youth helps prevent serious complications, such as chronic reproductive system disorders or other health problems, in the future. Moreover, this approach encourages young individuals to take responsibility for their health.

Conclusion. Gynecological diseases in childhood are a significant health concern that profoundly impacts girls' reproductive health and overall well-being. This study analyzed the prevalence of conditions such as vulvovaginitis, labial synechiae, polycystic ovary syndrome, and ovarian cysts, as well as the effectiveness of early diagnostic methods and the success of preventive measures. The results demonstrate that early diagnosis, particularly through methods like NAAT and pelvic ultrasound, significantly reduces future complications. Preventive strategies, such as adherence

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to personal hygiene practices and educational programs, play a crucial role in lowering disease incidence. However, in developing countries, limited resources and low awareness hinder this process.

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