

GYNECOLOGICAL DISEASES IN ADOLESCENTS

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Abstract

INTRODUCTION: Adolescent genital diseases represent a significant part of the pathology the medical staff in school medical offices is confronted with.

OBJECTIVES: The aim of our study is to evaluate the frequency of gynecological diseases among adolescents in several schools in Timisoara.

MATERIAL AND METHOD: A retrospective study was carried out on a group of 10071 pupils, aged 14-19 years, from three pre-university education units in Timișoara, between 2001 and 2008.

The acute morbidity indicators analysed were: specific morbidity and prevalence of the disease.

RESULTS AND DISCUSSIONS: Specific gynecological morbidity in girls ranged between 14.0% in 2005 and 34.5% in 2002. The incidence of gynecological diseases in the total number of diseases in the special record was between 4% in 2006 and 31, 2% in 2008.

CONCLUSIONS: Genital diseases in adolescents must be identified in order to introduce educational health classes and to prevent complications.

Keywords: **gynecological diseases, adolescent**

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INTRODUCTION

Surveillance of women's health is a key objective of the national health policy and comprises several aspects:

- evaluating the health of the female population
- identifying and monitoring the factors that influence women's health
- improving prophylactic activity through primary prevention [1]

Clinical prevention is based on regular health check-ups which are meant to detect certain diseases that may be present but are not yet symptomatic and which could benefit from early diagnosis and treatment [2].

Puberty represents a critical period in the ontogenetic development, a timeframe in which development of secondary sex characteristics begins and at the end of which the reproductive function should be acquired [3].

The abnormal pubertal development has complex determinism and the precise etiology is important as regards the appropriate therapeutic attitude [3].

The most common genital disorders in girls are: dysmenorrhea and menstrual cycle disorders.

Genital pain can be unrelated to the menstrual cycle, with unilateral or bilateral pelvic pain. They may be associated with an abnormal ovary or an ovarian torsion or cyst [3]. They can be functional (disorders of physiological function having no known organic basis) or organic (due to malformations of the uterus or other genital anatomical structures).

1. Amenorrhea is the most important menstrual disorder due to hormonal deficiency.

It can be:

- Primary amenorrhea, in adolescents under 14 years, with no onset of pubertal development
- Secondary amenorrhea in adolescents under 16 years of age, who have signs of pubertal development but whose menstrual periods were absent for three consecutive cycles (90 days).

The main diagnosis that needs to be taken into consideration in a woman of reproductive age with secondary amenorrhea is pregnancy (physiological amenorrhea).

The most common pathological cause of secondary amenorrhea is polycystic ovary syndrome (chronic anovulation, with estrogen present). [3]

2. Oligomenorrhea is manifested by menstrual periods occurring at 2-3 month interval, with a light menstrual flow.

The causes of these condition can be: stress, depression, pregnancy, medication, female genital tract agenesis.

3. Abnormal uterine bleeding can be defined as:
– regular menstrual cycle with heavy bleeding or a prolonged menstrual period (more than 10 days), or

- irregular menstrual bleeding,
- consistently irregular cycles, shorter than 21 days.

Causes can be represented by retained foreign bodies, trauma, minor trauma during sexual intercourse [4].

4. Dysmenorrhoea, the occurrence of painful hypogastric cramps during menstruation.

It can last from a few hours to 2-3 days, and can be accompanied by: nausea, vomiting, headaches, lumbosacral pain, dizziness.

Primary dysmenorrhea is triggered by an increased prostaglandin synthesis by the endometrium secondary to the low level of progesterone at the end of the menstrual cycle [5].

Secondary dysmenorrhoea is caused by various pelvic abnormalities, and when severe, requires anti-inflammatory therapy and may lead to school absence. [6]

Secondary dysmenorrhoea does not occur with the commencement of menstruation, but after 1 or 2 years, once with the beginning of ovulatory cycles. [5]

Symptoms of dysmenorrhea include collateral abdominal pain, lumbar pain and general symptoms (nausea, vomiting) that may precede menstruation by several days or may accompany it. It occurs with a very high frequency in the 12-19 years age group, accompanied by menstrual cycle disorders. Menstrual pain may occur before the menstrual cycle, that is premenstrual dysmenorrhea, or between menstrual cycles, intermenstrual dysmenorrhea [7,8,9]. Late menstrual onset takes place after the age of 18, following the introduction of hormonal treatment [10,11,12].

Juvenile metrorrhagia is fairly common and can lead to acute anemia.

5. Pelvic inflammatory disease (PID) may occur in young women, after the age of 15 and might infertility in severe cases.

It includes endometritis, salpingitis. [6]

CDC Diagnostic Criteria for the Diagnosis of Pelvic Inflammatory Disease:

major

- lower abdomen tenderness
- uterine/adnexal tenderness
- cervical motion tenderness

minor

- fever
- mucopurulent cervical or vaginal discharge
- elevated erythrocyte sedimentation rate
- elevated C-reactive protein level
- cervical infection with *Neisseria gonorrhoeae*

or *Chlamydia trachomatis*

- leukocytosis
- purulent fluid at culdocentesis [13]

6. Ovarian cysts

– before menarche and in the peri-pubertal stage, the estrogen-secretory tumors can cause an early menarche

– endometrial hyperplasia can lead to menometrorrhagia or juvenile metrorrhagia [14,15]

Other gynecological conditions encountered in adolescents are unilateral or bilateral inflammatory genital diseases, sexually transmitted diseases (gonorrhea, urogenital trichomoniasis, candidiasis, chlamydia, genital herpes, genital warts, vaginitis, AIDS) [11,12].

At a much lower rate, pregnancy also appears in girls aged 16-19.

OBJECTIVES

Morbidity related to gynecological illnesses is quite common among school children, being a reason of concern due to the physical and mental discomfort the adolescents experience and the absenteeism they cause.

Our study aims to evaluate the proportion of gynecological disorders among adolescents and to create a database that provides support educational health programs of prevention and control of acute diseases.

MATERIAL AND METHOD

The group of pupils comprised a total of 10071 students from three pre-university education units in Timișoara between 2001 and 2008, aged 14-19.

The study was a retrospective one and included the acute inflammatory disorders detected at the regular health check-ups, diagnosed following acute on-demand examinations, or identified in the special record of the medical offices in the three schools over the period 2001-2008.

The acute morbidity indicators we used were:

– disease specific morbidity, calculated according to the formula: (Number of new cases of a particular disease identified during a specified period/Total number of children examined) x 100

– prevalence, calculated according to the formula: (the number of cases of a certain disease in a specified time period/ the total number of cases of diseases in a specified time period) x 100

RESULTS AND DISCUSSIONS

Girls constituted 51.5% of the 10071 students in our study (Table 1). Their age distribution is illustrated in Table 2.

Age (years)	Frequency	Percentage
Female	4847	51,5
Male	5224	48,5
Total	10071	100,0

Table 1. Gender distribution of the students aged 14-19

Age (years)	Frequency	Percentage
14	401	0,4
15	2540	14,0
16	2402	28,6
17	2652	28,4
18	1876	20,6
19	200	7,2
Total	10071	100,0

Table 2. Age distribution of the students

Disease specific morbidity of gynecological diseases in girls, resulted after dividing the new cases of illness to the total number of children surveyed (Figure 3), was between 14.0% in 2005 and 34.5% in 2002.

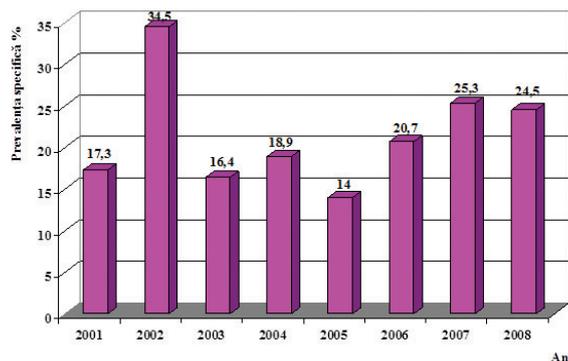


Figure 1. Specific prevalence in gynecological disorders during 2001-2008

Age (years)	Number of cases of gynecological diseases (2001-2008)							
	2001 Number %	2002 Number %	2003 Number %	2004 Number %	2005 Number %	2006 Number %	2007 Number %	2008 Number %
14	69 18,20	78 18,57	58 19,59	83 20,00	91 22,58	61 22,76	107 27,08	102 28,81
15	53 13,98	63 15,00	56 18,91	72 17,34	80 19,85	63 23,50	63 15,94	56 15,81
16	41 10,81	35 8,33	43 14,52	31 7,46	43 10,66	39 14,55	49 12,40	91 25,70
17	36 9,49	29 6,90	21 7,09	25 6,02	31 7,69	36 13,43	65 16,45	17 4,80
18	87 22,95	68 16,19	49 16,55	56 13,49	95 23,57	29 10,82	72 18,22	23 6,49
19	93 24,53	147 35,00	69 23,31	148 35,66	63 15,63	40 14,92	39 9,87	65 18,36
Total	379 100,00	420 100,00	296 100,00	415 100,00	403 100,00	268 100,00	395 100,00	354 100,00

Table 3. Time distribution of cases of gynecological diseases in girls aged 14-19

The dynamics of gynecological diseases in girls, according to the age group, is presented in Table 3; a minimum noticed in 2003 and 2006 and a peak in 2002, 2004 and 2005, with no plausible explanation for this phenomenon.

In the 16-17 years age group, the prevalence of acute affections in our study is lower, probably due to a lower addressability at the school medical office.

As regards the prevalence of gynecological diseases in the total of diseases in the special record, it varied between 4% in 2006 and 31,2% in 2008 (Figure 2)

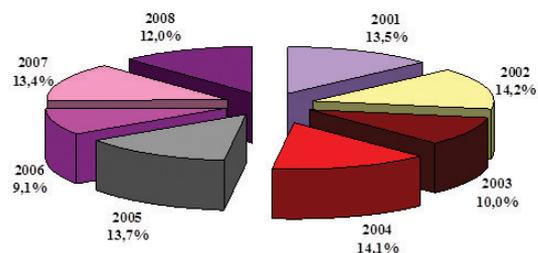


Figure 2. The prevalence of gynecological diseases in girls aged 14-19 years, by years of Study

The age group distribution revealed a higher prevalence among 18-19 year old girls and a lower one among the 14-15 year olds, between 2001-2005; in 2006-2008, however, the situation was reversed:

24.5% versus 9, 4% in 2001; 35.0% versus 6.9% in 2002; 23.3% versus 7.0% in 2003; 35.6% versus 6.0% in 2004; 23.5% vs. 7.6% in 2005; 23.5% versus 10.8% in 2006; 27.0% versus 9.8% in 2007; 28.8% versus 4.8% in 2008 (Figure 3)

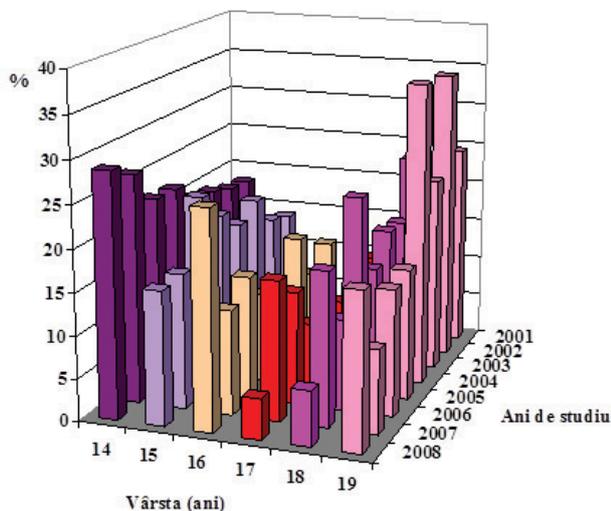


Figure 3. Percentage distribution of cases of gynecological diseases in girls aged 14-19, according to years of study and ages

CONCLUSIONS

During the defined time period, the prevalence of the gynecological diseases within the study group varied between 4% and 31%.

These disorders can determine both physical and mental discomfort, which can lead to school absenteeism; it is therefore important for them to be identified and properly treated.

Health education plays an essential role in secondary prevention of these conditions.

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