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Original Article

CLINICAL PROFILE OF ADOLESCENT GIRLS WITH GYNAECOLOGICAL PROBLEMS IN RURAL SOUTH INDIA

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ABSTRACT

Objective: The purpose of the six months observational study is to evaluate the gynaecological problems of the adolescent girls, attending the gynaecological outpatient department of a secondary care referral healthcare facility in rural south India.

Methods: After ethical clearance, adolescent girls in the age group of 10-19 y having gynaecological problems, who had experienced at least 3 consecutive menstrual cycles, and who showed willingness towards study were included; and adolescent girls in 10-19 y age group having a pregnancy and its complications were excluded.

Results: Out of 161 adolescent girls, 46.01% belong to late adolescence with more distribution of gynaecological problems. The gynaecological problems majorly observed were menstrual disorder 59.63%, abdominal pain (11.18%), white discharge per vagina (9.94%), and 8.07% of heavy menstrual bleeding. The menstrual disorder complained with amenorrhea 40.63%, polymenorrhea 18.75%, and menorrhagia 16.67%. In our study, 26.09% and 32.3% of adolescent girls were anaemic and underweight, respectively.

Conclusion: In conclusion, our study showcased evidently that young adolescent girls are at higher risk of both gynaecological problems and menses disorders in the rural setting; for whom more amount of awareness to be parented and education of menstrual hygiene and hemodynamic effects has to be culminated through health education, for a future healthier nation.

Keywords: Adolescence gynaecology, Amenorrhea, Anaemia, Rural care

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INTRODUCTION

WHO defines adolescent as an individual in the age group 10-19 y [1]. The Gynaecological problems of adolescents are unique, special, and specific for the age group [2]. Failure to diagnose and treat conditions like congenital defects, neglected infections acquired in childhood, endocrinopathies, the physical and psychological trauma of sexual abuse and tumours can cast their shadow on the future reproductive health of the individual [3]. Various adolescent gynaecological problems are menstrual disorders like abnormal uterine bleeding, primary amenorrhoea, PCOD, puberty menorrhagia leading to severe anaemia, sexual abuse, pregnancy related problems, adnexial masses, endocrinopathies [4]. Adolescent girls with puberty menorrhagia need to be investigated for coagulation disorders. The most common coagulation abnormality diagnosed was idiopathic thrombocytopenic purpura, followed by von Willebrand disease [4]. Endocrine dysfunctions like hypothyroidism, hyperprolactinemia can cause amenorrhea or irregular bleeding. Infections like tuberculous endometritis can present primary amenorrhoea. About 40-50% suffer with dysmenorrhea of varying severity ranging from minimal discomfort to severe pelvic pain with headache, nausea and vomiting, diarrhoea or constipation, fainting, premenstrual symptoms such as tender breasts and swollen abdomen, which may continue throughout the period [5]. Dysmenorrhea is a very common problem among adolescent girls, studies from India reported the prevalence range between 50 to 87.8% [6], and another study in 1648 adolescent girls in selected districts of Karnataka, the incidence of dysmenorrhea was found to be 87% [7]. Sexual abuse of adolescent girls will have a profound and potentially lifelong psychological effect. Unprotected coitus, sex abuse, and repeated unsafe abortions have increased the rate of pelvic inflammatory disease (PID) and ectopic pregnancies. Women survivors of childhood sexual abuse are at risk for early unplanned pregnancy, sexually transmitted diseases (STDs), prostitution, further sexual abuse (re-victimization), antisocial behaviour, running away from home, lying, stealing, eating disorders and obesity, and multiple somatic symptoms [8]. They are more likely to engage in health-risk behaviors such as smoking, substance abuse, and early sexual activity with multiple partners. Adolescents may present with pelvic masses like functional ovarian cyst, obstructing vaginal/uterine anomalies: ovarian tumour tubercular mass, pelvic kidney. In adolescents, most commonly are functional or benign neoplastic ovarian masses, Mature cystic teratoma is the most frequent neoplastic tumour of children and adolescents [9]. The primary diagnostic technique for evaluating pelvic masses in adolescents is ultrasonography (or) if the results of the ultrasonography examination are inconclusive, CT or MRI [9]. Obstructive genital anomalies like imperforate hymen to transverse vaginal septa vaginal agenesis present with primary amenorrhea and pelvic mass. PCOD, obesity, endocrinopathies are increasing in incidence in the adolescent age group due to changes in lifestyle patterns, sedentary life, faulty eating habits [10].

Gynaecological problems of adolescents occupy a special space in the spectrum of gynaecological disorders of all ages. This is because of the physical nature of the problems which are so unique, special, and specific for the age group, and also because of the associated and psychological factors which are very important in the growth and psychological remodeling of someone in the transition between childhood and womanhood [1].

Adolescent gynaecology is a subspecialized area of gynaecology which has still not been explored optimally in rural parts of India. The purpose of the study is to evaluate the gynaecological problems of the adolescent girls, attending the gynaecological outpatient department (OPD) of a secondary care referral healthcare facility in rural south India.

MATERIALS AND METHODS

The current prospective, observational and descriptive study carried at a 340 bedded secondary care referral healthcare setting in the outpatient department of obstetrics and gynaecology, for a period of six months of a rural and resource limited background of Andhra Pradesh., India. A structured process was followed for obtaining permission from hospital authority by submitting detailed Pro-forma of the study, which includes a protocol of the study, evidence of critically evaluated biomedical literature, data collection form, patient informed consent form. After the initial acceptance from the hospital, the study was registered in the institutional review board (IRB) of the institution for ethical approval (RIPER/IRB/ PP/2019/018). Adolescent girls in the age group of 10-19 y having gynecological problems, who had experienced at least 3 consecutive menstrual cycles, and who showed willingness towards study were included; and adolescent girls in 10-19 y age group having a pregnancy and its complications were excluded. A documentation from (data collection form) was designed to collect the patient's information, which was kept confidential, the information from patients was collected only after explaining the merits and demerits of the study and obtaining their consent for which an informed consent form was designed separately. Following which a detailed history was taken and examination was carried out in each patient maintaining privacy, confidentiality and non-judgmental attitude. Thorough gentle general examination including height, weight, built, pallor, edema, secondary sexual characters, hair distribution, followed by a systemic examination, was done. Local genital examination was done in relevant cases by inspection of labia, condition of the hymen. Per speculum and per vaginal examinations were not done in adolescent girls who were not sexually active. Per-rectal examination was done as and when required. Patients were subjected to routine investigations and specific investigations (such as hormonal assessment, ultrasonography, MRI, CT scan etc) were done as and when indicated.

RESULTS

The study was based on evaluating the gynaecological problems in 161 adolescent girls regularly visiting the outpatient department of obstetrics and gynaecology of a secondary referral healthcare setting in a rural, resource-limited background of India.

Demographic details of study participants

As per WHO [11] classification on adolescent age group, out of 161 participants, early adolescence were 32 (19.86%), middle adolescence 54 (33.54%), and late adolescence 75 (46.01%); results of which are summarized in table 1.

Table 1: Demographic details of study participants

WHO classification of adolescent age groups	Age (years)	Study participants (N=161)
Early adolescence	10-14	32 (19.88%)
Middle adolescence	15-17	54 (33.54%)
Late adolescence	18-21	75 (46.58%)

Distribution of gynecological problems

Out of 161 cases of gynecological problems observed, the majority were having menstrual disorders 96 (59.63%) in which mostly late-adolescent girls were comparatively high 49 (51.04%); results of which are summarized in table 2.

Distribution of menstrual disorder

In our study 96 (59.63%) patients were having menstrual disorder; distributed as amenorrhea 39 (40.63%), polymenorrhea 18 (18.75%), menorrhagia 16 (16.67%); generally, late adolescence age group of girls were observed to suffer the majority of menstrual disorder 49 (51.04%), results of which are presented in table 3.

Distribution of body mass index (BMI)

According to the National Heart, Lung, and Blood Institute (NHLBI) [12], BMI is calculated as weight in kilograms divided by the square of the height in meters (kg/m2) and is categorized into four groups according to the conventional WHO classification [12] and it was observed that 48.45% of girls were in normal weight ranges, 32.3% were underweight, and 5.6% of adolescent girls were having morbid obesity, results are summarized in table 4.

Table 2: Distribution of gynaecological problems

Gynecological problems	Age group and distribution (in years)			Study participants (N=161)
	Early adolescence (10-14)	Middle adolescence (15-17)	Late adolescence (18-21)	
Menstrual disorder	16	31	49	96 (59.63%)
Abdominal pain	6	6	6	18 (11.18%)
WDPV	4	8	4	16 (9.94%)
Heavy menstrual bleeding	3	3	7	13 (8.07%)
PCOD	0	1	4	5 (3.16%)
Right/left ovarian cystectomy	0	5	1	6 (3.73%)
Urine infection	3	0	4	7(4.35%)
Total	32	54	75	161

Table 3: Distribution of menstrual disorder

Menstrual disorder	Age group and distribution (in years)			Study participants (N=96)
	Early adolescence (10-14)	Middle adolescence (15-17)	Late adolescence (18-21)	
Amenorrhea	7	13	19	39 (40.63%)
Dysmenorrhea	2	3	8	13 (13.54%)
Irregular cycles				
Polymenorrhea	2	7	9	18 (18.75%)
Oligomenorrhea	0	4	4	8 (8.33%)
Menorrhagia	5	4	7	16 (16.67%)
Hypomenorrhea	0	0	2	2 (2.08%)
Total	16	31	49	96

Table 4: Distribution of body mass index (BMI)

WHO BMI (kg/m²)	Age group and distribution (in years)			Study participants (N=161)
	Early adolescence (10-14)	Middle adolescence (15-17)	Late adolescence (18-21)	
Underweight (<18.5)	13	16	23	52 (32.30%)
Normal (18.5-24.9)	10	29	39	78 (48.45%)
Overweight (25-29.9)	6	8	8	22 (13.66%)
Obese>	4	2	3	9 (5.6%)
Total	33	55	73	161

Classification of study subjects based on grading of anemia

According to the WHO adolescent age group is defined as a life span between 10-19 y [13]. Nutritional requirements during the adolescent age group are generally ignored, leading to stunting and poor health, and anaemia. Anaemia is the most common nutritional disorder worldwide. In our study, 73.91% of adolescent girls were having a normal haemoglobin level and 26.09% were anaemic; out of which moderate anaemic and mild anaemic were 16.77% and 9.32% respectively; results are summarized in table 5.

Table 5: Classification of study subjects based on grading of anaemia

Grading of anaemia (Hb in gm/dl)	Age group and distribution (in years)			Study participants (N=161)
	Early adolescence (10-14)	Middle adolescence (15-17)	Late adolescence (18-21)	
Normal (Hb>12)	27	44	48	119 (73.91%)
Anaemic (Hb<12 gm)				
Mild anaemia (11-11.9)	4	8	15	27 (16.77%)
Moderate anaemia (8-10.9)	1	3	11	15 (9.32%)
Total	5	11	26	42 (26.09%)

DISCUSSION

Adolescents comprise nearly one-fifth (22%) of India's total population [14], and adolescents constitute over 21.4 % of the population in India [15].

In our study of 161 participants, late adolescence girls 46.58% was more in comparison to early and middle adolescence girls, observation of which are controversial as several studies noted that earlier adolescents [16] and middle adolescent girls are the majority population [17,18]. Out of 161 cases of gynaecological problems observed in our study, majority were having menstrual disorders 96 (59.62%), findings of which are similar to studies 95.8% [17], 60% [18], 84.88% [19], and 62.05% [20]. Furthermore, late-adolescent girls were comparatively having more gynecological problems 46.58% in comparison to middle and early adolescent girls, results of which are dissimilar other studies [18, 21].

The menstrual disorder suffering adolescent girls, included amenorrhea (40.63%), polymenorrhea (18.75%), menorrhagia (16.67%), dysmenorrhea (13.54%), oligomenorrhea (8.3%), and hypomenorrhea (2.08%). In 13 adolescent girls with heavy uterine bleeding, 46.15% required further hospitalization for correction of anemia and management of menorrhagia [22]. Out of the 16 girls, 18.75% puberty menorrhagia was observed in age group of 10-14 y, and 25% girls were above 14 y of age; and 12.5% girls had onset of menorrhagia within 6 mo of menarche [23], and hypothyroidism was observed in 18.75% of adolescent girls comparable to other Indian studies [25-27]. Our study observed 5 (3.16%) of PCOD diagnosed girls alike other studies [1, 24].

In our study, 27 (16.77%) of adolescent girls had haemoglobin levels 11-11.9 g/dl (mild anaemia); and 15 (9.32%) of adolescent girls had haemoglobin level 8-10.9 g/dl (moderate anaemia) respectively [25]. In the present study, underweight adolescent girls with low BMI were 32.30%, comparatively lower than other Indian study [18]. According to the American Academy of family physicians, lower the BMI results in an increased risk of malnutrition, fragile bones, a weakened immune system, anemia, hair loss, dry skin and infertility, cardiac problems. Anemia and malnutrition are responsible for menstrual problems like oligomenorrhoea and hypomenorrhea [28].

CONCLUSION

In conclusion, our study showcased evidently that young adolescent girls are at higher risk of both gynecological problems and menses disorders in the rural setting; for whom more amount of awareness to be parented and education of menstrual hygiene and haemodynamic effects has to be culminated through health education, for a future healthier nation.

LIMITATIONS

Sample loss and self-selection, due to adolescent girls' unwillingness to undergo a clinical examination and under-reporting of gynaecological problems; was the directly observed limitation of the current study.

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ETHICAL APPROVAL

The study was approved by the institutional ethics committee.

ABBREVIATION

WHO: World Health Organization; PID: Pelvic Inflammatory Disease; STDs: Sexually Transmitted Diseases; CT: Computed Axial Tomography; MRI: Magnetic Resonance Imaging; PCOD: Polycystic Ovary Disease; OPD: Outpatient Department; IRB: Institutional Review Board; IEC: Institutional Ethics Committee; WDPV: White Discharge per Vagina; BMI: Body Mass Index; NHLBI: National Heart, Lung, and Blood Institute.

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Nil

AUTHORS CONTRIBUTIONS

Mohanraj Rathinavelu and Mekala Jyothi Suchitra contributed made a contribution towards concept and design of the study, Nulakathati Vani and Thippeswamy Ramya contributed for the acquisition of data, further Nulakathati Vani and Nishadham Sravani towards data analysis and interpretation, of data; Mohanraj Rathinavelu and Nulakathati Vani made a contribution towards drafting the article or revising it critically for important intellectual content.

CONFLICT OF INTERESTS

Declared none

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