

**ADOLESCENT GYNAECOLOGICAL PROBLEMS
– A PROSPECTIVE STUDY**

Dissertation submitted for

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CERTIFICATE

This is to certify that the dissertation entitled **“ADOLESCENT GYNAECOLOGICAL PROBLEMS – A PROSPECTIVE STUDY”** is the bonafide original work of **Dr. P. GNANAMBAL** in partial fulfillment of the requirement of the Tamilnadu Dr. M.G.R. Medical University to be held in March 2008. The period of study was from Jan 2006 to Aug 2007.

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1. INTRODUCTION

Adolescent is derived from latin word Adolescence – meaning to grow to maturity and in a broader sense includes physical, mental, social and emotional maturity.

Adolescents live in a new world between childhood and adulthood, now facing this and then the other not sure of which group to fit in. They are in search of an identity in a predominant adult world.

Adolescent girls make up to 10% of total population (sheil and Turner 1996) and 20% of female population (adolescent population projection 1996) and have a wide spectrum of gynaecological and obstetric problems.

The year 1991 was declared as “THE YEAR OF THE ADOLESCENT GIRL” by the Federation of obstetric and Gynecologic society of India. The goal was to highlight and address the special needs of this vulnerable, yet silent group and to promote education and empowerment.

In the majority of Indian societies, this is all the more difficult, because the female fetuses, infants and girls are discriminated and receive step motherly treatment in nutrition. The best food goes to the father and sons and what is left is shared by mother and daughters. So, nutrition and health care of the women should start atleast at the age of ten, which will lead to safe motherhood and reduced maternal mortality and morbidity.

Adolescent period is characterized by its own set of specific gynaecological problems ranging from mullerian anomalies, inflammatory genital tract disease, pelvic tumours, abnormal sexual development, pelvic pain to abnormal uterine bleeding and obstetric problems like unwanted pregnancies, Ectopic, Pregnancy, molar pregnancy etc. This big spectrum of problem remits a formidable challenge to the consultants in the field of obstetrics and Gynecology.

2. AIM OF THE STUDY

- To study the incidence of the gynaecological problems of adolescent girls attending Govt. RSRM Hospital OPD attached to Stanley Medical College.
- To know the incidence of gynaecological disorders in adolescent inpatients.
- To study the mode of management of various gynecological disorders among adolescent girls.

3. REVIEW OF LITERATURE

Adolescent girls make up to 10% of total population (sheil & turner 1996) and 20% of female population (adolescent population projection 1996).

The nineties witnessed rapid increase in the adolescent population, which will grow further in the next two decades.

Government of India has already started concentrating on the health care of adolescents as well.

Health care for Adolescents

9th plan Strategy

- Efforts to educate the girl, her parents and the community to delay marriage. (Suitable age being 21 years)
- Programmes for early detection and effective management of nutritional (malnutrition, anaemia) and health (infection, menstrual).
- Appropriate antenatal care, for all high risk adolescent pregnant girls.
- Inter – sectoral coordination with ICDS is being strengthened in blocks, where ICDS centres have adolescent care programmes.

For taking care of the health of adolescent girls, government has started providing supplemental iron for the adolescent girls to correct anaemia from the beginning as early marriages are very rampant in our society.

OTHER STUDIES

1. A profile of adolescent girls with gynecological problems (2004)

Author – Goswami Sebanti, Dutta Rekha, Sengupta Sibani

Department of O&G, Medical College and Hospital, Kolkata.

Objectives : To study the gynaecological problem of adolescents

Method : 124 adolescents attending the gynaecology OPD were included in the study detailed History & examination done. Necessary investigations done.

Results

- Menstrual disorders were the commonest gynecological problem (58.06%).
- AUB was the commonest menstrual disorders (32.46%) followed by amenorrhoea (29.16%).
- Upto 90% patients, excessive bleeding was due to DUB.
- In amenorrhoea, secondary amenorrhea is the more common (61.90%) than primary amenorrhea (38.09%)
- In most of the patients, secondary amenorrhoea is due to PCOD (76.92%)

2. Epidemiology of adolescent dysmenorrhoea

Author – Klein JR, Litt IF

Paediatrics 1981, Nov ; 68(5) 661-4

Incidence of dysmenorrhoea – 59.7%

3. Bombay Hospital Journal / 2005, July

In cases of puberty menorrhagia, 2.20% is due to blood dyscrasias, most common being Acute Lymphatic leukemia.

Conclusion : Though rare, Leukemia & other coagulation disorders should be kept in mind while evaluating a case of puberty menorrhagia

4. Study of menstrual problems in Adolescents

Almur – Debra A. Munraj, 2000

- Incidence of menstrual problems – 50% in adolescents

DEFINITION OF ADOLESCENCE

Although WHO considers adolescence as a period between 10 to 20 yrs, the physical and emotional changes start earlier and continue to a much later age.

Puberty is the period of adolescence. Menarche is a hall mark in the life of most adolescent girls marking the transition from childhood to puberty. During puberty, physiological changes result in the development of secondary sexual

characteristics and the ability of the girl to undertake reproductive function (Chamberlain 1995).

During adolescence, growth of all systems – skeletal, muscular and endocrine occurs. There is marked acceleration in size and contour of the body. Major changes in the body are accompanied by mental and psychological alterations as well.

Normally puberty starts by the age of 8-12 yrs in Indian girls and development of secondary sexual characteristics are completed in 3-4 yrs.

Adolescence can be divided into three subphases :

- a) Early adolescence (10-14 yrs) : Characterised by onset of puberty and transition out of childhood.
- b) Middle adolescence : Identification with group, indicated by wearing of particular clothing, listening to same music, adopting similar verbal phrases.
- c) Late adolescence : Transition into adult roles indicated by responsible and mature approach to one's personal and intimate relationships.

PHYSICAL CHANGES AT PUBERTY EVENTS

(Chamberlain 1995, Shah 1991, Turner 1997)

Biologic changes hall mark the beginning of adolescence.

PHYSICAL FEATURES	AGE RANGE (YRS)
Thelarche	8-13
Pubic hair	9-13
Axillary hair	10-14
Growth in height	10-14
Menarche	11-15 (mean 12.9)

The order of appearance is variable. In 50% thelarche is the first sign, followed by pubarche a year later along with growth spurt.

Menstruation commences usually after the maximum growth spurt (6-11 cm per year) There is a relationship between skeletal maturity and onset of menstruation. It is unusual for menstruation to begin before the bone age of 12.5 yrs or after 14.5 yrs (sheil and turner 1997)

TANNER STAGING OR SEXUAL MATURATION RATING (SMR)

In late 1960s, Marshall and Tanner's study identified the mean ages at which the significant events of puberty occurred, the sequence of changes being originally referred

to as Tanner stages but now called sexual maturation ratings (SMR). Changes in breast as well as in pubic hair were described through five stages.

	Breast	Pubic hair
SMR 1	Elevation of Papilla only prepubertal.	No pubic hair prepubertal.
SMR 2	Elevation of breast and papilla as small mound, areola diameter enlarged.	Sparse long pigmented hair chiefly among labia majora.
	Peak height velocity	
SMR 3	Further enlargement without separation of breast and areola	Dark coarse curled hair sparsely spread over mons
SMR 4	Secondary mound of areola and papilla above breast	Adult type hair abundant but limited to mons.
SMR 5	Recession of areola to the contour of breast	Adult type spread in quantity & distribution.
	Associated with Menarche	

HORMONAL CHANGES

GONADOSTAT PRINCIPLE

The female child is capable of reproductive function right from infancy but hypothalamus and brain suppress this function through gonado stat till requisite physical development is achieved.

EVENTS

The pituitary gonadal system differentiates and functions during fetal life and early infancy (Speroff, 1999).

Thereafter it is suppressed to low activity levels during childhood by combination of hypersensitivity to estrogen Negative feedback and an intrinsic central inhibitor.

After a decade of functional GnRH insufficiency, GnRH secretion is resumed and gonarche is achieved. A fat derived hormone 'Leptin' signals the brain to initiate pubertal changes.

ENDOCRINE CHANGES

FSH and then LH levels rise moderately before the age of ten and are followed by a rise in Estradiol. Nocturnal LH pulses seen during sleep gradually extend throughout the day (Adults – pulses at 1.5 – 2.0 intervals)

Gonadal Estrogen rises (Gonadarche) and leads to breast development, female fat distribution and uterovaginal growth. Skeletal growth increases as a result of estrogen, which increases growth hormone and IGF I. Adrenal androgen (Adrenarche) and gonadal androgen secretion causes pubic and axillary hair growth. At mid puberty sufficient gonadal Estrogen secretion proliferates the endometrium and first menses (menarche) occurs.

Initially menstrual cycles are anovulatory. Sustained, predictable and positive LH surge response to estradiol are late pubertal events.

PUBERTY AND ITS DISORDERS

Pubertal development is dependent on the integrity of each complex component, which regulates the hypothalamic pituitary ovarian axis.

PRECOCIOUS PUBERTY

It is the appearance of pubertal changes before the age of 8 years. It can be divided into : (William's Book of Endocrinology)

I. GnRH – Dependent (True, Central, complete precocity)

Idiopathic – 74%

CNS Problem – 7.0%

- Tumours
- Encephalitis, meningitis, hydrocephalus
- Von Reckling Hausen Disease, Hemartoma, Head Injury

II. GnRH – Independent (pseudo, Incomplete, Heterosexual & peripheral precocity)

- i) Ovarian cyst or tumour – 11.0%
 - Granulosa cell tumour – 5%
 - Theca Cell – 1%
 - Gonadoblastoma, teratoma,
 - Lipoid cell tumour,
 - Cystadenoma – 5%

- ii) Mccune Albright Syndrome – 5%
 - Multiple disseminated cystic bone lesions ;

 - Café au lait spots ; first premature menarche ; Tc 99 – fibrous dysplasia ; Ht – normal, fertility – normal

- iii) Adrenal masculinising tumours – 1.0%
- iv) Adrenal feminizing tumours – 1.0%
- v) Ectopic gonadotrophin secreting tumour – 0.5%

DELAYED PUBERTY

Patients not developing signs of puberty by age of 17 yrs are likely to have specific problem and not physiological delay of puberty.

- i) Hypergonadotrophic hypogonadism – 43.0%
 - Ovarian failure, abnormal Karyotype – 26.0 %
 - Ovarian failure, normal Karyotype – 17.0%
 - Sickle cell disease, premature ovarian failure, 17 hydroxylase deficiency

- ii) Hypogonadotrophic hypogonadism (spheroff – 1994) – 31.0%

REVERSIBLE

- Physiological delay – 18.0%
- Weight loss / anorexia – 10.0%
- Primary hypothyroidism, congenital adrenal hyperplasia, cushing's syndrome – 3.0%
- Prolactinoma – 5.0%

IRREVERSIBLE

- GnRH deficiency - 13.0%
- Hypopituitarism - 7.0%
- Congenital CNS defects, pituitary adenomas – 2.0%
- Craniopharyngioma, malignant pituitary tumours – 3.0%

EUGONADISM

- Mullerian agenesis - 26.0%
- Vaginal Septum - 14.0%
- Imperforate hymen, Androgen insensitivity Syndrome – 1.5%
- Inappropriate positive feedback – 7.0%

AMENORRHOEA IN ADOLESCENTS

Normal menarche requires an integration of hypothalamus, pituitary, ovary and uterus and a patent effluent tract for normal bleeding. Aberrations in any of these will result in failure of sexual maturation or absence of menarche.

PRIMARY AMENORRHOEA (Spheroff, 1994)

Absence of menses by 16 yrs of age regardless of the presence of normal growth and secondary sexual characters or by 14 years in the absence of growth or development of secondary sexual characteristics.

SECONDARY AMENORRHOEA (Spheroff, 1994)

Absence of menstruation for a length of time equivalent to a total of at least 3 previous menstrual cycles length or 6 months in a patient, who has had menses before.

CLASSIFICATION

I. Amenorrhoea associated with normal secondary sexual characteristics and Anatomical Abnormalities.

- Mullerian abnormalities
- Imperforate hymen
- Vaginal Septum
- Mayer kustner Hauser syndrome

- True hermaphrodites
- Androgen insensitivity syndrome
- Absent endometrium
- Prior uterine surgery / cervical surgery infection, PID, Koch's, schistosomiasis.

II. Amenorrhoea associated with lack of secondary sexual characters & uterus absent.

- 5 – reductase deficiency
- 17, 20 desmolase deficiency
- 17 α hydroxylase deficiency

III. Amenorrhoea associated with lack of secondary sexual characters & uterus present.

i) Hypogonadotrophic Hypgonadism

- Hypothalamic dysfunction
- Pituitary dysfunction
- Intracranial lesion

ii) Hypergonadotrophic hypogonadism

- premature ovarian failure
- Resistant ovary syndrome
- Gonadal agenesis
- Sex chromosome mosaicism

- Partial deletion of X-chromosome
- Environmental & therapeutic toxins
- Galactosemia

INTERSEX

These patients present in the out patient department for ambiguous genitalia, or inguinal hernia or primary amenorrhoea.

AMBIGUOUS GENITALIA is defined as any external genitalia that does not clearly look like either a boy with a normal phallus and palpable testes or a normal girl with unfused vaginal orifice and absence of enlarged phallic structures.

In female pseudo hermaphroditism, the person has normal xx chromosomes, normal ovaries, normal mullerian ducts but abnormalities of urogenital sinus and external genitalia are present due to exposure to excess androgens.

- i) congenital adrenal hyperplasia =>
 - 21 α hydroxylase deficiency,
 - 11 β hydroxylase deficiency
 - 17 α hydroxylase deficiency

- ii) virilisation due to maternal androgens

In male pseudohermaphroditism, the person has xy chromosomes, testicular gonads, absence of mullerian duct system and presence of female external genitalia

CAUSES

- i) testicular feminizing syndrome.
- ii) 5α reductase deficiency

A true hermaphrodite has both testicular and ovarian tissue.

DISTURBANCES OF MENSTRUATION IN ADOLESCENTS

Abnormal uterine bleeding accounts for approximately 50% of gynaecological visits (caufriz, 1991). These complaints encompass disorders ranging from minimal spotting to profuse bleeding. Most are easily treated in outpatient department. Few patients require hospitalization because of profuse bleeding hypovolemia and or severe anaemia.

80% of adolescents have anovulatory cycles during the first year of menarche due to the immaturity of hypothalamic – pituitary ovarian axis.

In ovulatory cycles, intervals range from 28 ± 7 days and menses last for 4 ± 2 days. The total blood loss in each cycle is approximately 40 ± 20 ml.

The menstrual cycle is divided into the proliferative and secretory phase with the latter being more consistent in duration.

Abnormal bleeding occurs, when the cycle length, the amount of bleeding or duration of bleeding varies from the normal. The definitions of abnormal uterine bleeding are.

Oligomenorrhoea – Intermenstrual interval > 35 days

Polymenorrhoea – Menses < 21 days

Hypermenorrhoea – Regular menses > 7 days in duration.

Menorrhagia – Menses > 80 ml

Metrorrhagia – menses in between periods < 7 days in duration.

TYPES OF MENSTRUAL DISORDERS

1. Dysmenorrhoea

2. Irregular Menstrual cycles

- a) Oligomenorrhoea
- b) Polymenorrhoea

3. Menorrhagia

Adolescents make 10-25% of female population and have various menstrual disturbances in 75% of patients (sheil and Turner 1996).

Dysmenorrhoea is the commonest complaint in adolescents having menstrual disorders. (Dickers).

DYSMENORRHOEA

- Most common complaint in adolescents having menstrual disorders.
- Two types – Primary & Secondary

<u>Features</u>	<u>Primary</u>	<u>Secondary</u>
Onset	First day of menses	Prior to menses
Duration	12-24 hrs	Throughout menses
Ovulation	Present	May be absent
Severe	5-10%	Not so Severe
Pathology	Usually absent	Uterine / pelvic pathology

IRREGULAR MENSTRUAL CYCLES

45% of adolescent girls have no ovulation after 1-2 yrs leading to irregular cycles – oligomenorrhoea, polymenorrhoea (sheil and tumer 1996).

OLIGOMENORRHOEA

Causes

1. Emotional Stress
2. Acute weight loss

3. Excessive exercise
4. Anorexia Nervosa
5. Recent discontinuation of OCP
6. Pituitary adenomas
7. Abnormal thyroid function
8. PCOD
9. Adrenal pathology

POLYMENORRHOEA

Less common complaint.

Usually caused by luteal phase defects.

MENORRHAGIA

Anovulation is the commonest cause of menorrhagia in adolescents. Causes of menorrhagia are DUB in 74% patients, primary coagulation disorder in 19% and infective pathology (endometritis) and others in 7%.

Explanation and reassurance form the backbone of therapy in adolescent girls with menstrual disturbance.

Pregnancy complications should always be considered in a young woman with abnormal uterine bleeding until proven otherwise, as bleeding in those

individuals may be caused by threatened abortions, incomplete abortion, molar or ectopic pregnancy.

Flacone et al., in 1994 found that 4.9% admissions were secondary to coagulopathy. The most common coagulation disorders are idiopathic thrombocytopenic purpura, von willebrand's disease, leukemia and platelet dysfunctions.

Adolescents with cervicitis, particularly chlamydial cervicitis can present with irregular bleeding or post-coital spotting. condyloma, cervical polyps, vaginitis, foreign body and genital tract malignancies have to be ruled out.

POLYCYSTIC OVARIAN SYNDROME IN

ADOLESCENT GIRLS

PCOS is an endocrinopathy. It is associated with androgen secretion, hirsutism, menstrual irregularities and infertility. It has its origin in adolescence. The key features include insulin resistance, androgen excess and abnormal gonadotrophin level especially LH.

DIAGNOSIS

- Presence of hyperandrogenism
- Anovulation
- Pattern of hair distribution
- Neck, axilla, groin for acanthosis nigricans
- Koskinre et al., (1996) demonstrated that increased LH : FSH with elevated androstenedione level yielded, greatest diagnostic sensitivity and specificity.
- USG – Multiple subcapsular follicles and increased central stroma.

Health Issues

- Cardio vascular risk factors
- Impaired glucose tolerance
- Diabetes
- Hyperlipidemia, Hypertension, obesity.
- Endometrial hyperplasia and cancer

PELVIC INFLAMMATORY DISEASE AND SEXUALLY TRANSMITTED DISEASES

In recent years, with increasing and early sexual activity, the most common problem encountered in adolescent female has been sexually transmitted disease. The cervix in adolescents appear to be the determinant in the increased susceptibility of adolescents.

PREDISPOSING FACTORS

- Sexual activity.
- Age (15-21 yrs)
- Inability to appreciate the risk of PID
- Lack of easy access to barrier contraceptives
- Early marriages and child birth.

DIAGNOSIS

- USG
- WBC Count
- High vaginal swab
- Urine light chain reaction
- Laparoscopy
- Colour Doppler
- MRI

Proper sexual education, easy access to barrier contraceptives, prevention of early marriages & safe motherhood principles go a long way in preventing PID.

HIV AND ADOLESCENTS

- HIV infection among adolescent is a recent problem.
- 39.3% of adolescents aged 15-19 yrs are married and only 7% have any knowledge about contraception (Blan & way 1988)
- Factors leading to high risk behaviour among adolescents are poverty, leading to commercial sex work, and or sexual abuse.

Routes of Transmission

- I. Sexual – 10% of adolescent females are sexually active.
 - II. Transfusion
 - III. Drug use.
 - IV. Perinatally infected adolescent are rare.
- counselling in adolescents goes a long way in preventing STDs.
 - An acquired STD is often a marker for HIV testing.
 - Investigations – Elisa – Screening test
western Blot – Confirmation test
CD4 Count – for staging
Search for opportunistic infections

4. MATERIALS & METHODOLOGY

STUDY DESIGN

Prospective study

STUDY PERIOD

January 2006 to August 2007.

INCLUSION CRITERIA

Patients attending Gynaecology OPD of Govt. RSRM Hospital, Chennai above the age of 10 and below the age of 20 Yrs were included in the study.

EXCLUSION CRITERIA

- Patients, who have been diagnosed to be pregnant
- Patients with surgical or medical illness with no gynecological problem.

METHOD

Detailed history was taken regarding age at menarche, menstrual and marital history. Routine general and systemic examination was undertaken. Pelvic and rectal examinations done as required.

PROFORMA

Name :

IP No :

Age :

Occupation :

Sex :

Socio : Economic Status :

Address :

Complaints :

H/o **Presenting illness**

Menstrual History :

Marital History :

Marital Harmony-Stable relationship / Multiple Partners

Past History :

Family History :

O/E :

HT -

Temperature –

WT -

PR –

BMI -

BP –

General Examination :

Anaemia

Icterus

Clubbing

Thyroid

Cyanosis

Breast

Pedal edema

Lymphadenopathy

Systemic Examination

CVS :

RS :

P/A :

Local Examination :

External genitalia – Normally developed or not

P/V :

In married girls.

P/R :

In Unmarried girls.

Provisional Diagnosis :

Investigations done

- Hb, PCV

- TC, DC, ESR in necessary cases

- Bl sugar

- Urine – Albumin, sugar, Deposits
- Motion – Ova Cyst
- Peripheral smear

Selective Investigations

- Ultrasonography
- T3, T4, TSH, in indicated cases
- X-ray chest
- Buccal smear
- Karyotyping
- FSH, LH, Testosterone
- Coagulation profile
- X-ray wrist
- Vaginal smear – Trichomonas vaginalis
(10% KOH & Normal saline mount) moniliasis
- Pap smear in selected cases
- High vaginal swab
- Urine C & S
- Histopathological Examination.

5. RESULTS

OBSERVATION

1. MAGNITUDE OF ADOLESCENT GYNAECOLOGICAL PROBLEMS

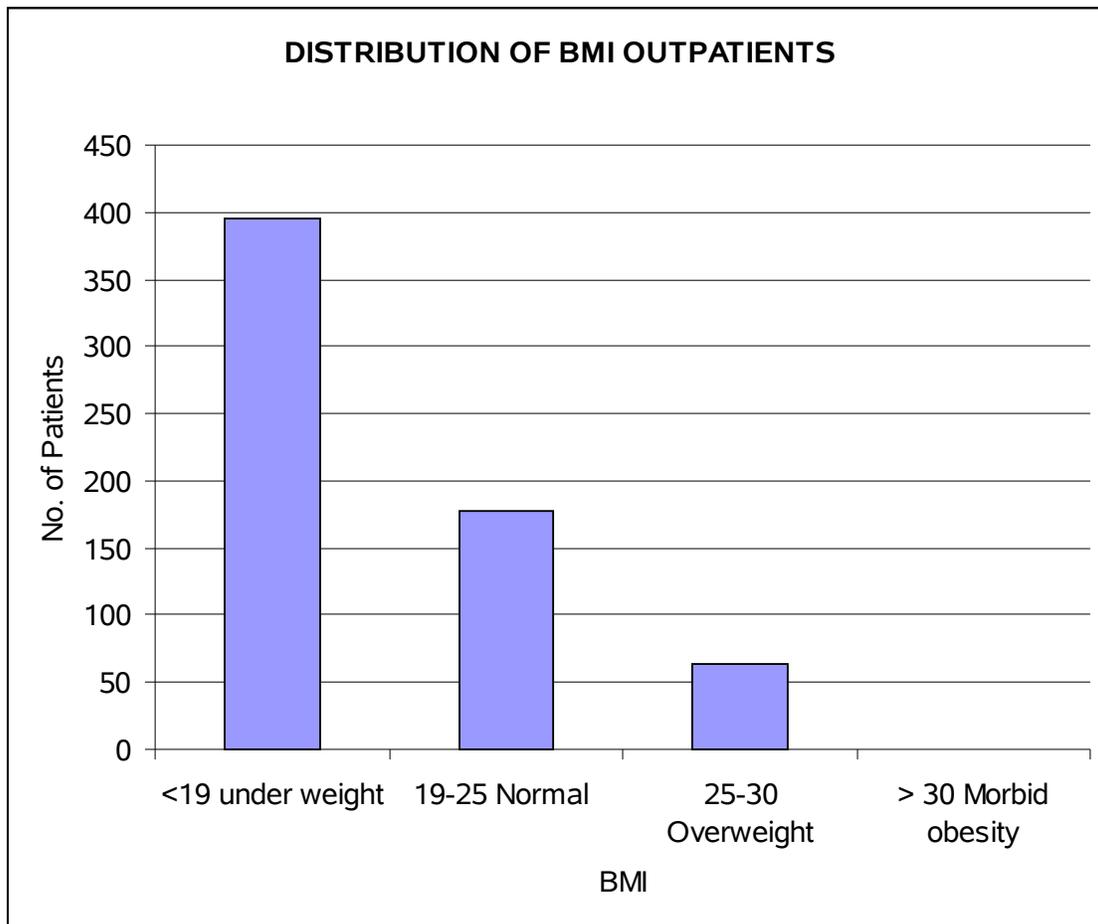
Type of Cases	Total	Adolescents	%
Gynaecology out patients	24380	637	2.61
Gynaec ward admissions	2032	45	2.21
Gynaec Surgeries	1239	21	1.69

- Among the patients attending gynaecology OP, the adolescent age group patients were 2.61%
- Among the patients admitted for gynaecological complaints, adolescent age group patients were about 2.21%.
- In the gynaecological operations performed in the study period, 1.69% were in the adolescent age group.

3. DISTRIBUTION OF BMI IN OUTPATIENTS

BMI	Number	Percentage
<19 under weight	395	62.0
19-25 Normal	178	28.0
25-30 Overweight	64	10.0
> 30 Morbid obesity	-	-

❖ Most of admitted patients (62.0%) were underweight (BMI <19)



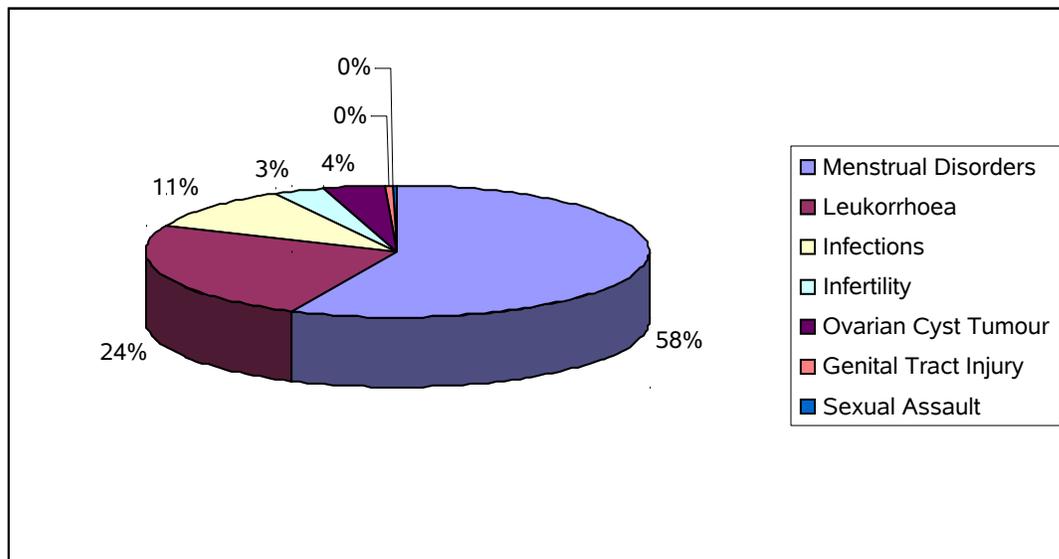
4. MARITAL STATUS IN OUTPATIENTS

Status	No	Percentage
Unmarried	414	64.9
Married	223	35.1

Although Indian government is propagating that the age for marriage is 21, the adolescent marriages are still prevalent in our society leading on to early sexual activity & thereby making the adolescent girls more prone for STDS and Reproductive Tract Infection.

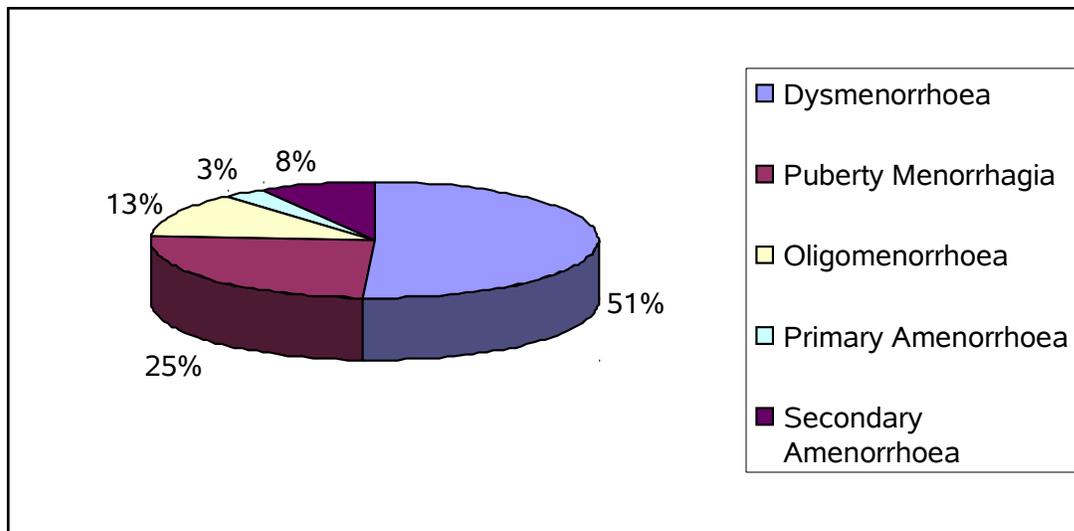
5.ADOLESCENT GYNAECOLOGICAL PROBLEMS IN OUT PATIENTS

Disorder	No	Percent
Menstrual Disorders	362	56.82
Leukorrhoea	156	24.48
Infections	68	10.67
Infertility	21	3.29
Ovarian Cyst Tumour	25	3.92
Genital Tract Injury	3	0.47
Sexual Assault	2	0.31
	637	



6. MENSTRUAL DISORDERS

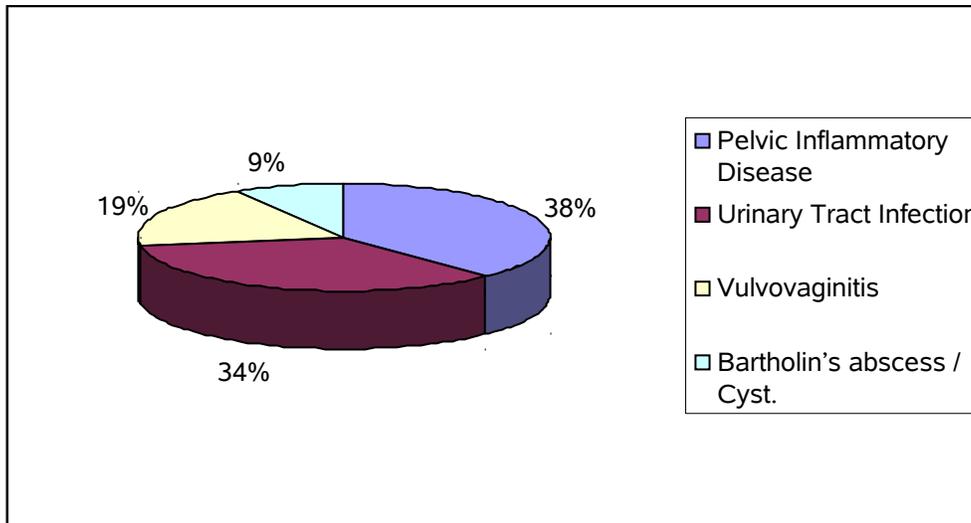
Disorder	No	Percent
Dysmenorrhoea	184	50.82
Puberty Menorrhagia	91	25.13
Oligomenorrhoea	46	12.70
Primary Amenorrhoea	11	3.03
Secondary Amenorrhoea	30	8.28
	362	



7. INFECTION IN OUTPATIENTS

Infections	Married	Unmarried	Percentage
Pelvic Inflammatory Disease	22	0	32.35
Urinary Tract Infection	20	8	41.17
Vulvovaginitis	11	2	19.11
Bartholin's abscess / Cyst.	5	0	7.35
	58	10	

PID was seen exclusively in married adolescent girls.



8. ADOLESCENT GYNAECOLOGICAL PROBLEMS (IN PATIENTS)

Disease	No	Percentage
Abnormal uterine Bleeding	13	28.88
Primary Amenorrhoea	5	11.11
Secondary Amenorrhoea	6	13.33
Pelvic Inflammatory Disease (married)	4	8.88
Cystic Ovaries / Tumours	12	26.66
Primary Infertility	3	6.66
Genital Tract Injury (Sexual Assault)	1	2.22
UTI	1	2.22
	45	

Abnormal Uterine bleeding (28.88%) ovarian cyst, (26.66%) and Amenorrhoea (24.44%) were the common causes for admission.

9. CAUSES OF ABNORMAL UTERINE BLEEDING

Cause	No	Percentage
DUB	10	76.92
Coagulation Disorder (Leukemia – 1 ITP – 1)	2	15.38
Hypothyroid	1	7.69
	13	

- DUB was diagnosed in 76.92% patients (in 10 girls) admitted with abnormal uterine bleeding, the diagnosis being done after exclusion of other causes.
- Out of 13 patients with AUB, one had Menorrhagia due to Leukemia (ALL) and another due to ITP.

10. DEGREE OF ANAEMIA

Hb% (Severe) <6.5g%	Hb% (mod) 6.5 - 7.9g%	Hb% (Mild) 8 gm% – 9.9gm%
4	4	5

11. TREATMENT MODALITIES FOR ABNORMAL UTERINE BLEEDING

Treatment	No	Percentage
Blood Transfusion, Hematinics, Hormones	8	61.53
Hormones & Hematinics	5	38.46

12. PRIMARY AMENORRHOEA

Etiology	No	Percentage
Imperforate Hymen	3	60.0
Vaginal Agenesis	1	20.0
Delayed Puberty	1	20.0
	5	

- Imperforate hymen presented with acute abdomen & Hymenectomy was done for them.
- Vaginoplasty was done for vaginal agenesis.

- Reassurance was given for the patient with delayed puberty.

13. SECONDARY AMENORRHOEA

Etiology	No	Percentage
PCOD	4	66.66
Hypothyroidism	1	16.66
TB abdomen	1	16.66
	6	

- Adolescents presenting with secondary amenorrhoea predominantly had Polycystic ovarian disease.

14. MANAGEMENT OF SECONDARY AMENORRHOEA

Etiology	Management
PCOD	Weight reduction T. metformin & others (according to investigation results)
Hypothyroidism	T. Eltroxin (Thyroid supplementation)
TB abdomen	Anti TB treatment

15. CYSTIC OVARIES AND TUMOURS

	No	Percentage
Physiological Cyst.		
Follicular Cyst.	5	41.66
Corpus luteal Cyst.	2	16.66
Tumours of Ovary		
Papillary Serous Cyst.	1	8.33
Serous Cystadenoma	2	16.66
Dermoid Cyst.	1	8.33
Dysgerminoma	1	8.33

- Physiological Cyst of Ovary was the common finding of ovarian enlargement seen in adolescent age group.
- Follicular Cyst - Reassurance, Antibiotics & Follow up
- Corpus luteal Cyst. - Reassurance, follow up.

Type of ovarian tumour was diagnosed by Histopathological examination of the specimen.

- Serous cystadenoma - Ovarian Cystectomy
- Papillary Serious cyst.
- Dermoid Cyst. - Ovariectomy & Follow up
- Dysgerminoma

6. DISCUSSION

In the present study, menstrual disorders are the commonest type of gynecological problems comprising of 56.82%.

In other studies.

1. A profile of adolescent girls with gynaecological problem, Kolkata, 2004.

Incidence of menstrual disorders – 58.06%

2. Study of menstrual problems in Adolescents Debres, A. Mnuraj, 2000.

Incidence of menstrual disorders – 50%

Hence, the incidence of menstrual disorders in the present study correlated well with other studies.

Epidemiology of adolescent dysmenorrhoea, Klein JR, Litt IF, et al., quotes the incidence of dysmenorrhoea as 59.7%

In the present study, Dysmenorrhoea was the commonest menstrual disorders among adolescent girls accounting for 50.82%, which is correlating well with the other study.

In the present study, Abnormal uterine Bleeding (AUB) tops the list of gynaecological problems in inpatients comprising about 28.88%, with DUB as the commonest etiology (76.92%).

In the other study,

A profile of adolescent girls with gynaecological problems, 2004, Kolkatta.

Author – Goswami Sebanti, Dutta Rekha, Sengupta Sibani.

- Incidence of AUB – 32.46%
- DUB accounting for almost 90% of AUB

Incidence of DUB in the present study correlated well with the other study.

In the present study,

Coagulation disorders were seen in 15.38% of cases of Abnormal Uterius Bleeding, with Acute Lymphatic Leukemia in 1 patient, and ITP in one patient.

In the other study,

- Bombay Hosptial Journal / 2005, July, Blood dyscrasias were seen in 2.20% of cases of AUB, with Acute Lymphatic Leukemia being most common.

Both the studies, bring us to the conclusion that though very rare, Leukemia & other coagulation disorders should be kept in mind while evaluating a case of puberty menorrhagia.

In the present study,

The incidence of amenorrhoea among adolescent girls is 24.44% with Secondary amenorrhoea being most common (54.54%) and primary amenorrhoea about 45.45% In most cases, secondary amenorrhoea is due to PCOD – 66.66%

According to Goswami Sebanti, Dutta Rekha, Sengupta Sibani et al., 2004, Incidence of amenorrhoea – 29.16% with secondary amenorrhoea being more common (61.90%) followed by primary amenohoea (38.09%).

PCOD – most common cause for secondary amenorrhoea – 76.92%

Incidence of amenorrhoea in the present study correlated well with the other study.

7. SUMMARY

1. The incidence of gynaecological problems in Adolescent population is 2.61% during Jan 2006 to August 2007 in RSRM Hospital.
2. Most of the adolescent girls attending RSRM OPD, belong to class V SES & Majority of them are malnourished – in the underweight category.
3. Major gynaecological problems noted in adolescents were
Menstrual dysfunction - 56.82%
Leukorrhoea - 24.48%
Both contribute to 81% of gynaec problem.
4. Dysmenorrhoea was the commonest problem among the menstrual dysfunction in outpatients. (50.82%)
5. Menorrhagia was the commonest cause for admission among, in-patients (28.88%)
6. DUB was the cause of severe menorrhagia in 76.92% of patients, while coagulation disorders were seen in 15.38%
7. Lencorrhoea is the commonest form of vaginal discharge in adolescent population (24.48%).

8. Imperforate hymen was present in 60% of primary amenorrhoea patients. They presented with acute abdomen and hymenectomy was done for them.
9. PCOD was the commonest problem seen in patients complaining of secondary amenorrhoea. (66.66%)
10. Physiological Cyst of ovary was more common than ovarian tumours in adolescents.
11. PID was seen exclusively in married adolescent girls only.

8. CONCLUSION

Adolescents present with a myriad of gynaecological problems. The commonest among them, are dysmenorrhoea and leukorrhoea & their misbeliefs were alleviated, by giving them basic knowledge about the anatomy and physiology of human reproductive system and reassurance. Puberty menorrhagia patients predominantly presented with anaemia and required blood transfusion.

Many of them are still shy and unwary of attending the adult outpatient clinic. Special clinic, specialized in adolescent counselling and health education, may go a long way in taking care of their needs.

Reproductive tract infections are on the rise because of the early onset of sexual activity. Sexually active young women need access to a wide array of services from contraception to postpartum care. Sex-education programmes should be arranged in schools & colleges and it should be supplemented by various community based education programmes. Most studies show that educating adolescents about reproductive and sexual health was associated with postponement of first sexual contact and increased use of contraceptives among those were sexually active.

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