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SURVEY OF REPRODUCTIVE HEALTH OF FEMALES IN URBAN AREA

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Abstract

Polycystic ovary syndrome (PCOS) is a problem in which women's hormones are out of balance. Most women with PCOS grow many small cysts on their ovaries. The cyst is not harmful but lead to hormonal imbalance. In PCOS ovaries start making slightly more androgens. This may cause in females to stop ovulation, get acne and grow extra facial and body hair. In present study, we had taken a survey of 70 female students in year 2013=14 and 105 female students in year 2014-15,for detection of irregularity in menstrual cycle and PCOS conditions. According to data27 female out of 70 in year 2013-14 and 18 students out of 105 in 2014-15 was suffering from menstrual irregularity. The data shows, the average mentral cycle days, means±standard deviation for year 2013-2014 and 2014-2015were 4.85±1.1 and 5.02±0.9553 respectively. In present survey, the 05 students were using hormonal pills to regularise their menstrual cycle in 2013-14 and 04 students in 2014-15 were using hormonal pills to regularised their menstrual cycle.

Keywords: Female, Menstrual cycle Reproductive health, Polycystic and Ovary

Introduction

Polycystic ovary syndrome (PCOS), also known as hyper androgenic anovulation (HA) is a set of symptoms resulting from hormonal imbalance in women [12]. PCOS occurs when a woman does not undergo her monthly ovulation, which apparently is caused by an interruption in the secretion of hormones which consequently disrupts the interrelationship connecting the ovaries, brain and hormones. Some of the symptoms that characterize PCOS include visible and excessive facial and body hairs, lack of menstruation or irregular menstrual periods, pelvic pain, acne, difficulty in getting pregnant, in addition to patches of thick, darker, velvety skin [10]. Moreover PCOS is often associated with heart disease, obesity, type 2 diabetes, mood disorders, obstructive sleep apnea and endometrial cancer [6]. Polycystic ovary syndrome is the commonest female endocrinopathy and affects between 6% and 10% of premenopausal women [1]. It is associated with a significantly higher odds ratio for the development of various cardiovascular risk factors. Globally there is an astronomical increase in cases of PCOS which invariably has resulted to increased cases of infertility in women. Statistically one in every fifteen women in the world

suffers from PCOS [5]. Higher cases of PCOS were observed in Middle East and western Africa. In Nigeria, especially in South East, there are prevalent cases of PCOS, precisely one in every six infertile Nigerian women [13]. Polycystic ovarian syndrome has been discovered to be one of the major causes of infertility among women of child bearing age. This is due to its adverse effect on the female fertility hormones. Polycystic ovary syndrome is a heterogeneous condition associated with features of the metabolic syndrome. Consequently, studies involving women with PCOS are often confounded by coexisting obesity, insulin resistance and other features of the metabolic syndrome. This can sometimes make it difficult to interpret the role of such adverse metabolic features in the aetiology of PCOS. In clinical practice, women with this diagnosis are seen for four main symptoms: infertility, menstrual irregularity,obesity, and hirsutism [2,4]. Many women with PCOS are overweight or obese, which can cause health problems. Teenagers are diagnosed with PCOS and number of affected women is increasing by the day. The main objectives of the study were to analyse the reproductive health of the females in urban area, to find out the irregularity in menstrual cycle and to identify the

polycystic ovarian syndrome (PCOS) among urben females. This has been the peak reason for us to carry out this survey in our college.

Method
Sampling Design

The study was conducted in Ruia college, Mumbai for two years. Totally 70 females students of age group (17-22) are functioning in the study area in year 2013-14 and 105 females students of age group (17-22) are functioning in the study area in year 2014-15. Survey was conducted in college in which FY/SY/TY/M.Sc.-I/M.Sc.-II female students were interviewed and collected the required information.

Tools of Analysis
The tools used to analyse the data are
- Percentage
- Irregularity in menstrual cycle
- PCOS detection
- Standard Deviation.

Result Analysis

Distribution of the Total number of female students involve in the survey. The class wise distribution and age wise distribution of the female students were carried out. It was shown in the Table I.

Table I Distribution of the Total number of female students involve in the survey

Class	Age	2013-2014			2014-2015		
		Strength	PCOS	NON-PCOS	Strength	PCOS	NON-PCOS
FY	17-18	18	2	16	42	4	38
SY	18-19	18	1	17	35	2	33
TY	19-20	26	1	25	11	1	10
M.Sc. I	20-21	4	0	4	10	0	10
M.Sc. II	21-22	4	0	4	7	0	7

Source: Survey Data

Table I shows that in 2013-2014, out of 70 female students 18 students were in 17-18 age group

from FY Class; 18 students were in 18-19 age group from SY Class; 26 students were in 19-10 age group from TY class; 4 students were in 20-21 age group from M.Sc. I; 4 students were 21-22 age group from M.Sc. II class. and in 2014-2015, out of 105 female students42 students were in 17-18 age group from FY Class;35 students were in 18-19 age group from SY Class;11 students were in 19-10 age group from TY class; 10 students were in 20-21 age group from M.Sc. I; 7 students were 21-22 age group from M,Sc. II class.

The comparative study is carried out between the female students getting regular menstrual cycle and those who get irregular menstrual cycle. It is shown in the Table II.

Table II :- Comparative study between students getting regular and irregular menstrual cycle.

Length of the menstrual cycle	2013-2014	2014-2015
	No. of females	No. of females
Regular	43	87
Irregular	27	18

Source: Survey Data

The Table II shows that in 2013-2014 out of 70 students, 43 female students get regular menstrual cycle, 27 students had irregular menstrual cycle and 2014-2015 out of 105 students, 87 female students get regular menstrual cycle and 18 students had irregular menstrual cycle. The comparative study was carried out between the female students getting regular menstrual cycle and those who require hormonal pills to regularised their menstrual cycle. It is shown in the Table III.

Table III Hormonal pills require by the students

Hormonal Pills	2013-2014	2014-2015
	No. of females	No. of females
Taken By	05	04
Non taken By	65	101

Source: Survey Data

The Table III shows that in 2013-2014 out of 70 students, 67 female students get regular menstrual cycle and 05 students were using hormonal pills to regularise

their menstrual cycle. In 2014-2015 out of 105 students, 101 female students get regular menstrual cycle and 04 students were using hormonal pills to regularise their menstrual cycle.

Ungrouped data was used to find out standard deviation for irregularity in menstrual cycle. It was shown in Table: IV,V and VI

Table IV:-Ungrouped data of 2013-2014

Sr. No.	No. of days (X)	(X-Mean)	(X-Mean)²
1	4.5	-0.35	0.1225
2	5	0.15	0.0225
3	4	-0.85	0.7225
4	7	2.15	4.6225
5	4	-0.85	0.7225
6	4	-0.85	0.7225
7	4	-0.85	0.7225
8	5.5	0.65	0.4225
9	4	-0.85	0.7225
10	5.5	0.65	0.4225
11	6.5	1.65	2.7225
12	5	0.15	0.0225
13	4.5	-0.35	0.1225
14	5	0.15	0.0225
15	4.5	-0.35	0.1225
16	4	-0.85	0.7225
17	4	-0.85	0.7225
18	4	-0.85	0.7225
19	4.5	-0.35	0.1225
20	7	2.15	4.6225
21	2.5	-2.35	5.5225
22	3.5	-1.35	1.8225
23	3.5	-1.35	1.8225
24	5.5	0.65	0.4225
25	8	3.15	9.9225
26	7	2.15	4.6225
27	6	1.15	1.3225
28	5	0.15	0.0225
29	5	0.15	0.0225
30	5	0.15	0.0225
31	5	0.15	0.0225
32	6	1.15	1.3225
33	5	0.15	0.0225
34	5	0.15	0.0225
35	4.5	-0.35	0.1225
36	8	3.15	9.9225
37	7	2.15	4.6225
38	4	-0.85	0.7225
39	4	-0.85	0.7225
40	4.5	-0.35	0.1225
41	4	-0.85	0.7225
42	3.5	-1.35	1.8225
43	7	2.15	4.6225
44	4	-0.85	0.7225
45	4	-0.85	0.7225
46	4	-0.85	0.7225
47	4.5	-0.35	0.1225
48	5.5	0.65	0.4225
49	5	0.15	0.0225
50	4.5	-0.35	0.1225
51	4	-0.85	0.7225
52	4	-0.85	0.7225
53	4	-0.85	0.7225
54	5	0.15	0.0225

55	4	-0.85	0.7225
56	5	0.15	0.0225
57	5.5	0.65	0.4225
58	5	0.15	0.0225
59	5	0.15	0.0225
60	5	0.15	0.0225
61	5.5	0.65	0.4225
62	4.5	-0.35	0.1225
63	4.5	-0.35	0.1225
64	4	-0.85	0.7225
65	4	-0.85	0.7225
66	5.5	0.65	0.4225
67	3.5	-1.35	1.8225
68	5	0.15	0.0225
69	6.5	1.65	2.7225
70	4	-0.85	0.7225
Total	340		83.575

Source: Survey Data

Table V Ungrouped data for 2014-2015

Sr. no.	No. of days (X)	(X-Mean)	(X-Mean)
1	4	-1.02	1.04
2	5	-0.02	0.0004
3	4	-1.02	1.04
4	5	-0.02	0.0004
5	3	-2.02	4.0804
6	4	-1.02	1.04
7	7	1.98	3.9204
8	6	0.98	0.9604
9	5	-0.02	0.0004
10	5	-0.02	0.0004
11	6	0.98	0.9604
12	6	0.98	0.9604
13	5	-0.02	0.0004
14	5	-0.02	0.0004
15	5	-0.02	0.0004
16	6	0.98	0.9604
17	5	-0.02	0.0004
18	5	-0.02	0.0004
19	4	-1.02	1.04
20	5	-0.02	0.0004
21	4	-1.02	1.04
22	5	-0.02	0.0004
23	4	-1.02	1.04
24	6	0.98	0.9604
25	5	-0.02	0.0004
26	6	0.98	0.9604
27	5	-0.02	0.0004
28	7	1.98	3.9204
29	6	0.98	0.9604
30	5	-0.02	0.0004
31	5	-0.02	0.0004
32	5	-0.02	0.0004
33	6	0.98	0.9604
34	6	0.98	0.9604
35	4	-1.02	1.04
36	5	-0.02	0.0004
37	3	-2.02	4.0804
38	4	-1.02	1.04
39	5	-0.02	0.0004
40	5	-0.02	0.0004
41	4	-1.02	1.04
42	6	0.98	0.9604

43	6	0.98	0.9604	74	5	-0.02	0.0004
44	6	0.98	0.9604	75	5	-0.02	0.0004
45	5	-0.02	0.0004	76	4	-1.02	1.04
46	5	-0.02	0.0004	77	5	-0.02	0.0004
47	6	0.98	0.9604	78	7	1.98	3.9204
48	7	1.98	3.9204	79	6	0.98	0.9604
49	5	-0.02	0.0004	80	5	-0.02	0.0004
50	4	-1.02	1.04	81	5	-0.02	0.0004
51	5	-0.02	0.0004	82	6	0.98	0.9604
52	5	-0.02	0.0004	83	5	-0.02	0.0004
53	5	-0.02	0.0004	84	4	-1.02	1.04
54	4	-1.02	1.04	85	6	0.98	0.9604
55	5	-0.02	0.0004	86	5	-0.02	0.0004
56	6	0.98	0.9604	87	4	-1.02	1.04
57	6	0.98	0.9604	88	5	-0.02	0.0004
58	5	-0.02	0.0004	89	7	1.98	3.9204
59	4	-1.02	1.04	90	5	-0.02	0.0004
60	4	-1.02	1.04	91	6	0.98	0.9604
61	5	-0.02	0.0004	92	4	-1.02	1.04
62	6	0.98	0.9604	93	4	-1.02	1.04
63	4	-1.02	1.04	94	3	-2.02	4.0804
64	5	-0.02	0.0004	95	4	-1.02	1.04
65	4	-1.02	1.04	96	4	-1.02	1.04
66	6	0.98	0.9604	97	5	-0.02	0.0004
67	7	1.98	3.9204	98	5	-0.02	0.0004
68	6	0.98	0.9604	99	4	-1.02	1.04
69	5	-0.02	0.0004	100	4	-1.02	1.04
70	5	-0.02	0.0004	101	5	-0.02	0.0004
71	4	-1.02	1.04	102	8	2.98	8.8804
72	4	-1.02	1.04	103	5	-0.02	0.0004
73	4	-1.02	1.04	104	5	-0.02	0.0004

| 105 | 4 | -1.02 | 1.04 |
| Total | 528 | | 94.9108 |

Source: Survey Data

Formulas

$$\text{Mean} = \frac{\Sigma x}{n}$$

$$\text{Variance} = \frac{\Sigma(x - Mean)^2}{n-1}$$

$$\text{Standard deviation} = \sqrt{Variance}$$

Table VI: Mean value, standard variance and standard deviation for irregularity in menstrual cycle

Year	Total no. of females	Mean	Standard variance	Standard deviation
2013-2014	70	4.85	1.21	1.1
2014-2015	105	5.02	0.9126	0.9553

Source: Survey Data

The Table VI shows that in The average mentral cycle days were 4.85 means±standard deviation in 2013-14 and 5.02 means±standard deviation in 2014-15.

Discussion

In present study the age group chooses for the study was in 17-22age female students. The findings of PCOS were similar to the other scientists, levels of LH were higher than FSH and the values obtained from the PCOS group were significantly higher than those of control [11].

Menstrual irregularities detection was carried out in survey. According to data27 female out of 70 in year 2013-14 and 18 students out of 105 in 2014-15 were suffering from menstrual irregularity, The average mentral cycle days were 4.85 means±standard deviation in 2013-14 and 5.02 means±standard deviation in 2014-15 the finding weres similar to others, menstrual irregularity is a relatively frequent complaint in the gynaecological clinic. In addition, moderate stress, may increase the probabilityof long menstrual cycles in susceptible individuals[7]. A recent study revealed lowered fecundability among highly distressed women with long menstrual cycles (>35 days), whereas the fecundability of women with normal cycle lengths were not affected by distress[8].

In present survey, the 05 students were using hormonal pills to regularise their menstrual cycle in 2013-14 and 04 students in 2014-15 were using hormonal pills to regularised their menstrual cycle the results were similar to other worker, have shown that the administration of progesterone in anovulatory women with PCOS can slow GnRH pulse secretion, favour FSH secretion induce follicular maturation[3].

Conclusion

Polycystic ovary syndrome (PCOS) is the most common cause of anovulatory infertility. Its prevalence among of reproductive age as estimated is devastating. Though the number of students suffering from PCOS is less i.e. 5 and 4, we can conclude that there were students who were suffering from PCOS but not yet detected. This we can say on the basis of the symptoms faced by them during menses and after and before menses too. Early diagnosis of PCOS is required and appropriate treatment given to balance the hormones and eliminate all the problems that comes with it.

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