Bulletin of Environment, Pharmacology and Life Sciences
Bull. Env. Pharmacol. Life Sci., Vol 13 [3] February 2024 : 271-276

Online ISSN 2277-1808
Journal's URL:http://www.bepls.com
CODEN: BEPLAD

ORIGINAL ARTICLE **OPEN ACCESS**

Screening of Adolescents and Young Adult Females Suffering from Polycystic Ovary Syndrome: A Comparative Study

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ABSTRACT
The current study's objective is to evaluate the effects of polycystic ovary syndrome and its factor on adolescents and young adult female's health. For this a socio-demographic questionnaire was developed to assess socio demographic information. The Ferriman- Gallwey scale developed by Ferriman and Gallwey in 1961. The Statistical analysis was conducted using SPSS software. After conducting this research, we discovered an association between adolescents and young adults' females. PCOS nowadays is becoming a common health concern among females irrespective of their age. The reason behind is that females are not aware of PCOS symptoms thus they don't go for consultation the delay in assessment and timely treatment complications the situation which they may face in later life. Thus, this study will help the individual to self-screen the PCOS and if necessary, they can consult doctors timely. was used to assess Hirsutism (PCOS) in women. Results showed that more than half of young adults and Adolescents had need for clinical consultancy there was significance difference between the levels of Hirsutism of respondents across different age groups.
Keywords: *Polycystic Ovary syndrome, Adolescents, Young adults.*

Received 14.01.2024 Revised 08.02.2024 Accepted 23.02.2024

INTRODUCTION

Adolescence is a stage of physical and psychological development that typically takes place between the time of puberty and the age of legal maturity (the name adolescence is derived from the Latin adolescere, meaning "to grow up"). Adolescence is a very important stage of life, and during this time, a person's likes and dislikes also rapidly change. Certain physical, emotional, and social changes also happen as the developmental process reaches its climax. Adolescents experience mood swings more frequently than any other age group, and when this happens frequently, it has an impact on mental health [4]. Young adulthood is a distinct developmental stage that lasts between the ages of 18 and 30 years. During this time, the young adult is able to engage in self-exploration and identity building through the completion of important developmental tasks. Various organizations presently define young adulthood differently and include varying age ranges when defining it. This creates ambiguity when creating programs, offering healthcare services, and doing research. Since young adults use healthcare less frequently than older age groups and have worse health outcomes related to preventable causes of morbidity and mortality, they should be separated from adolescents and adults. Young adults are comparatively prone to injury, mental health disorders, substance addiction, and concerns about their sexual and reproductive health. [3]. Male sex hormones called androgens, which are typically present in modest amounts in women, are produced abnormally by the ovaries in patients with polycystic ovarian syndrome (PCOS). The disease known as polycystic ovarian syndrome is named for the many tiny cysts, or sacs filled with fluid, that develop in the ovaries. On the other hand, some women without the disease develop cysts, while some women with the disorder do not. The life style, eating habits, lack of exercises and mental stress make PCOS widely prevalent in young girls. Obesity, Cortical, Lifestyle and health behaviors sleep disturbance, Eating problem, Genetic problem, Reproduction Problem, Loneliness, Daytime sleepiness. The late teens or early 20s are often when polycystic ovarian syndrome (PCOS) symptoms first manifest [5]. Each symptom can range in severity from moderate to severe, and not all women with PCOS will experience them all. Some women are unable to conceive, simply have menstrual issues, or both. Most women find out they have PCOS in their 20s and 30s, 40 when they have problems getting pregnant and see their doctor. But PCOS can happen at any age after puberty. Women of all races and ethnicities are at risk of PCOS [1]. Teen girls and young women may

experience the common health issue known as polycystic ovarian syndrome, or PCOS. It may result in irregular, heavier, or even non-existent periods. Acne and excessive hair growth can also result from it in girls. PCOS is the term for a hormonal imbalance that affects women and causes issues including irregular periods, trouble conceiving, obesity, and other issues. Adolescent girls and young women who are often ignorant of the condition and its negative consequences are commonly affected by this syndrome, which primarily affects women who are of reproductive age [1].

POLYCYSTIC OVARY SYNDROME IN ADOLESCENTS AND YOUNG ADULTS

Adolescents Teen girls and young women may experience the common health issue known as polycystic ovarian syndrome, or PCOS. It may result in irregular, heavier, or even non-existent periods. Acne and excessive hair growth can also result from it in girls [6, 7].

Young Adult Females: PCOS is the term for a hormonal imbalance that affects women and causes issues including irregular periods, trouble conceiving, obesity, and other issues. Adolescent girls and young women who are often ignorant of the condition and its negative consequences are commonly affected by this syndrome, which primarily affects women who are of reproductive age [2].

MATERIAL AND METHODS

SELECTION OF SAMPLE

For selecting the respondents, purposive random sampling was utilized. For the present study, 200 respondents were randomly selected from government, private school and girls' hostels in Lucknow city, out of which 98 were adolescents and 108 were young adults. The respondents for the study were chosen from two different locations in luck now city. The sample consists of 200 respondents.

DATA COLLECTION

Two tools were utilized, including a sociodemographic questionnaire for assessing the demographic profile of the respondents. Hirsutism Ferriman- Gallwey scoring system by Ferriman and Gallwey in 1961 was used to gather general and specific information from respondent. After modifications, the approach currently includes nine body places (legs and forearms excluded) for the evaluation of hair development. Each of the nine locations is assessed on a scale of 0 (no terminal hair growth) to 4 (extensive hair growth). The areas of Lucknow were selected for the study. Areas such as Utrethia, Telibagh, Rajni Khand, Yashodhra girls' hostel. To analyse the data, descriptive and relational statistical methods were used. The data was analyzed with frequency, percentage, mean, SD and ANOVA.

STASTICAL ANALYSIS

The statistical analysis was performed using IBM SPSS statistics version 20. With the aid of frequency percentage, mean, standard deviation, correlation coefficient using Pearson's correlation, and significance of test using t-test and ANOVA, the screening of Hirsutism among adolescents and young adults was found.

RESULTS AND DISCUSSION

TABLE-1: DISTRIBUTION OF RESPONDENTS ON THE BASIS ON THEIR AGE GROUP N=200

S.No.	Age group (Years)		F (%)
A	Adolescent (N=108)		
	1	11-14	67(33.5)
	2	15-17	41(20.5)
B	Young Adult(N=92)		
	3	18-21	24(12.0)
	4	22-24	54(27.0)
	5	25-27	6(3.0)
	6	28-30	8(4.0)

Distribution of respondents on the basis of their age group. Data revealed that 33.5 percent respondents belonged to 11-14 years of age group where as 20.5 percent belonged to 15-17 years of age group, while 27.0 percent respondents were between 22-24 years. Very few (3.0%) respondents belonged to 25-27 years of age group.

TABLE-2: DISTRIBUTION OF THE RESPONDENTS ON THE BASIS OF FACTORS OF POLYCYSTIC OVARY SYNDROME ACROSS ADOLESCENTS AND YOUNG ADULTS

S.No.	Factors responsible for PCOS	Adolescents f (%)		Young Adults f (%)	
		Yes	No	Yes	No
1	Family History	10(28.5)	103(68.4)	25(71.4)	62(37.5)
2	Weight				
(i)	Over weight	21(18.58)	92(81.4)	23((26.4)	64(73.5)
(ii)	Under weight	84(74.3)	29(25.6)	22(25.2)	65(74.7)
3	Life style factors				
(i)	Junk food	44(51.1)	69(60.50	42(48.8)	45(39.4)
(ii)	Improper sleep quality	20(43.4)	93(60.3)	26(56.5)	61(39.6)

Distribution of respondents on the basis of the factors responsible for PCOS. Results show that majority of the factors affect that they are deprived of underweight (74.3%).They also factors affect Junk food (51.1%). Majority of the family history (71.4%) in young adult groups.

TABLE-3: DISTRIBUTION OF RESPONDENTS ON THE BASIS OF OUTCOMES OF POLYCYSTIC OVARY SYNDROME

S.No	Variables	Adolescents		Young Adults	
		Yes	No	Yes	No
1	Sleep Disturbances	10(28.5)	103(68.4)	25(71.4)	62(37.5)
2	Weight gain	44(51.1)	69(60.50	42(48.8)	45(39.4)
3	Weight loss	20(43.4)	93(60.3)	26(56.5)	61(39.6)
4	Abnormal hair growth				
(i)	Upper lip	13(40.6)	100(59.5)	19(59.3)	68(40.4)
(ii)	Chin	16(32)	97(64.6)	34(68)	53(35.3)
(iii)	Chest	7(25.9)	106(61.2)	20(74.0)	67(38.7)
(iv)	Abdomen				
(v)	Near Vaginal	12(27.2)	101(64.7)	32(72.7)	55(35.2)
(vi)	Shoulder	4(20)	109(60.5)	16(80)	71(39.4)
(vii)	Thighs	5(22.7)	108(60.6)	17(77.2)	5(22.7)
(viii)	Back	7(50)	106(56.9)	7(50)	80(43.0)
5	Hair loss	58(52.7)	55(61.1)	52(47.2)	35(38.8)
6	Darkened thicked skin around the				
(i)	Neck	22(56.4)	91(56.5)	17(43.5)	70(43.4)
(ii)	Armpits	6(37.5)	107(58.1)	10(62.5)	77(42.7)
(iii)	Breasts	6(30)	107(59.4)	14(70)	73(40.5)
7	Irregular Periods	56(62.2)	57(51.8)	34(37.7)	53(48.1)
(i)	Heavy Bleeding	20(43.4)	93(60.0)	26(56.5)	61(39.6)
(ii)	Normal Bleeding	83(64.8)	30(41.6)	45(35.1)	42(58.3)
8	Acne on face	14(30.4)	99(64.2)	32(69.5)	55(35.7)
9	Headache	44(56.4)	69(56.5)	34(43.5)	53(43.4)

Describes symptoms of PCOS by the respondents at outcomes. Results showed that majority of respondents (51% weight gain, 43.4 % weight loss) Majority of (40.6% Upper lip hair growth and 59.3% Upper lip hair growth) in young adult females.

Most of the respondents belonged to Adolescents groups compared to young adult females.

TABLE-4: DISTRIBUTION OF THE RESPONDENTS ON SCREENING OF RESPONDENTS SUFFERING FROM POLYCYSTIC OVARY SYNDROME N=200

Respondent of age	**Hirsutism**			
	No Hirsutism N=(2)	Mild N=(101)	Moderate N=30	Severe N=67
Adolescents (%)				
11-14	0(0.0)	40(39.6)	0(0.0	**27(40.2)**
15-17	2(100)	33(32.6)	0(0.0)	11(16.4)
Young Adults (%)				
18-21	0(0.0)	4(3.9)	**17(56.6)**	3(4.4)
22-24	0(0.0)	21(20.7)	12(40)	20(29.8)
25-27	0(0.0)	2(1.9)	0(0.0)	2(2.9)
28-30	0(0.0)	1(0.9	1(3.3)	4(5.9)

Level of Hirsutism among respondents. Majority of (40.2% severe hirsutism in 11-14 year group and (56.6 % (Moderate Hirsutism). Most of the respondents belonged to adolescents group compare to young adult females. Majority of the respondents were Level of Hirsutism Between 11-14 years (40.2%) Compared to young adults age group.

TABLE-5: ANOVA VALUE BETWEEN FACTORS OF POLYCYSTIC OVARY SYNDROME ACROSS DIFFERENT AGE GROUPS

Factors	**Mean**	**F**	**S**	**Conclusion**
Family history	.523	3.70	.026	S
Weight				
Over weight	.030	174	.840	NS
Under weight	2.936	13.160	.000	S
Life style factors				
Junk food	0.70	.270	.764	NS
Improper sleepquality	.502	2.874	.059	S

Result that depicted p<0.001, thus null hypothesis was rejected which means that there is significant difference between family history, underweight improper sleep quality faced by adolescents and young adults. Mean value alsodepicts the same. Results revealed that as p>0.01thus null hypothesis was accepted, which means thatthere Is no significant difference between overweight, Junk food faced by Adolescents and young adults' females. The result was found contradictory with the findings of Mehta et al., [1].

TABLE-6: ANOVA BETWEEN LEVELS OF POLYCYSTIC OVARY SYNDROME ACROSS DIFFERENT AGE GROUPS

Age groups	**Mean**	**F**	**S**	**Conclusion**
11-14	2.0591	**29.104**	**.000**	**S**
15-17	2.0652			
18-21	2.8750			
22-24	3.0566			
25-27	3.2500			
28-30	3.5000			

Result depicted that asp<0.001, thus null hypothesis was rejected, which means thatthere is significant difference between level of hirsutism across different age groups. Mean value also depicts the same.

DISCUSSION

In this cross-sectional study, we included 200 respondents, out of whom 98 were adolescents and 108 were young adults, randomly selected from the public and private schools and girl's hostel of Lucknow city. After. Conducting this study on 200 adolescents and young adults, we came to know that 40% respondents were found to adolescents and 56% respondents were found to young adult's females. Majority of the respondents (33.5%) are in the age group of 11-14 years. It isclosely followed by the age group 22-24 years (27.0%). The least number of respondents are in the age group 15-17(20.5) Respondents in the extreme agegroups both Adolescents and young adults are the least in number. Most of the respondents fall in the Adolescents groups. Majority of the respondents are unmarried

(34.8%) in adolescents' group, only a few (12.5) respondents are unmarried in young adult females. Majority of the respondents are Primary Education (75%) in adolescents' group. they constitute the half of the total number of respondents. Majority of the (75%) of the respondents have Intermediate. Majority of (82.1%) of the respondents have Post Graduation in young adults' group. Majority of (72.2%) of the respondents have Graduation in young adult females. Only a few (100%) of the respondents have above post graduation. Majority of the respondents are 11-11 (45%) in adolescents group. There are young adults female respondents (42%) in 22-24 age groups. Majority of the respondents are 3-5 days (36.9%) in adolescents group. they constitute the half of the total number of respondents. Half quarter (23.4%) ofthe respondents have 3-5 days in 22-24 age groups. Majority of (24 %) of the respondents have more than 5 days in adolescents group. Only a few (100%) of the respondents have totally variable. Majority of the respondents are under weight (55.8%), they constitute the half of the total number of respondents. Only a quarter (25%) of the respondents has over weight in adolescents group. majority of the respondents are under healthy (51.8%), they constitute the half of the total number of respondents. Very few (3.6%) respondents under young adult age groups. Majority of the factors affect that they are deprived of underweight (74.3%).They also factors affect Junk food (51.1%). Majority of the family history (71.4%) in young adult groups. Majority of respondents (51% weight gain, 43.4 % weight loss) Majority of (40.6% Upper lip hair growth and 59.3% Upper lip hairgrowth) in young adult females. Most of the respondents belonged to Adolescents groups compared to young adultfemales. Majority of the respondents were Level of Hirsutism Between 11-14 years (40.2%) Compared to young adults age group.

CONCLUSION

The study showed that there was significant difference between in the level of Hirsutism among respondent across the different age groups. The study was done to assess the level of Hirsutism, level of Hirsutism of Adolescents and young adults' females in Lucknow. Findings suggest that there is significant difference between levels of Hirsutism among respondents. Majority of the adolescent had severe Hirsutism, especially 11-14 age groups. Majority of the young adult females have a below average score of level of Hirsutism. The study suggests that Adolescents and young adult females usually do have below average level of Hirsutism and higher severe Hirsutism due to their work and personal life and because of conflict between them.

RECOMMENDATIONS

A large sample size may be used for the same kind of research. Research of the same kind may be done on females who are employed and those who are not. Research of the same kind may be done on women living in rural and urban areas.

LIMITATIONS

The present study was conducted on a small sample; therefore, it cannot be generalized to the target population. The study was conducted in Lucknow only, so we need to explore further to understand this area of study better. Due to the unavailability of time, the sample size was limited to 200. The sample was restricted to Lucknow city only. The study was restricted to a specific age group.

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CITATION OF THIS ARTICLE

Saloni S, Shalini A, Khwairakpam S. Screening of Adolescents and Young Adult Females Suffering from Polycystic Ovary Syndrome: A Comparative Study. Bull. Env. Pharmacol. Life Sci., Vol 13[3] February 2024: 271-276