



EPIDEMIOLOGICAL STUDY ON PREVALENCE, AWARENESS AND MANAGEMENT OF POLYCYSTIC OVARY SYNDROME AND OTHER MENSTRUAL PROBLEMS AMONG THE WOMEN OF PUNJAB, PAKISTAN

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Abstract

Polycystic ovarian syndrome (PCOS) is the most common endocrinal disorder in women all over the world. The aim of the study and collecting data is to determine and interpret the prevalence of symptoms of PCOS in female age group 14-45 years that what percentage of female students are suffering from menstrual irregularities, obesity, hirsutism, alopecia and severe acne problem and to check the percentage of female students which are aware of this syndrome. A mixed methodology approach was conducted in different district of Punjab, Pakistan which focused on questionnaire based on assessment as well as providing education. According to the finding of study prevalence of signs and symptoms of PCOS are increasing but females are not aware of PCOS although its signs and symptoms were present in many of them. Result of this study indicated that some (38%) of the women had hyperpigmentation which was on neck, armpits and groin and treated through topical medication 13% and home remedies 13% and other sources 70%. Prevalence of hair fall was found to be more than 78%, and women were trying different herbal homemade remedies for this. Majority (52%) of respondents had acne issues 30% on cheeks, 16% on chin and forehead because of hormonal imbalance. Severe acne has been observed in some of the patient at the time of menstrual cycle. 30.20% of the women had received PCOS/Hormonal imbalance treatment through allopathic medicines, 7.60% women through homeopathic medicines while 15.70% respondents followed diet control chart. Furthermore, study indicates that majority of females don't consult gynaecologist unless there is severe or life threatening problem or disease.

Keywords: PCOS, Hormonal imbalance, hyperpigmentation, infertility

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Introduction

PCOS is a frequent and extremely variable disorder marked by clinical and biochemical androgen excess, ovulatory failure, and polycystic ovaries (PCO) [1]. PCOS was originally described by Stein and Leventhal in 1935 [2]. However, a 1990 NIH conference characterized PCOS as a mix of chronic anovulation or oligomenorrhoea with clinical-biochemical hyperandrogenism.[3, 4]. In 2003, the Rotterdam consensus revised the PCOS diagnostic criteria, requiring the presence of any two of the three conditions: oligomenorrhoea/anovulation, clinical/biochemical hyperandrogenism, and PCO (measurement of >12 follicles in each ovary of 2–9 mm) [5]. Androgen Excess Society (AES) revised the diagnostic criteria in 2006 which requires combination of biochemical hyperandrogenism and either oligo-anovulation or polycystic ovaries [6].

Methodology

Study design

A retrospective study was conducted to assess the epidemiological study on Prevalence, Awareness and Management of Polycystic ovary syndrome

and other menstrual problems among the women of Punjab, Pakistan.

Sample size and duration of study

Random sampling was done by using convenient sampling technique. The project was conducted on 182 respondents within 3-4 months.

Study place

Study place were gynaecology department of Arif Memorial Hospital Lahore and from DHQ Hospital Kasur. General female population of multiple districts were included (Lahore, Rawalpindi, Islamabad, Chakwal, Sialkot, Multan, Sheikhpura, DG Khan and Wah cant.

Inclusion and exclusion criteria

Women of reproductive age having a physical symptom, a biochemical abnormality or polycystic ovaries visualized on ultrasound scan were included. Women with who were not at reproductive age, receiving hormone replacement therapy, symptoms of fibroids and major illness or another cause of androgen excess for example congenital adrenal hyperplasia were excluded.

Results

Question No. 1

AGE?

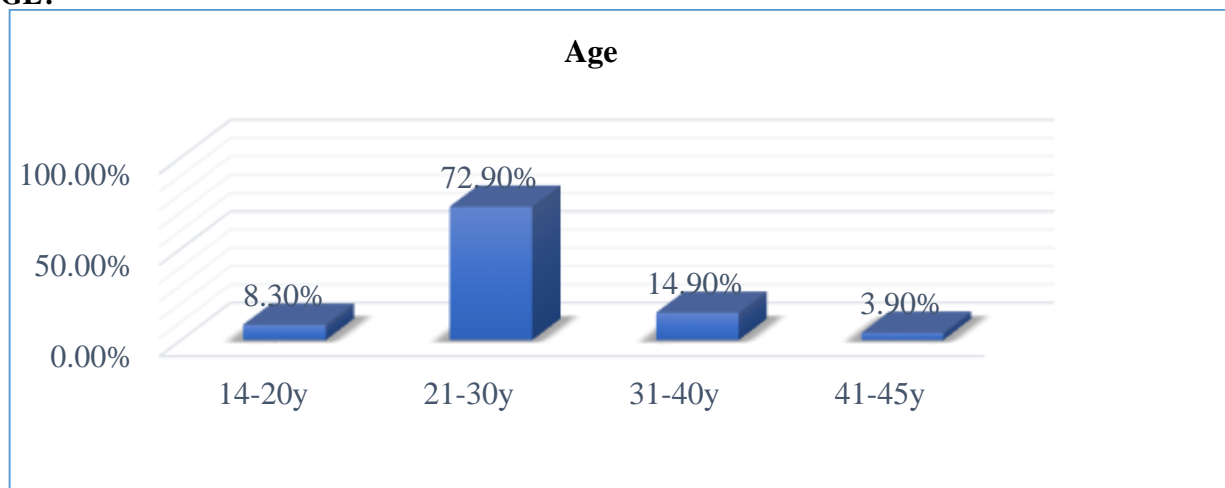


Figure 1

Majority of respondents (72.90%) were having age ranges between 21-30 years.8.30% respondents were of about 14-20year of age,14.90% respondents were of about 31-40year of age whereas, 3.90% respondents were of about 41-45year of age as shown in figure 1.

Question No. 2
Educational status?

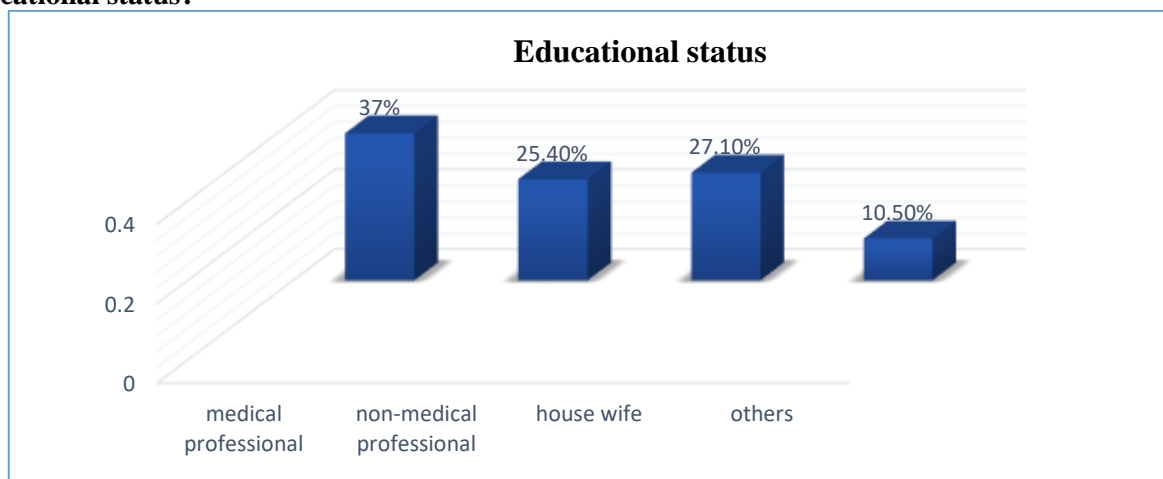


Figure 2

37% of the respondents were belonging to medical profession and 25.40% to non-medical profession, 27.10% respondents were house wives & 10.50% were related to other professions as shown in figure 2.

Question No. 3
Area?

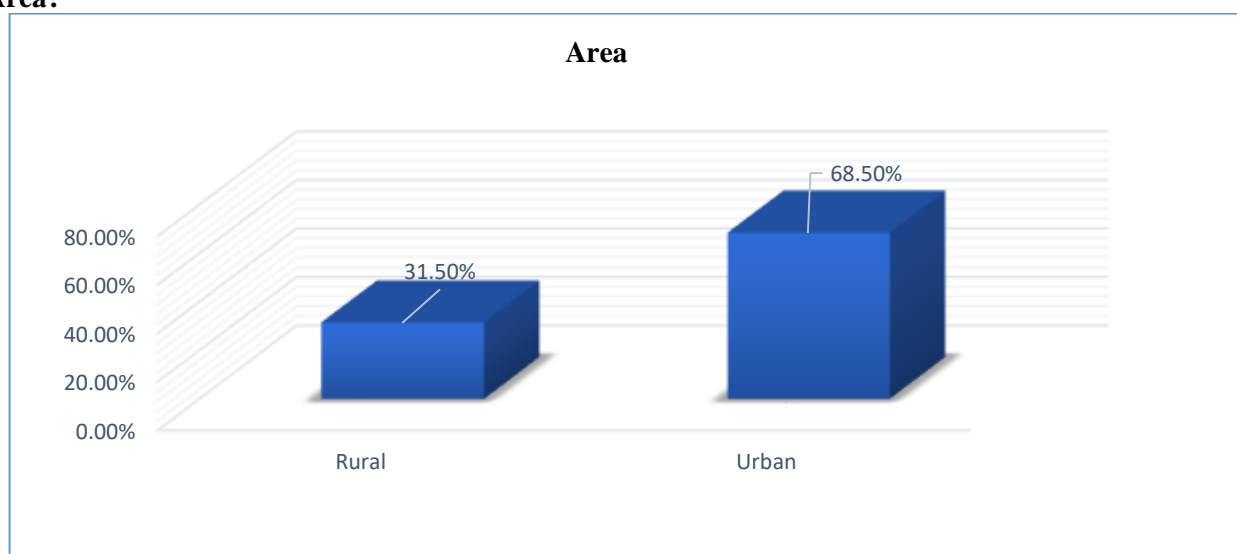


Figure 3

31.50% of the women lived in rural areas & 68.50% in urban areas as shown in figure 3.

Question No. 4
At what age did you start your periods?

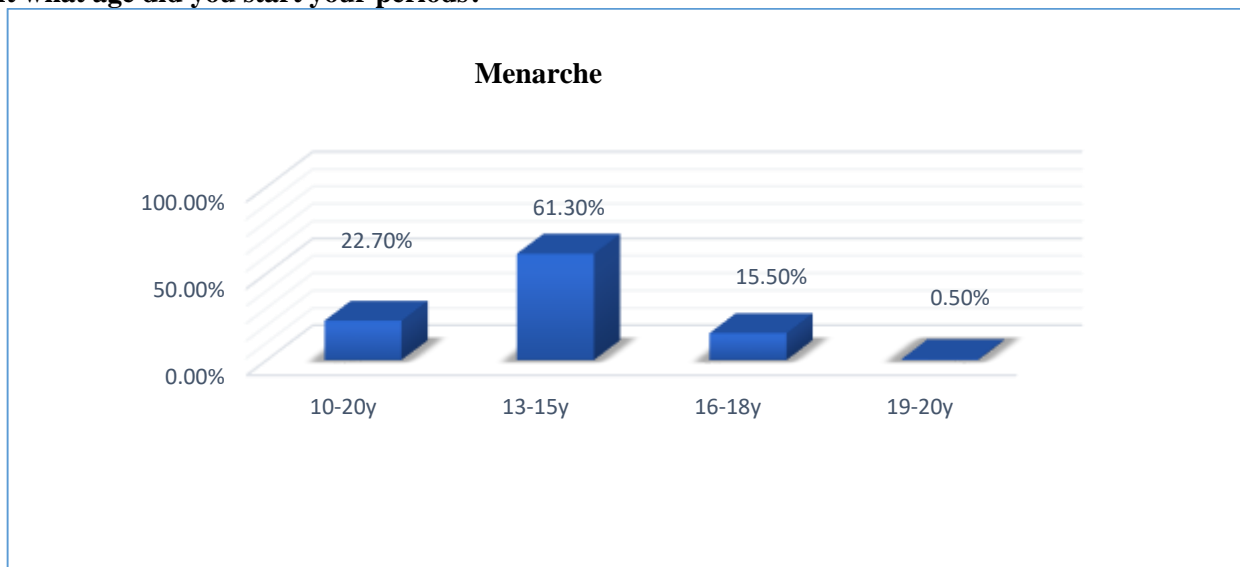


Figure 4

22.7% respondents started their period at age that is between 10-20 years, 61.3% at the age of between 13-15years, 15.50% at the age of between 16-18 years & 0.50% at age of between 19-20 years as shown in figure 4.

Question No. 5
Does your menstrual cycle repeat every month?

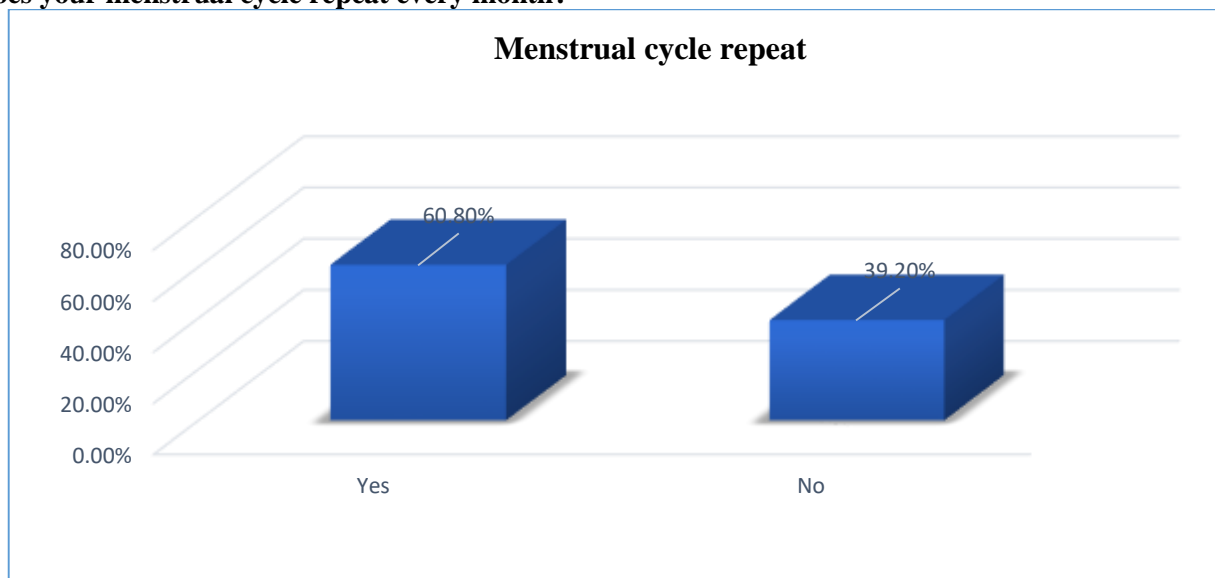


Figure 5

60.80% respondents reported that their cycles were regular and 30.20% reported irregularity of cycle as shown in figure 5.

Question No. 6
If no, then what is the pattern?

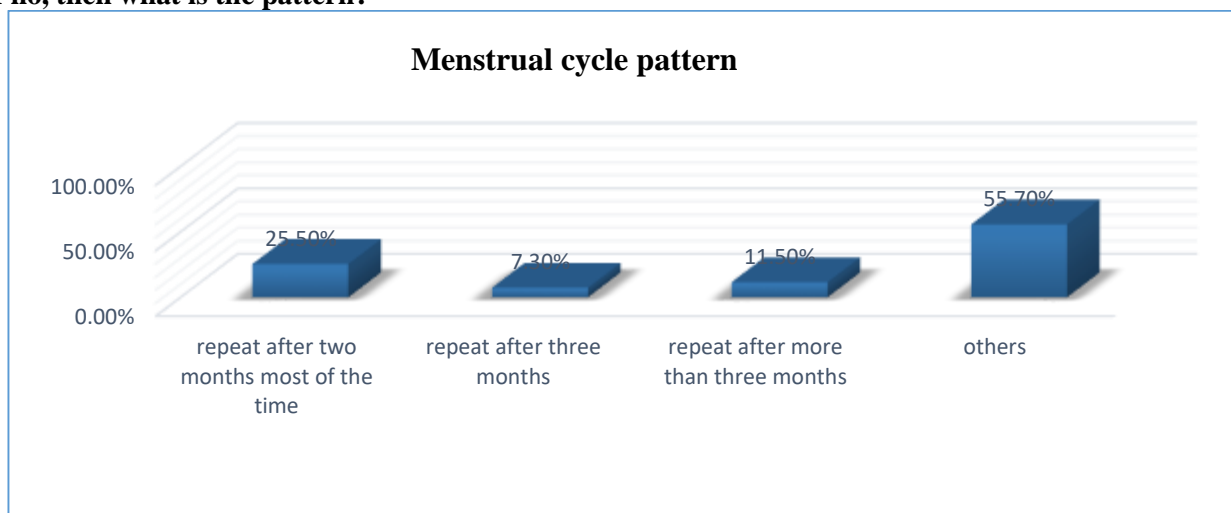


Figure 6

Menstrual cycle of 25.50% respondents repeated after two months, of 7.30% repeated after 3 months and menstrual cycle of 11.50% respondents repeated after more than 3 months as shown in figure 6.

Question No. 7
How many days does your menstruation last?

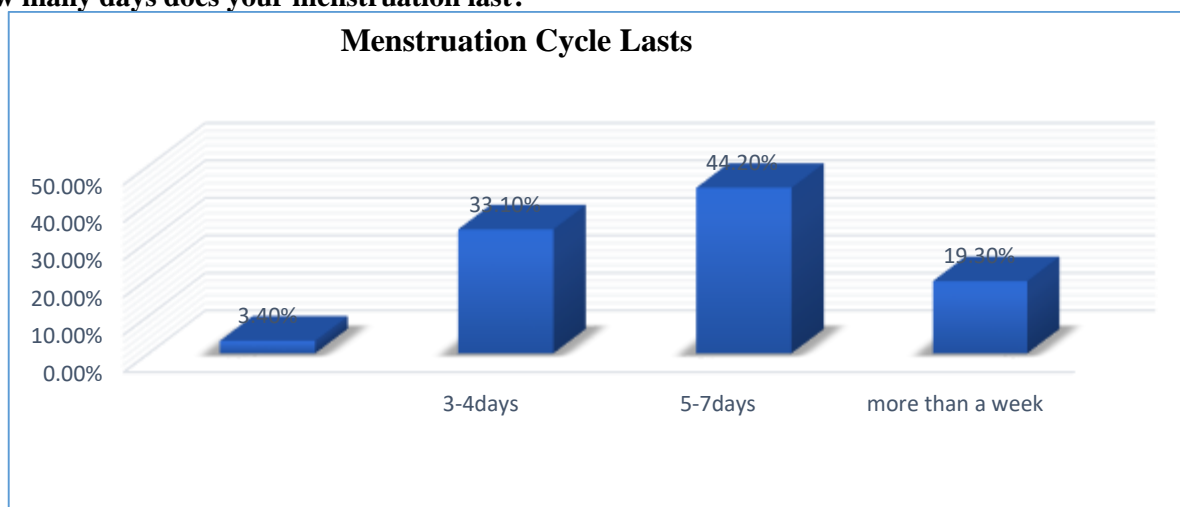


Figure 7

3.40% respondents had last their menstruation in 1-2 days, 33.10% in 3-4 days, 44.20% in 5-7 days and 19.30% had last their menstruation in more than a week as shown in figure 7.

Question No. 8

Do you experience painful periods/menstrual cramps?

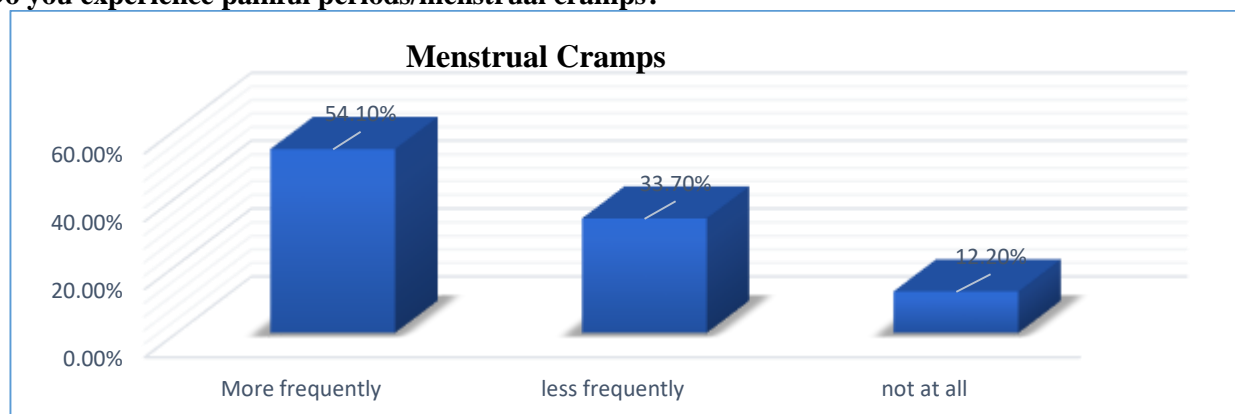


Figure 8

54.10% respondents more frequently experienced painful periods, 33.70% experienced less frequently while 12.20% experienced no pain at all as shown in figure 8.

Question No. 9

Do you feel bloating during periods?

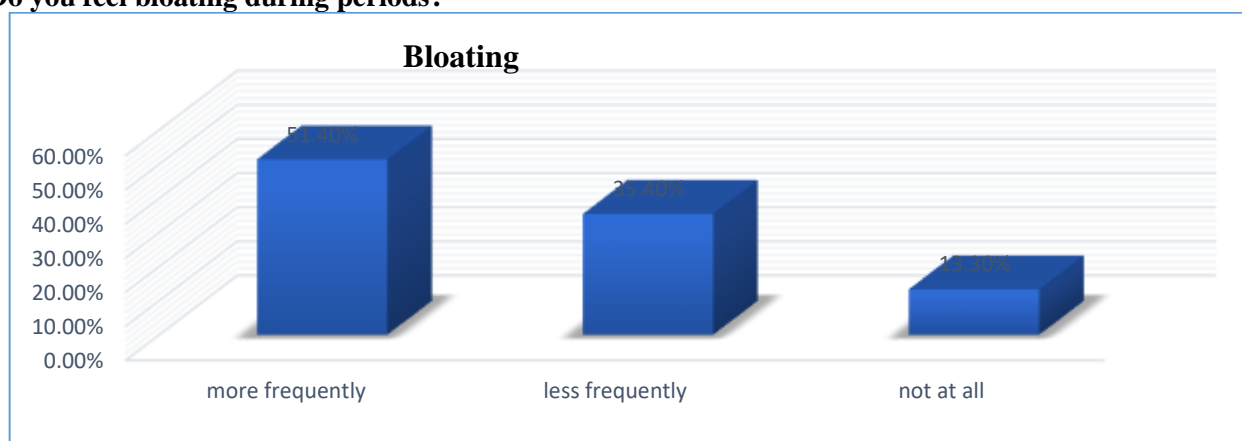


Figure 9

51.40% respondents felt bloating more frequently, 35.40% less frequently and 13.30% respondents did not feel bloating as shown in figure 9.

Question No.10

Do you experience Premenstrual syndrome(PMS)?

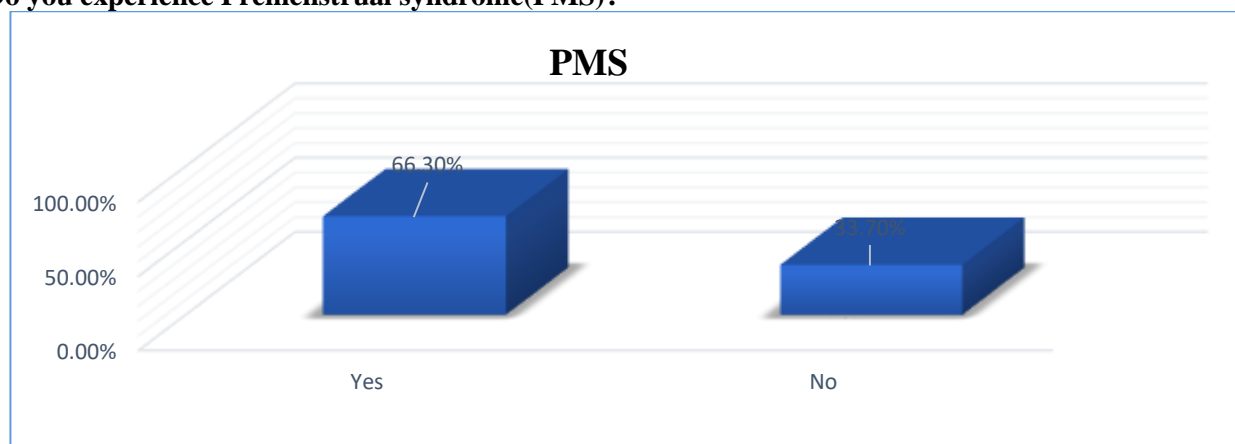


Figure 10

66.30% respondents experienced premenstrual syndrome(PMS) and 33.70% respondents did not experienced PMS as shown in figure 10.

Question No. 11

If yes then, how long does your premenstrual syndrome(PMS) last?

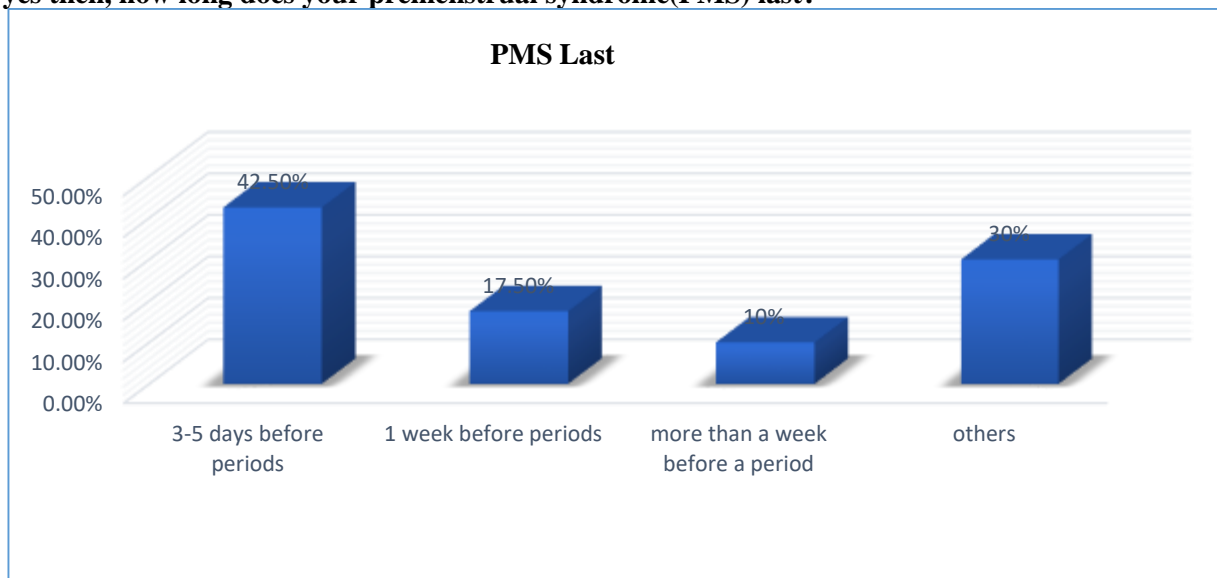


Figure 11

In 42.50% respondent's PMS remained for about 3-5 days before periods, in 17.50% PMS remained for about 1 week before periods, in 10% for more than a week before periods as shown in figure 11.

Question No. 12

What symptoms do you feel during your PMS?

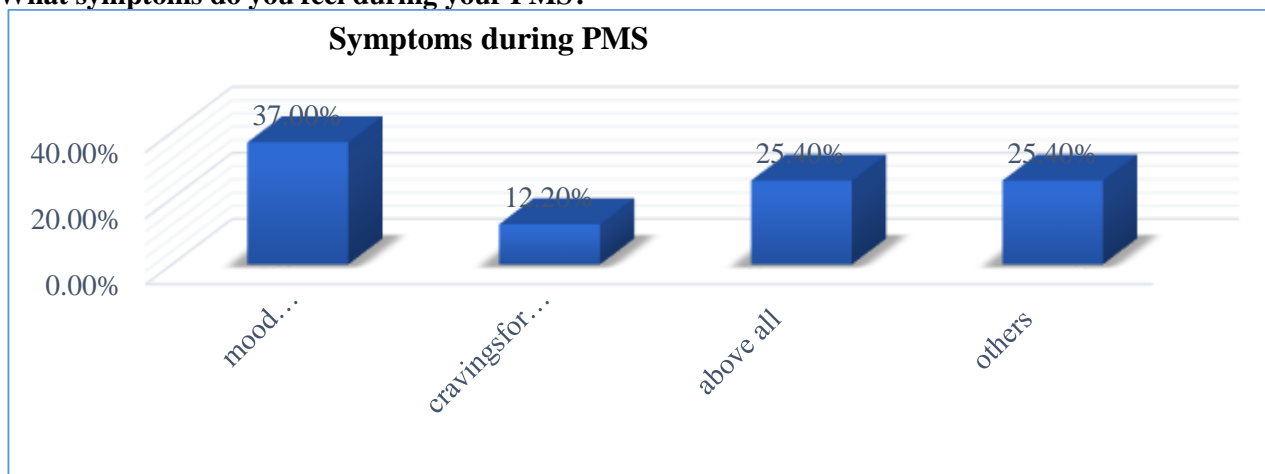


Figure 12

Majority (37%) of the respondents had symptoms of mood swings, irritability, depression and insomnia during PMS, 12.20% respondents had cravings of sweets etc. and 25.4% respondents had all above mentioned symptoms as shown in figure 12.

Question No. 13

How do you rank the severity of your PMS?

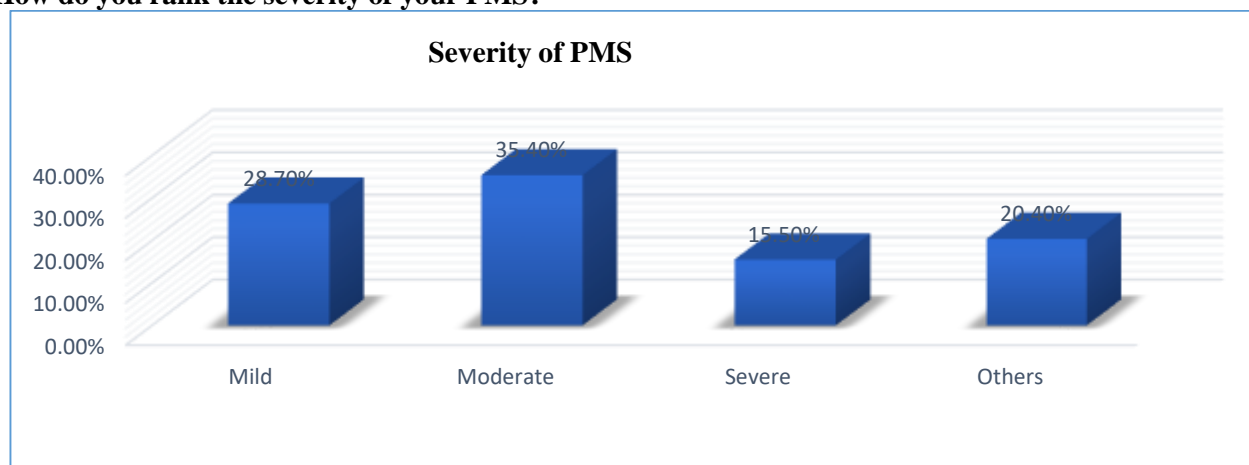


Figure 13

28.70% respondents had mild severity of PMS, 35.40% had moderate, and 15.50% had severe PMS as shown in figure 13.

Question No. 14

Which of the following problems do you experience during the periods?

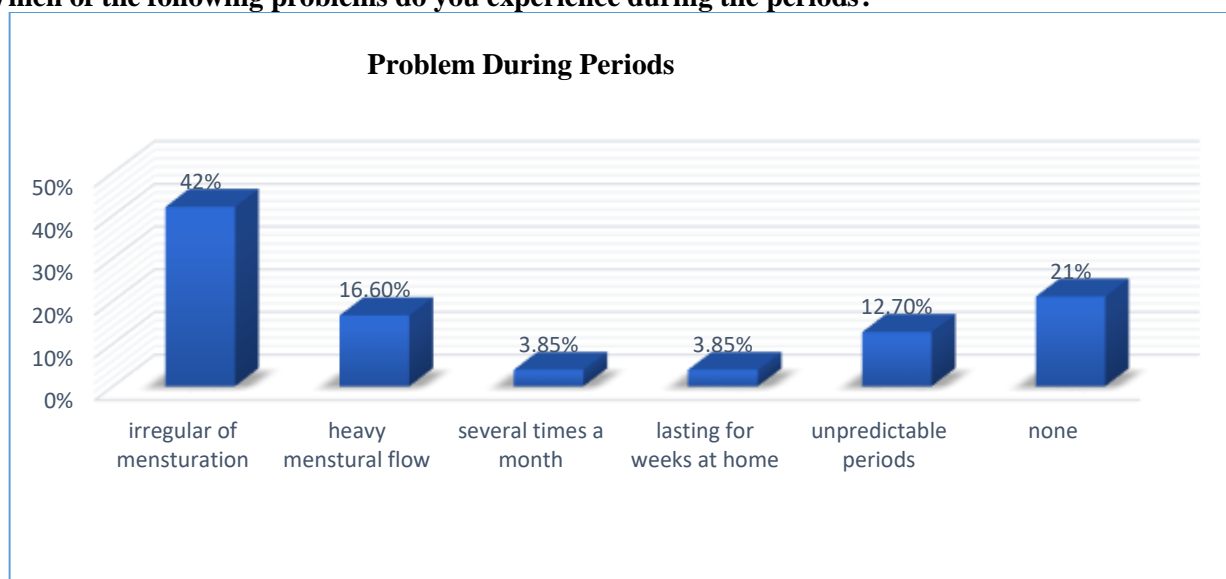


Figure 14

42% respondents had faced irregularation of menstruation cycle ,16.60% respondents experienced heavy menstrual flow, 3.85% respondents had menstruation cycle several times a month,3.85% respondents had menstruation for weeks,12.70% respondents experienced unpredictable periods while 21% respondents experienced no problem during menstruation as shown in figure 14.

Question No. 15

How long have you been suffering from periods/menstruation problem?

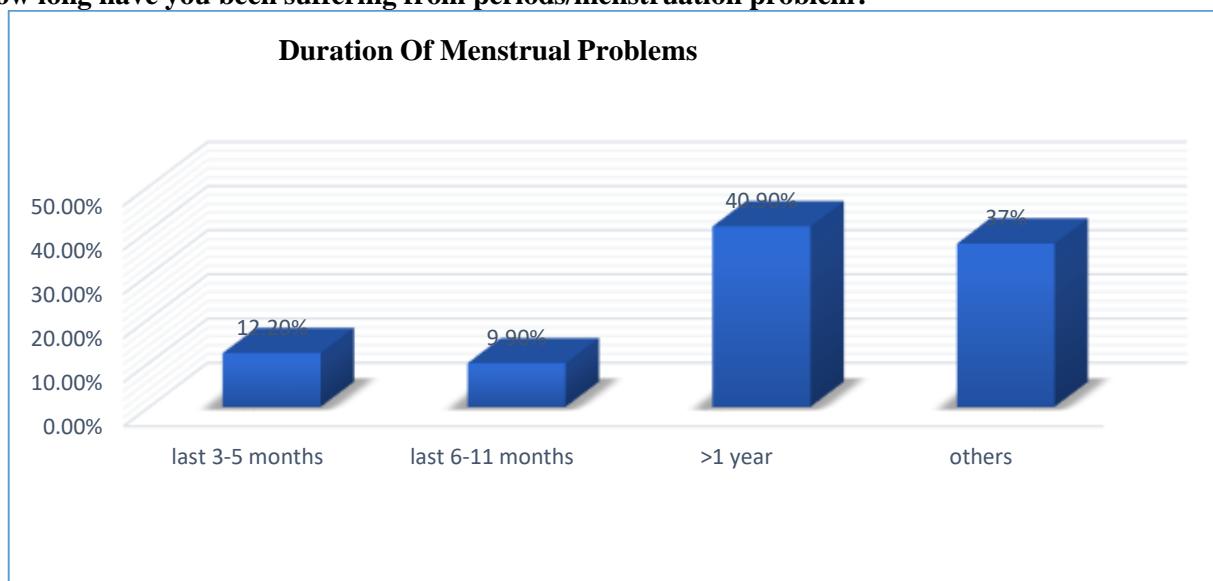


Figure 15

12.20% respondents had been suffering from periods/menstruation problems from last 3-5 months, 9.90% from last 6-11 months and 40.90% from more than 1 year as shown in figure 15.

Question No. 16

What is the color of your menstruation blood?

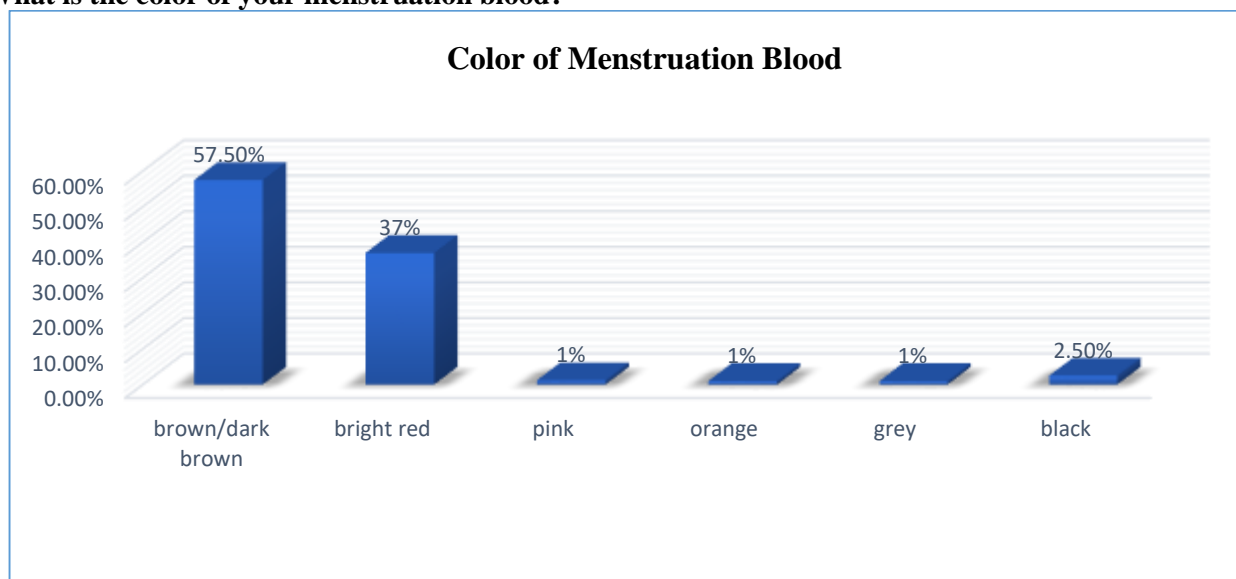


Figure 16

57.50% respondents had brown/dark brown color of their menstruation, 37% respondents had bright red color, 1% had pink color, 1% had grey and orange color whereas, 2.50% respondents had black color of their menstruation as shown in figure 16.

Question No. 17
What is your body mass index?

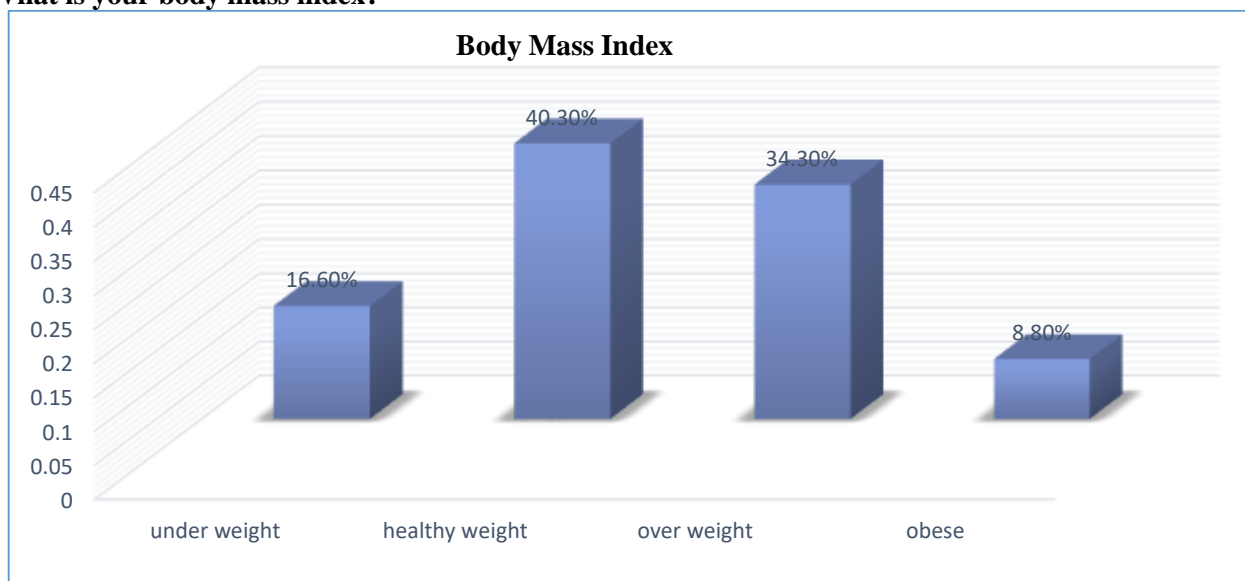


Figure 17

Most of the (40.30%) of women were of healthy weight, 16.60% were of underweight, 34.30% were of overweight and near to be obese while 8.80% were obese as shown in figure 17.

Question No. 18
If you are overweight/obese, then which of the following area has more fats?

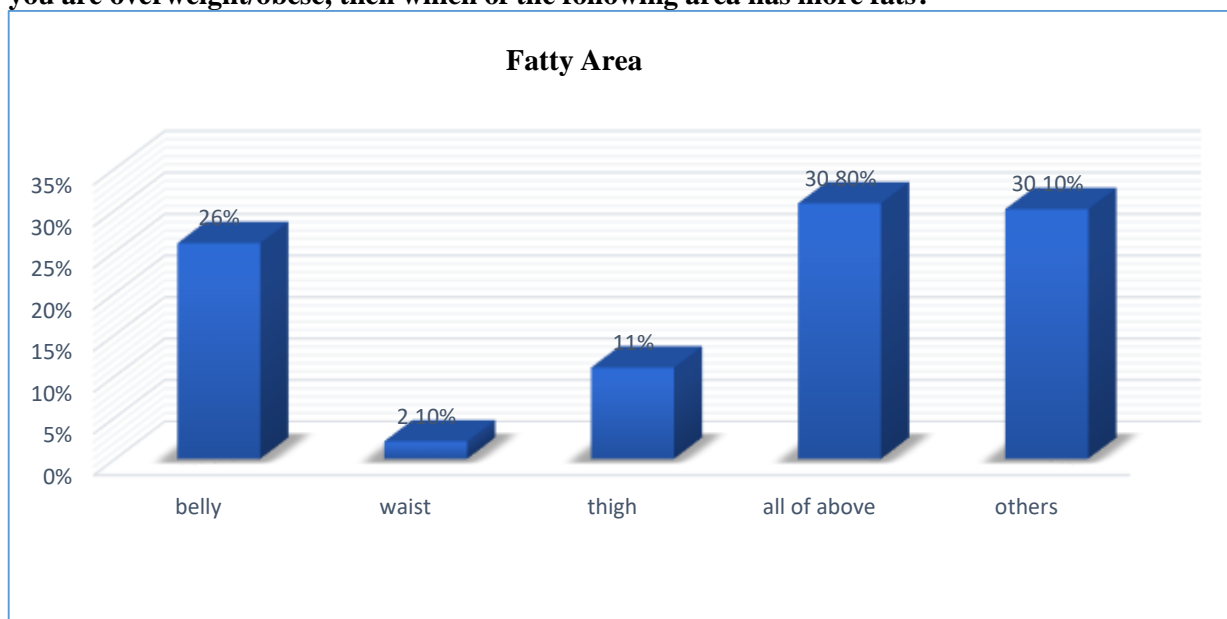


Figure 18

26% respondents were overweight and have belly fat, 2.1% women had waist fat and 11% women had thigh fat, 30.80% had fats in all above areas of body as shown in figure 18.

Question No. 19
What do you consume daily?

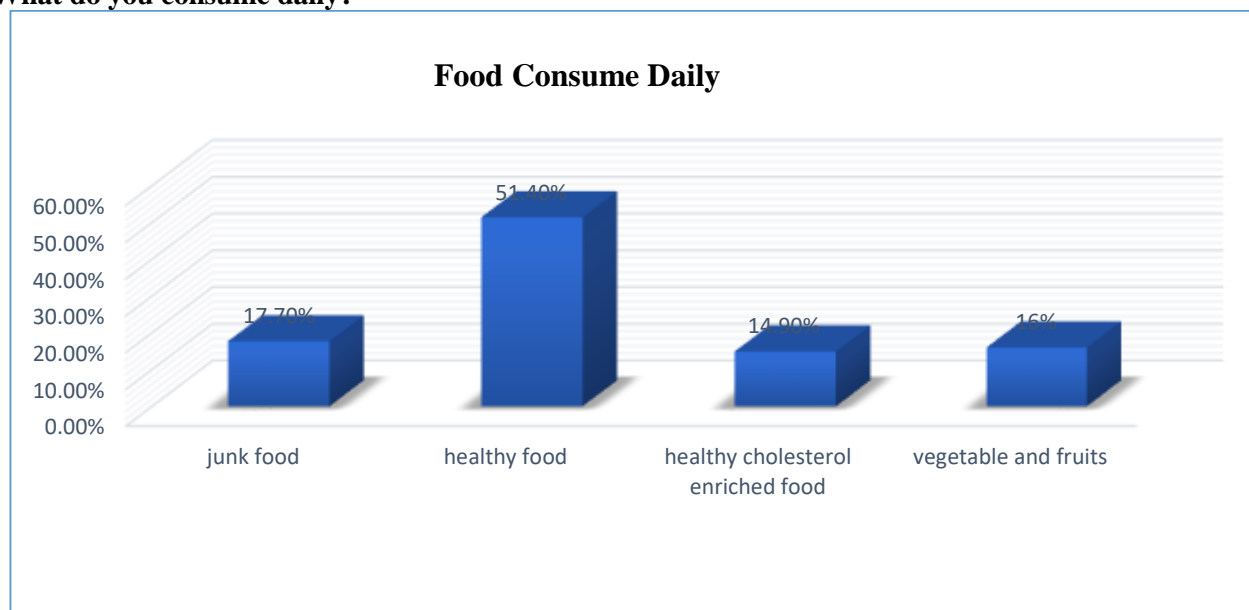


Figure 19

17.7% respondents consumed junk food, 51.40% consumed healthy food, 14.90% take healthy cholesterol food and 16% respondents consumed vegetables and fruits as shown in figure 19.

Question No. 20
Do you find any difficulty in losing weight?

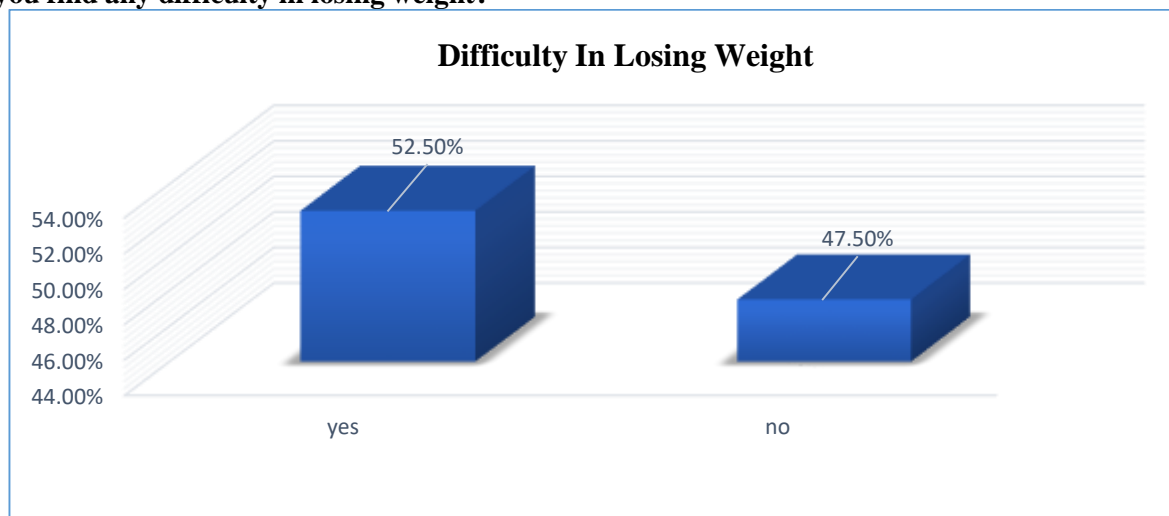


Figure 20

52.50% women felt difficulty in losing weight and 47.50% did not feel any difficulty in losing weight as shown in figure 20.

Question No. 21

If yes, then what are you doing for weight management?

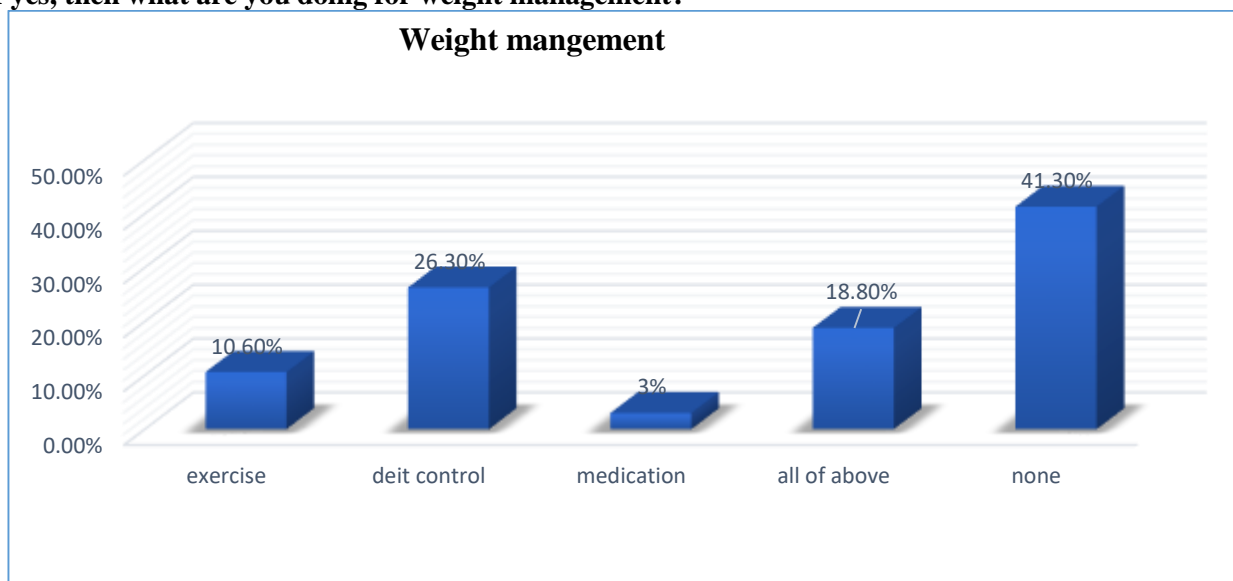


Figure 21

10.60% women took exercise for their weight management, 26.30% women managed their weight by controlling their diet, 3% by medication and 18.80% women did exercise, diet control and medication for their weight management as shown in figure 21.

Question No. 22

Are you frustrated from trying to lose weight?

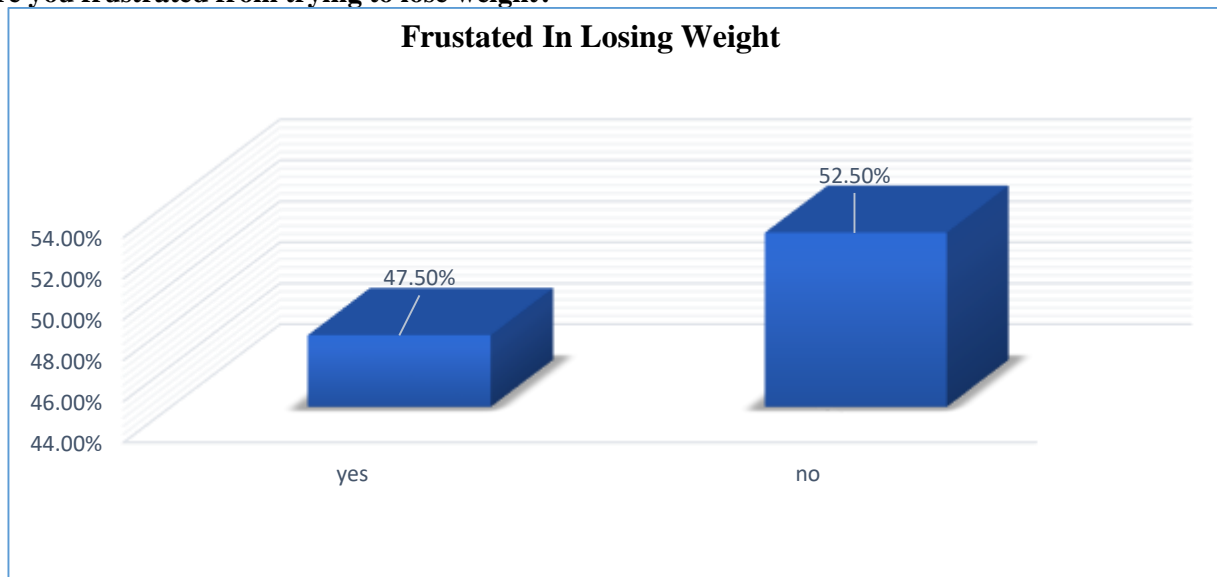


Figure 22

47.50% women were frustrated from trying to lose weight and 52.50 % were not frustrated as shown in figure 22.

Question No. 23

Do you have visible thick hair growth on your body?

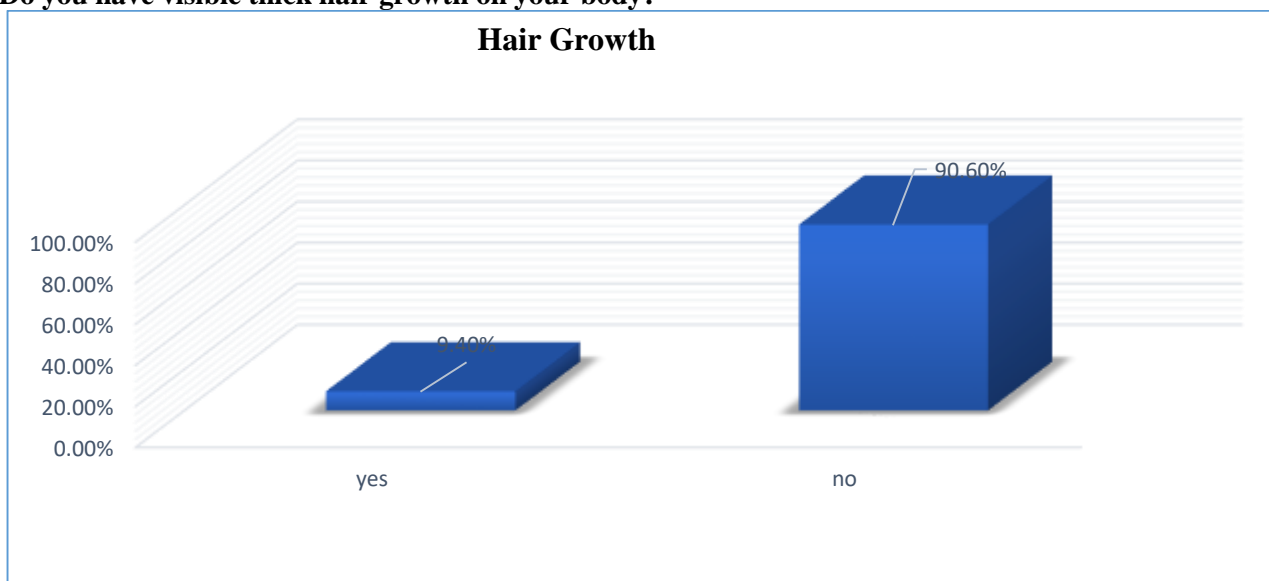


Figure 23

9.4% respondents had visible thick hair growth on their body and 90.60% had not as shown in figure 23.

Question No. 24

If yes, then which of the following area of your body has excessive/thick hair growth?

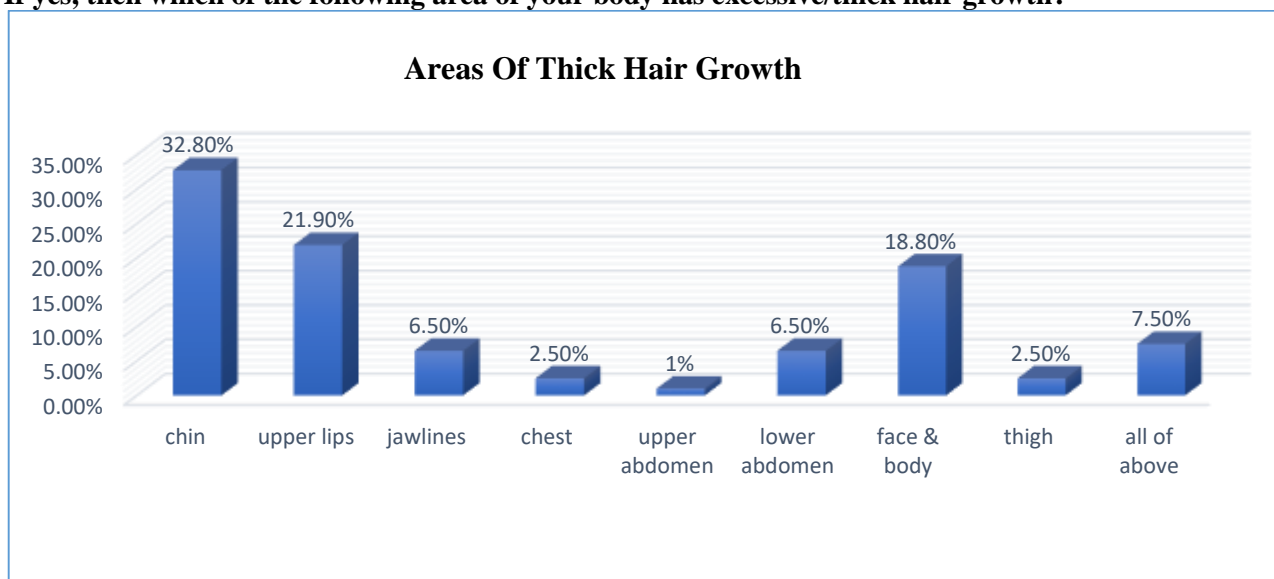


Figure 24

32.80% had hair growth on chin, 21.90% on upper lips, 6.50% on jawlines, 2.50% on chest, 1% on upper abdomen, 6.50% on lower abdomen, 18.80% on face and other body parts and 2.50% had hair growth on thigh as shown in figure 24.

Question No. 25

What are you doing to treat the excessive body hairs?

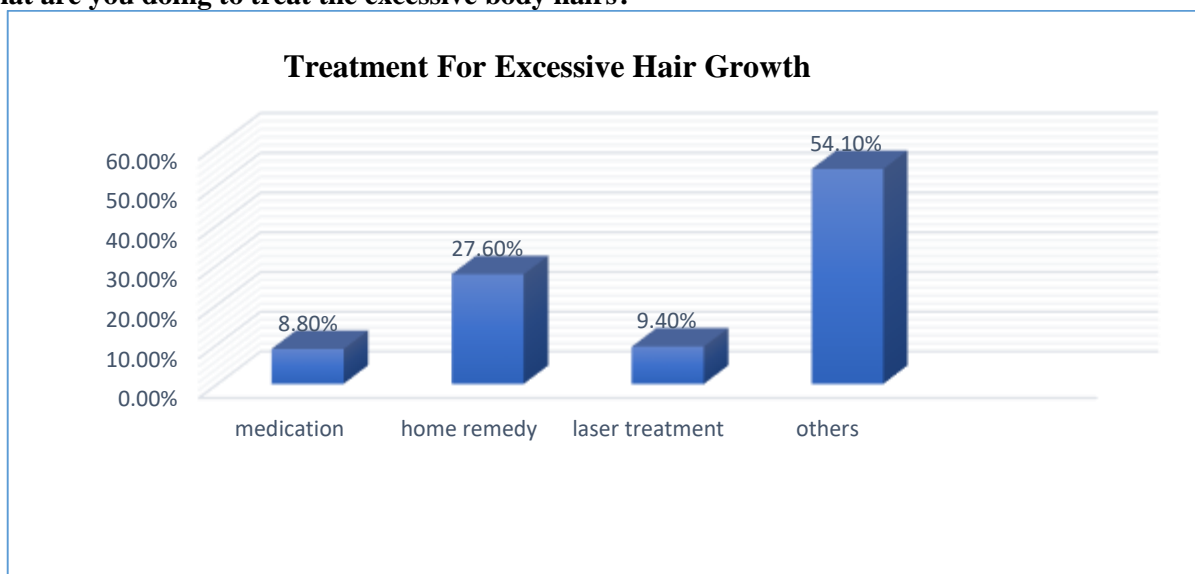


Figure 25

8.80% women took medication, 27.6% used home remedies and, 9.40% got laser treatment to treat excessive body hairs as shown in figure 25.

Question No. 26

Does your thick hair become more prominent before the menstruation?

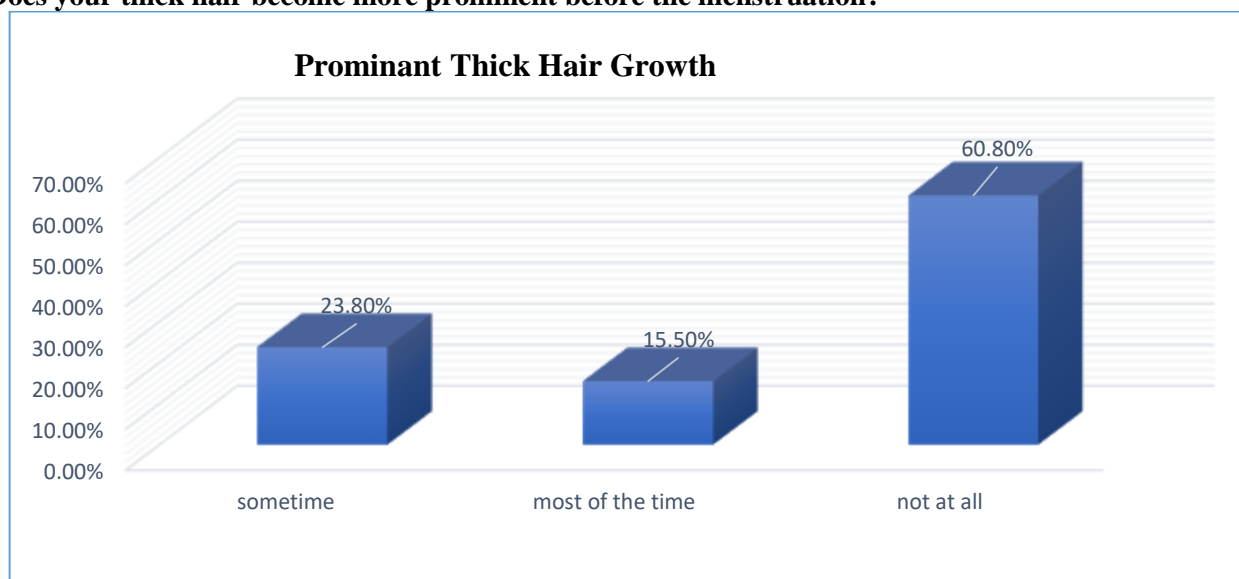


Figure 26

In 23.80% respondents sometimes and 15.50% respondents most of the time thick hair became more prominent before menstruation as shown in figure 26.

Question No. 27

Do you feel embarrass having excessive thick hair on your body?

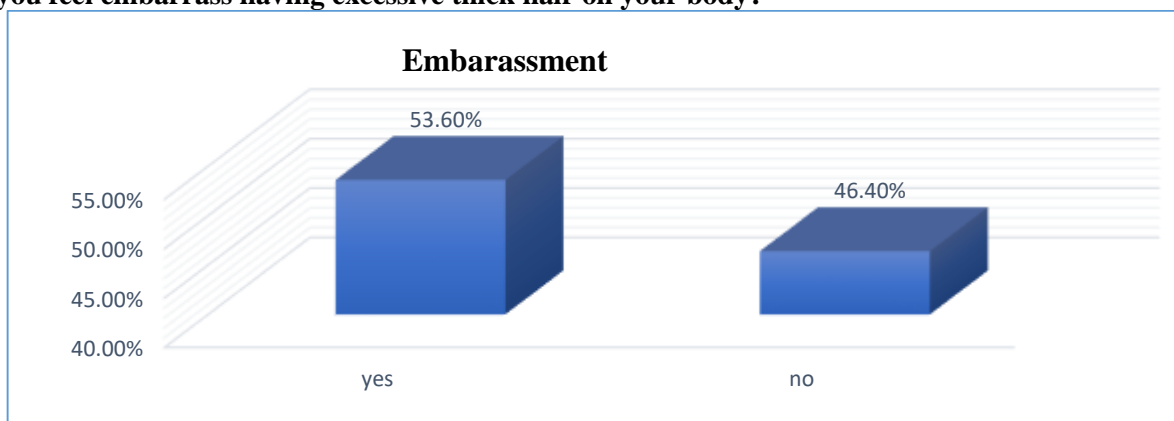


Figure 27

53.60% respondents felt embarrassed having excessive thick hair on their body and 46.40% respondents did not feel any embarrassment as shown in figure 27.

Question No. 28

Do you have hyperpigmentation?

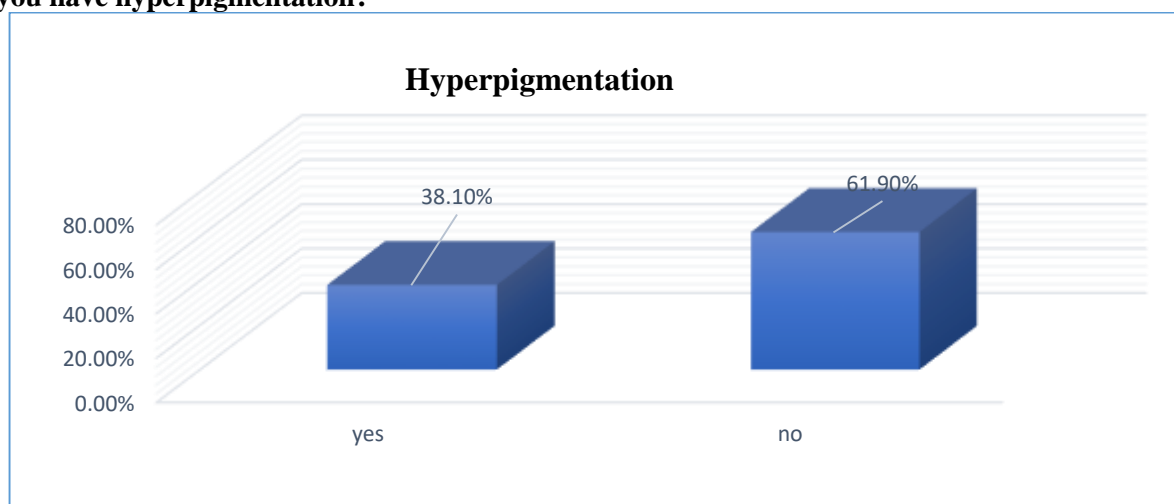


Figure 28

38.10% respondents had hyperpigmentation and 61.90% did not have any type of hyperpigmentation as shown in figure 28.

Question No. 29

If yes, on which area of your body has hyperpigmentation?

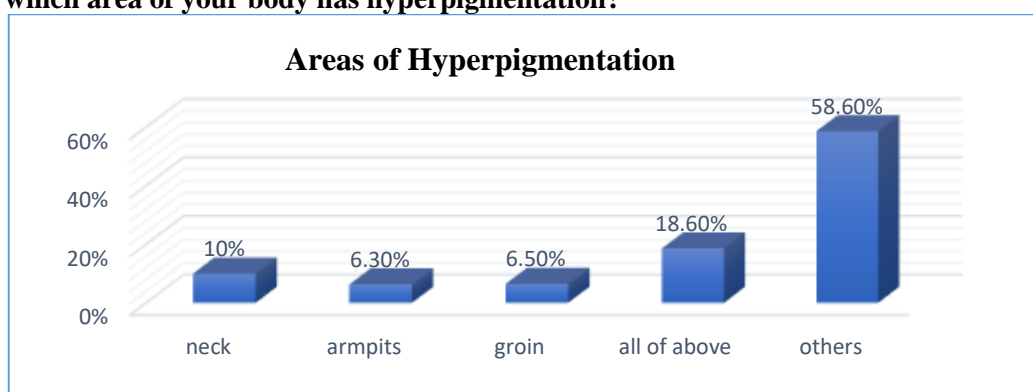


Figure 29

10% respondents had hyperpigmentation on neck, 6.30% had on armpits, 6.50% had on groin and 18.60% had on above all these areas as shown in figure 29.

Question No. 30

What are you doing to treat the hyperpigmentation?

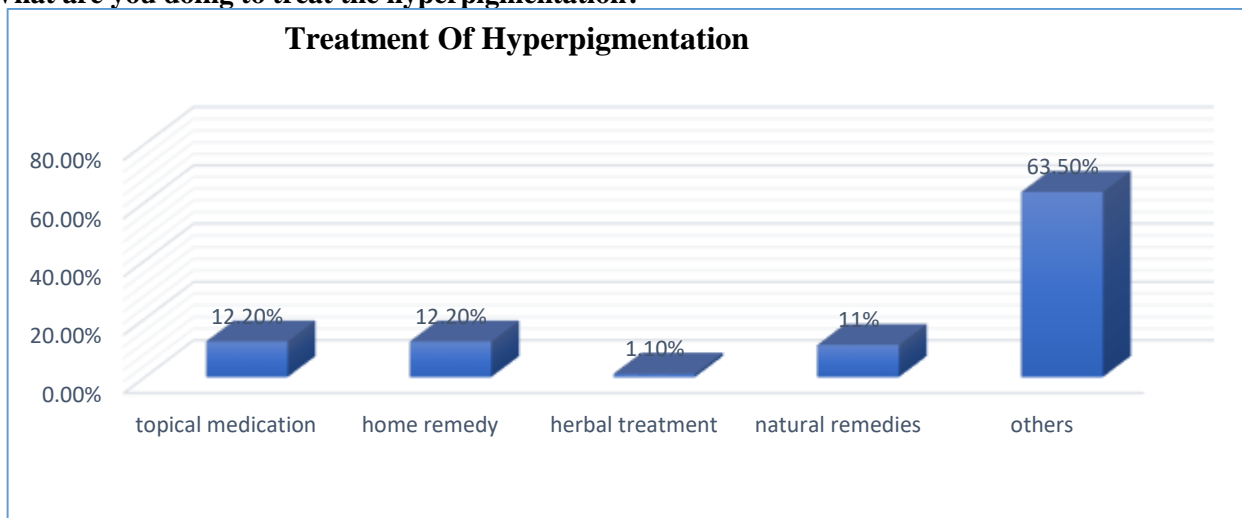


Figure 30

12.20% women used topical medication and home remedies to treat hyperpigmentation, 1.10% used herbal treatment and 11% women used natural remedies to treat their hyperpigmentation as shown in figure 30.

Question No. 31

Do you have hair fall/hair loss problems?

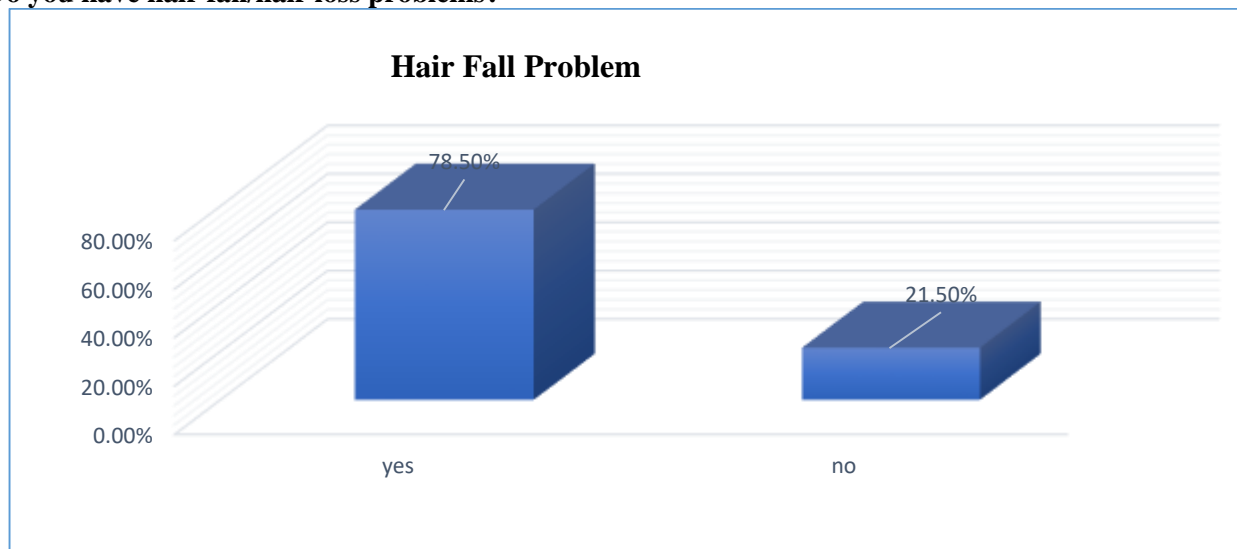


Figure 31

78.50% respondents had hair loss problems and 21.50% did not have hair loss problems as shown in figure 31.

Question No. 32

If yes, then what is the pattern of your hair loss?

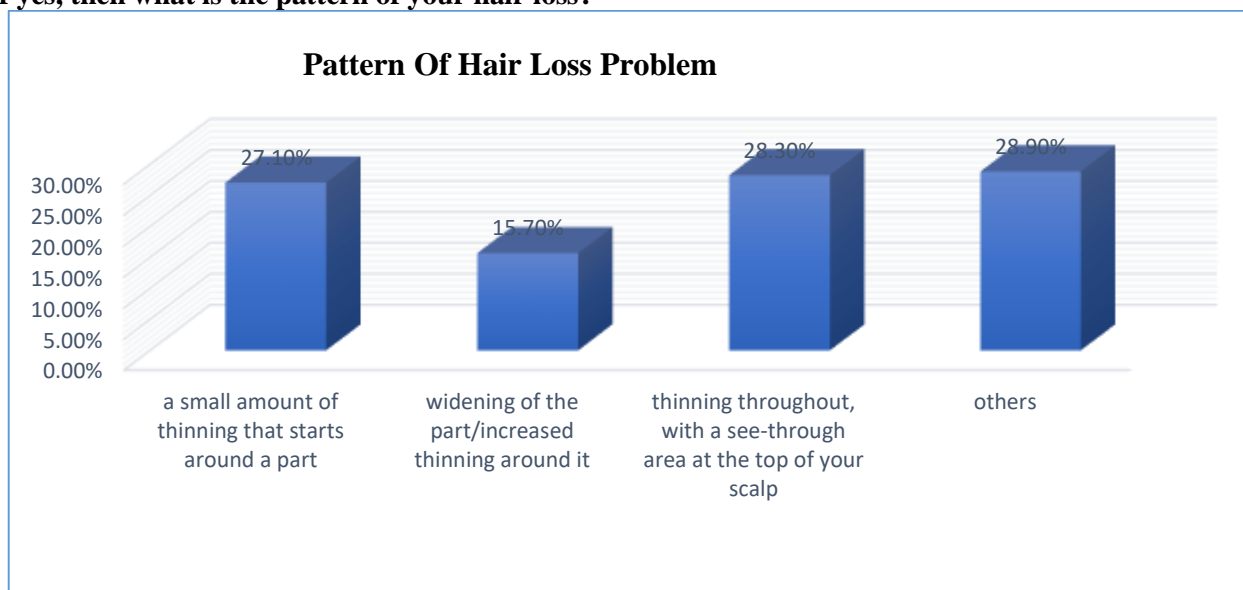


Figure 32

27.10% respondents had hair loss pattern like a small amount of thinning that started around a part, 15.70% respondents had widening of the part/increased thinning around it, 28.30% had thinning throughout area at the top of your scalp as shown in figure 32.

Question No. 33

What are you doing to treat hair fall/hair loss problems?

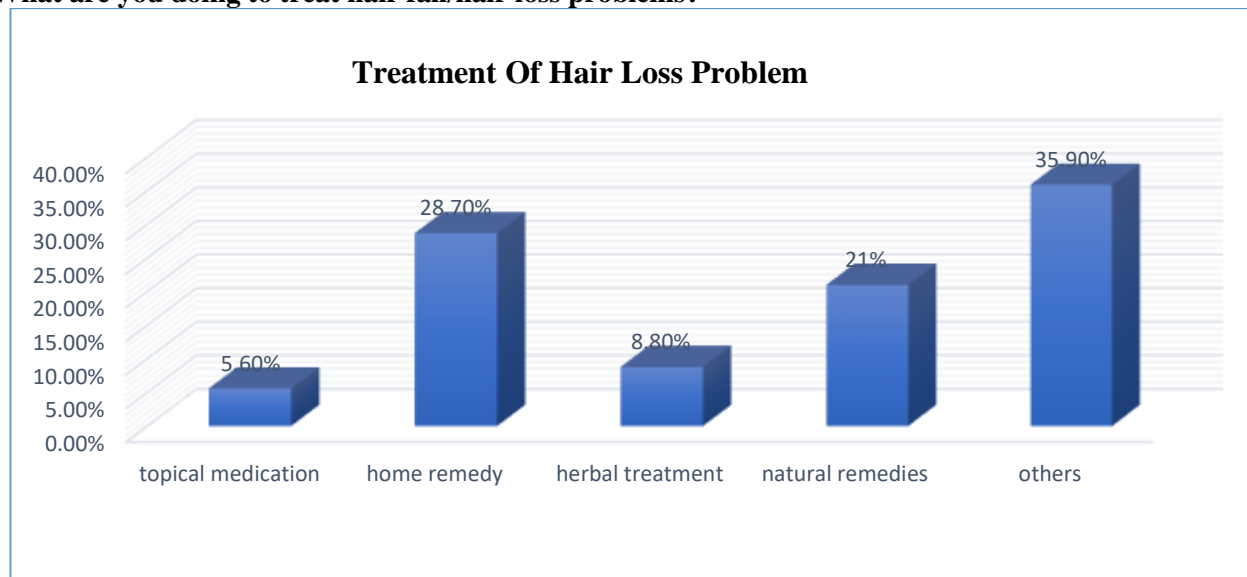


Figure 33

5.6% women used topical medication to treat hair loss problems, 28.70% women used home remedy, and 8.80% women used natural remedies to treat hair fall/ hair loss problem as shown in figure 33.

Question No. 34
Do you have acne problem?

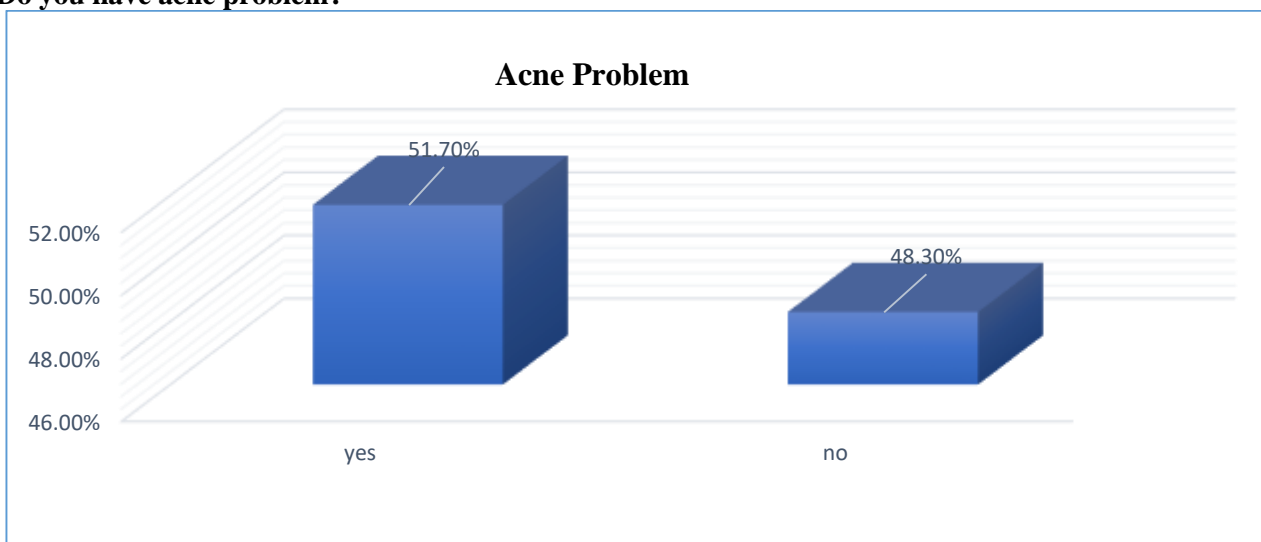


Figure 34

51.70% had acne problems and 48.30% did not have any acne problems as shown in figure 34.

Question No. 35
If yes, then on which area acne flares the most?

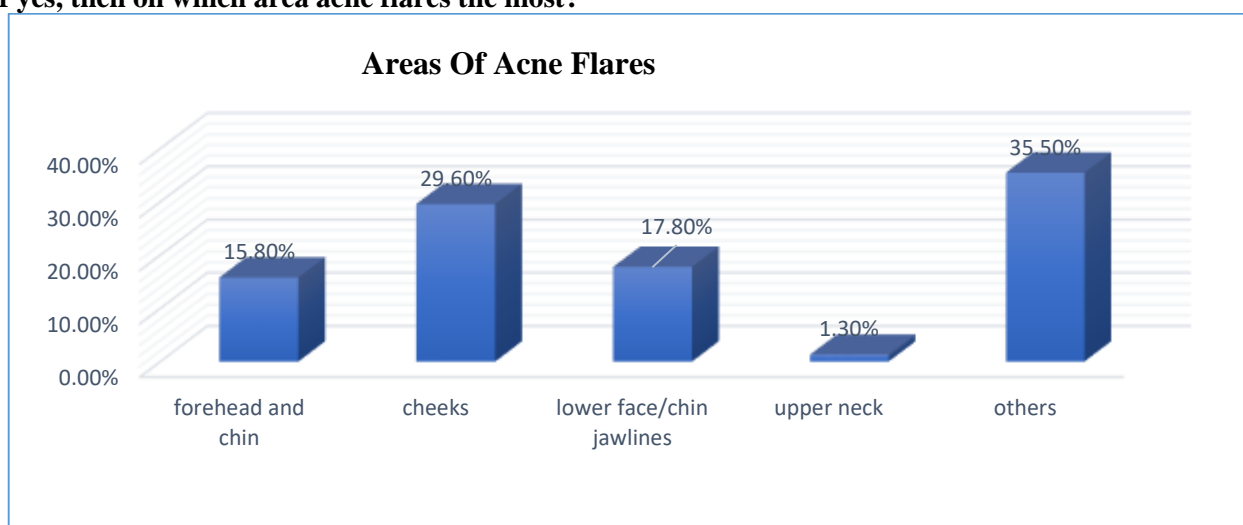


Figure 35

15.80% respondents had acne on forehead and chin, 29.60% respondents had on cheeks, 17.80 respondents had on lower face/chin jaw lines while 1.30% had on upper neck as shown in figure 35.

Question No. 36
What are you doing to treat acne problems?

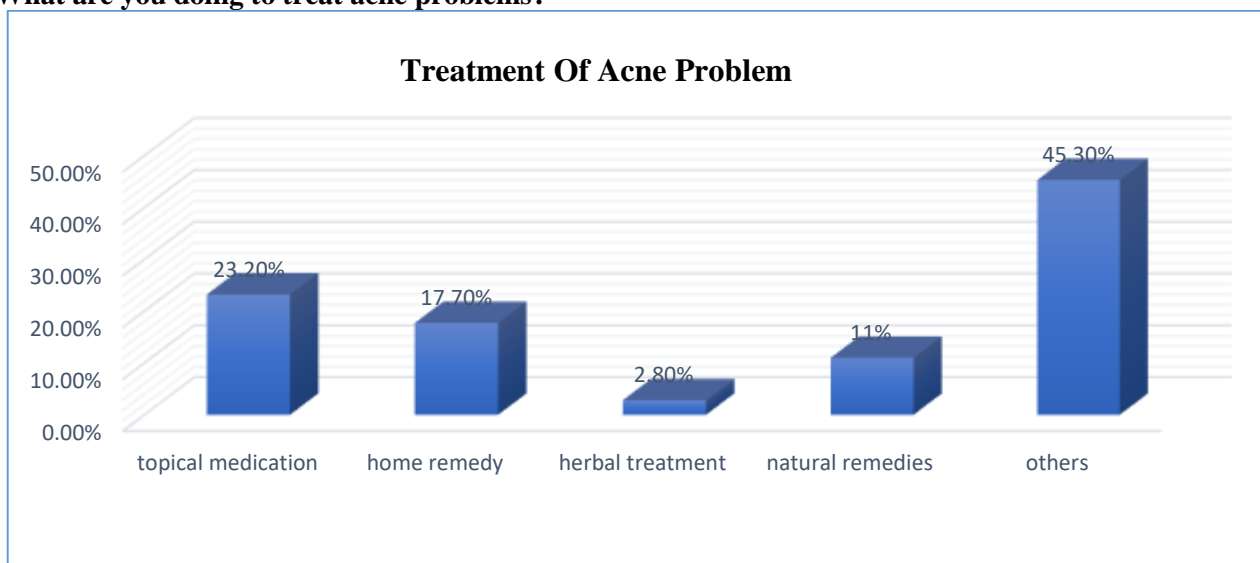


Figure 36

23.20% respondents used topical medications to treat acne, 17.70% respondents used home remedies, 2.80% respondents used herbal treatment, 11% respondents treated by natural remedies as shown in figure 36.

Question No. 37
Does your acne get worst at different times of menstrual cycle?

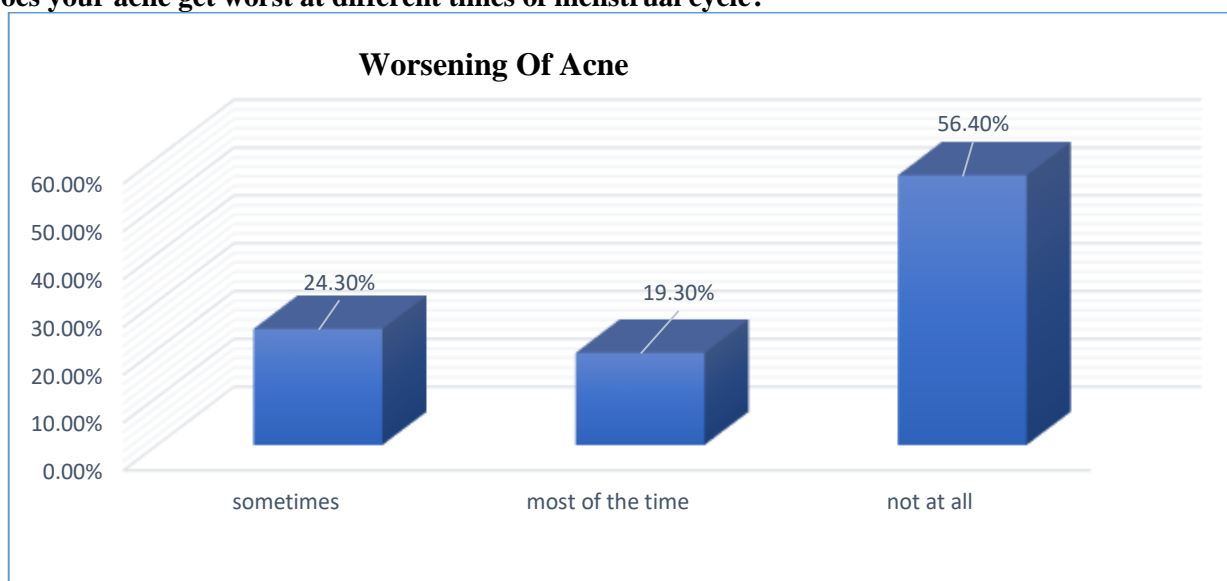


Figure 37

19.30% respondents most of the time had acne problem, 24.30% respondents sometimes suffered from acne problem, 56.40% respondents got not at all this problem as shown in figure 37.

Question No. 38
Are you married?

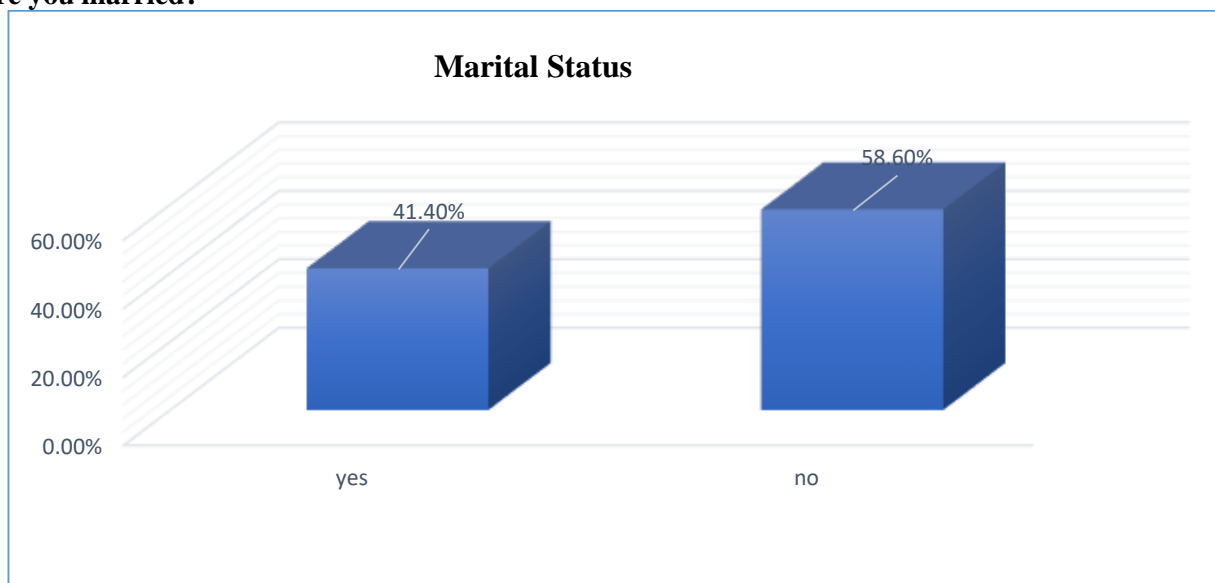


Figure 38

Majority of respondents, 58.06% were unmarried and 41.40% were married as shown in figure 38.

Question No. 39
If yes, then do have children?

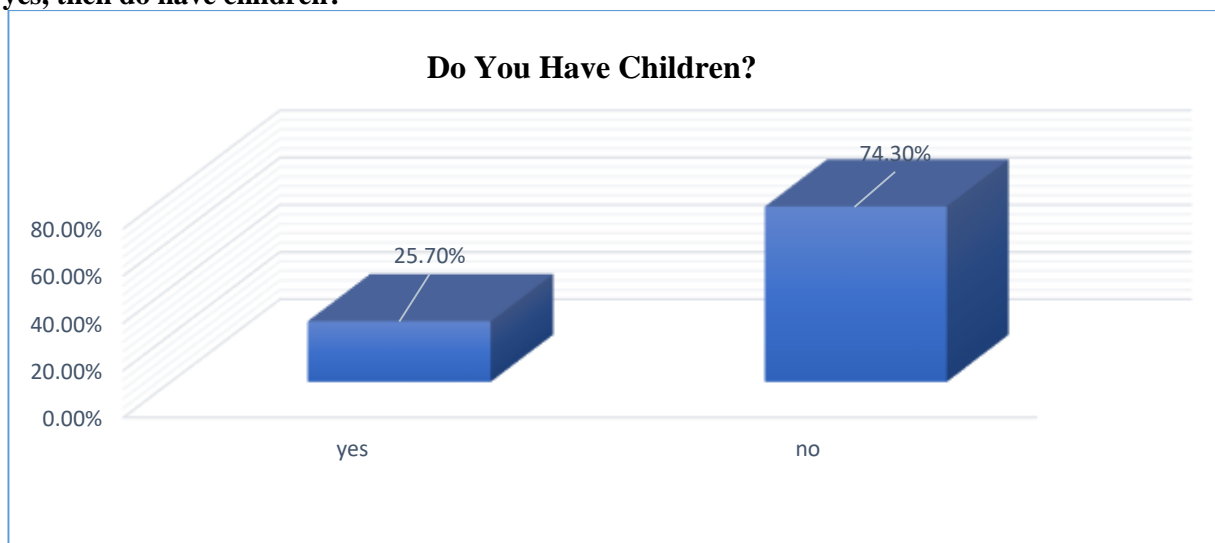


Figure 39

25.70% married women had children while 74.30% had not as shown in figure 39.

Question No. 40

If you have children then, did you find any problem in conceiving?

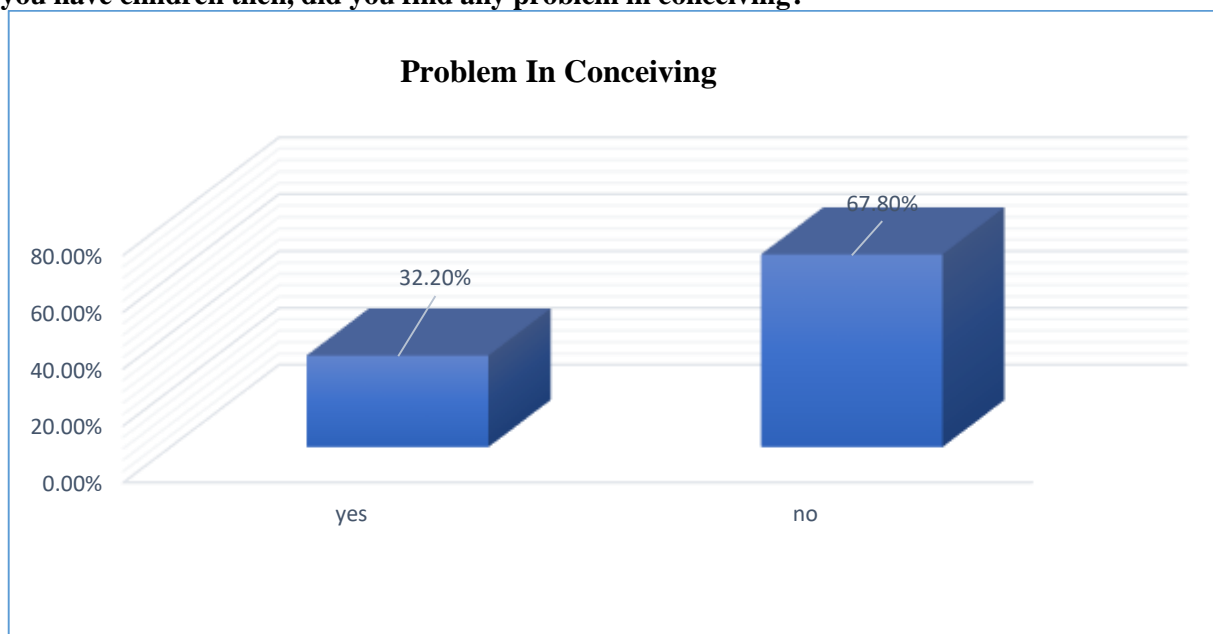


Figure 40

32.20% respondents found problem in conceiving, while 67.80% respondents found no problem in conceiving as shown in figure 40.

Question No. 41

If you do not have children then, are you suffering from infertility problems?

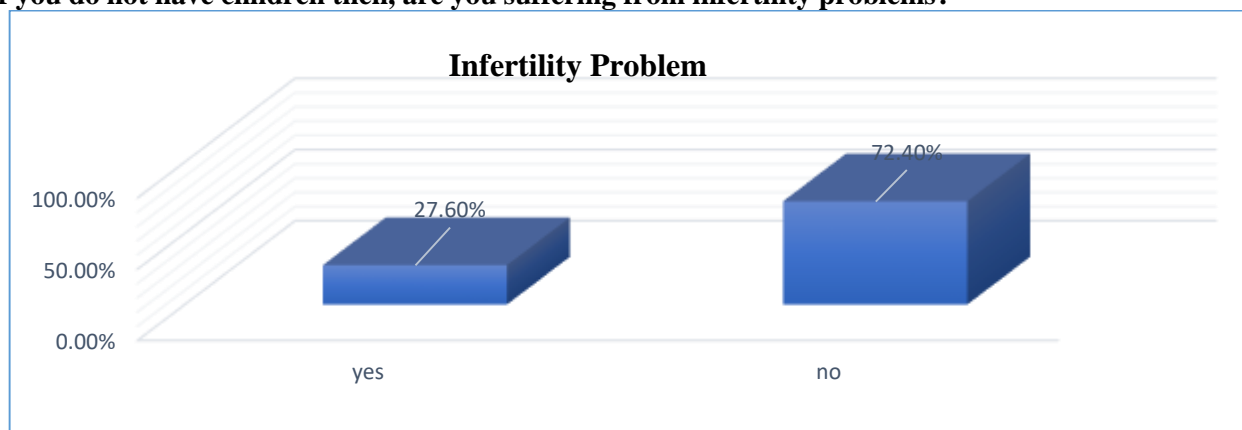


Figure 41

27.60% respondents were suffering from infertility problems while 72.40% were not suffering any problem as shown in figure 41.

Question No. 42
If yes, then what are you doing to treat infertility problems?

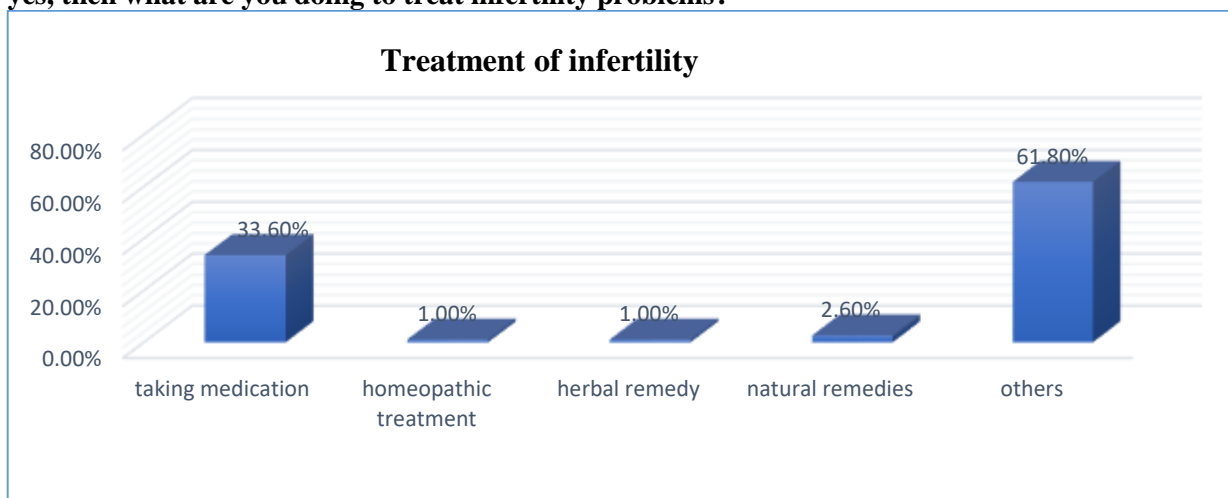


Figure 42

33.60% respondents were taking medication to treat infertility problem, 1.00% respondents used homeopathic medicines and 1.00% respondents used herbal remedies as shown in figure 42.

Question No. 43
Do you have family history of infertility?

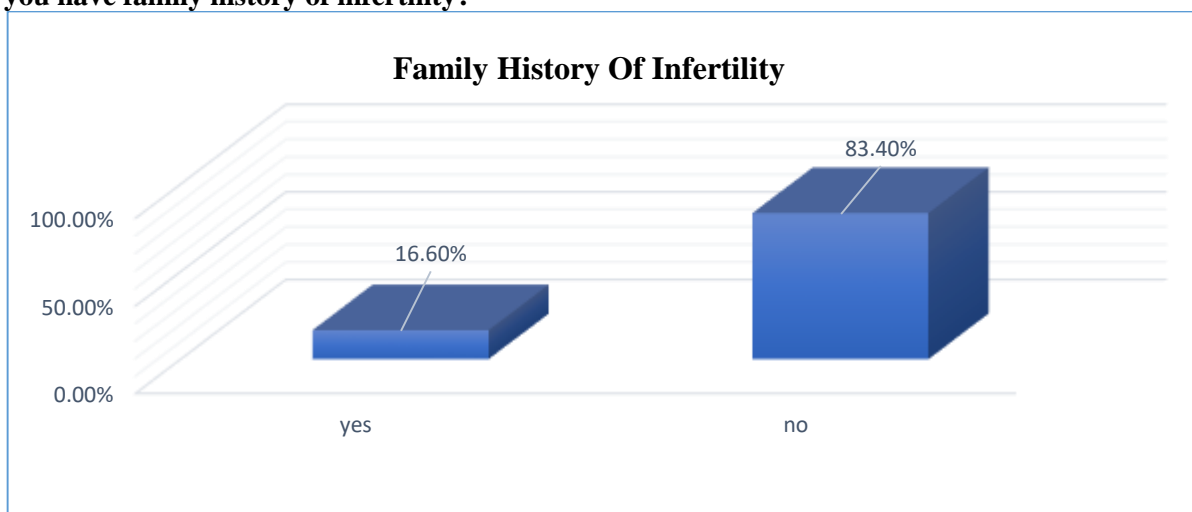


Figure 43

16.60% women had family history of infertility while 83.40% women had not as shown in figure 43.

Question No. 44
Do you feel sad of not having children?

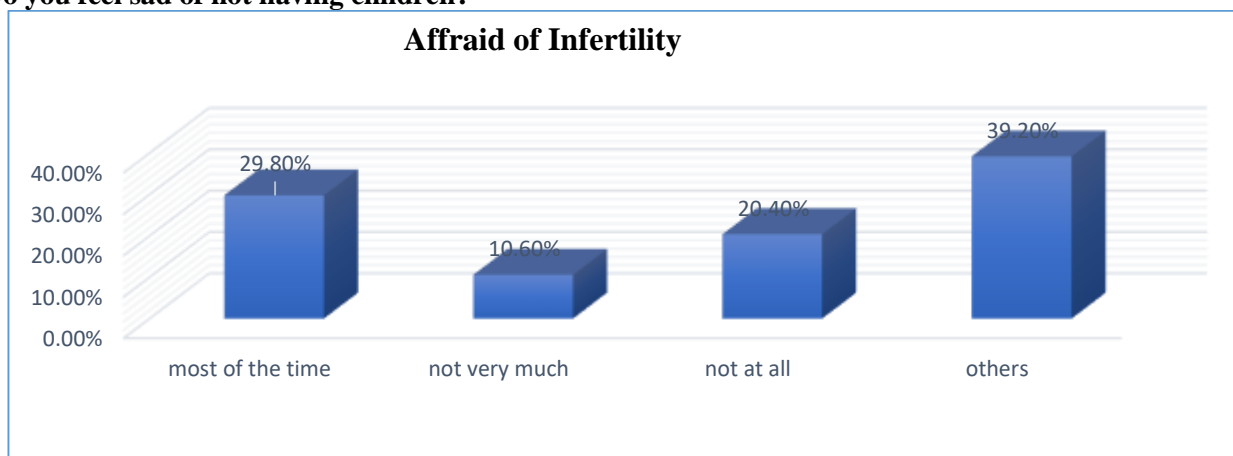


Figure 44

29.80% respondents were most of the time worry about not having children,10.60% were not very much worried while 20.40% worried not at all as shown in figure 44.

Question No. 45
Are you a diabetic patient?

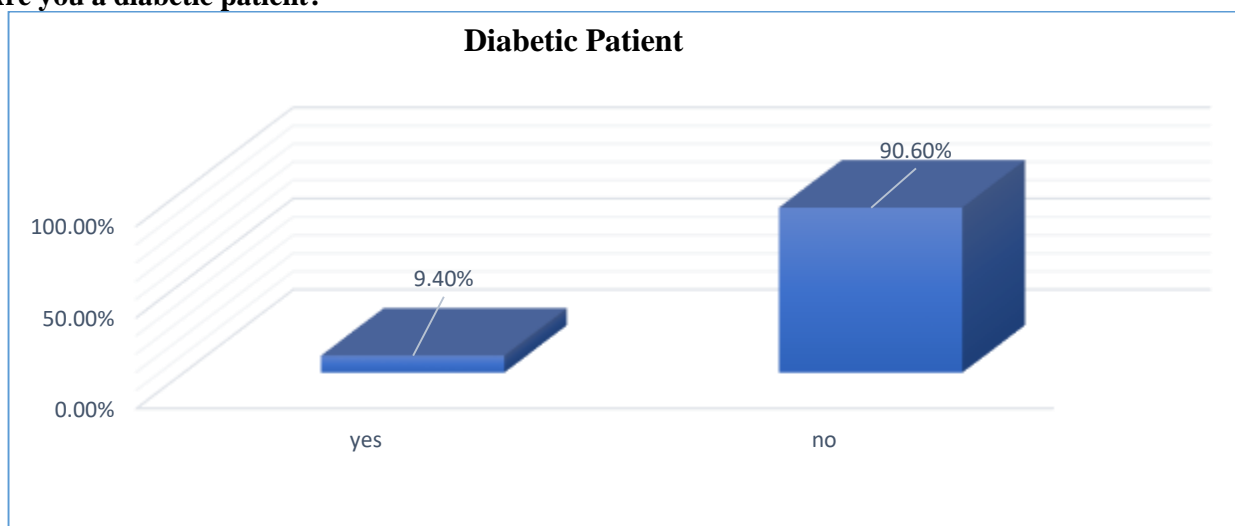


Figure 45

9.40% women were diabetic respondents while 90.60% were not diabetic as shown in figure 45.

Question No. 46

If you are diabetic then, how do you manage your diabetes?



Figure 46

7.20% respondents were treated by taking medicines, 1.60% respondents took exercise, 4.60% respondents were controlling their diet, 4.60% did all of above things to treat diabetes while 82% respondents did nothing as shown in figure 46.

Question No. 47

If you are not diabetic, then have you ever tested your blood glucose level?

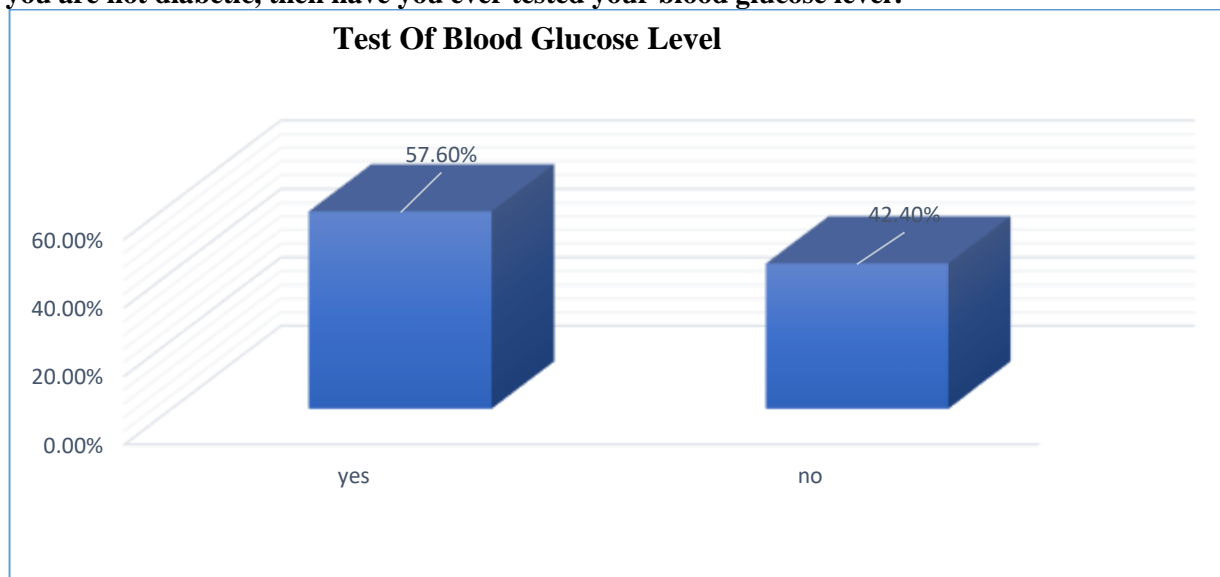


Figure 47

57.60% respondents undergone blood glucose test while 42.40% were not being tested as shown in figure 47.

Question No. 48

Do you have a family history of diabetes?

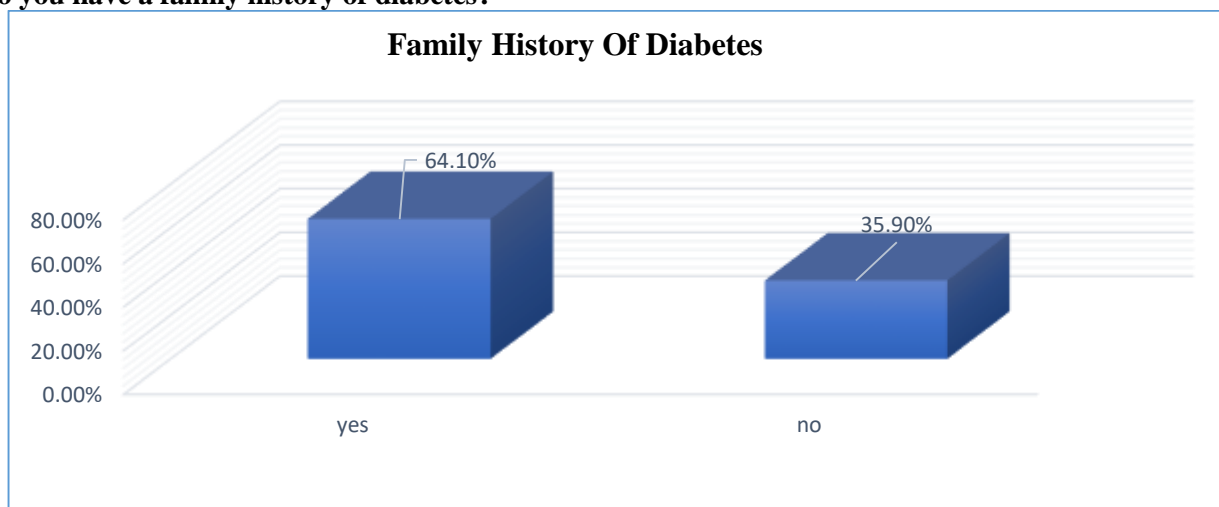


Figure 48

64.10% women had family history of diabetes while 35.90% women had not as shown in figure 48.

Question No. 49

Do you feel dull pain/joint pain in your pelvic (lower abdomen) region?

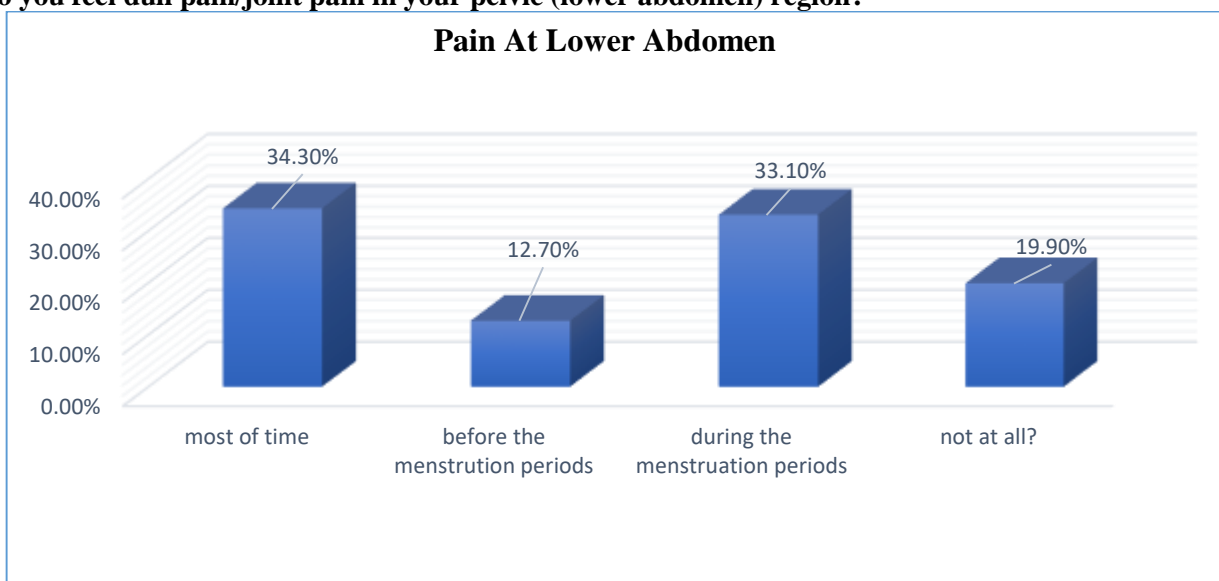


Figure 49

34.30% respondents most of the time had dull pain/joint pain in lower abdomen ,12.70% women had pain before menstruation period, 33.10% respondents had pain during menstruation period while 19.90% had pain not at all as shown in figure 49.

Question No. 50
Do you get easily tired after physical activity?

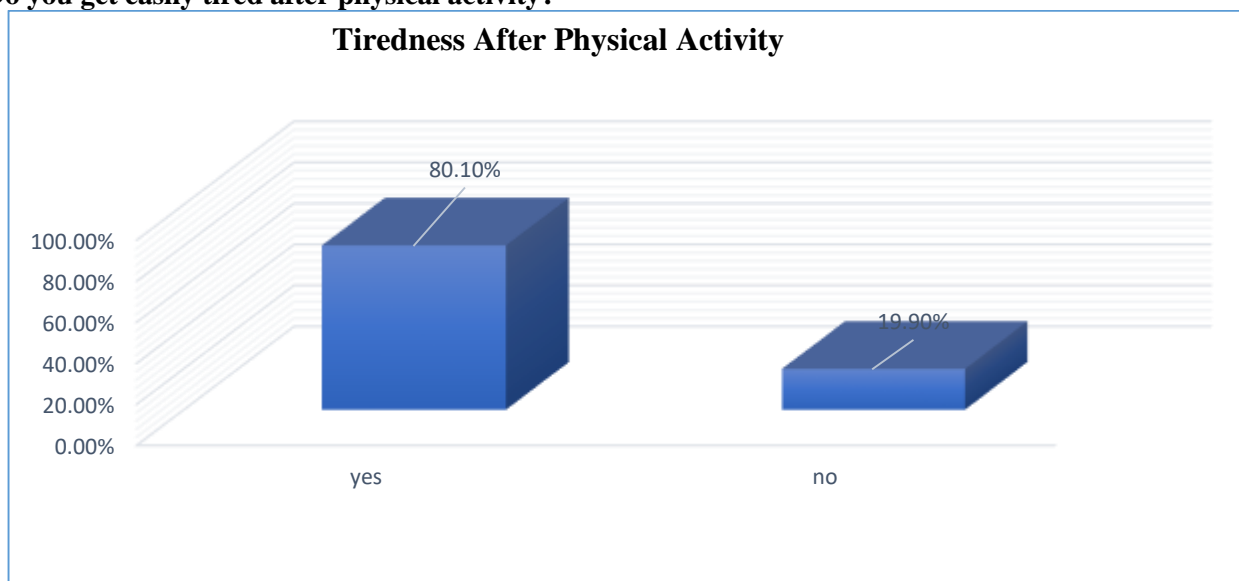


Figure 50

80.10% respondents got tired after physical activity while 19.90% respondents did not get tired as shown in figure 50.

Question No. 51
If yes then, what is the reason of tiredness?

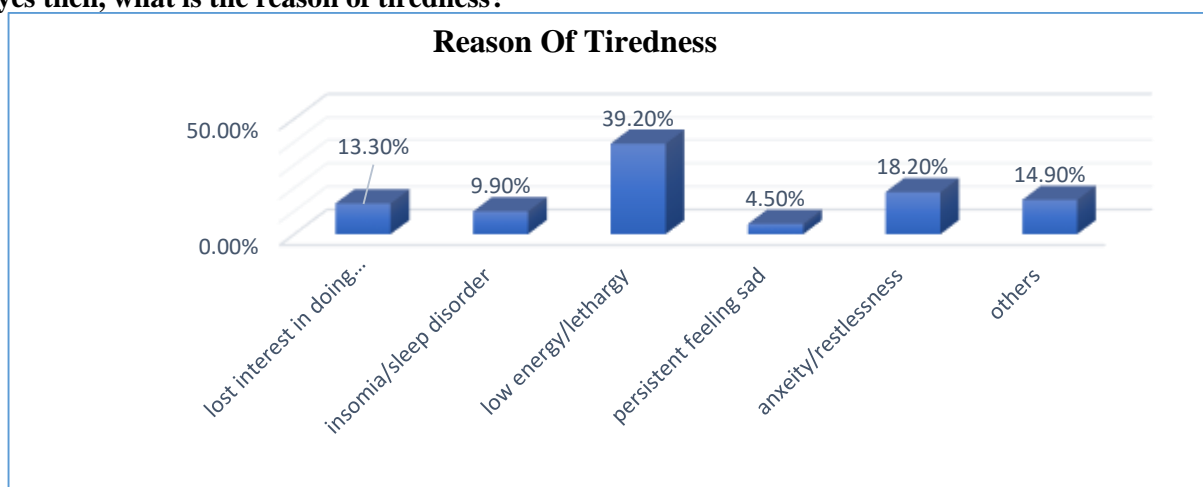


Figure 51

13.30% were tired because of lost interest in doing any kind of work, 9.90% were because of insomnia, 4.50% were because of persistent feeling sad while 18.20% were tired due to anxiety or restlessness as shown in figure 51.

Question No. 52

Did you consult your menstruation/periods regarding problems with any health care providers?

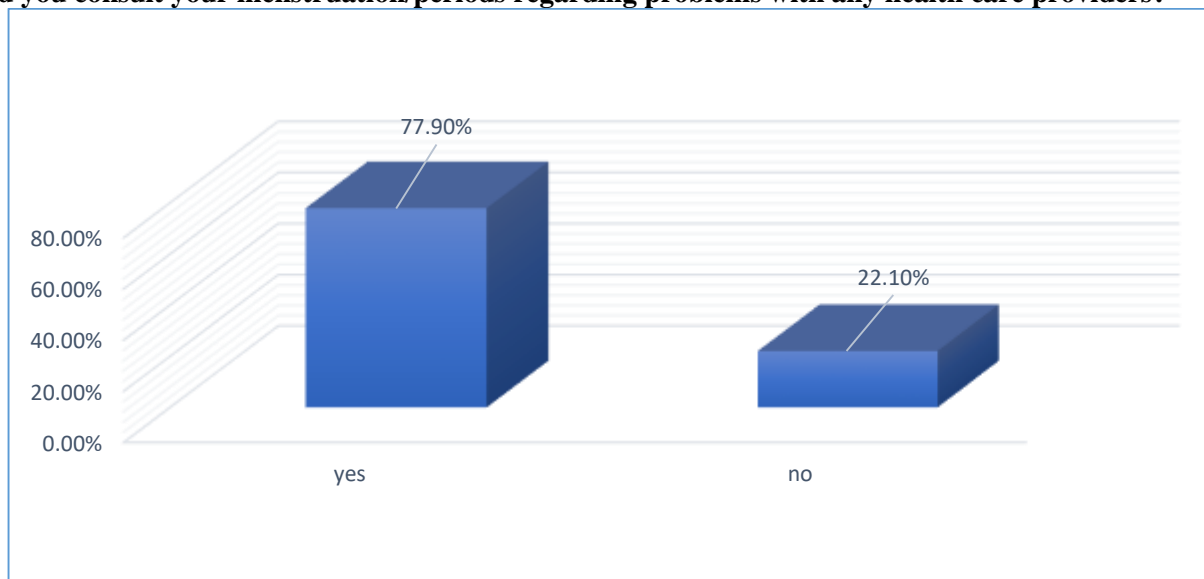


Figure 52

77.90% respondents consulted menstruation related problem with health care provider while 22.10% did not consult any health care provider as shown in figure 52.

Question No. 53

If yes, then which health care provider have you consulted?

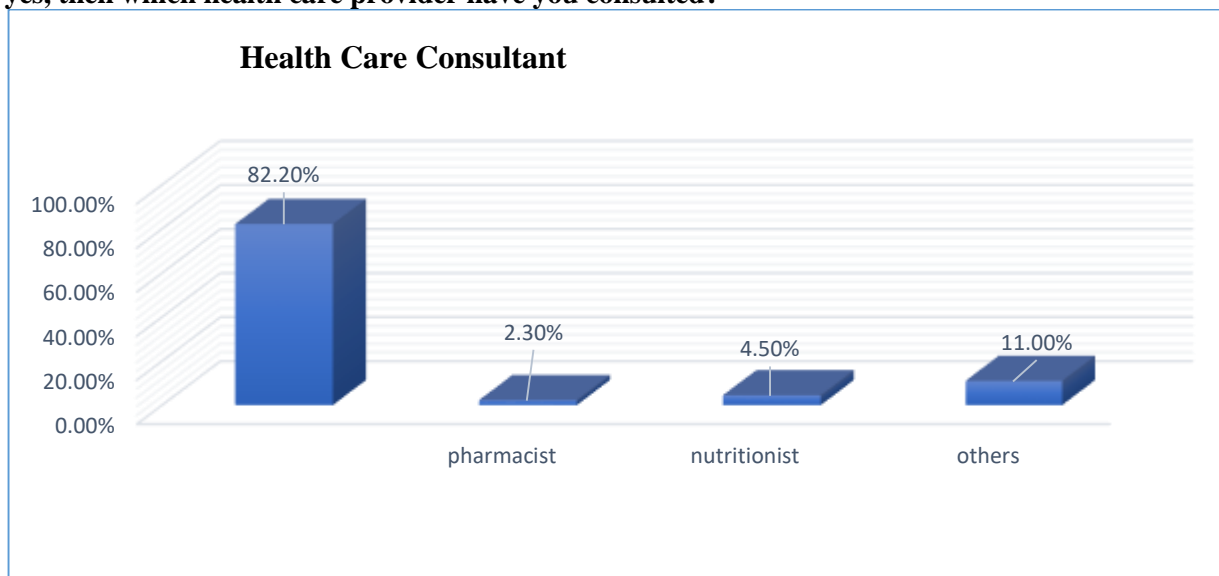


Figure 53

82.20% respondents consulted with doctor or gynecologist, 2.30% respondents consulted with pharmacist, 4.50% respondents consulted with nutritionist as shown in figure 53.

Question No. 54
Have you undergone CBC test?

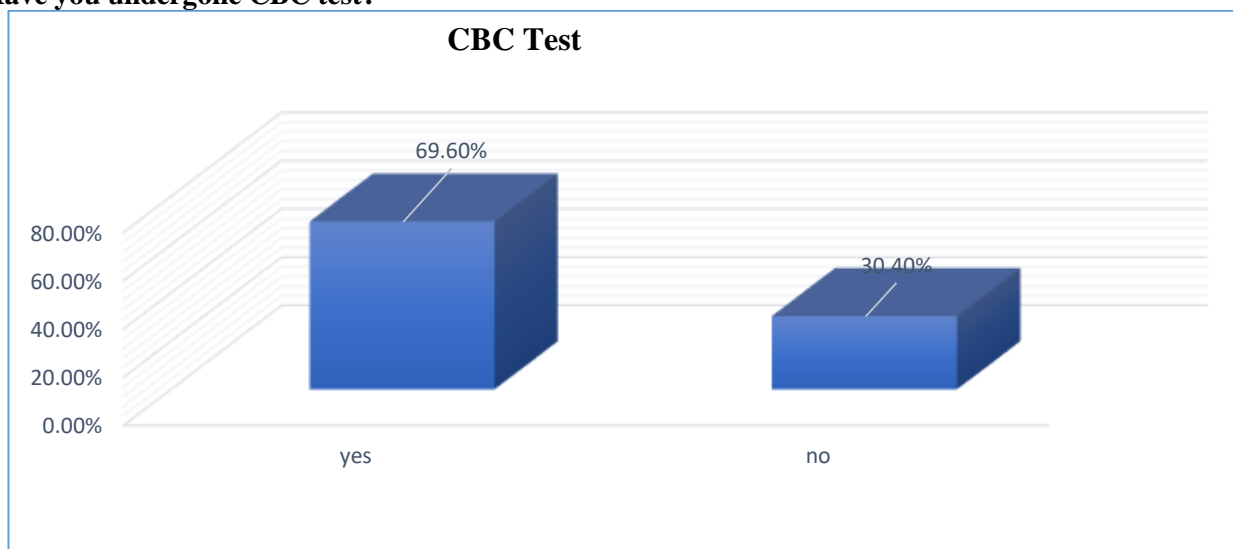


Figure 54

69.60% respondents had undergone CBC test while 30.40% respondents had not undergone this test as shown in figure 54.

Question No. 55
Have you undergone LH/FSH hormonal test?

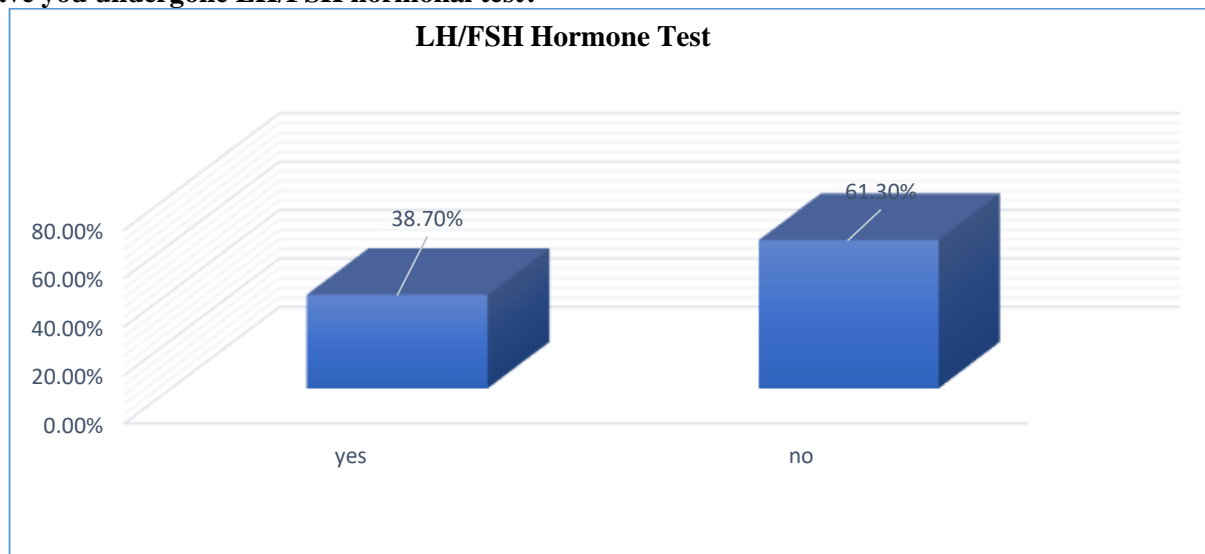


Figure 55

38.70% respondents had undergone LH/FSH test while 61.30% respondents had not undergone this test as shown in figure 55.

Question No. 56

Have you ever undergone prolactin hormonal test?

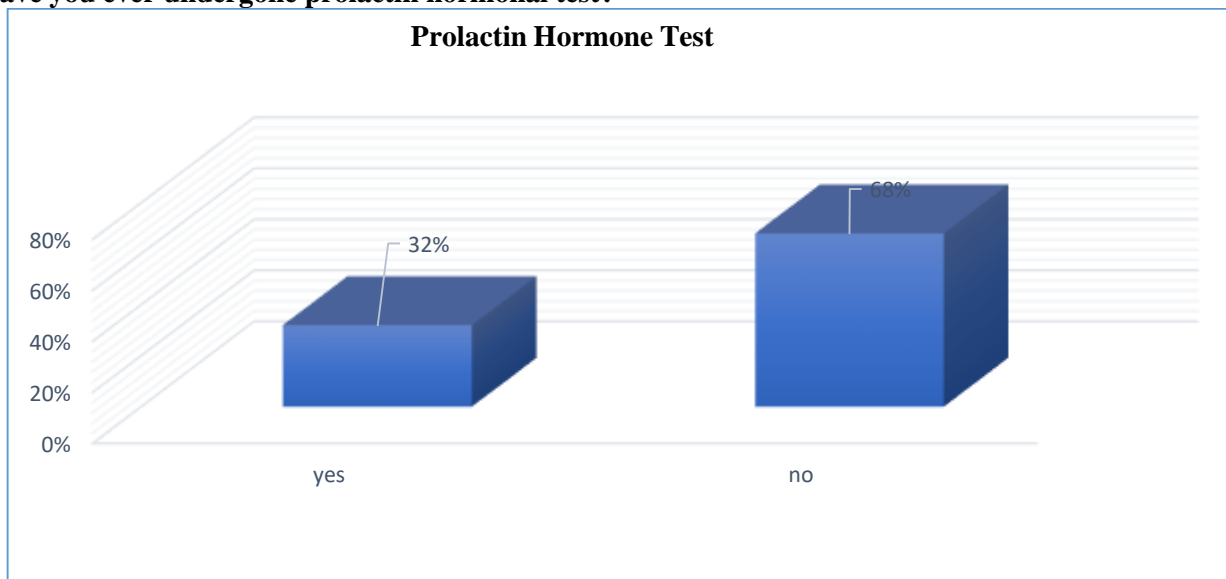


Figure 56

32% respondents had undergone prolactin hormone test while 68% respondents had not undergone such test as shown in figure 56.

Question No. 57

Have you ever undergone testosterone hormonal test?

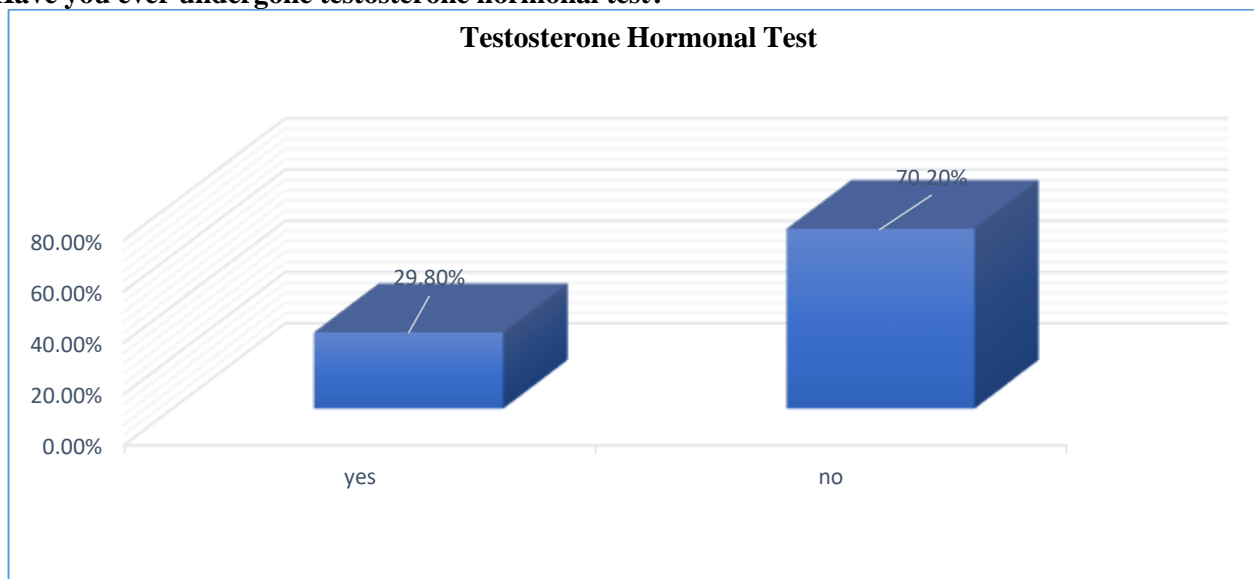


Figure 57

29.80% respondents had undergone testosterone hormone test while 70.20% respondents had not undergone this test as shown in figure 57.

Question No. 58
Have you ever undergone pelvic ultrasound scan?

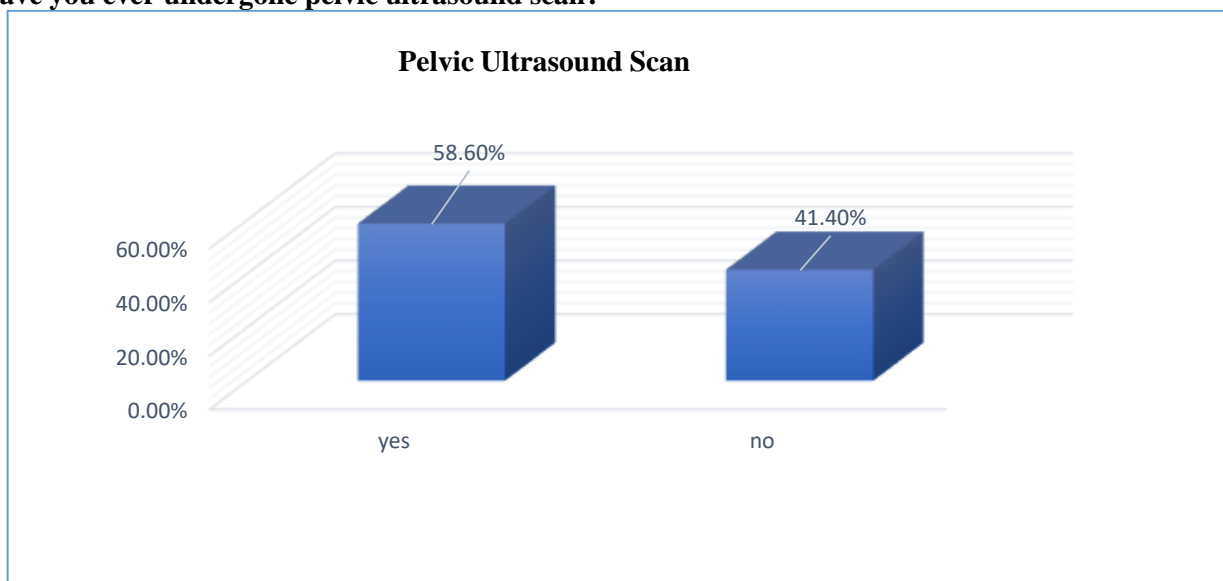


Figure 58

58.60% respondents had undergone pelvic ultrasound scan while 41.40% had not undergone this scan as shown in figure 58.

Question No. 59
If yes, then what are the number of follicle cells in each ovary?

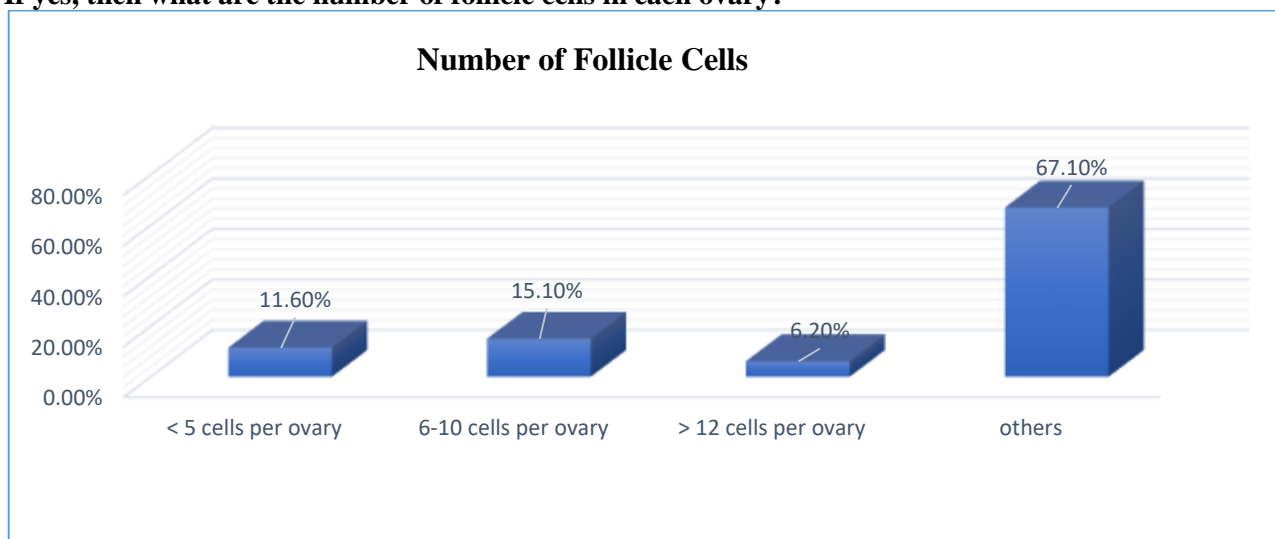


Figure 59

After finding the results of ultrasound scan, 11.60% respondents had <5 cells per ovary, 15.10% respondents had 6-10 cells per ovary while 6.20% respondents had >12 cells per ovary as shown in figure 59.

Question No. 60
Size of the follicle cells?

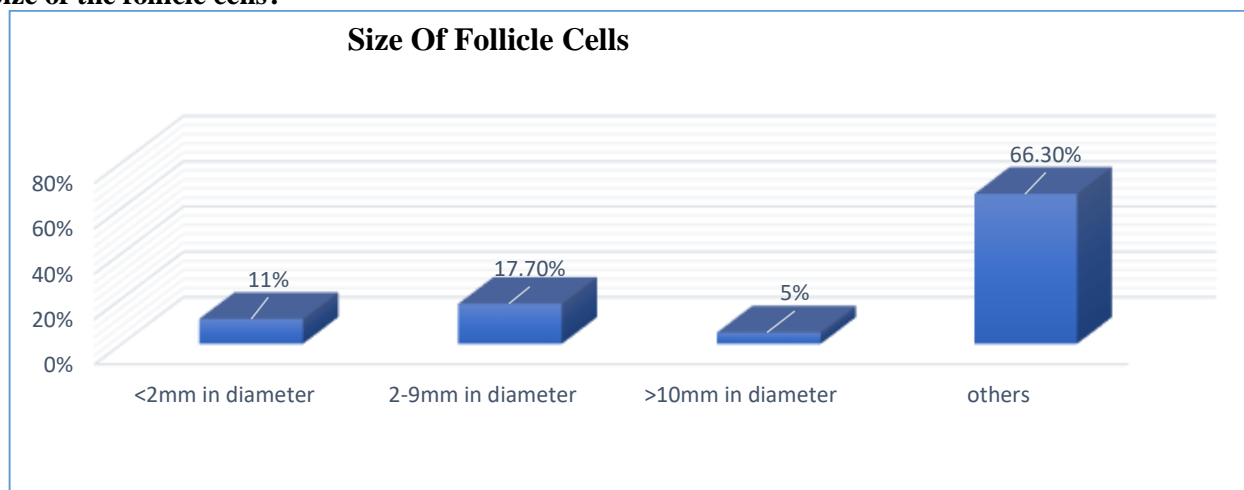


Figure 60

11% respondents had follicle size of about <2mm diameter, 17.70% respondents had follicle size of about 2-9mm diameter while 5% respondents had >10mm of follicle size as shown in figure 60.

Question No. 61
Ovarian Volume?

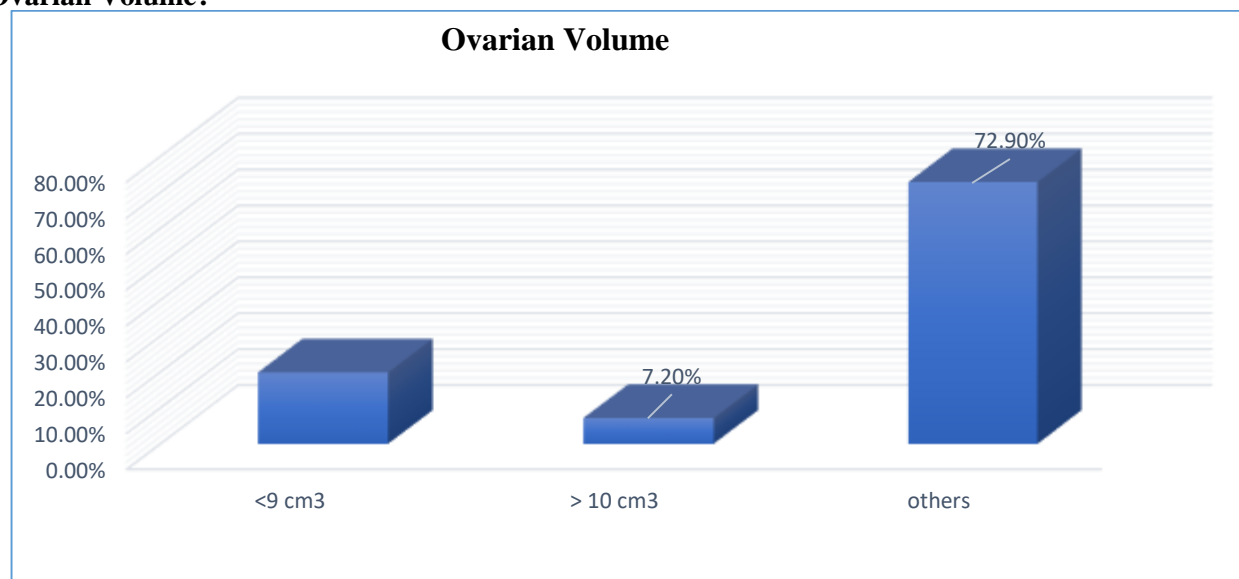


Figure 61

19.90% respondents had <9cm³ of ovarian volume while 7.20% respondents had >10cm³ of ovarian volume as shown in figure 61.

Question No. 62

Have you ever been diagnosed with the Polycystic ovary syndrome (PCOS)?

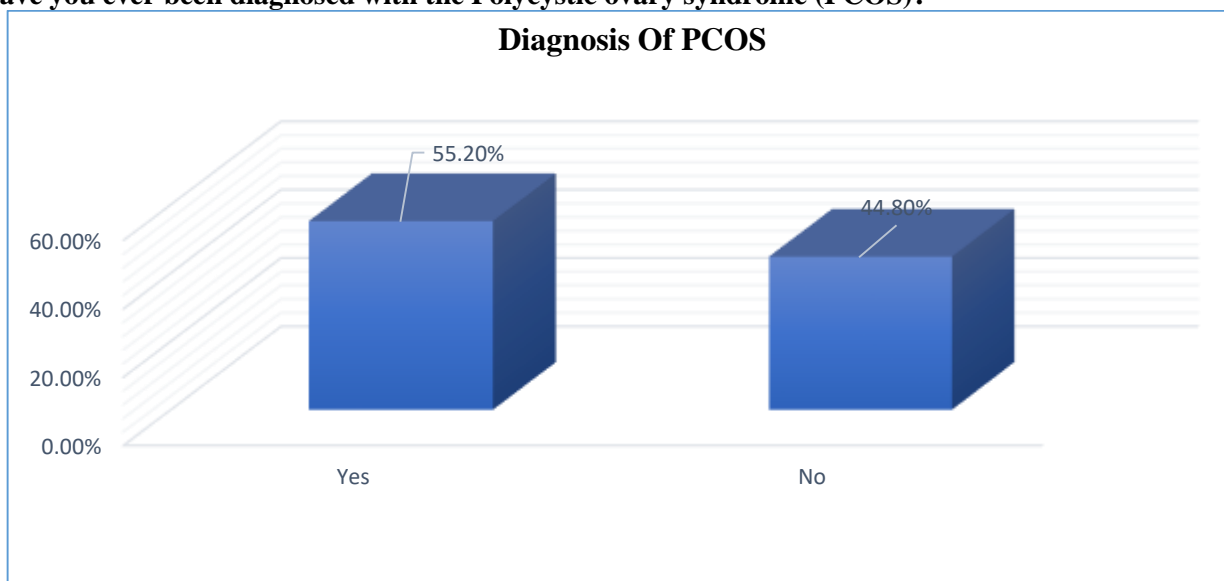


Figure 62

55.20% respondents diagnosed with Polycystic ovary syndrome while 44.80% had never been diagnosed as shown in figure 62.

Question No. 63

If yes, then how long have you been diagnosed with PCOS?

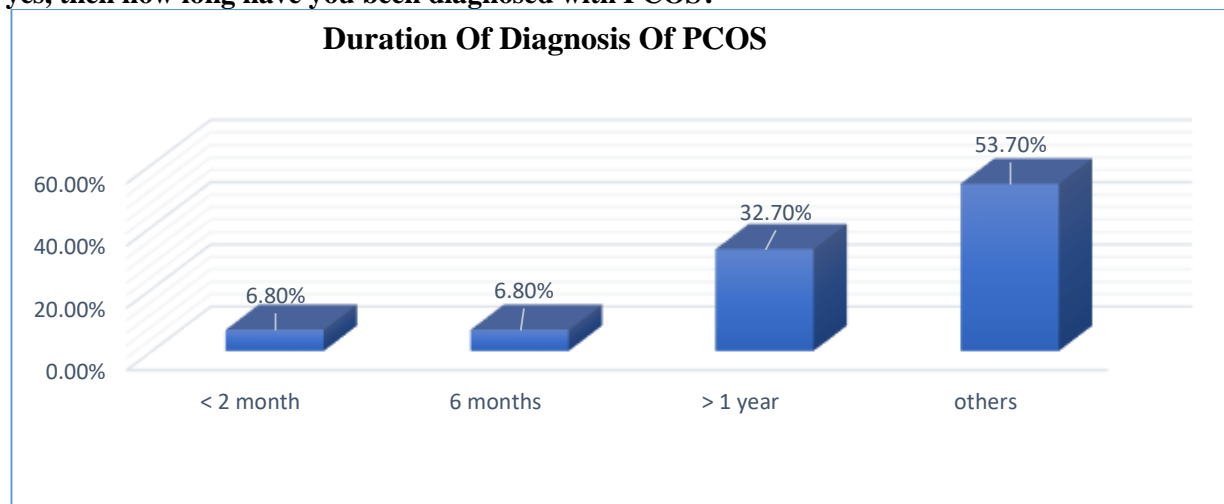


Figure 63

6.80% respondents had been diagnosed for a period of about <2 month, 6.80% respondents had been diagnosed for a period of about 6 months while 32.70% respondents had been diagnosed for a period of about >1 year as shown in figure 63.

Question No. 64

If yes, then how are you managing your PCOS/hormonal imbalance?

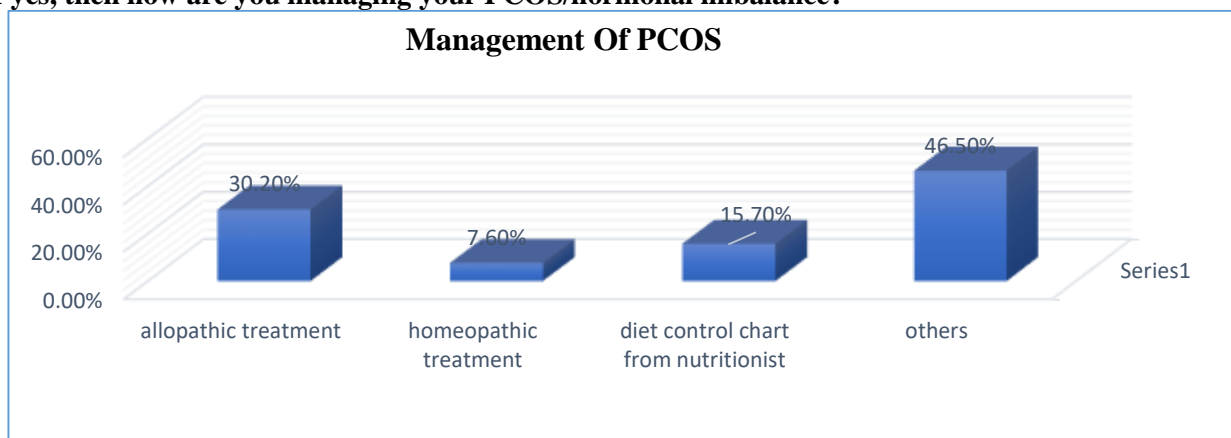


Figure 64

30.20% of the women had received PCOS/Hormonal imbalance treatment through allopathic medicines ,7.60% women through homeopathic medicines while 15.70% respondents followed diet control chart from nutritionist as shown in figure 64.

Question No. 65

Did the remedy you are doing to manage your PCOS and or hormonal imbalance improve physical symptoms and biochemical abnormalities?

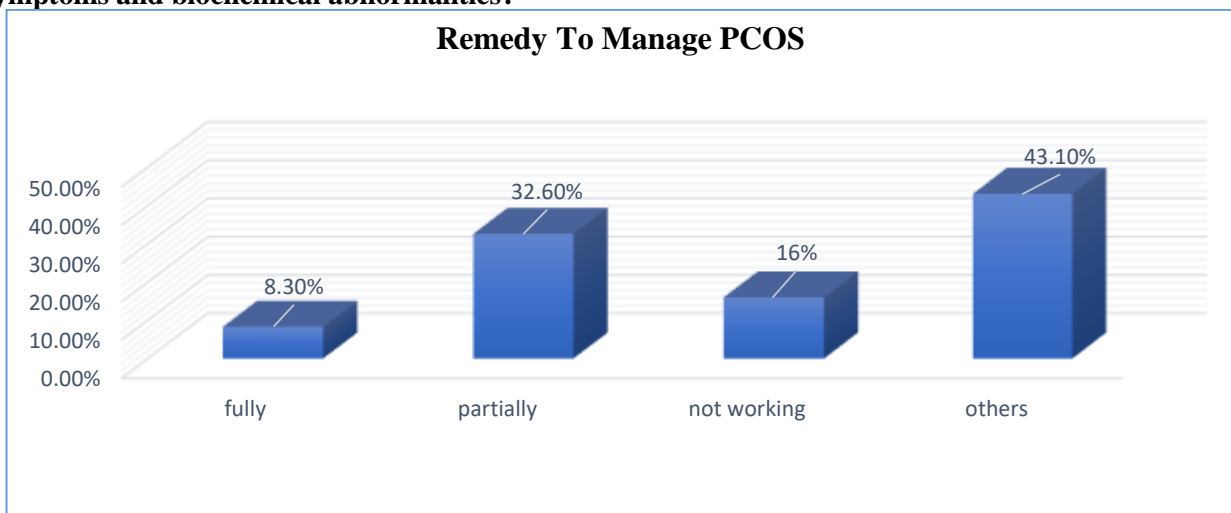


Figure 65

8.30% were fully beneficial after taking remedy to manage PCOS, 32.60% respondents were partially beneficial while 16% respondents had no benefit from remedy as shown in figure 65.

Question No. 66
Have you ever heard about the PCOS?

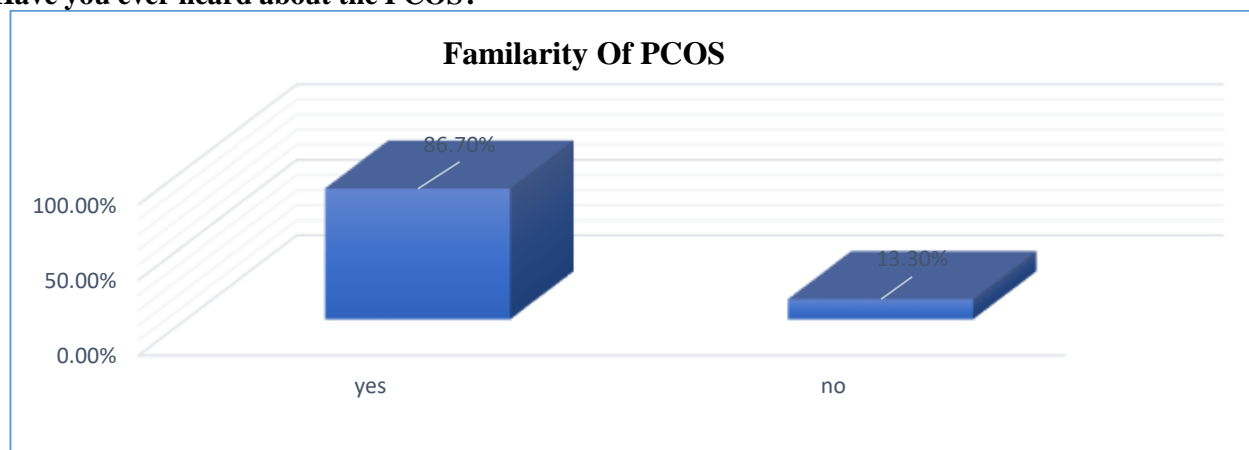


Figure 66

86.70% of women had adequate knowledge about PCOS while 13.30% had not as shown in figure 66.

Question No. 67
If yes, then how did you get to know about it?

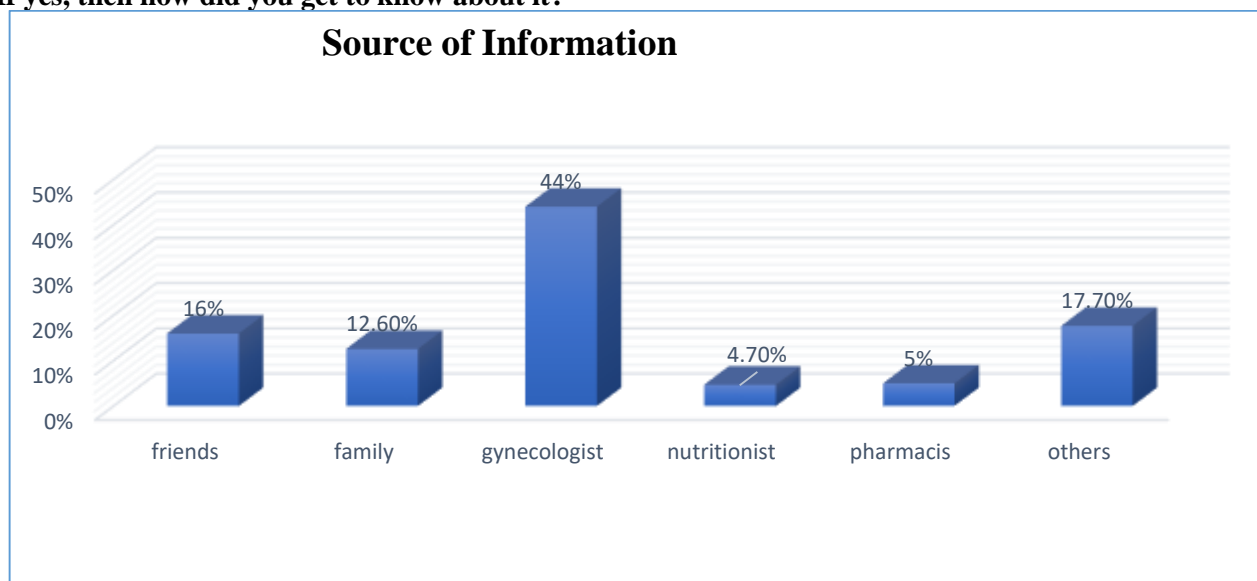


Figure 67

16% women got knowledge about this disease from friends, 12.60% women from their family, 44% women from gynecologist, 4.70% women from nutritionist while 5% women got knowledge from pharmacist as shown in figure 67.

DISCUSSION

Polycystic ovary syndrome is an under recognized and yet complex and most common condition. It was studied among the largest group of women, most of the women who participated in this study were belonging to age group 21-30 year which is almost 72.90%. Among them 37.5% belongs to medical profession and others belongs to non-medical professional. Mostly respondent in this study were living in urban area (68.50%). Various studies conducted, in which mean ages of menarche

were 13.51 + 1.04 years and 13.67 + 0.8 years for urban and rural areas respectively. In the present study, the mean age of menarche of the 61.3% adolescent girls was 13-15 years [7]. 39.20% women reported that their cycles were irregular. Irregular cycles are common in adolescents as the initial cycles are anovulatory resulting in abnormal uterine bleeding that may be associated with varying amount of blood loss including menorrhagia [8].

In this study, the intermenstrual interval was reported to be 45-60 days by 25.50% women whereas it was 65-90 days for 7.30% women and more than 3 months for 11.50% women. This could be because of changing trends in lifestyle, dietary habit, stress, hormonal imbalance or some medical reasons which requires gynaecological assessment at the earliest. In the present study the mean duration of menstrual flow was 5-7 days, a study was conducted in Turkey which indicated that menstrual flow lasting more than 8 days [9].

The prevalence of no, moderate, and severe menstrual pain was 12.20%, 33.70%, and 54.10%, respectively. Of this study population, 54% reported having severe pain that is almost twice the prevalence reported in a similar study conducted among Iranian women [10].

Both abdominal pain and bloating were worse and bowel habits more frequent during menstruation. In contrast with previous findings in healthy women, menses was associated with a worsening of abdominal pain and bloating compared with most other phases of the menstrual cycle. In this study, about 51.40% women feels bloating more frequently [11].

Pre-menstrual syndrome and dysmenorrhoea are the commonest gynaecologic disorders among female adolescents. In this study, prevalence of premenstrual syndrome was 66.30%. The mean duration of premenstrual syndrome was 4 days. The most common psychological symptoms during premenstrual syndrome were irritability, depressed mood, mood swings, anxiety, and insomnia with a frequency of 37%. Mild premenstrual syndrome was found in 28.70% women, while moderate and severe premenstrual syndrome was 35.40% and 15.50% respectively. These findings were comparable to the two consecutive studies conducted in the Pakistani population, who reported 92.4% and 98.2% prevalence of premenstrual syndrome respectively [12,13].

This study reported that around 42% of the women suffered from irregularity in periods, followed by heavy menstrual bleeding 16.60%. Twenty-one (21%) women had combined disorders. Most of the women suffering from menstruation problem from more than 1 year at a rate of 40.90%. In this study, about 34.30% of the women were overweight and 8.80% were at risk for obesity, compared with 40.30% of healthy women. Among overweight and obese women, 26% had belly fat, 11% and 2.10% had thigh and waist fat respectively. The results of the study showed that the frequency of cholesterol rich food and fast food consumption had a significant relationship with overweight and obesity. So, among overweight and obese women,

33% always or often consumed them. Other studies had shown that 76.4% of overweight and obese women consumed sweetened products and 33.3% consumed fat [14].

Most of women were dissatisfied with their weight and they tried different strategies for losing weight. 59% control their weight by diet control, exercise, and medication and 41.30% by other means. Among these women 48% were frustrated from trying to lose weight. Amongst the different symptoms of polycystic ovary syndrome 9% hirsutism was reported in women 33% at chin and 22% upper lips. About 9% of them were taking medication, 27% home remedies and 10% got laser treatment to treat hirsutism. According to a previous study, hirsutism is the presence of terminal (coarse) hairs in females in a male-like pattern, affecting between 5% and 15% of women [15].

Result of this study indicated that some (38%) of the women had hyperpigmentation which was on neck, armpits and groin and treated through topical medication 13% and home remedies 13% and other sources 70%. Prevalence of hair fall was found to be more than 78%, and women were trying different herbal homemade remedies for this. Majority (52%) of respondents had acne issues 30% on cheeks, 16% on chin and forehead because of hormonal imbalance. Severe acne has been observed in some of the patient at the time of menstrual cycle. The results of the present study showed women included in study were young, mostly 40% married and majority 75% of them did not have children. Among these women, 32.5% of the women experienced difficulty conceiving at some stage in their lives and 28% women suffered infertility. Our prevalence however is similar to that of a population-based study of selected provinces of Iran which reported the overall prevalence of infertility to be 21.1% [16].

More than 33% who meet criteria for fertility problems seek medical help and PCOS can affect women's fertility as a study concluded that women are less likely to give childbirth with PCOS but an early diagnosis of polycystic ovary syndrome may give a chance to improve fertility [17]. This study revealed that 10% of subjects had been diagnosed with diabetes while 42% had never undergone blood glucose test. It was found in this study that most of the women (82%) were not seeking any medical help. A previous study showed that 12.8 % of PCOS developed type 2 diabetes mellitus compared to 3.6 % of controls matched for age and race [18].

Almost 80% women got tired after any physical activity. Major reasons behind tiredness were 40%

low energy levels/lethargy, 25% anxiety and depression. A study conducted in Pakistan showed a higher depression and anxiety score among patients with polycystic ovary syndrome [19]. Study indicates that most of the females (83%) consult gynaecologists for their health status. A review that was taken from June 2006 to December 2010 in which the author described that the reproductive age that is common for PCOS ranges from 12 to 45 years. Shows prevalence 2.2% to 26%. [20]. A similar result was obtained in this study that 55.2% of Pakistani females were affected by this disorder and most of respondents 331 (73.4%) were not diagnosed with polycystic ovary syndrome. We also observed that despite the high prevalence only 30% of the women had received proper diagnosis or clinical attention [21].

Conclusion

According to the finding of study prevalence of signs and symptoms of PCOS are increasing but females are not aware of PCOS although its signs and symptoms were present in many of them. Furthermore, study indicates that majority of females don't consult gynecologist unless there is severe or life threatening problem or disease.

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