



ISSN NO. 2320-5407

Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/10273
DOI URL: <http://dx.doi.org/10.21474/IJAR01/10273>



INTERNATIONAL JOURNAL OF
ADVANCED RESEARCH (IJAR)
ISSN 2320-5407
Journal Homepage: <http://www.journalijar.com>
Journal DOI: 10.21474/IJAR01

RESEARCH ARTICLE

PREVALENCE AND RISK FACTORS OF POLYCYSTIC OVARY DISEASE IN KINGDOM OF SAUDI ARABIA

Dr. Afaf Abdulrahman Yaslam¹, Hoda Jehad Abousada², Dr. Nejoood Mosab Waggas², Dr. Haifa Saeed Al-Mufarrih², Dr. Amal Bakheet Alzahrani², Dr. Razan Anwar Ahmad Kurdi², Dr. Aliyah Hijazi Alsayed Ahmed Hijazi², Dr. Naif Ali Alayfan² and Dr. Saad Saud Alotaibi²

1. Consultanat OB/GYN, Obstetric And Gynecology Department, King Abdullah Medical Complex, Jeddah, Saudi Arabia.
2. Medical Intern, Ibn Sina National College, KSA (Postal Address: jeddah, Al-Thaghr Neighborhood., 22338.

Manuscript Info

Manuscript History

Received: 20 November 2019
Final Accepted: 23 December 2019
Published: January 2020

Abstract

Copy Right, IJAR, 2020., All rights reserved.

Introduction:-

Polycystic ovary syndrome (PCOS) is a hormonal disorder common among women of reproductive age. Women with PCOS may have infrequent or prolonged menstrual periods or excess male hormone (androgen) levels. The ovaries may develop numerous small collections of fluid (follicles) and fail to regularly release eggs.

The exact cause of PCOS is unknown. Early diagnosis and treatment along with weight loss may reduce the risk of long-term complications such as type 2 diabetes and heart disease. (Mayo Clinic, 2019)

Rationale:-

The importance of this research is that it is concerned with the health of women in the reproductive period, polycystic ovary syndrome disease may be one of the important reasons for the infertility, which threatens the happiness of women in her life, motherhood is an irreplaceable feeling and an indescribable feeling. Polycystic ovary syndrome, this may contribute to the treatment of the root cause and prevent the occurrence and control early.

Literature review:-

According to the other previous study like:

1. Risk factors associated with metabolic syndrome and cardiovascular disease among women with polycystic ovary syndrome in Tabuk, Saudi Arabia, the conclusion was: PCOS is associated with the risk of development of MS, and CVD. Screening for early detection of PCOS and MS and the application of cohort studies are recommended to better explore the role of PCOS in the development of CVD and to assess the significance of interventions. (Shaman, Mukhtar and Mirghani, 2017), Which means that this is quite consistent with our existing research theory as we have been keen to mention the relationship between the PCO and Ms, otherwise we cannot forget the relationship between these and diabetes, which has long been called the chronic and deadly friendly disease.
2. Body weight reduction and metformin, Roles in polycystic ovary syndrome.

Corresponding Author:- Hoda Jehad Abousada

Address:- Medical Intern, Ibn Sina National College, KSA (Postal Address: jeddah, Al-Thaghr Neighborhood., 22338.

The result was:-

PCOS women had significantly higher values than the healthy women in most of the measurements. Metformin and weight reduction therapy resulted in a significant decrease in the fasting insulin, glucose/insulin ratio and HOMA-IR. Metformin and weight reduction therapy resulted in a significant decrease in the lipid parameters, testosterone, LH/FSH ratio, SHBG, and prolactin levels. HOMA-IR was significantly higher in women with PCOS. HOMA-IR was positively correlated with testosterone, estradiol, TG, total cholesterol and LDL-cholesterol parameters, and negatively correlated with HDL-cholesterol and FSH levels. (Al-Nozha O, 2013) I fully agree with this wonderful and useful research as it touched on the subject of weight gain and its relationship with polycystic ovary syndrome with other diseases, it is now even associated with PCOS, as doctors have become their first advice for treating PCOS is low weight. Many women believe that being overweight only hurts her body shape, but the subject is much higher.

Hirsutism in Saudi females of reproductive age: a hospital-based study:

The result was: Polycystic ovary syndrome (PCOS) was the cause of hirsutism in 83 patients (82%) followed by idiopathic hirsutism (IH) in 11 patients (11%). (Al-Ruhaily, Malabu and Malabu, 2019)

Sometimes we associate things from an angle where we can see better, as hirsutism is a risk factor for the polycystic ovary syndrome disease. The results in this research indicate the strength of this factor.

Research question:

Questionnaire.

Aim:

To determine the prevalence and risk factors of PCO.

The sub- objectives:

1. Determine the age group most affected by this disease.
2. Determine the relationship between late puberty and risk of PCO disease.
3. Determine the relationship between obesity and increased risk of PCO disease.
4. Identify the most common risk factors for this disease.
5. Determine the relationship of diabetes and PCO disease.
6. Effect of PCO disease on infertility.

Method and Design:-**Study design:**

Cross sectional study.

Study area:

This study will be conducted in kingdom of Saudi Arabia.

Study setting:

The study will be carried out by questionnaire.

Study population:

Adult females in reproductive age IP and OP.

Inclusion criteria:

females

Exclusion criteria:

Males

Data Collection Methods:-**Data collection tool:**

Self-administered questionnaire partially constructed by the researcher with reference to already made questionnaire in another study .Validity will be checked by at consultant.

Data collection technique:

The researcher will distribute the questionnaire.

Study sample and technique:**Sample size:**

1718

Sample technique:

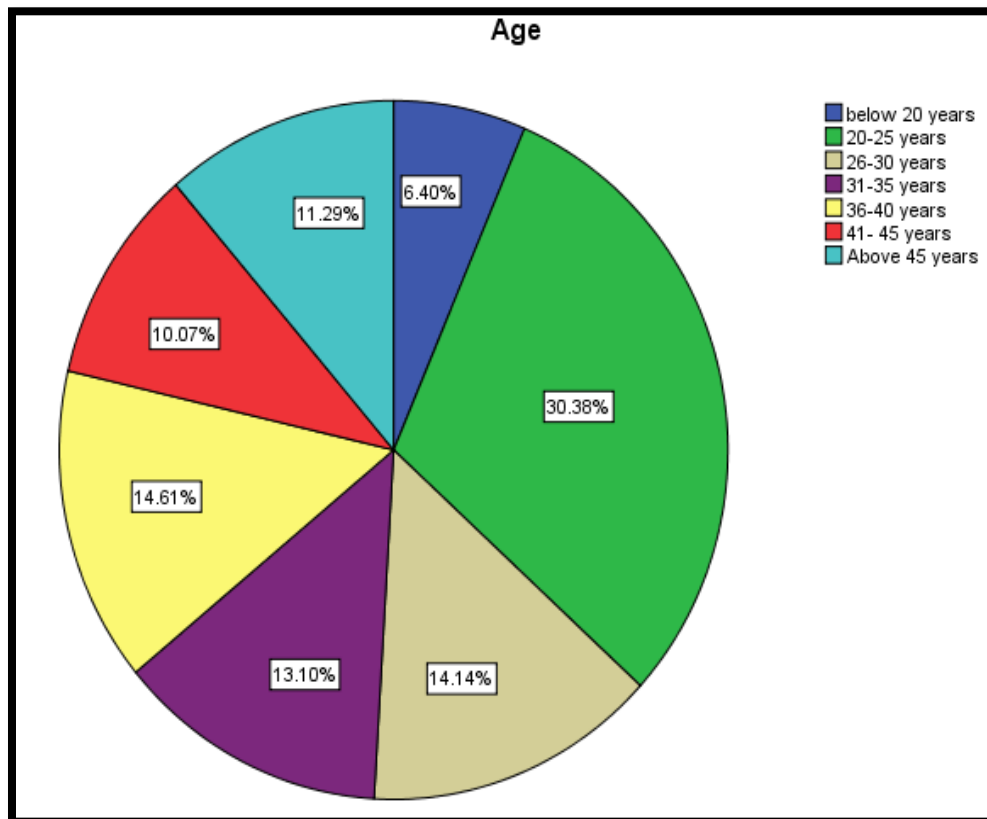
Questionnaire.

Data entry and statistical analysis:

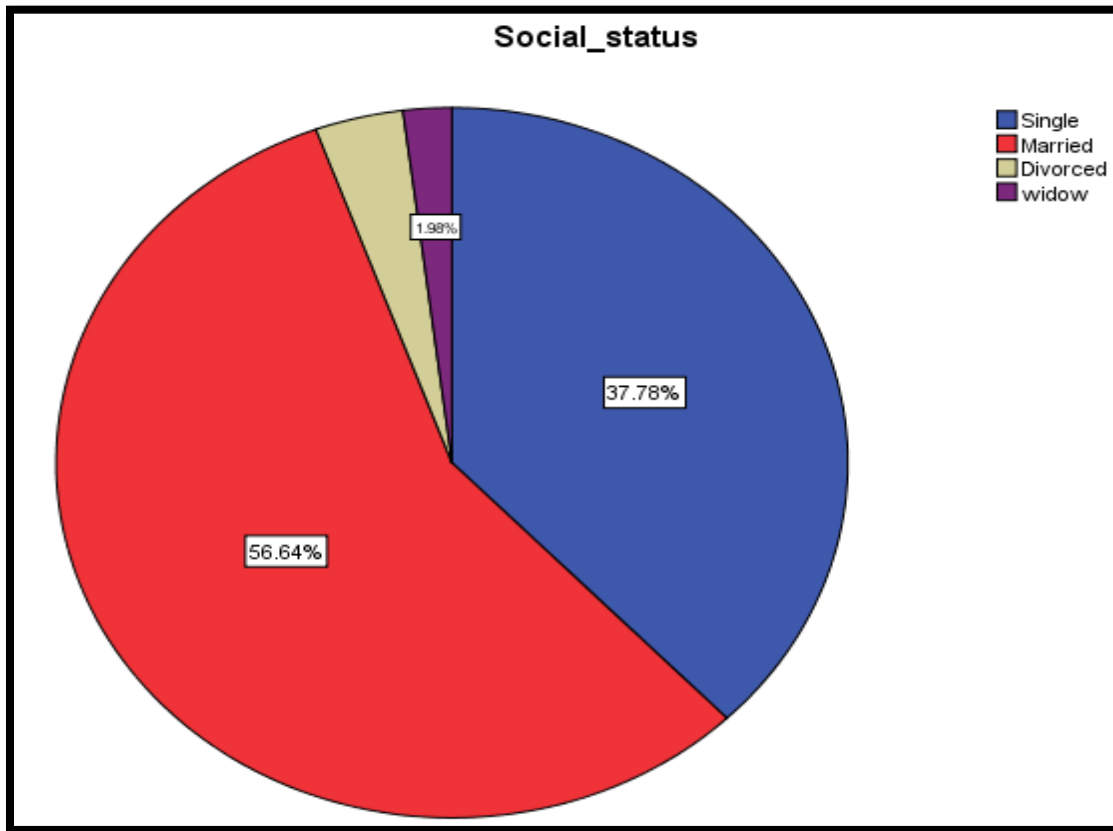
The data will be entered into a personal computer and it will be analyzed using Statistical Package for the Social Sciences (SPSS).

Results:-

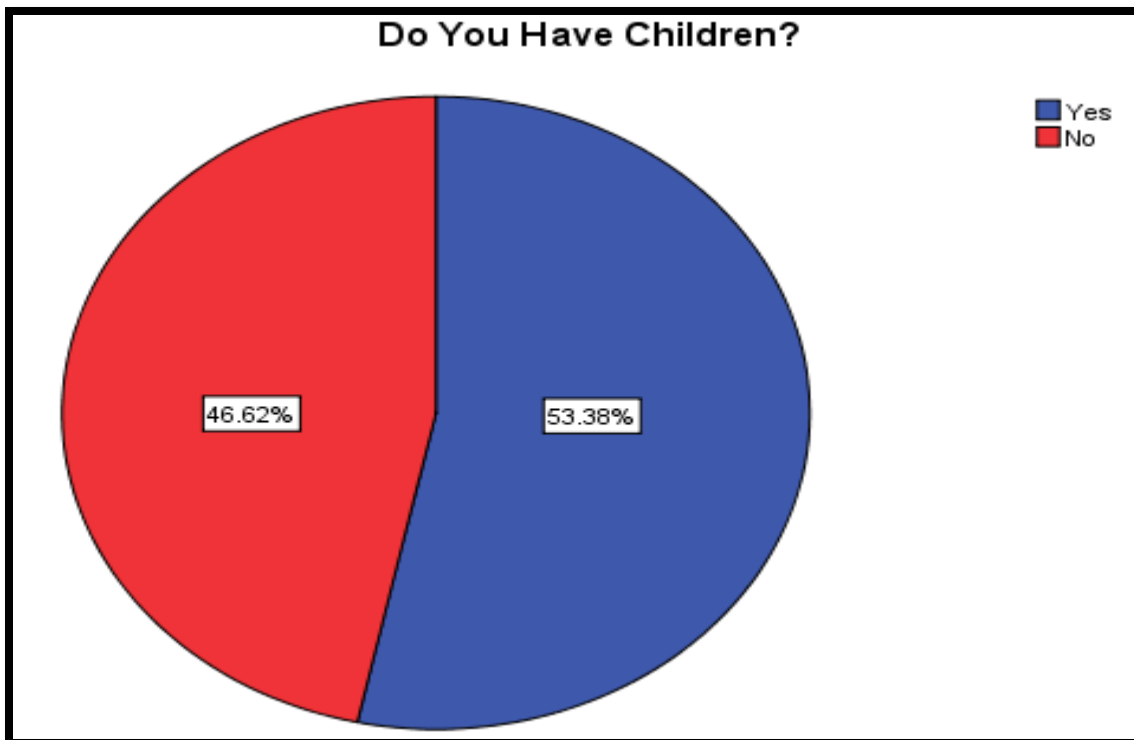
Questionnaire Prevalence and risk factors of PCO in kingdom of Saudi Arabia. 1718 responses were collected showing the following

Results And Conclusion:-

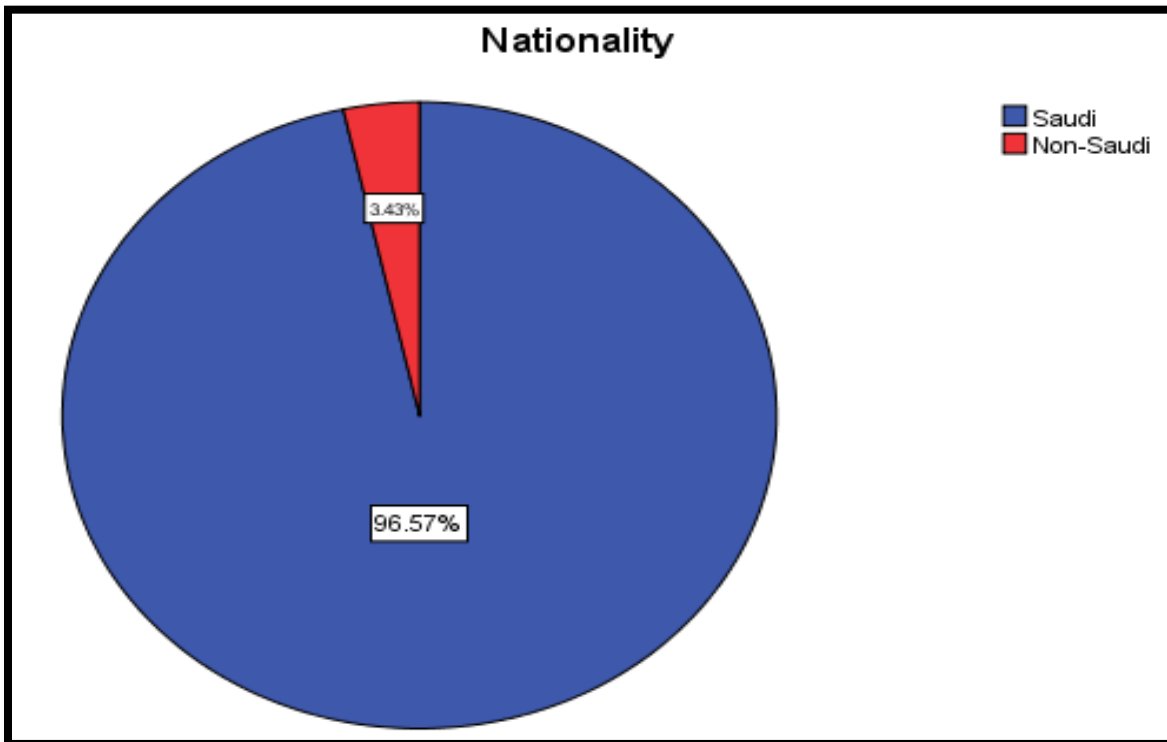
The results indicate that most of the respondents are between 20-25 years.



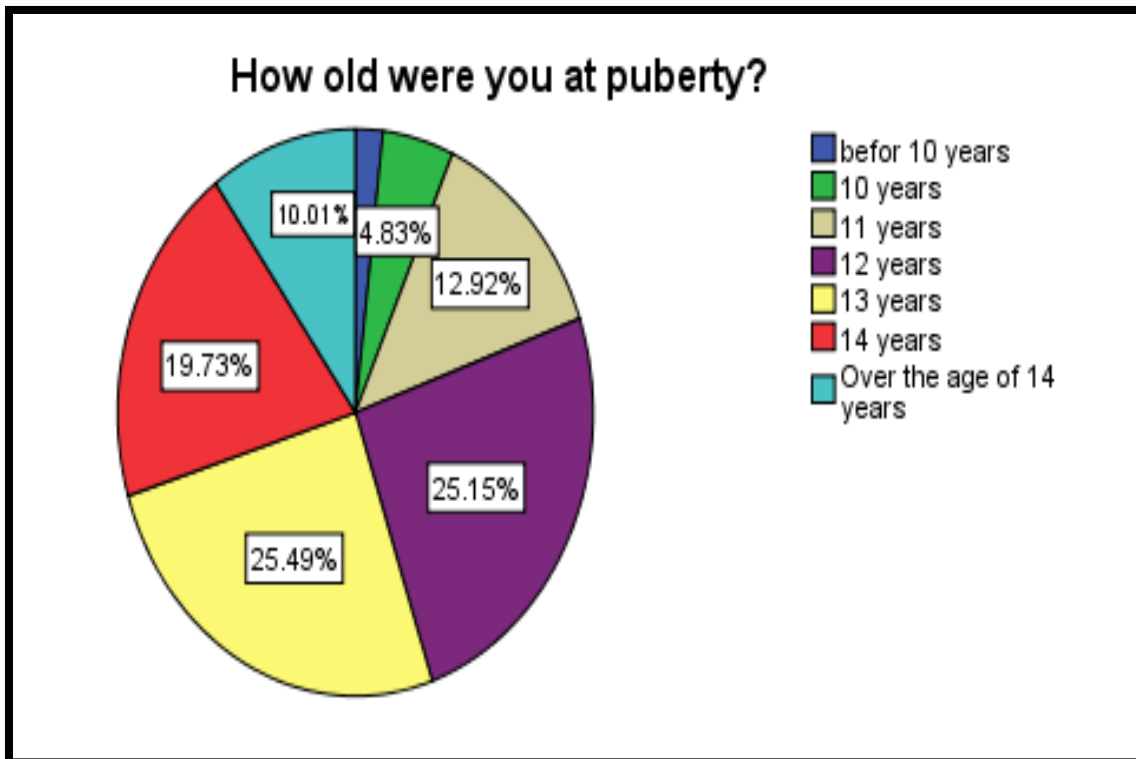
The results indicate that most respondents are married.



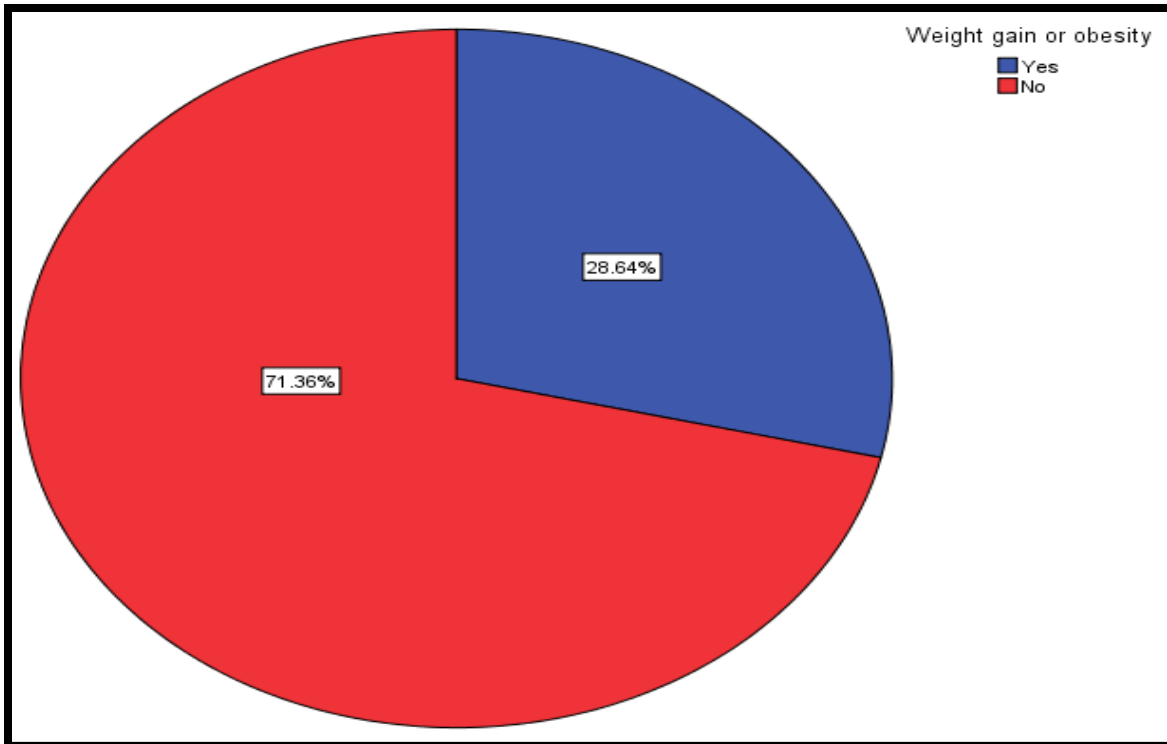
The results show that more than half of the respondents have children.



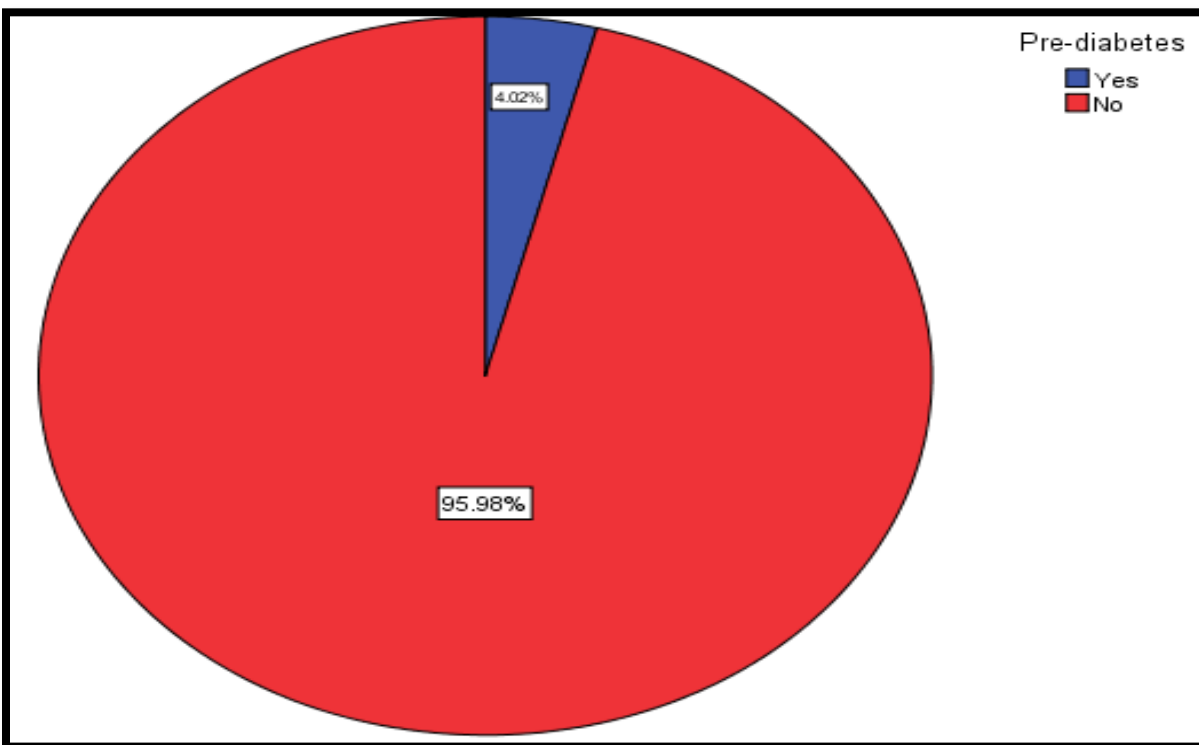
The results indicated that most respondents Saudis.



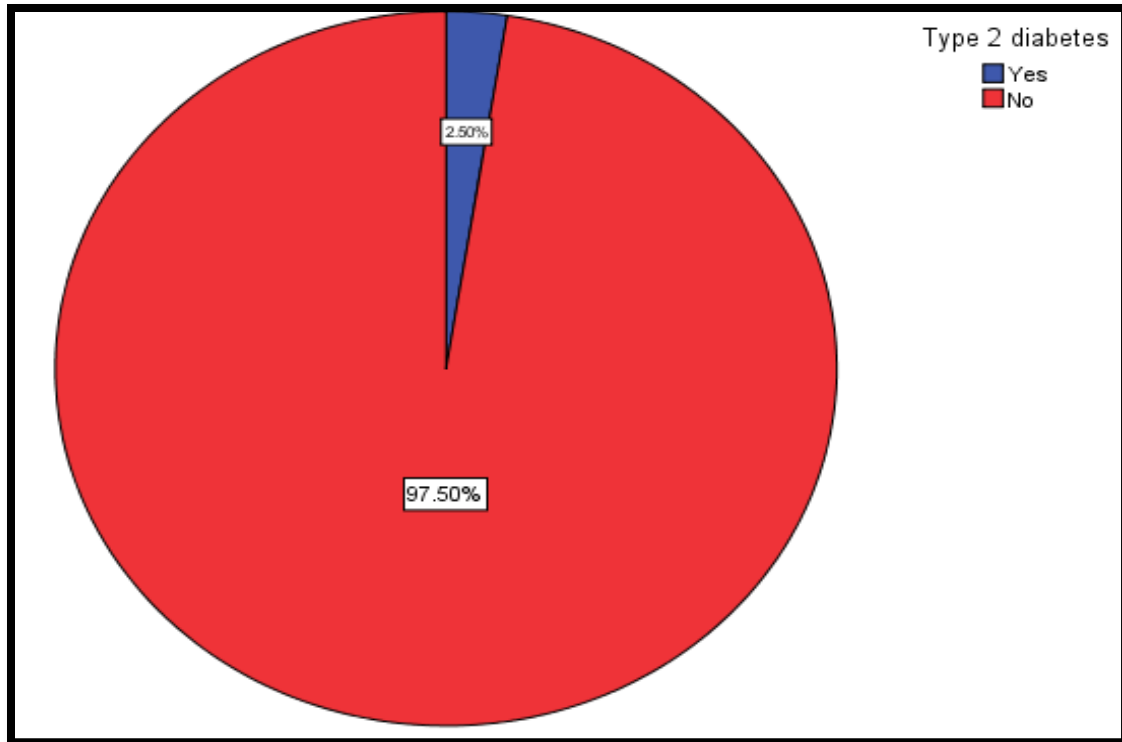
The answer of most respondents to the question of the duration is 12 and 13 years old.



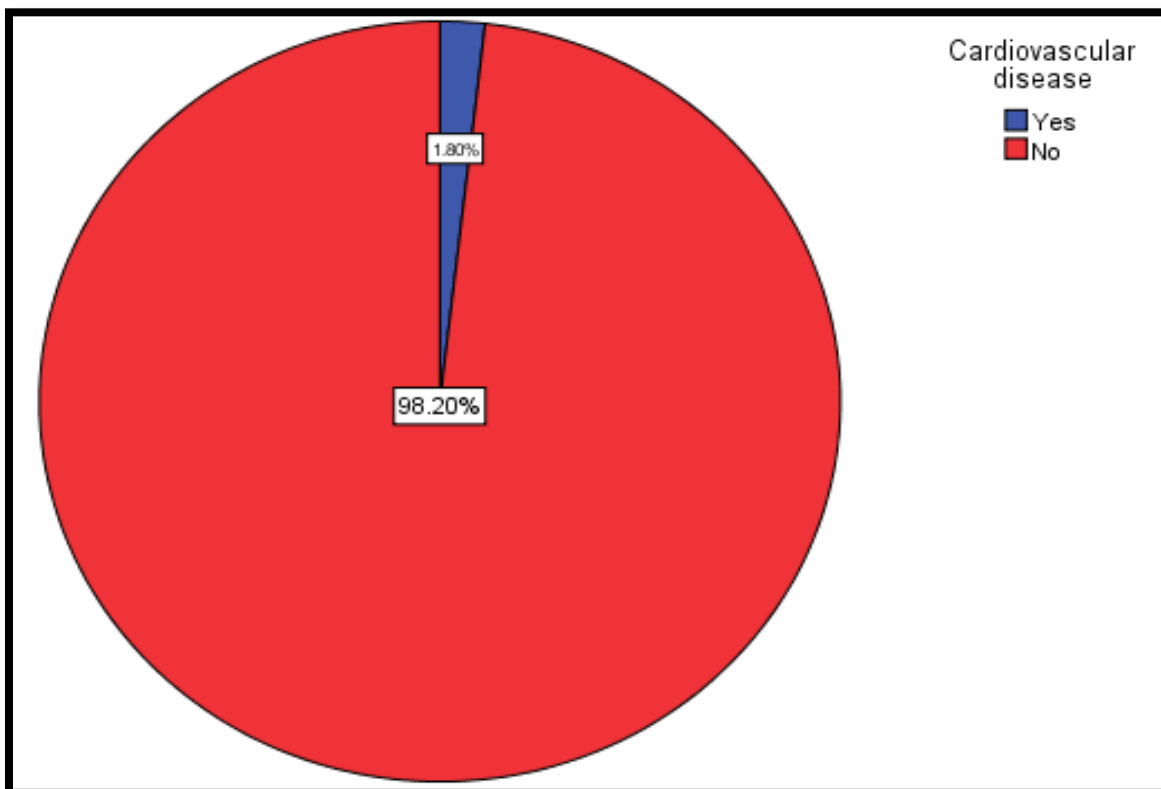
The results indicated that 28.64% of the respondents suffer from weight gain or obesity.



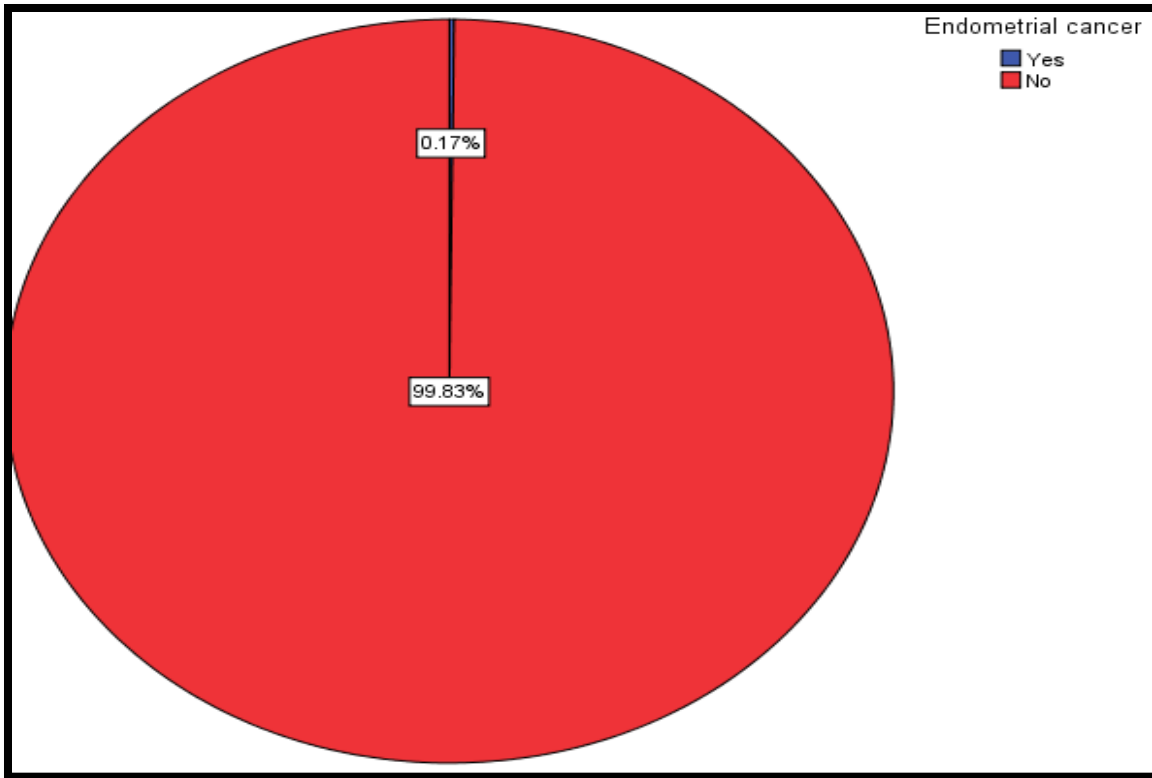
The results indicated that only 4% of the respondents suffer from pre-diabetes.



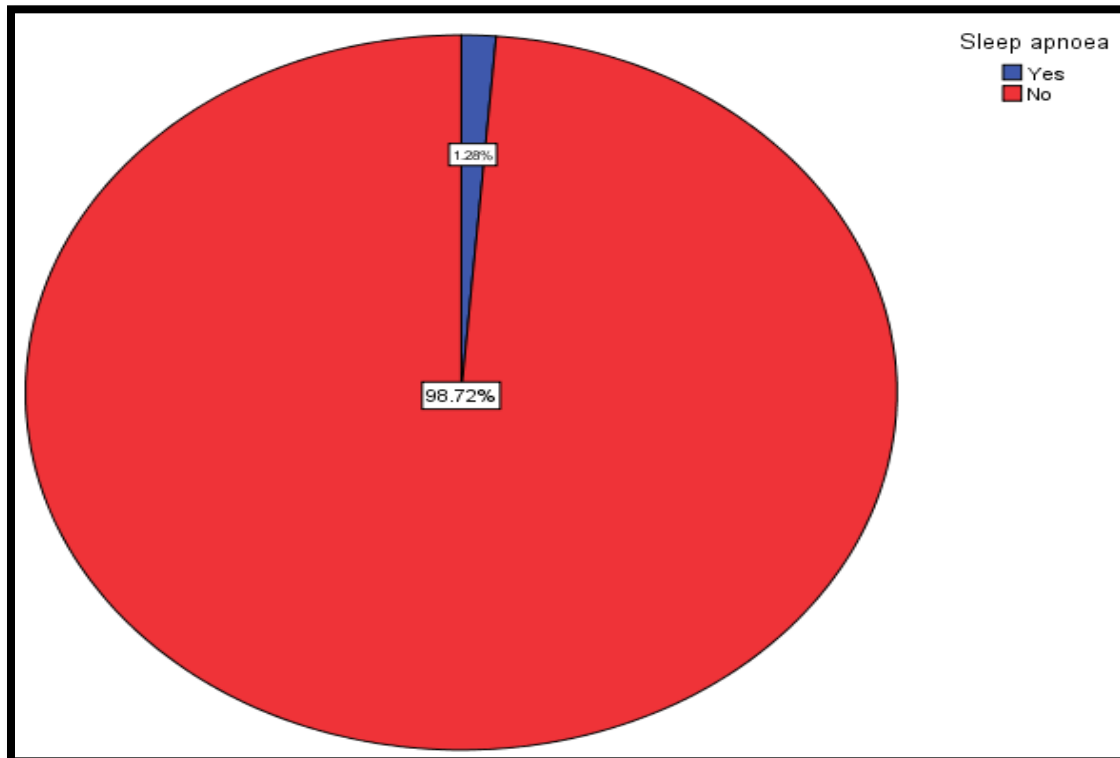
The results indicated that only 2.50% of the respondents suffer from Type 2 diabetes.



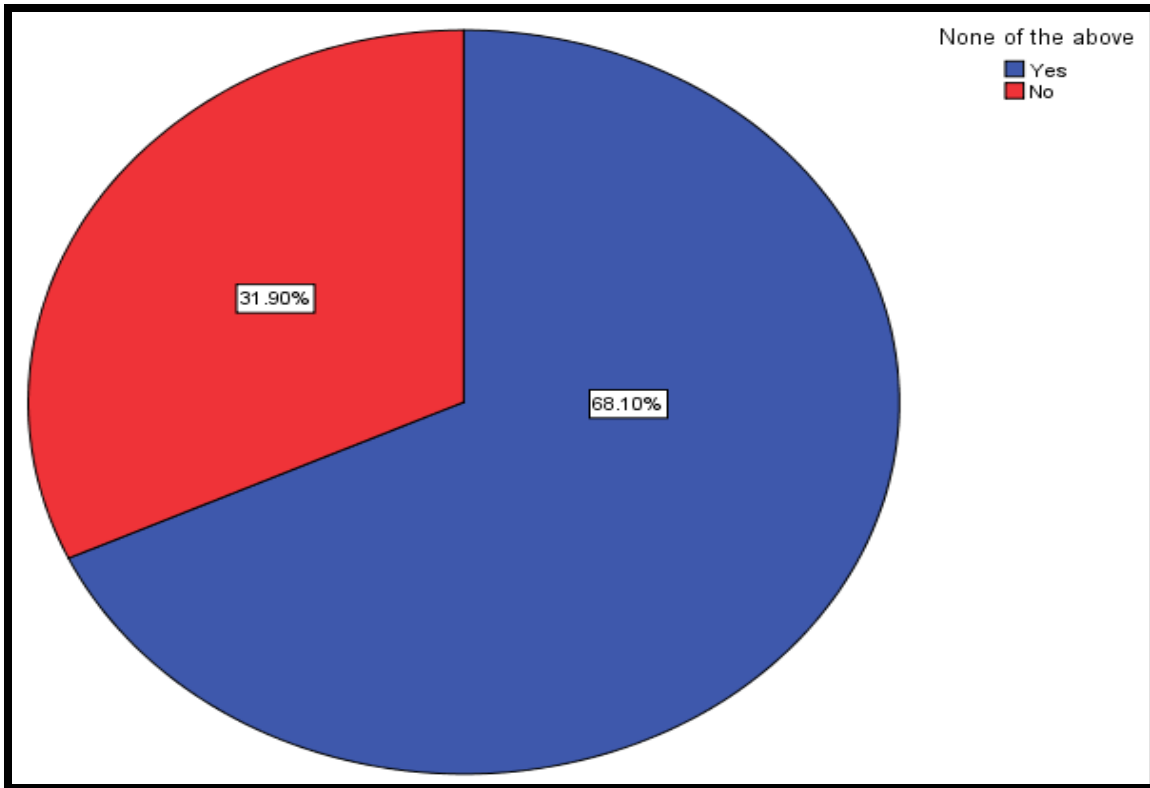
The results indicated that only 1.80% of the respondents suffer from Cardiovascular disease.



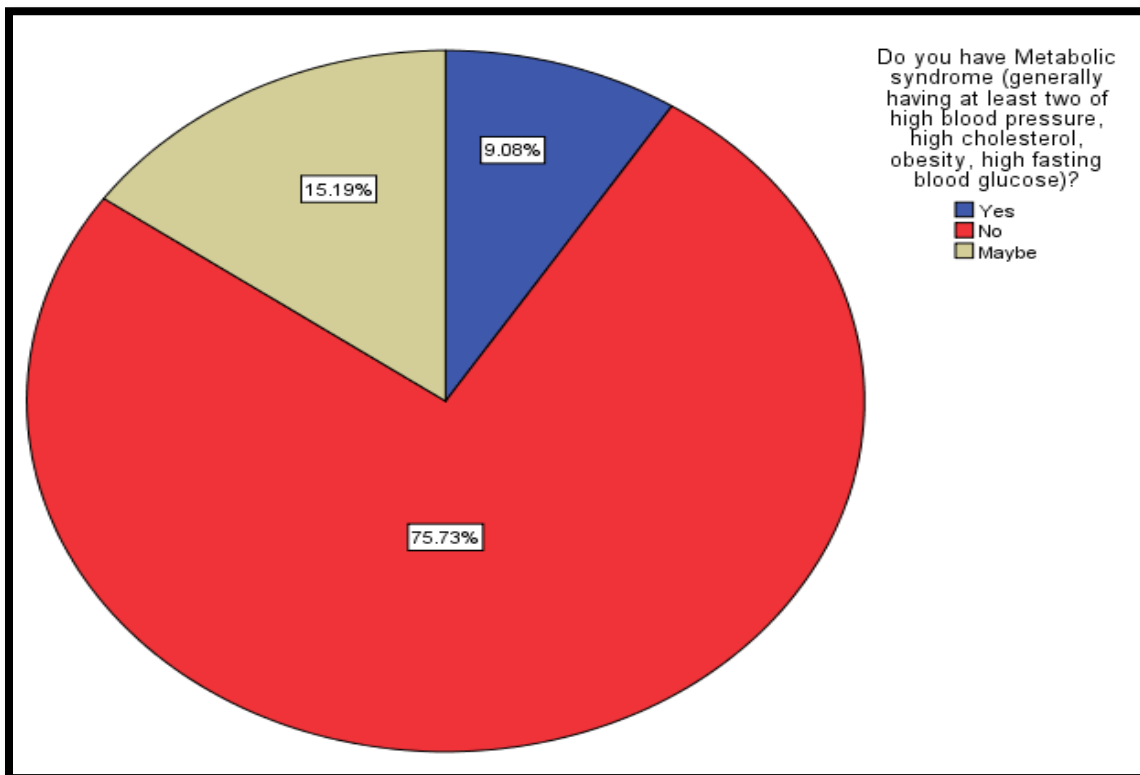
The results indicated that only 0.17% of the respondents suffer from Endometrial cancer.



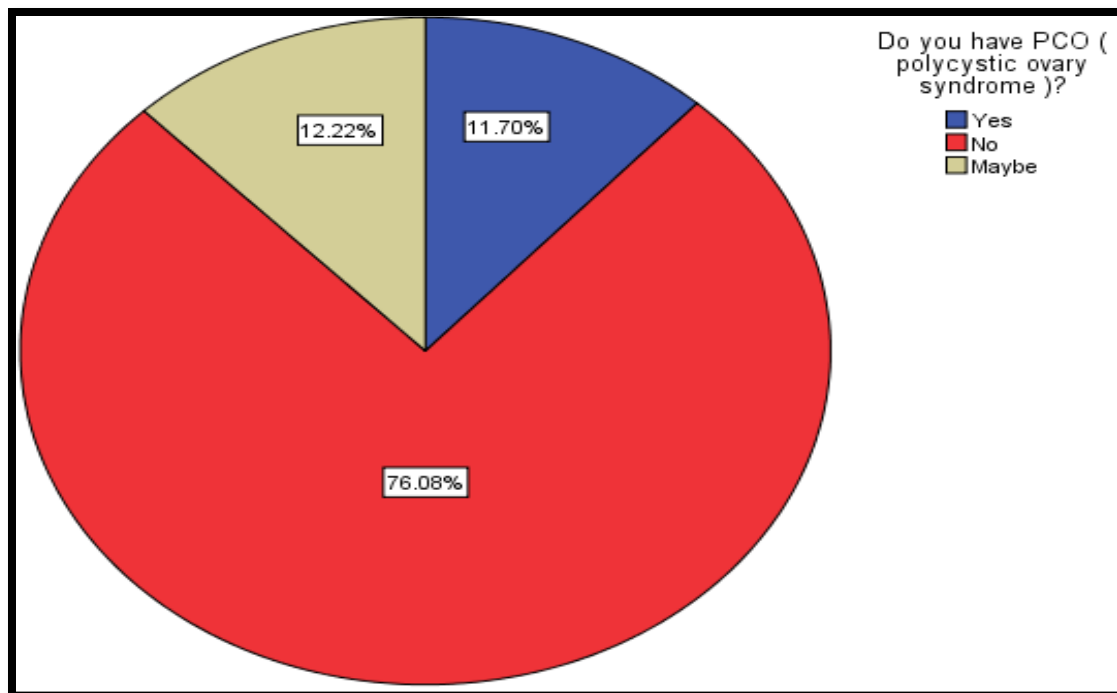
The results indicated that only 1.28% of the respondents suffer from Sleep apnoea.



The results indicated that 68.10% of the respondents do not suffer from the diseases.



The results indicated that 75.73% of the respondents do not have Metabolic syndrome.



The results indicated that 76.08% of the respondents do not have PCO(polycystic ovary syndrome).

Correlations					
	Age	Nationality	Social status	Do You Have Children?	How old were you at puberty?
Age	1	-.065-	.581	-.654-	.026
		.007	.000	.000	.273
	1718	1718	1718	1718	1718
Nationality	-.065-	1	-.041-	.080	.022
	.007		.088	.001	.369
	1718	1718	1718	1718	1718
Social_status	.581	-.041-	1	-.681-	.017
	.000	.088		.000	.470
	1718	1718	1718	1718	1718
Do You Have Children?	-.654-	.080	-.681-	1	-.010-
	.000	.001	.000		.675
	1718	1718	1718	1718	1718
How old were you at puberty?	.026	.022	.017	-.010-	1
	.273	.369	.470	.675	
	1718	1718	1718	1718	1718
Weight gain or obesity	-.247-	-.029-	-.160-	.166	.055
	.000	.229	.000	.000	.021
	1718	1718	1718	1718	1718
Pre-diabetes	-.172-	-.010-	-.074-	.078	-.008-
	.000	.671	.002	.001	.735
	1718	1718	1718	1718	1718
Type 2 diabetes	-.119-	.010	-.070-	.015	.007
	.000	.686	.003	.526	.765
	1718	1718	1718	1718	1718

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Correlations				
	Weight gain or obesity	Pre-diabetes	Type 2 diabetes	Cardiovascular disease
Age	-.247- .000 1718	-.172- .000 1718	-.119- .000 1718	-.130- .000 1718
Nationality	-.029- .229 1718	-.010- .671 1718	.010 .686 1718	-.046- .054 1718
Social_status	-.160- .000 1718	-.074- .002 1718	-.070- .003 1718	-.085- .000 1718
Do You Have Children?	.166 .000 1718	.078 .001 1718	.015 .526 1718	.039 .106 1718
How old were you at puberty?	.055 .021 1718	-.008- .735 1718	.007 .765 1718	.002 .927 1718
Weight gain or obesity	1 .000 1718	.133 .000 1718	.014 .565 1718	.059 .014 1718
Pre-diabetes	.133 .000 1718	1 .000 1718	-.014- .568 1718	.061 .011 1718
Type 2 diabetes	.014 .565 1718	-.014- .568 1718	1 .000 1718	.090 .000 1718

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Correlations			
	Endometrial cancer	Sleep apnoea	None of the above
Age	-.036- .137 1718	.023 .331 1718	.271 .000 1718
Nationality	-.069- .004 1718	.021 .374 1718	.029 .235 1718
Social_status	-.042- .082 1718	.003 .905 1718	.157 .000 1718
Do You Have Children?	-.017- .486 1718	-.028- .238 1718	-.156- .000 1718
How old were you at puberty?	-.020- .414 1718	.021 .386 1718	-.046- .055 1718
Weight gain or obesity	.035 .145 1718	.008 .740 1718	-.846- .000 1718
Pre-diabetes	-.009- .723 1718	.003 .899 1718	-.299- .000 1718
Type 2 diabetes	.172 .000 1718	.015 .537 1718	-.234- .000 1718

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations		
	Do you have Metabolic syndrome (generally having at least two of high blood pressure, high cholesterol, obesity, high fasting blood glucose)?	Do you have PCO (polycystic ovary syndrome)?
Age	-.086- .000 1718	-.005- .838 1718
Nationality	-.004- .870 1718	-.002- .933 1718
Social_status	-.047- .049 1718	-.031- .205 1718
Do You Have Children?	.034 .165 1718	.045 .063 1718
How old were you at puberty?	-.054- .025 1718	.024 .311 1718
Weight gain or obesity	.013 .580 1718	.070 .004 1718
Pre-diabetes	.062 .010 1718	.051 .036 1718
Type 2 diabetes	.127 .000 1718	.002 .943 1718

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Correlations					
	Age	Nationality	Social_status	Do You Have Children?	How old were you at puberty?
Cardiovascular disease	-.130- .000 1718	-.046- .054 1718	-.085- .000 1718	.039 .106 1718	.002 .927 1718
Endometrial cancer	-.036- .137 1718	-.069- .004 1718	-.042- .082 1718	-.017- .486 1718	-.020- .414 1718
Sleep apnoea	.023 .331 1718	.021 .374 1718	.003 .905 1718	-.028- .238 1718	.021 .386 1718
None of the above	.271 .000 1718	.029 .235 1718	.157 .000 1718	-.156- .000 1718	-.046- .055 1718
Do you have Metabolic syndrome (generally having at least two of high blood pressure, high cholesterol, obesity, high fasting blood glucose)?	-.086- .000 1718	-.004- .870 1718	-.047- .049 1718	.034 .165 1718	-.054- .025 1718
Do you have PCO (polycystic ovary syndrome)?	-.005- .838 1718	-.002- .933 1718	-.031- .205 1718	.045 .063 1718	.024 .311 1718

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Correlations				
	Weight gain or obesity	Pre-diabetes	Type 2 diabetes	Cardiovascular disease
Cardiovascular disease	.059 .014 1718	.061 .011 1718	.090 .000 1718	.1 1718
Endometrial cancer	.035 .145 1718	-.009 .723 1718	.172 .000 1718	.099 .000 1718
Sleep apnoea	.008 .740 1718	.003 .899 1718	.015 .537 1718	.062 .010 1718
None of the above	-.846 .000 1718	-.299 .000 1718	-.234 .000 1718	-.198 .000 1718
Do you have Metabolic syndrome (generally having at least two of high blood pressure, high cholesterol, obesity, high fasting blood glucose)?	.013 .580 1718	.062 .010 1718	.127 .000 1718	.115 .000 1718
Do you have PCO (polycystic ovary syndrome)?	.070 .004 1718	.051 .036 1718	.002 .943 1718	.019 .423 1718

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Correlations		
	Do you have Metabolic syndrome (generally having at least two of high blood pressure, high cholesterol, obesity, high fasting blood glucose)?	Do you have PCO (polycystic ovary syndrome)?
Cardiovascular disease	.115 .000 1718	.019 .423 1718
Endometrial cancer	.062 .010 1718	-.057 .019 1718
Sleep apnoea	.004 .880 1718	-.020 .409 1718
None of the above	-.034 .153 1718	-.061 .012 1718
Do you have Metabolic syndrome (generally having at least two of high blood pressure, high cholesterol, obesity, high fasting blood glucose)?	1 1718	.050 .039 1718
Do you have PCO (polycystic ovary syndrome)?	.050 .039 1718	1 1718

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Discussion:-

This study was based on a number of 1718 participants, 973 of them have children , 201 of them have PCO (polycystic ovary syndrome). which is considering as unhealthy sign .

The current study showed statistically significant (P value is 0.004) which means there is a strong relationship between having PCO and suffering from weight gain or obesity, (P value is 0.036) which means there is a strong relationship between having PCO and suffering from pre-diabetes.

(P value is 0.019) which means there is a strong relationship between having PCO and suffering from Endometrial cancer, (P value is 0.039) which means there is a strong relationship between having PCO and suffering from Metabolic syndrome.

Conclusion:-

The results of the study showed positive results in terms of the low incidence of PCO. There are some signs that may be associated with PCO, including weight gain and Pre-diabetes and they are considered as the most common causes related to PCO through the results. It has also been proven that there is a strong correlation between endometrial cancer and PCO infection, but the results have proven that a small number of women respondents have contracted the disease. There is also a strong correlation between metabolic syndrome and PCO infection, but the results demonstrate that few women respondents have the disease.

Recommendation:-

we recommend setting up health education programs about PCO, This health problem must be presented broadly and beneficially and, in a way, that everyone understands, as most deal with PCO by ignoring and not being important, work should be done on health conferences and medical discussions on that.

Acknowledgement:-

The authors would like to thank the participants for their great cooperation, Participants will be especially from medical universities and colleges selected and carried out by questionnaire.

We thank the data collectors:**Ethical consideration:**

1. Individual consent from participants (written on the front page of the questionnaire).
2. All information will be kept confidential.

Budget:

Self-funded.

References:-

1. Mayo Clinic. (2019). Polycystic ovary syndrome (PCOS) - Symptoms and causes. [online] Available at: <https://www.mayoclinic.org/diseases-conditions/pcos/symptoms-causes/syc-20353439> [Accessed 24 Aug. 2019].
2. Jean Hailes For Women's Health. (2019). Polycystic ovary syndrome (PCOS). [online] Available at: <https://jeanhailes.org.au/health-a-z/pcos/complications> [Accessed 24 Aug. 2019].
3. N, A. (2017). Prevention of type 2 diabetes mellitus in polycystic ovary syndrome: A review. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/28711517> [Accessed 24 Aug. 2019].
4. Shaman, A., Mukhtar, H. and Mirghani, H. (2017). Risk factors associated with metabolic syndrome and cardiovascular disease among women with polycystic ovary syndrome in Tabuk, Saudi Arabia.. [online] PubMed. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/29403608> [Accessed 24 Nov. 2017].
5. Ezzidi I, e. (2018). Impact of variants on type-2 diabetes risk genes identified through genomewide association studies in polycystic ovary syndrome: a case-control study. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/30555071> [Accessed Dec. 2018].
6. Al-Nozha O, e. (2013). Body weight reduction and metformin: Roles in polycystic ovary syndrome. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/23608322> [Accessed 20 Apr. 2013].
7. Al-Ruhaily, A., Malabu, U. and Malabu, R. (2019). Hirsutism in Saudi females of reproductive age: a hospital-based study.. [online] PubMed. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/18299651> [Accessed 31 Jan. 2008].