



Survey on lifestyle and food habits of patients with PCOS and obesity

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ABSTRACT

Polycystic ovary syndrome (PCOS) is considered to be one among the most occurring endocrine disorder in women at the reproductive age, the most common reason of hyperandrogenism, hirsutism and infertility. Obesity is most commonly found in the society nowadays due to the changing sedentary life styles. The connection between PCOS and obesity can be understood as they have a direct influence on each other.

This is a pre tested questionnaire based study which contained 15 questions regarding the lifestyles and food habits of individuals with Polycystic ovarian syndrome and obese individuals. The questions were set in such a way that they could analyse the food habits and lifestyle so that a detailed view can be obtained. Hence pre tested validated questionnaire was distributed to participants through google forms.

The study could infer that 75% of the women being a busy professional didn't have sufficient time to work on their health and thus compromised on their daily habits like having a unhealthy food habit or by not taking meals at proper intervals. 70% of them could try to work on how to improve their food habits to a healthy one and how to lead a healthy life. Workouts and Exercise also could help people in improving their lifestyle and thus could lead a hail and healthy life.

PCOS is the most common hormonal disorder that targets women of the reproductive age. It in addition challenges the quality of life of the women who suffer from this. With proper treatment and care PCOS can be handled and symptoms can be relieved. Lifestyles and food habits were the major reason for people to get affected with such a diseased condition.

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INTRODUCTION

Lifestyle is in close parallelism to the physical and mental well-being of the individual and this has an impact on development of many diseases.¹ Polycystic ovary syndrome (PCOS) is among the most prevalent endocrine disorder among women at their reproductive ages, and the most common cause of hyperandrogenism and hirsutism. There are evidences showing that the risk factors could be that lifestyle, diet and obesity in childhood and adulthood for it to become a chronic disease. Obesity is found to aggravate the clinical presentation of the disease in terms of both fertility and metabolism.² The connection between PCOS and obesity is quite tangled. Signs and symptoms of polycystic ovarian syndrome begin for most of the females as soon as they attain puberty.³ Women with PCOS are said to produce too much insulin, rather the insulin that is produced does not work as it should.⁴

PCOS affects 5 to 10 percent of the women in the reproductive age. Women with PCOS have many adverse reactions that are irregular menstrual bleeding and often have difficulty in getting pregnant.⁵ Thehths syndrome is said to occur when levels of hormones are not normal, "polycystic ovarian syndrome" refers to the presence of small cysts along the outer lining of the enlarged ovaries of women with the above condition.¹ The exact cause of PCOS is not known, but in general it is believed to be related to the production of an excess amount of androgens, a group of male sex hormones.⁶ Although all women produce a small amount of this Harmon's, too much of this type of hormone prevents the process of ovulation. There are also many examples where peripheral metabolism is said to have a distant endocrine effects.^{2,3} Adipose tissue contains aromatase, which can increased level of bioactive estrogens from androgens, which is released into circulation. In turn this can result in accelerated puberty in girls.

Obesity is considered to be associated mainly to abdominal adiposity in a PCOS patient. It is of utmost important to recognised this by the presence of obesity and its upper body distribution or abdominal adiposity, which changes in accordance to race and geographical distribution of individuals.^{7,8} There is no certain dose-response connection between obesity more over the presence of anovulation, hyperandrogenemia, and hirsutism also the prevalence of polycystic ovaries in the population of women including the presence of PCOS.⁹

Polycystic ovary syndrome affects 4-7% of young women. It is said to be one of the most frequent endocrine disorders in women of reproductive age. It is necessary to understand that PCOS affects 60-80% of the patients with hyperandrogenism.

Overweight or obesity of the individual may cause a risk of up to approximately 60-80% of PCOD patients.^{10,11}

The origin of PCOS by environmental factors leans on the beneficial results seen by weight loss, and the worsening with increasing weight in these patients. The interaction of environmental factors of PCOS in women starts from their prenatal and postnatal life. Food habits and lifestyle are also important factors in the occurrence and the development of PCOS.¹³ Obesity is linked with the increased likelihood of metabolic sequences. The effects of obesity and PCOS are well explained by the experiments on people.¹⁴ The experiments reveal that the influence of obesity and PCOS are found to be independent. However, the major factor of determinant of the two is obesity, such that obesity per se in normal women is associated with reducing insulin action compared to PCOS in normal weight women.

The decreased activity of insulin or inability to function normally is one reason that women with PCOS gain weight or have a tough time losing weight. For some others, PCOS develops later on, following weight gain.¹⁵ The clear fact is that women affected by obesity have an increased risk for PCOS and women with PCOS have a greater risk of obesity. Birth control pills and androgen reducing therapies increases the symptoms of PCOS, such as menstrual cycle irregularities, male type hair growth/loss and acne. For women who want to get pregnant, fertility drug treatment may also begin ovulation. For some women, the physician might prescribe the anti-diabetic drug metformin, or the fertility drug gonadotropins, to treat insulin resistance.¹⁶

Obesity is a finding in PCOS and shows many reproductive and metabolic features. The correlation between PCOS and obesity is likely to involve cross connections between genetic and environmental factors. PCOS is highly prevalent and is said to have a several short and long term complications. Changes in lifestyle may stop the disease progression, the lifestyle may affects the onset and progress of chronic diseases which are closely related to one another. There are many therapies to treat obesity within PCOS. The first one is lifestyle changes, with changes in diet and regular physical activity, pharmaceutical treatments which has some mitigating effects on weight.

Obesity has been associated with abnormal function of the hypothalamic- pituitary-ovarian (HPO) through various mechanisms that contribute to a development of PCOS. The cause of Polycystic Ovary Syndrome is complex and said to be multifactorial. There is a lot of evidence that suggests that adipose tissue plays an important role in the development as well as maintenance of

PCOS . There is a very close relation between adiposity and symptom which are severe in women with PCOS, and even slightest reductions in weight will translate into significant changes in menstrual regularity, fertility and hyperandrogenic expressions.^{15,17}

By studying and analysing the food habits and lifestyles of patients it is possible to give a probable reason that led them to this condition and the suggestive methods can also be described. This is because PCOS is now a days becoming common in the recent days among teenage girls just like obesity. Being in such a sedentary lifestyle, most of them have no time to take care of their needs and their health. Thus results in the decreasing average span of lifetime. PCOS and obesity when taken as a combination can suggest so many know effects that most of the women are now a days affected with.^{15,18}

On other basis, the food habits influence the metabolic disorders. Since most of the women go for work, they don't have time to have a proper meals as they perform several roles such as house hold workers, office going staffs etc thus at some point of time they compromise on their health. Unhygienic food consumption is the most prevailing situation in the population as they are easily available.

Working on both PCOS and obesity is complex as said but has a lot of relevant factors that support each other's occurrence in the population. This is why detailed understanding of their relation by

analysing the lifestyles and food habits become necessary.²²⁻³⁰

MATERIALS AND METHOD

This is a questionnaire based survey which consisted of 15 questions and distributed among 50 individuals with PCOS and obesity. This study was conducted to study the baseline of the physical activities, sedentary lifestyles and food habits among girls between the age 20 to 25. This study contained analytical questions that can be self analysing and clear so that people could not misinterpret the results. Each question was framed in such a way that they would have a big impact on the disused condition that they are being led into. Each question was explained clearly to the person such that a detailed insight can be obtained.

RESULT

Fig 1 demonstrates that 82% of them had food at correct intervals, 40% skipped meals , 52% ate food from restaurants, 82% didn't get enough sleep, 76% drank sufficient water, 70% had fruits and vegetables, 48% didn't go for workouts, 40% went for walking regularly, 84% have never been on a diet, 78% didn't go for regular health checkup's, 8% were not under any medication, 64% consumed soft drinks, 98% didn't have any genetic disorders.

Fig 2 shows the hours of sleep that each individual had and varies from 7±3 hours

Fig 3 shows the consumption of junk food by individual which was 40.8%

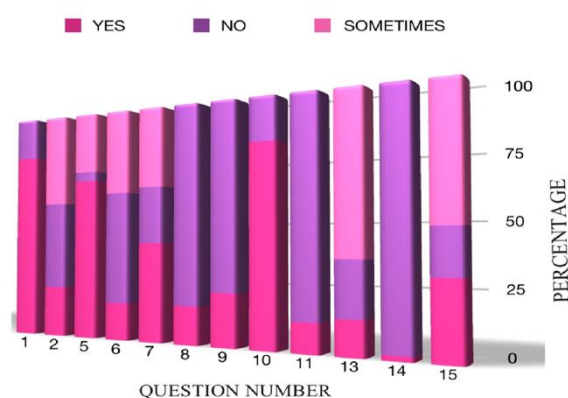


Fig 1: Response for The Questions

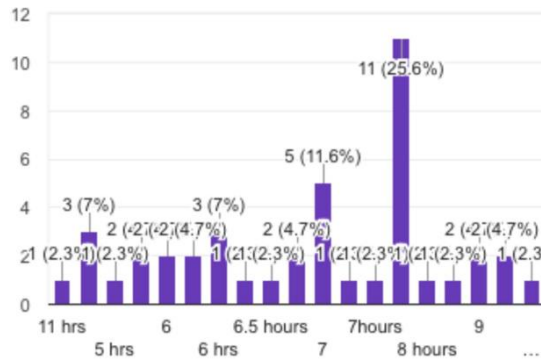


Fig 2: Hours of Sleep

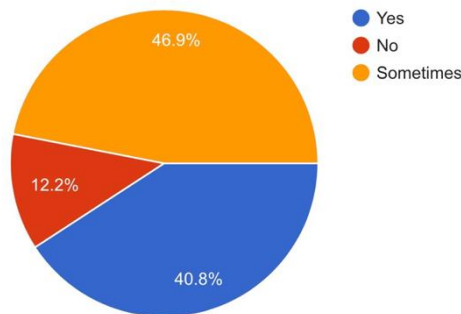


Fig 3: Consumption of Junk Food

DISCUSSION

The results obtained showed that 82 % of the participants had food at correct intervals if they were to eat which shows that food is taken at the right time whereas 18% of them deviated from this. Individuals who did deviate often complained of irregular work timing and thus resulted in irregular food cycles. 40 % of them skipped meals at times which may be due to many reasons for such as work even though they knew it was not a good practice and 38% of them would never skip meals whereas 38 % of them did not skip their meals. Those who skipped meals at times often complained of dizziness and weakness and found that it would subside on having the next meal. 52 % of them ate food from outside like restaurants sometimes as most of them claimed to be busy working women whereas 30 % of them ate food from outside often. 82 % of them said that they get enough sleep as they generally had separate time for sleep as they knew rest was of great importance to body as well as brains, the rest had a major complaint of irregular and insufficient sleep as most of them had to compromise on their sleep to accomplish their needs in their day to life. Sleep timing patterns have an effect on obesity. ³

The timing of food intake, dietary intake, and changes in appetite-regulating hormones have been identified as possible mechanisms for sleep obesity associations. ^{9,10} 76 % of them drank sufficient water everyday which they knew could help a lot in improving their health physically and could always keep them hydrated. Those who didn't often complained to increased feeling of thirst and dehydration that lead to weakness and dizziness. 40.8 % of them consumed junk food which usually were lays, chips etc , although they knew it causes harm to their health they were ready to take the risk as it was easily available . 70 % of them said that they would eat fruits and vegetables as they knew it was good for health and would help them to stay hail and healthy. 48 % of them didn't go for any work outs which shows to some extent that there was no physical exercise for the relaxation of the body and to kick out diseases and mainly obesity. 40 % of them did go for walking but not on a regular basis. Walking as it was a day to day activity most of them were ready to try it on a daily basis but due to some reasons they weren't able to follow it everyday. 84 % of them have never been on a diet as they felt that it was no no use to them and can't help their

diseased state in any way. 78 % of them didn't go for any kind of regular health checkup's, whereas the rest did go for a medical checkup on a regular basis. Those who went for health checkup's on a results basis often wanted to ensure that they were on the right track.¹⁹ 88% of them weren't under any sort of medication and the rest were under medication for obesity and PCOS. 64 % of them consumed soft drinks at times and 22 % of them didn't have the habit of consuming any kind of soft drink as they were self banned. 98 % of them didn't have any genetic disorder whereas the other 2 % had a genetic history of obesity. Sleep patterns varied from 4 to 11 hours which was said to vary at times. Most of them didn't sacrifice on sleep as they considered it essential.

CONCLUSION

This study provides a very good insight on the lifestyles and food habits of girls between the age group of 20 to 25 with PCOS and obesity. The lifestyle changes that have been made by themselves in order to help themselves overcome this can also be observed. The occurrence of PCOS is said to increase in along with obesity epidemic. The complex causes of PCOS is due to genetic and environmental factors. In the busy lifestyle that even one are leading, most of them have no time to take care of themselves that is the main reason that has lead them to such diseased conditions. Thus performing a lot of alterations in the so called sedentary lifestyle we are leading and change of hood habits that we follow can show us a very big change in the prevailing conditions of people being affected by PCOS and obesity.

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