

Prevalence of Bowel and Bladder Symptoms in Overweight and Obese Young Girls Having Polycystic Ovarian Syndrome

Shrusti Shah¹, Dr Anukshaya Bangera²

¹Intern DPO's NETT College of Physiotherapy, Kolshet Road, Thane West

²Assistant Professor, DPO's NETT College of Physiotherapy, Kolshet Road, Thane West

Corresponding Author: Shrusti Shah

DOI: <https://doi.org/10.52403/gijhsr.20220703>

ABSTRACT

Background: Polycystic ovarian condition is a heterogeneous disorder described by an excess of androgen production by the ovaries. Overweight and obese individuals are characterized as inordinate amassing of fat that might disable wellbeing. Urinary Incontinence is known as the lack of bladder control and much of the time embarrassing issue. Faecal incontinence may be accompanied by other bowel problems, such as diarrhoea.

hormones are considered an important part of human development. young girls may face problems with growth, metabolism, puberty and overall well-being when there is an imbalance during the most vulnerable years.

Objective: To find the prevalence of bowel and bladder symptoms in overweight and obese young girls having polycystic ovarian syndrome.

Method: n = 57 subjects were included in the study who filled the questionnaire which included a questionnaire incontinence severity index and a revised faecal incontinence scale. Based on the responses, they were classified as continent or incontinent.

Results: Females suffering from PCOS in the age group 17-25 years with an average of 21.41 and BMI greater than 25kg/m² with an average of 28.74 were included in the study. The majority of overweight and obese females in this age group had never experienced urinary and bowel symptoms.

Conclusion: The study concludes that there may be a protective effect of hormones because despite being overweight and obese

Keywords: Polycystic ovarian syndrome (PCOS), Body mass index (BMI), Revised faecal incontinence scale (RFIS), Incontinence severity index (ISI)

INTRODUCTION

Polycystic ovarian syndrome is a heterogeneous syndrome caused by the ovaries secreting excessive androgen. It is a multifactorial and polygenic condition whose determination depends on the presence of any two of the accompanying criteria oligo/anovulation, hyperandrogenism and polycystic ovaries. Excessive insulin could increment androgen production, affecting ovulation. The other factor may be the abundance of androgen as the ovaries produce strangely elevated degrees of androgen.

Polycystic ovary syndrome (PCOS), described by ovulatory dysfunction and hyperandrogenism, often presents during adolescence. The imbalance of hormones may result in symptoms such as dysmenorrhoea, irregular periods, sudden weight gain and premenstrual syndrome, and impact every aspect of a young girl's life.^[3]

Obesity is one of the factors responsible for lower urinary tract symptoms and is an indicator of stress urinary incontinence and an overactive bladder. Urinary incontinence and faecal incontinence are more predominant in obese patients.^[2]

Additional weight increments strain on your bladder and encompassing muscles, which weakens them and causes urinary leakage when you cough or sneeze. Bowel incontinence is to lose the ability to control defecations, causing stool to spill.

The test-retest reliability for each question of ISI was good ($\kappa=0.69$ for question 1 and 0.83 for question 2, $P<0.001$ for both). It is a short, dependable and legitimate scale for the assessment of urinary incontinence and its response to treatment.^[13]

To assess the severity of faecal Incontinence, a study clinically assessed the new Revised Faecal Incontinence Scale which was created to give a short, psychometrically sound measure for epidemiological and evaluative examination. The reliability of the Revised Faecal Incontinence Scale is 0.80^[7]

MATERIALS AND METHODS

Materials

Each participant completed a questionnaire by using a google form that assesses the severity of urinary incontinence and bowel symptoms. Google form, internet, mobile phone, laptop

Methodology

Consent was obtained from the subjects before participation. The study was conducted by online questionnaire survey and subjects filled out the online questionnaire. The population was selected according to the inclusion and exclusion criteria. Data was collected and analyzed.

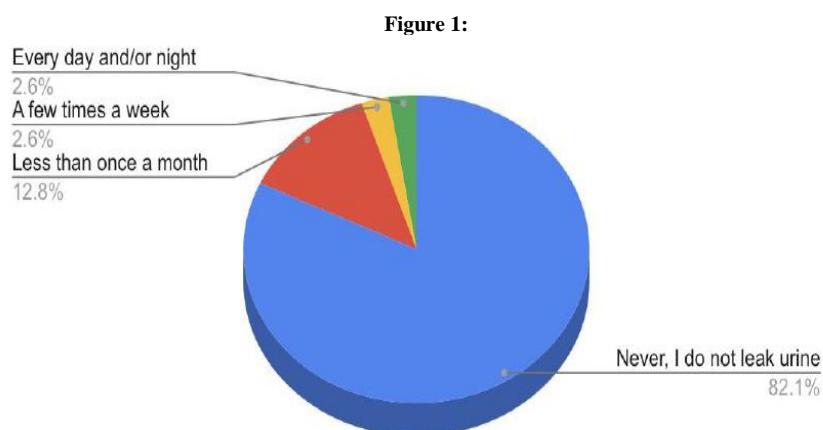
Statistical methods

60 subjects filled the Google form out of which 55 subjects fitting the Inclusion criteria were selected for analysis. The data were entered using Microsoft office Excel analysis was done.

RESULTS AND INTERPRETATION

URINARY SYMPTOMS

How often do you experience urinary leakages?

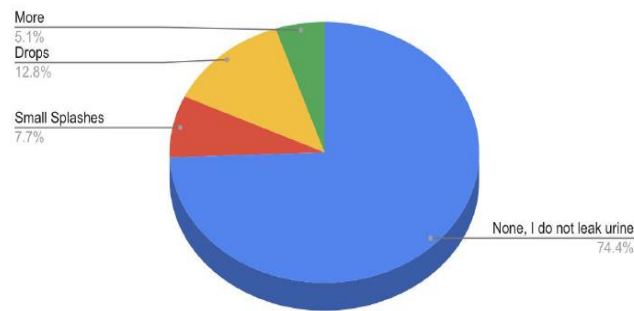


Inference

- ✓ Never, I do not leak urine (82.1%)
- ✓ Less than once a month (12.8%)
- ✓ A few times a week (2.6%)
- ✓ Every day and/or night (2.6%)

How much urine do you lose each time?

Figure 2:



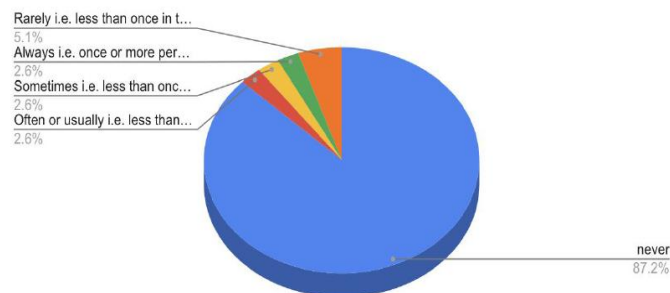
Inference

- ✓ None, I do not leak urine (74.4%)
- ✓ Small splashes (7.7%)
- ✓ Drops (12.8%)
- ✓ More (5.1%)

BOWEL SYMPTOMS:

Do you leak, have accidents or lose control with solid stool?

Figure 3:

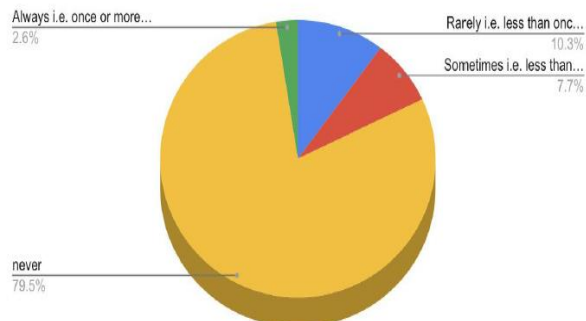


Inference

- ✓ Never (87.2%)
- ✓ Rarely i.e. less than once in the past four weeks (5.1%)
- ✓ Sometimes i.e. less than once a week, but once or more in the past four weeks(2.6%)
- ✓ Often or usually i.e. less than once a day but once a week or more (2.6%)
- ✓ Always i.e. once or more per day or whenever you have a bowel movement (2.6%)

Do you leak, have accidents or lose control with liquid stool?

Figure 4:

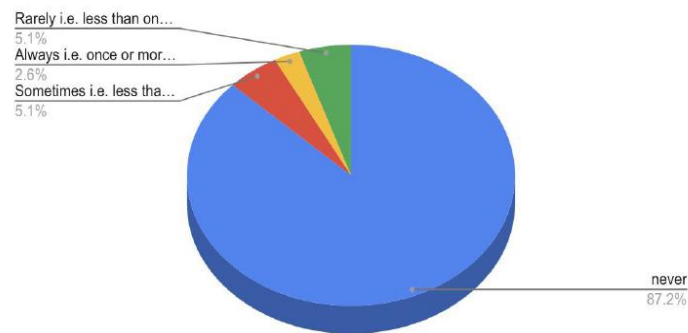


Inference:

- ✓ Never (79.5%)
- ✓ Rarely i.e. less than once in the past four weeks (10.3%)
- ✓ Sometimes i.e. less than once a week, but once or more in the past four weeks (7.7%)
- ✓ Often or usually i.e. less than once a day but once a week or more
- ✓ Always i.e. once or more per day or whenever you have a bowel movement (2.6%)

Do you leak stool if you don't get to the toilet in time?

Figure 5:

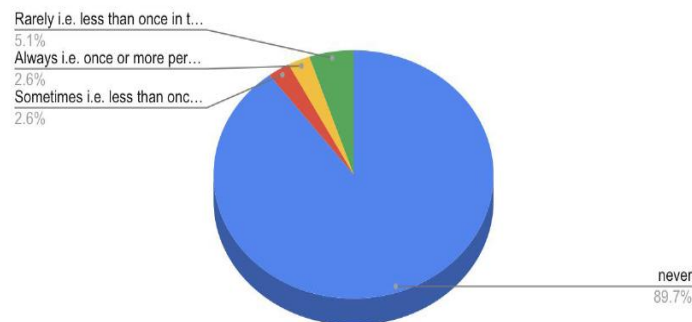


Inference:

- ✓ Never (87.2%)
- ✓ Rarely i.e. less than once in the past four weeks (5.1%)
- ✓ Sometimes i.e. less than once a week, but once or more in the past four weeks (5.1%)
- ✓ Often or usually i.e. less than once a day but once a week or more
- ✓ Always i.e. once or more per day or whenever you have a bowel movement (2.6%)

Does stool leak so that you have to change your underwear?

Figure 6:

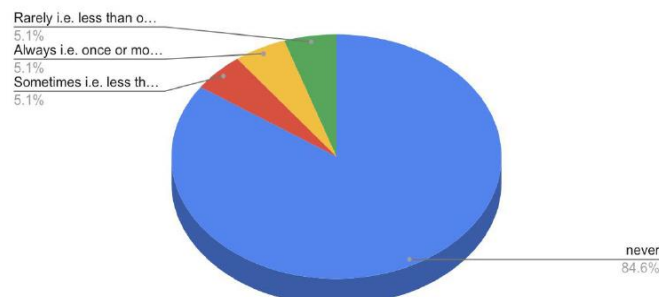


Inference:

- ✓ Never (89.7%)
- ✓ Rarely i.e. less than once in the past four weeks (5.1%)
- ✓ Sometimes i.e. less than once a week, but once or more in the past four weeks (2.6%)
- ✓ Often or usually i.e. less than once a day but once a week or more
- ✓ Always i.e. once or more per day or whenever you have a bowel movement (2.6%)

Does bowel or stool leakage cause you to alter your lifestyle?

Figure 7:



Inference:

- ✓ Never (84.6%)
- ✓ Rarely i.e. less than once in the past four weeks (5.1%)
- ✓ Sometimes i.e. less than once a week, but once or more in the past four weeks (5.1%)
- ✓ Often or usually i.e. less than once a day but once a week or more
- ✓ Always i.e. once or more per day or whenever you have a bowel movement (5.1%)

DISCUSSION

A cross-sectional study was conducted in a period of 18 months to find the prevalence of bowel and bladder symptoms in overweight and obese young girls having the polycystic ovarian syndrome.

The research data was collected quantitatively as it allowed us to collect large data in a short period of time. The questionnaire was sampled by 60 females in the age group of 17-25 years with a BMI of more than 25 kg/cm². The study was done among 55 women who are suffering from PCOS between the age group 17 to 25. Girls on hormone therapy or who had any past pelvic surgery were excluded. The subjects included those who had PCOS for one year and had been diagnosed with PCOS using ultrasound. The mean age and standard deviation was 21.41 The mean height and standard deviation was 155.03 The mean weight and standard deviation was 69.57 The mean body mass index and standard deviation was 28.74

The aim of the current study was to find out if there is a protective effect of hormones in overweight and obese young girls having PCOS on bowel and bladder using validated self-made questionnaire which includes ISI and RFIS. The Incontinence severity index is known to be a short and sound measure for outcomes research. The revised faecal Incontinence scale is a short, reliable, and valid scale that could be used by researchers and clinicians.

A study conducted by Tayfun Sahikanat , Ebru ozturk, Yelda ozkan (November 2010) revealed that women who have high serum testosterone levels are more likely to report bladder symptoms. The impact of testosterone on bladder side effects was surveyed by pelvic pain which was self-directed and an additional question to ask for incontinence. ^[11] Also, a study conducted by Seyed abdolvahab, Fatemeh bazarganipur, Helen allah, Zahra khashavi, Nasrin reisi, Nadiyah dosha (January 2016) suggests that higher levels of LH might correlate to the symptoms of pelvic organ prolapse in which Pelvic floor dysfunction

was assessed by the Pelvic Floor Distress Inventory-20. ^[10]

The result of the study indicated that 82.1% of girls do not experience urinary leakage. 12.8% of girls experienced leakage once a month. A few times a week was experienced by 2.6% .2.6% experienced leakage every day/and night. While observing the amount of urine leakage, it showed that 7.7% of girls lose urine in small splashes and 12.8% in drops. For bowel symptoms, 87.2% of girls never lose control with solid stool and 79.5% with liquid stool. 87.2% reported no leakage of stool if they don't get to the toilet in time. There were 84.6% of girls who did not need to alter their lifestyle because of the leakage.

One of the reasons may be that the pelvic floor muscles are delicate to androgens, and because of hyperandrogenism, girls with polycystic ovary disorder can have expanded mass in these muscles. Results similar to some extent were found in a study by Thais Montezuma (2011). It showed that androgens may have an important role to play in changes taking place in the pelvic floor and lower urinary tract as the muscle levator ani and the urethral sphincter are sensitive to androgens. Even though it has been recommended that high androgen levels and girls with PCOS and the presence of androgen receptors in the urinary tract might play a defensive role on pelvic muscle floor capability there is yet deficient proof to help the defensive role of PCOS in pelvic floor muscles weakness. ^[4]Also, a study by Maria thereza micussi, Rodrigo pegado freitas (sept 2016) showed a strong correlation between testosterone and tone of the muscle using electromyography. Women with PCOS had greater electromyographic values than those in premenopause. Electrical activity was more and thus showed a positive relation with estradiol and testosterone levels. ^[12]

CONCLUSION

The study concludes that there may be a protective effect of hormones because despite being overweight and obese, which

expands the intraabdominal pressure, it should add to the advancement of UI, but it has been seen that more than 70% of girls do not experience urinary and bowel leakage.

Acknowledgement: I take this wonderful opportunity to thank all the "HANDS" who have joined together to make this project a SUCCESS. It's my great pleasure and privilege to express my deep-felt gratitude to our respected Principal Sir DrAjay Kumar, Guide Dr Anukshaya Bangera who immensely helped me and rendered their advice, precious time, constant encouragement, knowledge and relevant information regarding my study and whose suggestions and guidance has enlightened me on this subject.

It is my great pleasure to thank all my subjects who participated in this study, without them this study would not have been possible.

I also take this opportunity to thank the Statistician, Librarian, all the Teaching and Non-teaching staff and my friends and colleagues for their support.

Above all, I would like to thank my parents for their blessings, love, constant support, affection and encouragement.

Praise and Glory to the God Almighty, who is the source of strength, the foundation of my knowledge and the source of inspiration in every walk of life.

REFERENCES

1. Dalal A. DC Dutta's textbook of gynaecology and textbook of obstetrics
2. Ramalingam K, Monga A. Obesity and pelvic floor dysfunction. Best practice & research clinical obstetrics & gynaecology. 2015 May 1;29(4):541-7.
3. Anderson AD, Solorzano CM, McCartney CR. Childhood obesity and its impact on the development of adolescent PCOS. In seminars in reproductive medicine 2014 May. NIH Public Access.
4. Montezuma T, Antônio FI, Sá MF, Ferriani RA, Ferreira CH. Assessment of symptoms of

- urinary incontinence in women with polycystic ovary syndrome. Clinics. 2011;66(11):1911-5.
5. Micussi MT, Freitas RP, Varella L, Soares EM, Lemos TM, Maranhão TM. Relationship between pelvic floor muscle and hormone levels in polycystic ovary syndrome. Neurourology and urodynamics. 2016 Sep;35(7):780-5.
6. Sansoni JE, Hawthorne GE, Marosszeky N, Fleming G. The revised urinary incontinence scale: A clinical validation. Australian and New Zealand Continence Journal, The. 2015 Jun;21(2).
7. Sansoni J, Hawthorne G, Fleming G, Marosszeky N. The revised faecal incontinence scale: a clinical validation of a new, short measure for assessment and outcomes evaluation. Diseases of the colon & rectum. 2013 May 1;56(5):652-9.
8. Norman RJ, Dewailly D, Legro RS, Hickey TE. Polycystic ovary syndrome. The Lancet. 2007 25;370(9588):685-97.
9. Azziz R, Carmina E, Chen Z, Dunaif A, Laven JS, Legro RS, Lizneva D, NattersonHorowitz B, Teede HJ, Yildiz BO. Polycystic ovary syndrome. Nature reviews Disease primers. 2016 Aug 11;2(1):1-8.
10. Taghavi SA, Bazarganipour F, Allan H, Khashavi Z, Reisi N, Dosha N, Aghili F, Keramati M, Zahedi S, Aji-Ramkani A. Pelvic floor dysfunction and polycystic ovary syndrome. Human Fertility. 2017 Oct 2;20(4):262-7.
11. Sahinkanat T, Ozturk E, Ozkan Y, Coskun A, Ekerbicer H. The relationship between serum testosterone levels and bladder storage symptoms in a female population with polycystic ovary syndrome. Archives of gynecology and obstetrics. 2011 Oct;284(4): 879-84.
12. Micussi MT, Freitas RP, Varella L, Soares EM, Lemos TM, Maranhão TM. Relationship between pelvic floor muscle and hormone levels in polycystic ovary syndrome. Neurourology and urodynamics. 2016 Sep;35(7):780-5.

How to cite this article: Shrusti Shah, Anukshaya Bangera. Prevalence of bowel and bladder symptoms in overweight and obese young girls having polycystic ovarian syndrome. *Gal Int J Health Sci Res.* 2022; 7(3): 10-15.
DOI: <https://doi.org/10.52403/gijhsr.20220703>
