

**POST ASSESSMENT OF POLYCYSTIC OVARIAN SYNDROME MEDICATIONS TO
PATIENT'S QUALITY OF LIFE*****Alyssa Collin P. Balondo, Jasmine Dewi P. Escanilla, Alzaida O. Natividad and Aira Nicole A. Tibayan**

Bachelor of Science in Pharmacy, St. Dominic College of Asia, Philippines.

***Corresponding Author: Alyssa Collin P. Balondo**

Bachelor of Science in Pharmacy, St. Dominic College of Asia, Philippines.

Article Received on 13/05/2022

Article Revised on 03/06/2022

Article Accepted on 23/06/2022

ABSTRACT

Polycystic ovarian syndrome (PCOS) is a widespread endocrine health issue in women. The purpose of this study is to help women who are suffering from polycystic ovarian syndrome to be aware of the effects and efficacy of the different medications on their body and how these affect their quality of life. The researchers gathered some information on respondents' marital status, pre-diagnosis symptoms experience, medications used in managing the syndrome, the frequency level of symptoms experienced, the different side effects that manifested, the perceived level of effectiveness, and the level of management of symptoms regarding PCOS medication. The researchers utilized a mixture of quantitative and qualitative method approaches in the form of survey questionnaires and conducted the online survey in January 2021. Out of 30 respondents, 24 or 80 percent were single and 6 or 20 percent were married. On pre-diagnosis, the majority said that they had irregular menstruation. On medications used, many were using oral contraceptive pills in managing PCOS. The mean score of the respondents experiencing side effects was 3.10, which had a verbal interpretation of "sometimes experiencing side effects". On the side effects manifested related to PCOS medication, many said that they gained weight. More than half of the respondents also said their medication was effective in managing PCOS. Most of them were not cutting back on any activity despite having PCOS. In conclusion, a greater number of the respondents said they were able to manage PCOS oftentimes.

KEYWORDS: Polycystic ovarian syndrome, Hyperandrogenism, Pre-diagnosis, Quality of Life, Contraceptive Pills, Irregular Menstruation.

INTRODUCTION

Polycystic ovarian syndrome is one of the most prevalent endocrine illnesses in women, affecting those between the ages of 12 and 45 years old. PCOS is characterized by the presence of high androgen levels, irregular menstrual periods, and/or tiny cysts on one or both ovaries. The condition might be morphological, in which case the patient has polycystic ovaries, or it can be largely biochemical, in which case the patient has hyperandrogenemia (high testosterone levels). The most noticeable symptom of having polycystic ovarian syndrome is hyperandrogenism, which may result in the suppression of follicular development, the presence of tiny cysts, oligomenorrhea, and menstrual abnormalities (Ndefo et al., 2013).

The need for clarity with respect to demonstrative criteria, etiology, normal history, and ideal treatments in PCOS causes disappointment for ladies, clinicians, and analysts. Different demonstrative criteria exist, giving rise to heterogeneous, clinical phenotypes, rendering PCOS conclusion troublesome and numerous ladies with PCOS undiscovered. Etiology remains hazy, in spite of the fact that key parts for affront resistance and

hyperandrogenism are set up. It is additionally a determination of prohibition and thyroid brokenness, and hyperprolactinemia, which are ought to be screened for. Ovarian follicular capture, barrenness, and metabolic highlights happen in auxiliary to hormonal unsettling influences (Teede et al., 2014).

As per the study of Patel (2018), some illnesses are more frequent in girls than in men. Gynecological disorders are characterized by the dysfunction of the female reproductive or estrogen- controlled organs. Since some of these female disorders are manageable, others are life-threatening conditions that must be treated immediately. A number of these disorders have an effect on fertility. In conjunction with the rising invasion of, and sensitivity to, substances that are mostly endocrine disruptors, the prevalence of hormonal disorders is on the increase.

In recent years, PCOS, which inhibits women's ability to get pregnant, has progressed to a dangerous level. A cystic growth in the ovarian antral follicles is caused by this condition, which is characterized by an imbalance in female sex hormone production. A cyst is a water-filled sac that houses an egg that should have been

released for fertilization but was not. In order to prevent ovulation from occurring, the egg is transformed into a cyst, which is known as 'ineffective cyst.' 'Amenorrhea' is a term used to describe the disruption of the menstrual cycle caused by ovulation being prevented. In the context of PCOS, the creation of numerous cysts in the ovarian follicles as a consequence of a hormonal imbalance is characterized.

Background of the Study

Polycystic Ovarian Syndrome is an oligogenic illness in which the varied clinical and biochemical phenotype is impacted by the interplay of a number of genetic and environmental variables. PCOS is characterized by the presence of cysts in the ovaries and the presence of cysts in the uterus. Ultrasound imaging is used to make the diagnosis. Based on a 1990 report by the National Institutes of Health, PCOS is distinguished by three primary characteristics: oligomenorrhea, hyperandrogenism, and the lack of any other endocrine diseases. Patients suffering from PCOS may encounter symptoms such as infertility, menstruation problem, or hirsutism, which may be accompanied or unaccompanied by acne. Women who have PCOS are at increased risk for endometrial cancer and late menopause, as well as metabolic abnormalities such as insulin resistance, cardiovascular disease, dyslipidemia, and type-2 diabetes mellitus, which are all associated with the condition (Ndefo *et al.*, 2013).

Treatment options for polycystic ovarian syndrome include metformin (for use outside of the FDA's recommendations), spironolactone (for use in conjunction with eflornithine (a topical cream for hirsutism), spironolactone (for use in conjunction with oral contraceptives), and oral contraceptives. Increased levels of sex hormone-binding globulin (SHBG) in the body, as a consequence of oral contraceptives that include a combination of estrogen and progestin, are connected to decreased levels of free testosterone in the body, according to research. There is a considerable decrease in the levels of luteinizing hormone (LH) and follicle-stimulating hormone (FSH). Because of this, the endometrium's cyclic access to estrogen and progestin has been restored, resulting in the restoration of menstrual cycles as well as a decrease in the appearance of hirsutism. Oral contraceptives, on the other hand, have been related to increased chance of thrombosis and metabolic disorders.

Poor food choices and physical inactivity may exacerbate environmental variables associated with polycystic ovarian syndrome (e.g., obesity); pathogenic agents and chemicals may also play a role in the development of the condition. Changing one's way of life, such as losing weight and getting more exercise, may occasionally help to reverse the reproductive and metabolic aspects of PCOS.

There are few to none published studies done on PCOS here in the Philippines, which explains the lack of local literature about the disorder in this paper. The researchers were curious about the correlation between the medications prescribed for women with PCOS in the Philippines and its effect on the quality of their lives.

Statement of the Problem

This study sought to assess effects of the polycystic ovarian syndrome medications to patient's quality of life. Specifically, this study sought to answer the following questions:

1. What is the demographic profile of respondents when they will group according to marital status?
2. What are the pre-diagnosis symptoms experienced by respondents?
3. What are the different medications used to treat polycystic ovarian syndrome?
4. What is the frequency level of symptoms experienced by respondents with polycystic ovarian syndrome?
5. What are the manifested side-effects related to polycystic ovarian syndrome medication?
6. What is the perceived level of effectiveness when it comes to polycystic ovarian syndrome medication?
7. What are the activities that were cut back because of polycystic ovarian syndrome medication?
8. What is the level of management of symptoms of polycystic ovarian syndrome medication?

Hypothesis

This research does not have a hypothesis since the study used a mixed method, which are quantitative and qualitative methods. As the research having a descriptive method, it did not necessitate a hypothesis since the study was an exploration and an investigation.

Significance of the Study

This research will be beneficial to women because they will know the post effects of medications of PCOS on their quality of life. The purpose of this analysis is to show that PCOS is a metabolic, hormonal, and psychosocial disorder that impacts a patient's standard of living. This study may help women to be aware of things that can affect their daily living and the possible events that can happen in their body.

On the other hand, the findings of this study can help women diagnosed with polycystic ovarian syndrome as their guide to have a healthy lifestyle and will be useful for long-term medical analysts.

It is imperative to treat PCOS patients early to assist them bargain with the enthusiastic stretch that is regularly unnoticed with polycystic ovary disorder. Early determination and long-term administration can offer assistance to control polycystic ovary disorder so that women can live a dynamic life and avoid long-term complications such as metabolic disorder and cardiovascular infections.

Scope and Limitations

The study focused on the post-effects of PCOS medications on the quality of life of female patients. This study involved 30 respondents who answered online survey questionnaires and reference. By this strategy the researchers will be able to know the effects of medication on polycystic ovarian syndrome on the quality of life of women.

Conceptual Framework

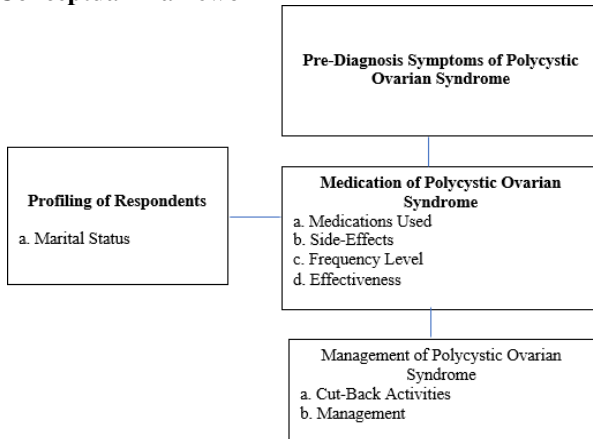


Figure 1: Conceptual Framework.

Theoretical Framework

Polycystic ovarian syndrome is a multifactorial condition that results from interactions among genetic, environmental, and intrauterine influences. According to research, women with PCOS are more likely than others to experience mental distress, depression, and anxiety, and when faced with the condition, some become even more nervous and depressed. As a consequence, PCOS affects many women's daily lives. Patients with this condition will likely to react to inside stretch (physiological and mental stressors) as well as outside stretch (natural and social components connected to the disorder) utilizing adapting reactions at different times.

The disorder has all been related to destitute quality of life in women with PCOS such as clinical, hormonal characteristics, cardio-metabolic disarranges, in specific weight, deferred determination, fear of potential well-being. These women have to be screened and observed for quality-of-life status to dodge, recognize, and handle their well-being issues, agreeing to the most recent universal evidence-based information.

While these recommendations on the assessment and administration of PCOS indicate that enhancing patients' quality of life should be a focus in care, the effects of oral contraceptives on psychological well-being and quality of life in patients with PCOS have only been examined in very few previous studies.

MATERIALS AND METHODS

The Research Design

The researchers utilized the mixture of quantitative and qualitative method approach in the form of survey

questionnaires in gathering information about the assessments of medications on patient with PCOS. The researchers conducted the survey online in January 2022. The research design served as the foundation for the research project's approach. Furthermore, it specified the parameters and criteria that would be used to assemble the data to be used for the assessment of the findings and the formulation of a conclusion. The researchers based their methodology on the explanatory design, which according to Creswell & Clark (2007), is two-phased technique in which qualitative data is used to explain or expand upon quantitative conclusions that have already been obtained. This design has a strong quantitative orientation due to the fact that quantitative data is the most important piece to get the process started.

The Sample

Frequency Distribution for Marital Status.

Table 1: Frequency Distribution for Marital Status.

Marital Status	Frequency	Percent	Rank
Single	24	80	1
Married	6	20	2
Total	30	100	

Based on the above table, out of 30 respondents, 24 or 80 percent of the respondents are single and 6 or 20 percent of the respondents are married.

Sampling Procedures

The researchers contacted 30 respondents through email. The researchers used purposive sampling. In the purposive sampling approach, also known as judgment sampling, a participant is selected based on the characteristics that the subject has rather than on the characteristics of the participant. A nonrandom approach, it does not need the use of underlying theories or the participation of a predetermined number of individuals. Simply said, the researchers determine what information is required and then goes out to locate individuals who are capable of and ready to supply the information as a result of their expertise or experience (Etikan *et al.*, 2016).

The researches reached out to respondents that met these criteria

1. Must be officially diagnosed with Polycystic Ovarian Syndrome; and
2. Have taken or is currently taking medications for the management of Polycystic Ovarian Syndrome.

The said criteria were decided upon to achieve the satisfaction of research objectives which was to find out the post-effects of PCOS medications on patients' quality of life. These respondents were then given a letter consenting to their participation and gathering of personal experiences necessary for this study.

The Instruments

This study utilized a 13-item 6-point Likert scale survey questionnaire. Items 1, 4, 7, 10, 13 are items that would

measure management of polycystic ovarian syndrome (PCOS) symptoms. Items 2, 3, 5, 6, 8, 9, 11, 12 are items that would measure the side effects of polycystic ovarian syndrome (PCOS) medications.

The survey questionnaire underwent validation and reliability scoring with subject matter experts. Cronbach's alpha for management of polycystic ovarian syndrome (PCOS) symptoms is .833. Cronbach's alpha for side effects of polycystic ovarian syndrome (PCOS) medications is .750.

The survey questionnaire qualitatively asked the pre-diagnosis symptoms experienced, different medications used for PCOS, manifested side effects of the medication, perceived effectiveness of the medication, list of activities that were cut-back, and management of PCOS.

Data Collection

As far as data collection tools were concerned, the conduct of the research involved the utilization of questionnaires.

The researchers prepared a typewritten questionnaire that would be answered by the respondents through an online survey questionnaire which was validated by the subject matter expert. Permission was asked from the respondents that the questionnaire will not be disclosed to anyone and the intention will be for documentation purposes only. Assessment of the medication is the primary subject for this research study.

The preparatory coding system advanced advance as concepts were recognized from the survey transcripts. Concepts were recognized within the transcript content and labeled to a fitting code stem, an unused code stem was made). For case, eight patient expressions were found within the transcript database that detailed substance approximately sickness. The understanding dialect (e.g. "felt sick all the time", "I did vomit", "had major nausea") were associated to a code stem for "nausea" so these expressions may be assembled together for subjective assessment.

The researchers also had a one-on-one interview with a PCOS patient which was also guided by the questionnaires that we had.

Data Analysis

The following statistical computations were used in this study;

Frequency. This was used to count the number of respondents based on demographic profile, also to count the number of times a particular sub-level factor is chosen.

Mean. This was used to get the mean score for the frequency of side-effects experience and level of PCOS

management.

RESULTS AND DISCUSSION

1. What is the demographic profile of respondents when they will group according to marital status?

Frequency Distribution for Marital Status.

Table 1: Frequency Distribution for Marital Status.

Marital Status	Frequency	Percent	Rank
Single	24	80	1
Married	6	20	2
Total	30	100	

Based on the above table, out of 30 respondents, 24 or 80 percent of the respondents are single and 6 or 20 percent of the respondents are married.

2. What are the Pre-Diagnosis Symptoms Experienced by Respondents?

Pre-Diagnosis Symptoms Experienced by Respondents.

Table 2: Pre-Diagnosis Symptoms Experienced by Respondents.

Pre-Diagnosis Symptoms	Frequency
Irregular Menstruation	4
Dizziness	3
Body Weakness	4
Headaches	1
Hair fall	1
Acne	1
Nausea	1
Overweight	1
Cramps	1
Anxiety	1
Cannot recall	2
None	8

The table above shows the symptoms experienced by respondents before they were diagnosed with PCOS. 4 respondents experienced irregular menstruation or body weakness; 3 respondents experienced dizziness; 1 respondent each experienced headache, hair fall, acne problems, nausea, gain weight, cramps, or anxiety. There were 2 respondents who could not recall initial symptoms and 8 respondents did not experience any symptoms prior to PCOS diagnosis.

3. What are the different medications used to treat Polycystic Ovarian Syndrome?

Different Medications Used for PCOS.

Table 3: Different Medications Used for PCOS.

Type of Medication	Frequency
Metformin	10
Clomiphene	2
Oral Contraceptive Pill	18
Total	30

Table above shows the type of medication used by the respondents. Of the three similar medications, oral contraceptive pill ranks first with 18 respondents averaging 60% of the total number of respondents, Metformin ranks second with ten of the respondents averaging 33% of the total number of respondents, and Clomiphene ranks thirds with 2 respondents averaging 7% of the total number of respondents.

Table 4: Mean-Score for Experience Side Effects.

Marital Status	Mean	Verbal Interpretation
Single	2.94	Sometimes experience the side effects
Married	3.73	Often experience the side effects
Overall	3.10	Sometimes experience the side effects

Table above shows the mean score for Experience Side Effects. For single respondents the obtained mean score is 2.94 with a verbal interpretation of “*Sometimes experience the side effects*”, while married respondents obtained a mean score is 3.73 with a verbal interpretation of “*Often experience the side effects*”. The overall mean score is 3.10 with a verbal interpretation of “*Sometimes experience the side effects*”.

5. What are the manifested side-effects related to Polycystic Ovarian Syndrome Medication?

Manifested Side-Effects Related to PCOS Medication.

Table 5: Manifested Side Effects Related to PCOS Medication.

Side-Effects	Frequency
Gaining Weight	10
Discoloration of the Skin	1
Mood Swings	1
Irregular Menstruation	4
Sweating	1
Increase Appetite	1
Headache	2
Breast Swelling	1
Armpits Swelling	1
Enlargement of the Abdomen	1
Hair fall	3
LBM	1
Lose Weight	1
Dry Lips	1
Acne	4
Sleepy	1
Anxiety	1

Table above shows the manifested side-effects related to PCOS medication. Out of 30 respondents,

10 respondents experienced weight gain, 4 respondents experienced irregular menstruation or acne problems, 3 respondents experienced hair fall, 2 respondents experienced headaches, and 1 respondent each who experienced discoloration of the skin, mood swings, sweating, increase appetite, breast swelling, armpits swelling, enlargement of the abdomen, LBM, weight

4. What is the frequency level of symptoms experienced by respondents with Polycystic Ovarian Syndrome?

Mean Score for Experience Side Effects

loss, dry lips, sleepiness, and anxiety.

6. What is the perceived level of effectiveness when it comes to Polycystic Ovarian Syndrome Medication?

Response on PCOS Medication Effectiveness.

Table 6: Response on PCOS Medication Effectiveness.

Response	Frequency	Percentage
No	3	10
Yes	15	50
No Response	12	40
Total	30	100

Out of 30 respondents, 3 or 10 percent of the respondents responded that PCOS medication was not effective; 15 or 50 percent of the respondents responded that PCOS medication was effective; 12 or 40 percent of the respondents did not respond whether it was effective or not.

7. What are the list of activities that were cut back because of Polycystic Ovarian Syndrome Medication?

List of Activities that were Cut-back because of PCOS.

Table 7: List of Activities that were Cut-back because of PCOS.

Activities	Frequency
Biking	2
Yoga	1
Excessive Eating	4
Exercise	1
Active Lifestyle	2
Eating dairy	1
Career	1
None	15

Table above shows the list of activities that were reduced due to PCOS medication. Two respondents reduced the biking or active lifestyle; 4 respondents reduced excessive eating; and 1 respondent each reduced activity such as Yoga, exercise, eating dairy and career. However, there are 15 respondents who did not manifest reduction of any

of their activities.

8. What is the level of management of symptoms of Polycystic Ovarian Syndrome Medication?

Mean Score for Management of PCOS.

Table 8: Mean Score for Management of PCOS.

Marital Status	Mean
Single	4.34
Married	4.40
Overall	4.35

Table above shows the mean score for management of PCOS. Single respondents obtained a mean score of 4.34 with a verbal interpretation of "Able to Manage PCOS oftentimes", while married respondents obtained a mean score of 4.40 with a verbal interpretation of "Able to Manage PCOS oftentimes". The overall mean score is 4.35 with a verbal interpretation of "Able to Manage PCOS oftentimes".

Summary of Findings

- There are more single respondents who participated in the study (single=24; married=6).
- Irregular menstruation (4), dizziness (3), body weakness (4), headaches (1), hair fall (1), acne (1), nausea (1), overweight (1), cramps (1) and anxiety (2) were the symptoms experienced by respondents before being diagnosed with PCOS.
- Metformin (10), Clomiphene (2), and oral contraceptive pill (18) are the medicines taken by the respondents.
- In terms of the side effects experienced, single respondents obtained a mean score of 2.94 with a verbal interpretation of "Sometimes experienced the side effects", while married respondents obtained a mean score of 3.73 with a verbal interpretation of "Often experienced the side effects". The overall mean score is 3.10 with a verbal interpretation of "Sometimes experience the side effects".
- Gaining weight (10), discoloration of skin (1), mood swings (1), irregular menstruation (4), sweating (1), increase appetite (1), headache (1), breast swelling (1), armpits swelling (1), enlargement of the abdomen (1), hair fall (3), lose weight (1), dry lips (1), acne (1), sleepy (1), and anxiety (1) were the side effects of the PCOS medications.
- Out of 30 respondents, 15 or 50 percent responded that PCOS medication was effective and 3 or 10 percent responded that that PCOS medication was not effective. However, 12 or 40 percent preferred not to answer whether PCOS is effective or not.
- Biking (2), yoga (1), excessive eating (1), exercise (4), active lifestyle (2), eating dairy (1), and career (1) are the activities that were cut back because of PCOS. However, there are 15 respondents who responded "None" which means that they have not cut back on any activities.
- For the mean score of PCOS management, single respondents obtained a mean score of 4.34 with a

verbal interpretation of "Able to Manage PCOS oftentimes", while married respondents obtained a mean score of 4.44 with a verbal interpretation of "Able to Manage PCOS oftentimes". The overall mean score is 4.35 with a verbal interpretation of "Able to Manage PCOS oftentimes".

CONCLUSION

- There are a lot of symptoms experienced before respondents were diagnosed with Polycystic Ovarian Syndrome. The common symptoms are irregular menstruation, headaches and body weakness. Hair fall, having some acne, nausea, overweight, cramps and anxiety were some of the unusual symptoms experienced by respondents before they were diagnosed with PCOS.
- The most common form of medication used by respondents to treat PCOS is the oral contraceptive pill.
- Others are taking metformin and Clomiphene.
- Generally, respondents sometimes experienced the side effects of PCOS medication.
- Gaining weight is the common side effect of PCOS medication.
- Polycystic Ovarian Syndrome (PCOS) medications are generally effective to treat the disorder.
- Active lifestyle, exercise, biking, excessive eating, and eating dairy products are the activities that were cut back by patients to manage PCOS.
- Generally, respondents were able to manage the PCOS symptoms and medication.

Recommendation

Since our study about PCOS medications is generalized, a focused study on a specific PCOS medication can be recommended. A more qualitative based study can be done to gain further insights of the patient's quality of life such as interview a lot of patients diagnosed with the syndrome to compare it with the studies that were conducted to better manage the syndrome.

The researchers of this study will be communicating with friends from multi-media arts to help us in the making of our poster for the awareness campaign regarding the polycystic ovarian syndrome which we think that many females can benefit from our study. The organization will be dedicated in raising the awareness of this disorder nationwide, providing educational and support services to help people understand what the disorder is and how it can be treated. The organization will also provide support for people diagnosed with PCOS to help them overcome the syndrome and decrease the impact of its associated health problems.

REFERENCES

- Ndefo, U. A., Eaton, A., & Green, M. R. Polycystic ovary syndrome: a review of treatment options with a focus on pharmacological approaches. P & T: a peer-reviewed journal for formulary management, 2013; 38(6): 336-355.

2. Patel, S. Polycystic ovary syndrome (PCOS), an inflammatory, systemic, lifestyle endocrinopathy. *The Journal of Steroid Biochemistry and Molecular Biology*, 2018; 182: 27–36. doi:10.1016/j.jsbmb.2018.04.008.
3. Teede, H., Gibson-Helm, M., Norman, R. J., & Boyle, J. Polycystic ovary syndrome: perceptions and attitudes of women and primary health care physicians on features of PCOS and renaming the syndrome. *The Journal of Clinical Endocrinology & Metabolism*, 2014; 99(1): E107-E111.