

LEVEL OF KNOWLEDGE OF THE FEMALE SENIOR HIGH SCHOOL STUDENTS OF CANOSSA COLLEGE - SAN PABLO CITY INC. ABOUT POLYCYSTIC OVARIAN SYNDROME

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Abstract

Polycystic Ovarian Syndrome or commonly known as PCOS has been significantly recognized in view of the fact that a lot of women who are experiencing the condition have been sharing their experiences and spreading awareness about PCOS through various social media platforms. The sole purpose of this study was to determine the level of knowledge of female senior high school students of Canossa College - San Pablo City Inc. about Polycystic Ovarian Syndrome. This is a quantitative study which used the quasi-experimental approach to determine the level of knowledge of 126 female senior high school students about PCOS through conducting a pretest, providing an intervention through poster, and carrying out a posttest. A structured questionnaire which was adapted from a similar study entitled *"The Assessment of Health Literacy and Awareness of the Female Residents of Barangay Dagatan, Sabang, and Marauoy Lipa, Batangas on Polycystic Ovarian Syndrome: A Cross-sectional Study"* composing of 26 questions was used in the study. The study revealed that the majority of the female senior high school students have prior knowledge about polycystic ovarian syndrome with a ratio of 84 out of 126. It was found out that the subjects' prior knowledge about the condition was because they knew someone who was diagnosed with the condition. The study also found that the level of knowledge of the female senior high school students about polycystic ovarian syndrome before and after the implementation of the PCOS poster showed a significant difference which implies that the implementation made by the researchers have been effective.

Keywords: Polycystic Ovarian Syndrome, PCOS, Senior High School, Canossa College - San Pablo City Inc.

Introduction

Polycystic Ovarian Syndrome also known as PCOS is a condition which affects women of reproductive age. It is a hormonal problem that affects the reproductive system of women, specifically, the ovaries (Watson, 2015). The World Health Organization (WHO) estimates that PCOS affects about 116 million women worldwide which is equivalent to 3.4% (Jabeen, et al., 2022). Moreover, in an article conducted by Jain (2021), it is said that 5 - 20% of women who are using the flo app are affected by polycystic ovarian syndrome, and that the Philippines ranked second with the most numbers of PCOS positives which are diagnosed by physicians.

The researchers had identified a knowledge gap in doing the paper, they found out that there are limited local studies and literature which tackles about the condition, and also involves senior high school students as the respondents, participants, or subjects. As future healthcare allies, the researchers would want to know the level of knowledge of the female senior high school students of Canossa College - San Pablo City Inc. about polycystic ovarian syndrome and to create interventions to foster the subjects' knowledge about the condition. The researchers hope to contribute to the subjects' knowledge and awareness of the condition by offering health education through different kinds of intervention, like a poster for awareness. The researchers also aspire that the result of this study will be of much help for the subjects, women diagnosed with PCOS, the community, the healthcare professionals, and as well as the future researchers. The researchers believed that with the help of this research, people can have a better and deeper understanding of what

polycystic ovarian syndrome really is.

Theoretical Framework

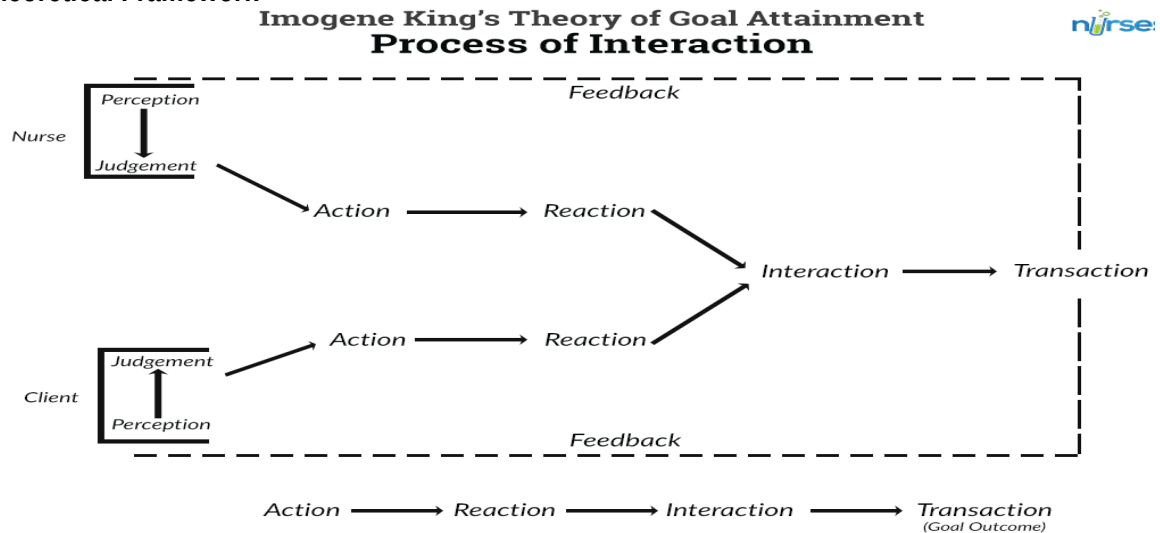


Figure 1: Theory of Goal Attainment: Process of Interaction by Imogene King

The Theory of Goal Attainment by Imogene M. King served as the researcher's main framework. The theory of goal attainment starts with the perception and judgment of both the nurse and the client regarding a situation. With this, there is an action that is always associated with a reaction, when both sides of the interaction collaborate with proper communication, set goals together and an attempt to attain it. Then, there will be a transaction. Feedbacks are always present to provide growth and development on both the patient and the nurse.

senior high school students of Canossa College - San Pablo City, Inc. served as the clients. The researchers focused on the series of goals which are to obtain an interaction with their subjects, to set a connection which allows them to have a transaction with the subject to know the level of knowledge about polycystic ovarian syndrome (PCOS) before and after the implementation of PCOS poster and to set recommendations based on the result of the study which are beneficial not only for their subjects' but for the whole community as well.

In connection with the study, the researchers served as the nurses, and the subjects, which are the female

Conceptual Framework

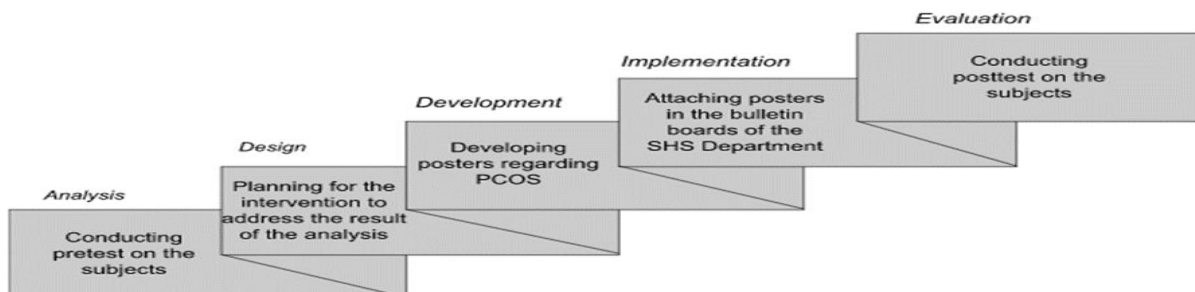


Figure 2: Conceptual Framework for the Level of Knowledge of the Female Senior High School Students of Canossa College - San Pablo City Inc. About Polycystic Ovarian Syndrome (PCOS) using ADDIE Model

The conceptual framework demonstrated above showed the interconnectedness of the variables in the study. This diagram exhibited a five-stage system consisting of analysis, design, development, implementation, and the evaluation of the study known as the ADDIE Model.

This study aimed to determine the level of knowledge of the Female Senior High School Students of Canossa College San Pablo City - Inc. about Polycystic Ovarian Syndrome (PCOS). To fully understand the study, the researchers sought to find answers to the following questions:

Statement of the Problem

1. What is the level of knowledge of the female Senior High School students of

- Canossa College - San Pablo City Inc. on the physiology of the female reproductive system before the implementation of PCOS poster?
2. What is the level of knowledge of the Female Senior High School students of Canossa College - San Pablo City Inc. before the implementation of PCOS poster on PCOS with regards to its:
 - 2.1. Signs and Symptoms;
 - 2.2. Risk Factors and Complications;
 - 2.3. Management and Treatment?
 3. What is the level of knowledge of the Female Senior High School students of Canossa College - San Pablo City Inc. on the physiology of the female reproductive system after the implementation of PCOS poster?
 4. What is the level of knowledge of the female Senior High School students of Canossa College - San Pablo City Inc. after the implementation of PCOS poster on PCOS with regards to its:
 - 4.1. Signs and Symptoms;
 - 4.2. Risk Factors and Complications;
 - 4.3. Management and Treatment?
 5. Is there a significant difference between the level of knowledge of the subjects about the physiology of the female reproductive system before and after the implementation of the PCOS poster?
 6. Is there a significant difference between the level of knowledge of the subjects about the signs and symptoms, risk factors and complications, and management and treatment of PCOS before and after the implementation of the PCOS poster?
 7. Based on the level of knowledge of the female senior high school students, what recommendations can the researchers present to enhance the knowledge status of the respondents?

Scope and Delimitations

The general intent of this study was to identify the Level of Knowledge of Female Senior High School Students of Canossa College - San Pablo City Inc. about Polycystic Ovarian Syndrome (PCOS), which includes the subjects' knowledge on the physiology of the female reproductive system, PCOS' signs and symptoms, risk factors and complications, and management and treatment. The study was originally composed of one hundred twenty-eight (128) female subjects from the senior high school department of Canossa College - San Pablo City Inc. which were selected through the use of purposive sampling. The data needed in this study was gathered to the subjects by utilizing Google Forms for the pretest and giving out the actual survey questionnaires face-to-face for the post-test, consisting of twenty-six (26) questions. The

research instrument was adapted and modified from a similar study entitled, "*The Assessment of Health Literacy and Awareness of the Female Residents of Barangay Dagatan, Sabang, and Marauoy Lipa, Batangas on Polycystic Ovarian Syndrome: A Cross-sectional Study*", and a permission to use was granted to the researchers by the author Mr. Carl Brandon Barlis.

Due to the conflict of schedule between the researchers and the subjects, the study is limited to one hundred twenty-six (126) subjects only. The study was conducted from September 2022 to May 2023.

Methodology

Research Design

The researchers used a quantitative research design which was helpful in seeking answers to the problems of the study. It involves a large sample size, which focuses on the quantity of the responses. Specifically, it would be a quasi-experimental approach, which is intended to prove a causal relationship between the dependent and independent variables (Thomas, 2020).

Participants/Respondents of the Study

The subjects of the study were the Female Senior High School students of Canossa College - San Pablo City Inc. consisting of one hundred twenty-eight (128) students within the age range of sixteen (16) to eighteen (18) years old, who are enrolled in the strands of Science, Technology, Engineering, and Mathematics (STEM), Humanities and Social Sciences (HUMSS), and Accountancy, Business, and Management (ABM).

Instrument/s of the Study

The researchers used an adapted survey questionnaire from the study of Mr. Carl Brandon Barlis entitled "*The Assessment of Health Literacy and Awareness of the Female Residents of Barangay Dagatan, Sabang, and Marauoy Lipa, Batangas on Polycystic Ovarian Syndrome: A Cross-sectional Study*" which was then modified by the researchers. The researchers used a structured questionnaire that was divided into different sections. The first part comprises the demographic profile of the subjects which includes their name, sex, and academic strand. To assess the knowledge about the physiology of the female reproductive system, and polycystic ovarian syndrome, the researchers provided questions which are answerable by yes or no. Additionally, the questionnaire also aimed to determine the knowledge of the subjects about the signs and symptoms, risk factors and complications, and management and treatment of polycystic ovarian syndrome (PCOS).

Data Collection and Analysis

A letter of request for permission was given to Mr. Carl Brandon Barlis to adapt the research instrument that they have used in their study. The details of the questionnaire are checked by the researcher's research adviser and statistician. The validation of the research instrument was obtained from two obstetricians and gynecologists, a nursing professor, and the research adviser. After the validation of the instrument, a pilot testing was carried out to twenty (20) senior high school students from different schools to determine the reliability of the research instrument. The gathering of data was done through the distribution of google forms to the subjects. The female senior high school students from Canossa College - San Pablo City Inc. is composed of one hundred twenty-eight (128) and one hundred twenty-six (126) served as the subjects of the study due to the reason that two of the subjects chose not to respond to the questions being asked in the questionnaire. The researchers proceeded in conducting the pretest which lasted for three (3) weeks using google forms. The researchers encountered some problems due to the conflict of

schedules between the researchers and the subjects. Then, the intervention was done for three (3) weeks and then after that, the researchers conducted the posttest face-to-face for much easier data gathering which then lasted for about two (2) weeks due to the schedule of the subjects' as they only went to school every other day of the week.

Ethical Considerations

The researchers were guided by the ethical considerations of Bryan and Bell (2007). The involvement of female senior high school students from Canossa College - San Pablo City Inc., the research subjects, were not subjected to any harm, they were given the full rights to voluntarily participate and withdraw if they wish to do so. Prior to the study, full consent and assent for minors were obtained from the subjects. Protection of privacy and confidentiality of handling the results of the study were also ensured.

Results and Discussion

Pre-Implementation of The PCOS Poster

Table 1: Level of Knowledge on the Physiology of the Female Reproductive System Before the Implementation of the PCOS poster

	YES	NO	% of Yes
1. Do you know that the follicle is a small fluid filled sac with a single egg inside and are often called cysts?	78	48	61.09
2. Does ovulating more frequently improve a woman's fertility?	93	33	73.81
3. Is it true that after egg release (ovulation), the hormone progesterone is released; progesterone would allow uterine lining to shed and allow to have a normal menstrual period?	107	19	84.92
4. Does having monthly increases in progesterone, and therefore menstrual periods, would decrease risk for cancer of the uterus?	91	35	72.22
5. Does the amount of fat in the body affect the amount of free testosterone in the body?	101	25	80.15

Table 1 describes the distribution of the female senior high school students of Canossa College - San Pablo City Inc. according to their basic knowledge about the physiology of the female reproductive system before the implementation of the PCOS poster. Results shows that one hundred seven (107) or eighty-four point ninety-two percent (84.92%) of the subjects answered that question, "*Is it true that after egg release (ovulation), the hormone progesterone is released; progesterone would allow uterine lining to shed and allow to have a normal menstrual period?*", and the question with the

lowest frequency which shows a result of seventy-eight (78) or sixty-one point zero nine (61.09%) is the question "*Do you know that the follicle is a small fluid filled sac with a single egg inside and are often called cysts?*".

According to an article by Your Hormones (2021), the progesterone increases the growth of blood vessels that supply the endometrium and the outer layer of the womb, when the egg is fertilized. This in turn stimulates the endometrial glands to release nutrients that support the growing fetus.

Progesterone also helps to protect the endometrium throughout pregnancy and gets the uterine tissue ready for the egg that is fertilized to implant. After an egg is released from the ovary at ovulation, the

fragments of the ovarian follicle that carried the developing egg come together to form a tissue known as the corpus luteum during the menstrual cycle.

Table 2: Level of Knowledge on the Signs and Symptoms of PCOS Before the Implementation of the PCOS Poster

	YES	NO	% of Yes	% of No
1. Having irregular menstrual cycles is a symptom associated with PCOS.	118	8	93.65	
2. Reduced fertility can be an indication for the presence of PCOS.	112	14	88.89	
3. Having PCOS often causes psychological disturbance in women.	112	14	88.89	
4. Hirsutism (excessive hair growth) is an indication of PCOS.	76	50	60.32	
5. Facial acne is considered as one of the effects of PCOS.	99	27	78.57	
6. Weight gain can be considered as one of the factors in diagnosing a woman with PCOS.	106	20	84.13	
7. Females who experience early puberty have an increased risk of developing PCOS.	72	54	57.14	
8. Polycystic Ovarian Syndrome (PCOS) has no symptoms.	7	119		94.44

Table 2 describes the distribution of the female senior high school students of Canossa College - San Pablo City Inc. regarding their knowledge about the signs and symptoms of polycystic ovarian syndrome (PCOS) before the implementation of PCOS poster. The result shows that most of the questions accumulated a response above average results and the statement, "*polycystic ovarian syndrome (PCOS)*" got the highest frequency with ninety-four-point forty-four percent (94.44%) or one hundred nineteen (119) out of one hundred twenty-

six (126) subjects. This implies that the majority of the subjects has knowledge that PCOS has signs and symptoms.

When a woman has PCOS, they might be experiencing several random signs and symptoms such as menstrual problems, hair loss and excess hair growth, oily skin and acne problems, infertility, weight gain especially around the waist and depression and mood swings (Olsen, 2018).

Table 3: Level of Knowledge on the Risk Factors and Complications associated with PCOS Before the Implementation of PCOS Poster

	YES	NO	% of Yes
1. A woman with diabetes has an increased risk for developing PCOS	82	44	65.08
2. Having cardiovascular diseases can lead to the development of PCOS.	63	63	50
3. Anxiety is one of the complications associated with PCOS.	95	31	75.40
4. Women with PCOS are at increased risk for having ovarian cancer.	106	20	84.13
5. Women with PCOS are at an increased risk for having spontaneous abortion.	105	21	83.33

Table 3 shows that the majority of the subjects are knowledgeable about the common risk factors and complications associated with PCOS, with the statement, "*Women with PCOS are at increased risk for having ovarian cancer,*" attaining the highest

percentage of eighty-four-point thirteen percent (84.13%), while the statement "*Having cardiovascular diseases can lead to the development of PCOS.*" got the lowest percentage with sixty-three (63) or fifty percent (50%) responses.

As stated by Watson (2023), polycystic ovarian syndrome (PCOS) affects the body and can cause certain complications for woman's health. It has been reported that increased exposure to androgen due to PCOS can increase the risk of developing ovarian cancer (Harris & Terry, 2016). According to Leagle (2021), ovarian cancer is more likely to occur in women with PCOS than those without it,

this is when the cells in ovaries grow erratically and start to harm tissues around them. Furthermore, Harris et al., (2018), states that polycystic ovarian syndrome is associated with the risk of developing ovarian cancer as it is defined through irregular and inconsistent menstruation which can lead to higher testosterone levels and can affect the ovarian tissue and result in multiple cysts.

Table 4: Level of Knowledge on the Management and Treatment of PCOS Before the Implementation of PCOS Poster

	YES	NO	% of Yes
1. Having regular exercise reduces the symptoms of PCOS.	110	16	87.30
2. Losing weight is very helpful in treating PCOS among women.	112	14	88.89
3. Taking oral contraceptive pills helps in managing the symptoms of PCOS.	89	37	70.63
4. Eating vegetables and fruits can help in managing and treating PCOS.	121	5	96.03
5. Eating foods rich in protein can help in the management of PCOS.	123	3	97.62

Table 4 represents the level of knowledge of the female senior high school students of Canossa College - San Pablo City Inc. about the management and treatment for polycystic ovarian syndrome before the implementation of the PCOS poster. The result shows that the statement "*Eating foods rich in protein can help in the management of PCOS.*" got the highest percentage of knowledge with ninety-seven point sixty-two percent (97.62%) or one hundred twenty three (123) responses out of one hundred twenty-six (126) subjects and the statement "*Taking oral contraceptive pills helps in managing the symptoms of PCOS.*" got the lowest number of responses with a total percentage of seventy point

sixty-three percent (70.63%) or eighty-nine (89). As per the international evidence-based guidelines, the first-line of therapy for PCOS are weight and lifestyle management which includes diet and physical activities. It is stated that eating foods rich in protein is much more effective at reducing androgen levels for women diagnosed with PCOS when compared to high carbohydrate diets. Moreover, it was found out that taking foods rich in protein for at least four weeks can help in reducing weight and fat mass which is then accompanied by the improvement of hirsutism and other PCOS symptoms (Cowan, et. al., 2023).

Post-Implementation of The PCOS Poster

Table 5: Level of Knowledge on the Physiology of the Female Reproductive System After the Implementation of the PCOS poster

	YES	NO	% of Yes	Change
1. Do you know that the follicle is a small fluid filled sac with a single egg inside and are often called cysts?	95	31	75.4	14.31
2. Does ovulating more frequently improve a woman's fertility?	111	15	88.1	14.29
3. Is it true that after egg release (ovulation), the hormone progesterone is released; progesterone would allow uterine lining to shed and allow to have a normal menstrual period?	115	11	91.27	6.35
4. Does having monthly increases in progesterone, and therefore menstrual periods, would decrease risk for cancer of the uterus?	99	27	78.57	6.35
5. Does the amount of fat in the body affect the amount of free testosterone in the body?	107	19	84.92	4.77

Legend: Green = Increase; Orange = Decrease; Blue = Retained

Table 5 presents the distribution of the subjects according to their knowledge on the physiology of the female reproductive system after the implementation of the PCOS poster. The result shows that the PCOS poster was effective with most of the questions eliciting an increased number of responses compared to the pretest results. The question *“Is it true that after egg release (ovulation), the hormone progesterone is released; progesterone would allow uterine lining to shed and allow to have a normal menstrual period?”* which had one hundred seven (107) responses from the pretest and now has one hundred fifteen (115) post test with an increase of six-point thirty-five percent (6.35%). The question *“Do you know that the follicle is a small fluid filled sac with a single egg inside and are often called cysts?”* had greatly increased from seventy-eight (78) responses in pretest to ninety-five

(95) in posttest and an increase in percentage of fourteen-point thirty-one percent (14.31%).

According to the American Cancer Society (2019), women with a condition called polycystic ovarian syndrome have abnormal hormone levels, high estrogen levels, lower levels of progesterone and higher androgen. The risk of endometrial cancer in women might rise when estrogen levels are higher than progesterone. Another major factor in female infertility is PCOS. Also, a research study by Shahnaz Anwar, et.al, (2016) Polycystic ovarian disease (PCO) can result in infertility due to an increase in testosterone and LH levels and a reduction in the absorption of glucose by muscle, fat, and liver cells, which causes the pancreas to produce a lot of insulin.

Table 6: Level of Knowledge on the Signs and Symptoms of PCOS After the Implementation of the PCOS Poster

	YES	NO	% of Yes	% of No	Change
1. Having irregular menstrual cycles is a symptom associated with PCOS.	121	5	96.03		2.35
2. Reduced fertility can be an indication for the presence of PCOS. Having irregular menstrual cycles is a symptom associated with PCOS.	120	6	95.24		6.35
3. Having PCOS often causes psychological disturbance in women.	122	4	96.83		7.97
4. Hirsutism (excessive hair growth) is an indication of PCOS.	89	37	70.63		10.31
5. Facial acne is considered as one of the effects of PCOS.	116	10	92.06		13.49
6. Weight gain can be considered as one of the factors in diagnosing a woman with PCOS.	122	4	96.83		12.7
7. Females who experience early puberty have an increased risk of developing PCOS.	83	43	65.87		8.73
8. Polycystic Ovarian Syndrome (PCOS) has no symptoms.	0	126	0	100	5.56

Legend: Green = Increase; Orange = Decrease; Blue = Retained

Table 6 describes the distribution of the female senior high school students of Canossa College - San Pablo City Inc. regarding their knowledge about the signs and symptoms of polycystic ovarian syndrome (PCOS) after the implementation of PCOS poster. The results show that the PCOS poster has been effective in giving knowledge and awareness about the signs and symptoms of PCOS with most of the questions showing significant increase of responses from the subjects. The question with the highest percentage of increase is *“Facial acne is considered as one of the effects of PCOS”*. Out of one hundred twenty-six (126) subjects, ninety-nine (99) agreed during the pretest and increased to one hundred sixteen (116) or thirteen-point forty-nine percent (13.49%) posttest. With the question *“polycystic ovarian syndrome (PCOS) has no symptoms”*, seven (7) have agreed during pretest and zero (0) on the post test, indicating an increase of five-point fifty-

six percent (5.56%) now having a one hundred percent (100%) agreement from the subjects. In conclusion, the largely positive results support the effectiveness of the PCOS poster for the subjects.

Many of the most common signs and symptoms of PCOS are caused by hormone imbalances and these symptoms may vary in type and severity in every female. However, these are the most common ones experienced by females who have this condition: irregular menstrual cycle, weight gain, acne and skin problems, excess hair growth or hirsutism, hair loss or thinning and fertility issues. (Grassi, MS, RDN, LDN, 2021). Additionally, according to an article by Jean Hailes (2023), symptoms of PCOS which are hair loss, acne, excess hair growth, weight changes and fertility problems are beneficial factors that can lead women into a negative mental wellbeing. With that said, it can further manifest into affecting the

mood negatively, having low self-confidence and poor body image that leads to depression and anxiety

Table 7: Level of Knowledge on the Risk Factors and Complications associated with PCOS After the Implementation of PCOS Poster

	YES	NO	%	Change
1. A woman with diabetes has an increased risk for developing PCOS	100	26	79.37	14.29
2. Having cardiovascular diseases can lead to the development of PCOS.	86	40	68.25	18.25
3. Anxiety is one of the complications associated with PCOS.	110	16	87.3	11.9
4. Women with PCOS are at increased risk for having ovarian cancer.	116	10	92.06	7.73
5. Women with PCOS are at an increased risk for having spontaneous abortion.	105	21	83.33	0

Legend: Green = Increase; Orange = Decrease; Blue = Retained

Table 7 shows that the question “*Having cardiovascular diseases can lead to the development of PCOS*” during the pretest was agreed by sixty-three (63) increased to eighty-six (86) or with the percentage of eighteen-point twenty-five percent (18.25%) for the posttest. Furthermore, the question “*Women with PCOS are at an increased risk for having spontaneous abortion*” showed no specific changes from pretest to posttest.

According to an article by Antipolis, (2020), women either in their 30s or 40s that have any condition affecting their ovaries are more likely to acquire cardiovascular disease; that condition also refers to

polycystic ovarian syndrome or PCOS, this finding was mentioned to be conducted also by the European Journal of Preventive Cardiology, a journal of the European Society of Cardiology (ESC). Moreover, according to a study conducted by Chaudhari et al. (2018), anxiety is a factor in women of reproductive age that have polycystic ovarian syndrome or PCOS. That’s why they stated that international guidelines recommend that psychological factors must be adhered to in all women with PCOS and they must be screened for anxiety or depression.

Table 8: Level of Knowledge on the Management and Treatment of PCOS Before the Implementation of PCOS Poster

	YES	NO	%	Change
1. Having regular exercise reduces the symptoms of PCOS.	104	22	82.54	4.76
2. Losing weight is very helpful in treating PCOS among women.	109	17	86.51	2.38
3. Taking oral contraceptive pills helps in managing the symptoms of PCOS.	94	32	74.6	3.97
4. Eating vegetables and fruits can help in managing and treating PCOS.	123	3	97.62	1.59
5. Eating foods rich in protein can help in the management of PCOS.	124	2	98.41	0.79

Legend: Green = Increase; Orange = Decrease; Blue = Retained

The result shows that there are minimal variations from pretest to post test in the implementation of PCOS poster that can conclude that the subjects have prior knowledge about the management and

treatment for polycystic ovarian syndrome. The question “*Taking oral contraceptive pills helps in managing the symptoms of PCOS*” has the highest increase of thirty-point ninety-seven percent

(3.97%) or ninety-four (94) out of one hundred twenty-six (126) subjects in the posttests from eighty-nine (89) responses in the pretest. However, there is a decrease in the questions “*Having regular exercise reduces the symptoms of PCOS*” and “*Losing weight is very helpful in treating PCOS among women*” which has one hundred four (104) posttests responses showing a decrease of four-point seventy-six percent (4.76%) and the question “*Losing weight is very helpful in treating PCOS among women.*” With one hundred nine (109) responses and a decrease of two-point thirty-eight (2.38) percent.

According to Cowan et al. (2023), lifestyle modifications contribute as well as being the first line of treatment for the management of polycystic ovarian syndrome (PCOS). In terms of improving and maintaining a healthy weight and boosting the general health of a woman, such as physical activity and weight loss which have shown that measurements of insulin responsiveness and intolerance can be improved upon by engaging in vigorous aerobic activity and being able to have at least 150 minutes of aerobic exercise per week. Additionally, based on Aliouche (2022), oral contraceptives have been used to alleviate PCOS symptoms as they reduce the production of androgens and inhibit the pituitary gonadotropin.

Table 9: Level of Knowledge on the Physiology of the Female Reproductive System, PCOS’ Signs and Symptoms, Risk Factors and Complications, and Management and Treatment Before and After the Implementation of PCOS Poster

	Test Statistics			
	Physiology of the Female Reproductive System	PCOS’ Signs and Symptoms	PCOS’ Risk Factors and Complication	PCOS’ Management and Treatment
Mann-Whitney U	5738.500	6155.500	5968.500	7886.500
Wilcoxon W	13739.500	14156.500	13969.500	15887.500
Z	-4.040	-3.223	-3.555	-.100
Asymp. Sig. (2-tailed)	.000	.001	.000	.921

a. Grouping Variable: Pre-test & Post-test

Shown in Table 9 is the level of knowledge of the female senior high school students of Canossa College - San Pablo City Inc. about the physiology of the female reproductive system, PCOS’ signs and symptoms, risk factors and complications, and management and treatment before and after the implementation of the PCOS poster. The results showed that there are significant differences on the level of knowledge in the physiology of the female reproductive system ($z=-4.040$, $p<.000$), PCOS’ signs and symptoms ($z=-3.223$, $p<.001$), and PCOS’ risk factors and complications ($z=-3.555$, $p<.001$). This implies that the subjects’ level of knowledge on the following aspects increases and improves after the implementation of the PCOS poster. However, when it comes to the level of awareness of the respondents on management and treatment of PCOS ($z=-.100$, $p=.921$), the result showed that there is no significant difference before and after the implementation of the PCOS awareness poster.

This is in line with the study of Alzoubi et al., (2020) about “*COVID-19 - Knowledge, Attitude and Practice among Medical and Non-Medical University Students in Jordan*”, the result shows that there is no significant difference in the knowledge, attitude, and practice level among the subjects with a p-value of 0.519, 0.580, and 0.521 respectively. The study results showed that the 90% subjects are already knowledgeable about the symptoms of COVID-19 and that 80% of them are aware about

the unavailability of vaccines and treatment for the virus.

Conclusion

The study aimed to know the level of knowledge of female senior high school students of Canossa College - San Pablo City Inc. with the use of a quasi-experimental research approach and a poster as an implementation. The subjects were one hundred twenty-six (126) female senior high school students of Canossa College - San Pablo City, Inc. ages sixteen (16) to eighteen (18) from different academic strands which are Accountancy, Business and Management (ABM), Humanities and Social Science (HUMSS) and Science, Technology, Engineering and Math (STEM) which was determined through the use of non-probability sampling.

The subjects were asked about their knowledge regarding polycystic ovarian syndrome (PCOS) and it was found out that eighty-four (84) out of one hundred twenty-six (126) subjects have previous knowledge about the condition. Most of the subjects, accounting to thirty-eight (38) have knowledge about PCOS because they knew someone who was diagnosed with the condition.

The study revealed that even before the implementation of the PCOS poster, the subjects already have knowledge about the physiology of the

female reproductive system as well as PCOS' signs and symptoms, risk factors and complications, and management and treatment. Moreover, the study also revealed that there is a significant difference in the level of knowledge of the subjects about the physiology of the female reproductive system, and PCOS' signs and symptoms and common risk factors and complications. Hence, the null hypothesis is rejected. But shows no significant difference in PCOS' management and treatment.

The reason for this is because even before the posttest, the subjects had already a high knowledge on the management and treatment of PCOS. With the data gathered through the implementation, the researchers conclude that utilization of posters can be an effective educational material for providing health education.

Recommendations

This study revealed the level of knowledge of the female senior high school students about polycystic ovarian syndrome. Thus, the following recommendations are hereby presented:

For Females

Females need to be aware and knowledgeable of their reproductive health and should not hesitate to get themselves checked if sudden changes occur in their menstrual cycle and bodies. They should not be afraid to explore topics about polycystic ovarian syndrome so that they can educate by sharing their knowledge and awareness to their friends and families.

For the Community

The community can also provide educational materials like leaflets, flyers, brochures, and even tarpaulins. Also, they should initiate a reproductive health seminar for both male and females to increase their knowledge and awareness about the topic.

For the Nursing Students

As future primary care providers, nursing students can use the results of this research to further expand their own knowledge about polycystic ovarian syndrome so that they can properly assess and provide effective nursing interventions. They can also use this as a basis for health education and teaching for their parents, friends, and patients.

For Canossa College

The institution may continue the implementation of the PCOS poster for continuous awareness and knowledge. They can also implement a reproductive week program wherein students will undergo seminars, activities and exhibits about reproductive health. They can also provide a physical assessment and health teaching to the school clinic. They can also invite speakers and even medical professionals to share their expertise regarding polycystic ovarian syndrome.

For the Future Researchers

The future researchers can use the result of this study as a reference if they wish to conduct a similar study in the future. They may explore the perceptions and knowledge of males regarding polycystic ovarian syndrome. They may also want to know the physiological and psychological changes that happened to a woman before and after the diagnosis of PCOS, for the implementation, the future researchers may want to invite a health professional who can share their knowledge about PCOS and test the subjects' knowledge before and after the seminar. They can also provide seminars and invite speakers to raise awareness about mental health, particularly bullying. They may also compare the result of this study if they conduct a similar study using a different implementation. Lastly, they could conduct a similar study using different age groups and economic status.

Conflict of Interest

There is no conflict of interest by the authors in this manuscript.

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