Evaluate The Effectiveness of Video Assisted Teaching In Creating Awareness And Knowledge On Polycystic Ovarian Syndrome Among Adolescent Girls At Selected Area In Alnamas

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Abstract - *A polycystic ovarian syndrome is a reproductive disorder affecting reproductive-age women. A research study on polycystic ovarian syndrome among Saudi females by (Alessa et al., 2017) reveals that the level of awareness of PCOS among the Saudi population was 56.7%, while 43.3% of Saudi females were not aware or did not have prior knowledge about PCOS. Among people who had prior knowledge of the disease, 15.3% were already PCOS patients, 21.3%, 10.4%, 10.8%, and 3.0% have known about PCOS via the internet, patients, doctors, and books, respectively. So, it was crucial to raise Saudi female's awareness toward PCOS or PCOD through teaching such video-assisted teaching and to evaluate their knowledge toward PCOS definition, clinical manifestation, etiology, management, and its care before and after teaching. So, therefore, we the faculty of Applied Medical Science College For Females At Alnamas, University Of Bisha, selected this study to evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescents girls in a selected area in Alnamas. 120 adolescent girls were selected by a convenient sampling method. The researcher's convenience and familiarity with settings were added reasons. The tool used for the research study was demographic data, PowerPoint presentation on the polycystic ovarian syndrome, awareness and knowledge questionnaire for the investigator to assess the awareness and knowledge level of the adolescent girls regarding polycystic ovarian syndrome. . After collecting the data, the data analysis was done according to the objectives of the study using descriptive statistics and inferential statistics. The study finding reveals that there was a significant increase in post-test awareness and knowledge scores through video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls. The gain in awareness score was significant at 0.05 level of significance, and the calculated paired t-test value is 45.932273, which is greater than the table paired t value 2.75. Also, the gain in knowledge score was significant at 0.05 level of significance, and the calculated paired t-test value is 44.690667which is greater than the table paired t value of 2.75. Findings revealed that video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls was an effective teaching strategy in gaining awareness and knowledge of the adolescent girls.*
The findings also revealed that there was a significant association between knowledge level and age, education of the participant, occupation of the participant, any information before regarding polycystic ovarian syndrome, have any previous menstrual irregularities, and family history of the polycystic ovarian syndrome. But there is no association between knowledge level and citizenship, religion, marital status, family income a per –month.

Keywords: *Evaluate, effectiveness, awareness, knowledge, video-assisted teaching, polycystic ovarian syndrome*

I. INTRODUCTION

"Be aware of the polycystic ovarian syndrome, a reproductive disorder. Be stay strong and fight against it, to bring offspring to this world."

Polycystic ovarian syndrome (PCOS) is the commonest endocrinological disorder leading to reproductive as well as metabolic dysfunction in women. PCOS jeopardizes the feminine identity of a woman due to alteration in her aesthetic standards in the form of hirsutism, acne, alopecia, obesity, menstrual irregularities, and infertility. Polycystic ovary syndrome (PCOS) is a heterogeneous condition that is related to an endocrine, reproductive disorder of females. It affects females of 18–44 age. The persistent hormonal imbalance leads to the complexities such as numerous cysts, an irregular menstrual cycle that ultimately leads to infertility among females.

Many candidate genes have been identified to be one of the causes of PCOS. Different studies have been carried out to find the genetic correlation of PCOS. It is essential to carry out such studies that identify the clear cause of PCOS and its genetic association and hormonal disbalance. This review has highlighted different genes and their correlation with PCOS that lead to hormonal disbalance. Yet not in-depth but an attempt to study the genetic predisposition of PCOS.

Polycystic ovary syndrome (PCOS) increases serious complications among females. One in every 5–6 females is facing serious complications regarding infertility and irregularity in their menstrual cycles. Stress, obesity, fluctuation in hormonal levels are the major cause worldwide (Torie Comeaux Plowden MD. M.P.H, 2016).

This endocrine disorder affects females under 18–44 age (Teede HDA, Moran L,2010). Globally it affects 5–15% of females (Ricardo Azziz MD, 2016). The normal functioning of hormones plays an important role in the ovary functioning and regulation of the menstrual cycle that maintains fertility. If there is a constant disturbance of hormonal levels in females, then it will disturb ovary functioning, which leads to the formation of a cyst inside the sac of an ovary. Whereas androgen, which is a male hormone elevated beyond its normal range in females affected with PCOS (Ranjithreddy K et al.,2015).

The genetic and environmental factor is responsible for the etiology of this condition. An unhealthy lifestyle, diet, or any infectious mediators increase the risk of PCOS (Goodarzi Mea, 2011). Due to insulin resistance and its elevated level, the ovaries function disturbs that rises androgen level, which leads to anovulation (Diamanti-Kandarakis EDA, 2012). The level of gonadotrophin-releasing hormone, follicular stimulating hormone (FSH), luteinizing hormone (LH), and prolactin is also disturbed in case of. Apart from the environmental factors, there are genetic factors that are responsible for the etiology of PCOS. Its cause involves candidate genes, SNP's. According to databases, PCOS etiology involves 241 gene variations (Joseph SBR, Bhujbalrao R, Idicula-Thomas S, 2015).

PCOS progression and severity increase with the increase in insulin level as well as an androgen. Hyperinsulinemia affects ovarian theca cells and raises androgen levels. This condition reduces the hepatic biosynthesis of SHBG and IGFBP-1. Elevated androgen level, on the other hand, stimulates visceral adipose tissue (VAT) that generates free fatty acids (FFA's), which contributes to insulin resistance. Nuzhat Shaikh R, Mukherjee Srabani, 2014).

Genetic predisposition with PCOS, a pathway that describes hyperandrogenism, depicts a pathway that describes how steroidogenesis enzyme affects the theca cells of an ovary. 5α-reductase activity increased that elevates 5α-androstane -3, 17 Dione concentrations and inhibits the activity of aromatase in the granulosa cells. In the case of PCOS, LH and progesterone are expressed in the granulosa cells, which results in high androgen levels and reduced estrogen levels Muhammad Akram NR, 2015).

The complexity of this condition does not refer to its name, and there are many other conditions that are associated with this problem. PCOS patients have numerous cysts 8 mm in size in the sac of their ovary. More than 12 cysts are present in the ovary. About 70% of females are infertile because of this condition (Helvaci N, Karabulut E, 2017). As discussed above, in PCOS conditions, the level of male hormones, i.e., androgen elevated that causes hirsutism and acne. There is insulin resistance which leads to obesity and Type 2 Diabetes. This problem leads to an irregularity in the menstrual cycle that results in infertility. 20% of females often experienced sleep apnea. Depression and anxiety are common (Helvaci N, Karabulut E, 2017).

According to a study of Awareness of polycystic ovarian syndrome among Saudi females which had done by (Alessa et al., 2017) they mentioned that The level of awareness of PCOS among the Saudi population was 56.7%, while 43.3% of Saudi females were not aware or did not have prior knowledge about PCOS. Among people who had prior knowledge of the disease; 15.3% were already PCOS patients, 21.3%, 10.4%, 10.8%, and 3.0% have known about PCOS via the internet, patients, doctors, and books, respectively

So, it was crucial to raise Saudi female's awareness toward PCOS or PCOD through teaching such video-assisted teaching and to evaluate their knowledge toward PCOS definition, clinical manifestation, etiology, management, and its care before and after teaching. So, therefore, we, the faculty of Applied Medical Science College For Females At Alnamas, University Of Bisha, selected this study to evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls at the selected area in Alnamas

II. STATEMENT OF THE PROBLEM

Evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls in the selected area in Alnamas

III. AIM OF THE STUDY

To evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls in selected areas in Alnamas

IV. OBJECTIVES OF THE STUDY

❖ To assess the pre-test awareness level among Adolescent Girls before administering video-assisted teaching on the polycystic ovarian syndrome.
❖ To assess the post-test awareness level among adolescent girls after administering video-assisted teaching on the polycystic ovarian syndrome.
❖ To assess the pre-test knowledge level among Adolescent Girls before administering video-assisted teaching on the polycystic ovarian syndrome.

❖ To assess the post-test knowledge level among adolescent girls after administering video-assisted teaching on the polycystic ovarian syndrome.

❖ To evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls.

❖ To find out the association between knowledge level with their selected demographic variables.

V. OPERATIONAL DEFINITION

A. Evaluate: Evaluate refers to the determination of the knowledge and awareness level

B. Polycystic Ovarian Syndrome: Polycystic ovary syndrome (PCOS) is a common health problem caused by an imbalance of reproductive hormones. The hormonal imbalance creates problems in the ovaries. The ovaries make the egg that is released each month as part of a healthy menstrual cycle. With PCOS, the egg may not develop as it should, or it may not be released during ovulation as it should be. PCOS can cause missed or irregular menstrual periods. Irregular periods can lead to infertility (inability to get pregnant) and the development of cysts (small fluid-filled sacs) in the ovaries

C. Video-assisted teaching: A multimedia teaching refers to systematically organized teaching to create awareness regarding polycystic ovarian diseases among adolescent girls.

VI. HYPOTHESIS

A. Research hypotheses:

The following research hypotheses were formulated to achieve the aim of the current study:

H1 - There will be a statistically significant difference in awareness and knowledge level before and after video-assisted teaching in creating awareness and knowledge on the polycystic ovarian syndrome.

H 2- There will be a significant association between the awareness and knowledge level of study subjects with their selected demographic variables

VII. ASSUMPTION

Video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome might have a direct effect on early identification and prevention of polycystic ovarian syndrome, infertility, menstrual irregularities among adolescent girls

VIII. DELIMITATION

The data collection is delimited to 7 weeks

Adolescent girls who are willing to participate during data collection

IX. LIMITATION

The study was conducted among adolescent girls in the selected area in Alnamas, Kingdom of Saudi Arabia; generalization can be done but with caution

X. PROJECTED OUTCOME

The study findings help to improve knowledge and get aware after video-assisted teaching in creating awareness on polycystic ovarian syndrome among adolescent girls.

XI. METHODOLOGY

This chapter includes research design, the setting of the study, the sample size, the criteria for sample selection, the methods of sample selection, the instruments and tools for data collection, the technique of data analysis, and the protection of human subjects. The present study was designed to evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls in a selected area in Alnamas

X. RESEARCH APPROACH

The research approach used for this study was the quantitative approach.

XI. RESEARCH DESIGN

The research design selected for the present study

ONE GROUP	PRE TEST O1	INTERVENTION X	POST TEST O2
Adolescent Girls	Assess the awareness and knowledge level and demographic data	Video assisted teaching in creating awareness and knowledge on poly cystic ovarian syndrome	Assess the awareness and knowledge level and demographic data
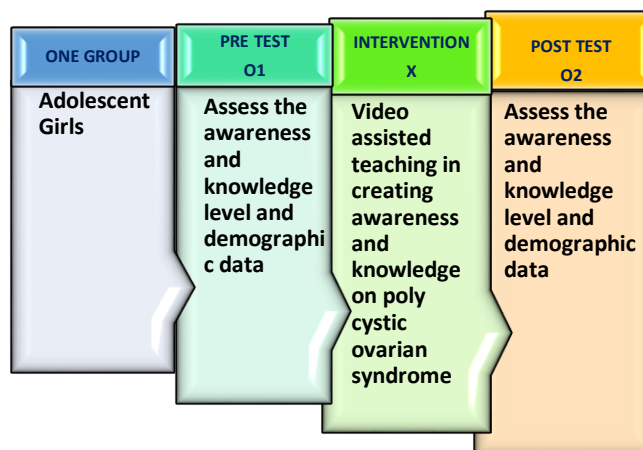
was quasi experimental one group pre-test post-test design. The Investigator had developed power point presentation to create awareness and knowledge, semi structured awareness scale and knowledge questionnaire to evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls in the selected area in Alnamas. The research design adopted for the study is diagrammed as:

KEY -:

O1 = It is the first observation means assessment of pre-test score of awareness and knowledge level & Demographic data among adolescent girls at selected areas in Alnamas.

X = Treatment to the group is the administration of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome

O2 = It is the second observation means assessment of post-test score of awareness and knowledge level & Demographic data among adolescent girls at selected areas in Alnamas.

XII. SETTING OF THE STUDY

The study was conducted in the selected area, Alnamas, Kingdom of Saudi Arabia. 120 adolescent girls were selected as samples for this study. This setting was selected because of the availability of participants and the feasibility of conducting the study. The researcher's convenience and familiarity with settings were added reasons.

XIII. POPULATION

The target population for this study is women in a selected area in Alnamas, Kingdom of Saudi Arabia.

XIV. SAMPLE

The sample consisted of 120 adolescent girls who were residing in Alnamas, Kingdom of Saudi Arabia.

XV. SAMPLING TECHNIQUE

120 adolescent girls who were residing in Alnamas, Kingdom of Saudi Arabia, were selected by convenient sampling method

XVI. CRITERIA FOR SAMPLE SELECTION

A. *Inclusion Criteria:* The adolescent girls who are willing to participate in the study.
B. *Exclusion Criteria:* Adolescent girls who are having a busy schedule and are not able to participate in video-assisted teaching.

XVII. RESEARCH TOOL AND TECHNIQUE

The tool used for the research study was demographic data, PowerPoint presentation on the poly cystic ovarian syndrome, awareness and knowledge questionnaire for the investigator to assess the awareness and knowledge level of the adolescent girls regarding polycystic ovarian syndrome.

XVIII. DESCRIPTION OF THE TOOL

The tool used for the study includes two sections that are sections I, II, and section III.

Section **I:** It had items related to demographic data consists of age in years, citizenship, education, occupation, religion, marital status, family income, received any information before regarding polycystic ovarian syndrome, have any previous menstrual irregularities, and family history of the polycystic ovarian syndrome.

Section II: Questionnaire to assess the awareness and knowledge regarding polycystic ovarian syndrome. It consists of 15 statement related to awareness and 15 statements related to knowledge regarding polycystic ovarian syndrome and is distributed as two separate questionnaires.
Questionnaire A: Awareness questions on polycystic ovarian syndrome

Questionnaire B: Knowledge questions on the poly cystic ovarian syndrome.

Scoring Procedure
The items were multiple choice type in both awareness and knowledge questionnaire. Each questionnaire carries total score 15.Each correct response carry one score and incorrect response carry zero score
Awareness Questionnaire
Between (12-15 Score) 80 and 100% -   Aware
Between (8-11Score) 53 and 79%   -   Moderately Aware
Below (0-7 Score) 47 %   -   Not at all aware
Knowledge Questionnaire
Between (12-15 Score) 80 and 100% -   Good
Between (8-11Score) 53 and 79%   -   Average
Below (0-7 Score) 47 %   -   Poor

Section III: Powerpoint presentation on the polycystic ovarian syndrome.

XIX. DATA COLLECTION PROCEDURE

Before conducting the study, formal permission was obtained. Informed consent was obtained from the participants. The period of data collection was done for eight weeks. The researcher introduced themself to each subject and explained the purpose of the study, and assessed the awareness and knowledge level before conducting video-assisted teaching in creating awareness and knowledge on the polycystic ovarian syndrome. After finishing teaching again, the awareness and knowledge level were assessed.

XX. PLAN FOR DATA ANALYSIS

Data analysis was done according to the objectives of the study using descriptive statistics and inferential statistics.

XXI. DESCRIPTIVE STATISTICS

Frequency percentage mean and standard deviation were used for the analysis.

XXII. INFERENTIAL STATISTICS

Paired "T" test was used for testing the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome. Chi-square was used to determine the association between demographic variables with knowledge level.

XXIII. PROTECTION OF HUMAN SUBJECTS

After the problem statement was approved, formal permission was obtained before starting the study. The oral & written consent was obtained from each participant of the study before starting the data collection. Assurance was given to the subject that the anonymity of each individual would be obtained.

XXIV. RESULTS& DISCUSSION

This section shows the result findings of the study, which is based on data analysis and interpretation of data collected from the participants

The data collected during the present study were analyzed based on the objectives formulated for the study. The objectives of the study were

❖ To assess the pre-test awareness level among Adolescent Girls before administering video-assisted teaching on the polycystic ovarian syndrome.
❖ To assess the post-test awareness level among adolescent girls after administering video-assisted teaching on the polycystic ovarian syndrome.
❖ To assess the pre-test knowledge level among Adolescent Girls before administering video-assisted teaching on the polycystic ovarian syndrome.
❖ To assess the post-test knowledge level among adolescent girls after administering video-assisted teaching on the polycystic ovarian syndrome.
❖ To evaluate the effectiveness of video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls.
❖ To find out the association between knowledge level with their selected demographic variables.

XXV. ORGANIZATION OF THE FINDINGS

In order to find out the relationship between the variables and also to assess the knowledge and skill value, the data gathered were tabulated, analyzed, and interpreted using both descriptive and inferential statistics. The data are presented under the following headings.
➢ Frequency and percentage distribution of sample characteristics of the study.
➢ Findings related to frequency and distribution of awareness level of the participants.
➢ Findings related to frequency and distribution of knowledge level of the participants.
➢ Association between knowledge level and demographic variables such as age in years, citizenship, education, occupation, religion, marital status, family income, received any information before regarding polycystic ovarian syndrome, have any previous menstrual irregularities, and family history of the polycystic ovarian syndrome.

Frequency and percentage of sample characteristics of the study

Table .1.Distribution of frequency and percentage of demographic variables (N=120)

Demographic factor	Category	% Of Sample
Age	15- 17years	20
	18-20years	55.8
	21-23years	15
	24-26years	9.1
Citizenship	Saudi	15
	Non-Saudi	85
Education	The primary	6.6
	level of education	
	Secondary level of education	13.3
	Higher level of education	65
	Graduate and above	15
Occupation	Unemployed	81.6
	Private Sector	4.1
	Government Sector	9.1
	Self-employed	5
Religion	Muslim	95
	Others	5
Marital status	Married	21.6
	Unmarried	74.1
	Widower	1.6
	Divorced/separated	2.5
The family income per – month	Less than2000SR	10.8
	2001SR-3000SR	29.1
	3001SR-4000SR	36.6
	4001SRand above	23.3
Have you received any information before regarding polycystic ovarian syndrome?	Yes	27.5
	No	72.5
Do you have any previous menstrual irregularities?	Yes	52.5
	No	47.5
Family history of polycystic ovarian syndrome	Yes	32.5
	No	67.5

Table .2.Frequency and percentage of distribution of pre-test awareness level (N=120)

Awareness level	Frequency	Percentage
Aware	15	12.5%
Moderately aware	18	15%
Not at all aware	87	72.5%

Table .3.Frequency and percentage of distribution of post-test awareness level (N=120)

Awareness level	Frequency	Percentage
Aware	112	93.3%
Moderately aware	05	4.1%
Not at all aware	03	2.5%

The data from above tables 2 & 3 above shows the scoring difference between pre-test and post-test. It shows that in pre-test among all adolescent girls, majority of 87(72.5%) were not at all aware, 18(15%) were moderately aware, and 15(12.5%) were aware of polycystic ovarian syndrome. In the post-test, there was a marked improvement in the awareness level of adolescent girls. In post-test scored03(2.5%) not at all aware,05(4.1%) scored moderately aware, and 112(93.3%) were aware of polycystic ovarian syndrome.

Table .4.Frequency and percentage of distribution of pre-test knowledge level (N=120)

Knowledge level	Frequency	Percentage
Good	11	9.1%
Average	20	16.6%
Poor	89	74.1%

Table .5.Frequency and percentage of distribution of post-test knowledge level (N=120)

Knowledge level	Frequency	Percentage
Good	98	81.6%
Average	18	15%
Poor	04	3.3%

The data from the above table 4&5 shows the scoring difference between pre-test and post-test. It shows that in pre-test among all adolescent girls majority of 89(74.1%) scored poor knowledge,20(16.6%) scored average knowledge and 11(9.1%) scored good knowledge. In the post-test there was marked improvement in the knowledge of adolescent girls. In post-test only 04(3.3%) adolescent girls scored poor knowledge and 18(15%) scored average knowledge and 98(81.6%) were good knowledge score.

Table .6.Determine the effectiveness of video assisted teaching in creating awareness and knowledge on polycystic ovarian syndromeamong adolescent girls. (N=120)

1.PARAMETERS	MEAN SCORE		N	Paired "t"	"p-value" (One Pre-tailed)
Mean awareness score	Pre-Test Awareness Level	Post-Test Awareness Level			
	4.6	13.5	120	45.932273	< .00001
2.PARAMETERS	MEAN SCORE		N	Paired "t"	"p-value" (One Pre-tailed)
Mean knowledge score	Pre-Test Knowledge Level	Post-Test Knowledge Level			
	4.9	13.5	120	44.690667	< .00001

There was a significant increase in post-test awareness and knowledge scores through video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls. The gain in awareness score was significant at 0.05 level of significance, and the calculated paired t-test value is 45.932273which is greater than the table paired t value 2.75. Also, the gain in knowledge score was significant at 0.05 level of significance, and the calculated paired t-test value is 44.690667which is greater than the table paired t value of 2.75. Findings revealed that video-assisted teaching in creating awareness and knowledge on polycystic ovarian syndrome among adolescent girls was an effective teaching strategy in gaining awareness and knowledge of the adolescent girls.

The findings also revealed that there was a significant association between knowledge level and age, education of the participant, occupation of the participant, any information before regarding polycystic ovarian syndrome, have any previous menstrual irregularities, and family history of the polycystic ovarian syndrome. But there is no association between knowledge level and citizenship, religion, marital status, family income a per –month.

XXVI. CONCLUSIONS

The polycystic ovarian syndrome is a disorder affecting women at their reproductive age and manifested by hyperandrogenism, polycystic ovaries, and anovulation which leads to infertility. It increases the risk of insulin resistance (IR), type 2 diabetes, obesity, and cardiovascular disease. So it is considered as a serious health problem, and it should be prevented as early as possible by various health teaching to adolescent girls to keep them fit and should be aware and should gain adequate knowledge regarding this disease condition. Above all, it has an effect on the human population; if it is unaware means in the future, we may not be able to see our next generation. We need more research to safeguard our human population from this reproductive disorder. It is vital that research evidence is translated to knowledge and action among women of all age groups especially starts from adolescent girls, healthcare professionals, and policymakers.

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