

APremenstrual Syndrome and Its Association with Adolescent Girls Quality Of Life

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Abstract

Background: Premenstrual syndrome is particularly common problem in the younger age groups. Premenstrual Syndrome had occasional extreme negative effect on quality of life. **Aim of the study:** was to study the association between Premenstrual Syndromes and quality of life on adolescent girls. **Subjects & Methods: Research design:** A descriptive study design was used. **Setting:** The study was conducted in Faculty of Nursing Zagazig University. **Subjects:** 280 of female students with PMS at different academic level at academic years 2015-2016. **Tools of data collection:** Three tools were used for data collection: 1) Interviewing questionnaire sheet that concerned with personal characteristics and menstrual history. 2) Prospective Record of the Impact and Severity of Menstrual symptoms (PRISM calendar) used to identify students suffer from Premenstrual Syndromes. 3) The 36-item Short form health survey (SF-36) was used to assess students quality of life. **Results:** The result of this study revealed that students mean age was 20.5 ± 1.6 , 72.9% of them from rural area. As regard degree of PMS 12.2%, 66.4% and 21.4% of students have mild, moderate, and server degree of Premenstrual Syndromes respectively. There is a highly significant decrease on mean score of health related quality of life (HRQOL). **Conclusion:** The current study concluded that PMS had great burden on all dimensions of health related quality of life. As health related quality of life Score in students affected with Premenstrual Syndromes PMS is obviously lower than students not affected with Premenstrual Syndromes. The significant less scores of all subscales of health related quality of life expect in role limitation due to emotional problems. **Recommendations:** A comprehensive health education program suggested being included in nursing curriculum to enable female students to cope with these disturbing problems.

Keywords: Premenstrual syndrome, Adolescent, Girls, Quality of Life.

Introduction:

Premenstrual syndrome (PMS) is particularly common problem in the younger age groups, therefore represents a significant public health problem in young girls.⁽¹⁾ It leads to capacity loss of the individual, economic losses, increase in accident potential and health problems such as anxiety, depression and suicide that has occasional extreme negative effect on quality of life.⁽²⁾

Premenstrual syndrome (PMS) is a combination of psychological physical and behavioral symptoms which is seen in the late luteal phase of menstrual cycle in women at the age of sexual maturity disappears within several days upon start of the menstruation and repeats in many cycles⁽³⁾. PMS is the condition in which one or more of the various symptoms affect life style, job and daily life which seen and outbursts,

irritability, crying spells, anxiety, confusion, social withdrawal, poor concentration, sleep disturbance, thirst, appetite changes, physical symptoms including breast tenderness bloating, weight gain, headache, swelling of the hands or feet and aches or pains⁽⁴⁾. PMS affects on 80% of the women at the age of reproduction which have changes associated with the premenstrual phase of the menstrual cycle.⁽⁵⁾

Approximately, 20% of the women stated that these symptoms are as heavy as to require medical aid. It was noted that the prevalence of PMS in adolescent's girls in the United States of America is 70-90 in the community studies performed in Turkey, the prevalence of PMS was found between 5.9% and 76% in the women in group of

15-49 and between 17.2% and 67.5% in the age group of 15-25.⁽⁶⁾

The causes of PMS are not clear. PMS is caused by an underlying neurobiological vulnerability to normal fluctuation in the circulating sex hormones estrogen and progesterone levels during the menstrual cycle⁽⁷⁾. The diagnostic definition for PMS established by the American College of Obstetricians and Gynecologists (ACOG), states that symptoms must be present in the 5 days before a woman is period for at least three menstrual cycles in a row and end within 4 days after period starts. Symptoms must interfere with normal life activities and may cause impairments in work performance, family and social activities and sexual relationships.⁽⁸⁾

Treatment of premenstrual complaints includes various non-pharmacological and pharmacological methods. Before the initial pharmacological treatment in order to cope with PMS symptoms, it more important to provide accurate and sufficient knowledge before and after menarche and make the necessary arrangements in the life styles of the individuals. The modifications of the dietary habits weight control ,stress management ,gaining and maintaining exercisehabithave positive influences on the problem. The individual's commitment of his own responsibility and participation in the own care take an important place in the reduction or prevention of the premenstrual complaints.⁽⁹⁾

Health related quality of life (HRQOL) is a comprehensive social dimension of functioning and well-being. Therefore the related to impact of PMS is only a few investigations performed standardized HRQOL evaluations for adolescent with PMs⁽¹⁰⁾. World Health Organization defined health as "a state of complete physical, mental and social well-being not only the absence of disease"⁽¹¹⁾. World Health Organization's

Quality of Life Group has defined quality of life as individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns⁽¹²⁾. Quality of Life is an examination of influences upon the goodness and meaning in life, as well as people's happiness and well-being. The ultimate goal of quality of life study and its subsequent applications is to enable people to live quality lives- lives that are both meaningful and enjoyed.⁽¹³⁾

Professional's performance in lifestyle counseling is suboptimal, yet it is very important that healthcare providers promote healthful behaviors for adolescent with premenstrual syndrome. There are studies indicating that diet and physical activity decrease premenstrual syndrome and improve adolescent quality of life, thereby lowering the risk of premenstrual dysphoric disorders. Lifestyle counseling requires more focused support for professionals so that can adequately support the clients.⁽¹⁴⁾

Significant of the study:

The majority of girls in reproductive age report physical and psychological disorders experienced prior to menstruation. Few researches implement-ted pertaining premenstrual syndrome (PMS) and quality of life (QOL)., so this study was to determine the correlation between premenstrual syndrome (PMS) and quality of life (QOL) in adolescent girls.

Aim of the study:

The present study aimed to identify premenstrual syndrome and its association with quality of life among adolescent girls.

Research Questions:

1. What is the proportion of student having Premenstrual Syndromes?

2. Is there an association between quality of life and premenstrual syndromes

Subjects and Methods:

Research design:

A descriptive study design was used.

Study setting:

The study was conducted in the Faculty of Nursing, Zagazig University.

Study subjects:

The studied sample consisted Two hundred and eighty (280) girls from all academic years, some are nurses and completing their studies was consecutively recruited according to the following inclusion criteria.

1. Age range of 19-25 years old
2. Regular menstrual cycles of 21-35 days.
3. Suffering from premenstrual syndrome.

Tools of data collection:

Three tools of data collection were used as follow:

Tool (I): Structured interviewing questionnaire schedule: Arabic sheet was designed by the researcher after reviewing the relative literatures. It was consisted of (21) questions and students had 15- 20 minutes to fill it. It divided into 3 parts as follows:

First part: it covered the socio-demographic data including: age, academic level and residence.

Second part: it covered history of general health and the menstrual history such as duration of menses, changes of menses.

Third part: it shows how they adapt with pain and relief it.

Tool (II): Prospective record for the impact and severity of menstrual symptoms (PRISM calendar) It was used at first stage of data collection by students themselves after explaining it by the researcher and consisted of the following main items: symptoms, life style, life event, severity of pain. Based on this calendar and study criteria the researcher selected the students included on the study.

Pain is classified as follows

- Mild: (Noticeable but not troublesome).

- Moderate: (Interferes with normal activity).

- Sever: (Temporarily incapacitating).

Tool (III): III. The 36- item short form health survey (SF-36). It was adopted from Ware et al (2002)⁽¹²⁾ was used to assess students HRQOL. It a brief self administered questionnaire that generates scores across eight dimensions of health: physical functioning (PF), role limitations due to emotional problems (RE), mental health (MH), and one single item scale on health transition

Content validity and reliability:

The tools were tested for content validity by five experts in the field of obstetrics and gynecological nursing. The recommended modifications were done and the final form was ready for use.

Field work:

Collection of data covered a period of five months "from the first of December 2015 to the end of April 2016". After getting the official permission, the pilot testing of study tools was done and analyzed. The researcher attended two days (Sunday and Monday) per week. Filling the interviewing questionnaire sheet was done individually after explaining

purpose of the study. Each interview took about 5-10 minutes.

Pilot study:

A pilot study was carried out on 28 parturient women (who were excluded from the sample) to assess clarity and applicability of the data collection tools, arrangements of items, estimate the time needed for each sheet and feasibility of the study and acceptance to be involved in the study. Necessary modifications were undertaken.

Administrative and ethical considerations:

All ethical issues were taken into consideration during all phases of the study. The research maintained an anonymity and confidentiality of the subjects. The inclusion in the study was totally voluntary and enrolled girls would have similar needs for emotional support. The aim of the study was explained to every girl before participation and an oral consent was obtained. Every girl was assured that the study maneuver will cause no actual or potential harm to her and professional help will be provided for her whenever needed. Girl were notified that they can withdraw at any stage of the research and the information obtained during the study will be confidential to used for the research purpose only.

Statistical Analysis:

After the collection of data, it was revised, coded and fed to statistical software SPSS version 16. The statistical analysis used T test with alpha error = 0.05. Microsoft office excel software was used to construct the needed graphs.

Results:

Table (1): shows distribution of the studied sample according to their socio-demographic characteristics. Concerning students' age, 97.1% of

them were between 19-24 years with the mean = 20.5 ± 1.6 year. As regards current job 42.5% of them were students and the other 55.7% were nurses. Meanwhile, 84.6% of studied sample were single and 15.4% of them were married with 55.8% had 1 or 2 child. As regards residence, 72.9% of them were from rural area. Regarding medical history 94.3% of them had no medical history.

Table (2): shows distribution of the studied sample according to their menstrual history. 53.2% of them had the menarche at 13-14 years with mean = 13.4 ± 1.3 . Investigating regularity of menstrual cycle 78.6% of them had a regular menstrual cycle. As regards inter-menstrual period, 57.7% of them the period ranged between 28-29 days with mean period 27.5 ± 3.4 . Concerning duration of menstrual cycle, 90.0% of them reported that the duration of menstruation was between 2-6 days with mean duration 5.0 ± 1.1 .

Table (3): shows total score of QOL domains. Regarding general QOL, 61.4% of the studied sample reported moderate level. As regards physical QOL, 63.6% of them reported low level. Investigating psychological QOL, all of them reported low and moderate level (42.5 & 57.5% respectively). Over all QOL score (92.5%) of studied sample reported moderate level of QOL).

Table (4): Shows distribution of the degree of pain and its percent. As noticed, more than three fifths 66.4% of the studied sample was suffering from moderate degree of pain and 12.2% from mild pain.

Table (5): This table reveals that there is a statistical significant relation between levels of PMS (mild, moderate and sever) as regards general QOL, physical QOL, psychological QOL and total QOL ($P = 0.005, 0.019, 0.043$ & 0.048 respectively).

Figure (1): This Figure shows percent of the students under the study. As noticed, 24.7% of them were from 1st year, 18.6% from 2nd year, 16.9% from 3rd year and 26.9% from 4th year with total percent 21.0% from 1630 students.

Discussion:

The significant appearance of these symptoms starts from the teen years and worsen through the process of aging. It is notified that almost of the women at the age of reproduction have changes associated with the premenstrual phase of the menstrual cycle. Approximately, 20% of the women stated that these symptoms restrain them from daily activities and 10% stated that the symptoms are as heavy as to require medical aid. It was noted that, the prevalence of PMS in adolescent girls in the United States of America is 70-90 %, Bertone et al⁽¹⁶⁾

Emerging of PMS symptoms during the teen years complicate the process of puberty and will affect the interpersonal relationships, social and educational performance in a negative way resulting in poor self-esteem and a sense of dissatisfaction and inadequacy, Borensfein⁽¹⁷⁾. Furthermore, studies show that women with PMS report reduced work productivity and more interference with normal daily tasks and greater number of workdays missed for health reasons. Studies conducted on depressive and anxiety disorders view PMS as a kind of disorder with noticeable psychological aspect that can negatively affect quality of life, enjoyment and satisfaction. Rapaport et al.⁽¹⁸⁾

The findings from this study also indicated that PMS was common among adolescent female students as "100% of them had different degree of PMS". This result was in accordance with Wong⁽¹⁹⁾ who found in a cross-sectional survey of 1,295 rural adolescent girls aged 13 to 19 years in Malaysia that most

participants (M.1%) identified themselves as having PMS.

In addition, this finding was supported by Rasheed & Al-Sotyielem,⁽²⁰⁾ who reported that, a prevalence of 96.6% was found in Saudi Arabia. The reason for high PMS rate in our study may be explained that the perceptions of these symptoms by the students who study at the relevant departments were associated with health.

Moreover, the previous study finding was on contrary with Ince,⁽²¹⁾ who found prevalence of PMS as 42.7% in the study were performed on 357 female students who are in the adolescent period and who study in high school and university. Also, this finding was with Rizk et al.⁽²²⁾ who studied prevalence and impact of premenstrual syndrome in adolescent schoolgirls in the United Arab Emirates and found that, the prevalence of premenstrual syndrome was 16.4%. The Justification for such difference depends on varied definitions; methods of data collection, sampling technique and the type of study population.

As regards degree of PMS, the study findings revealed that, 12.2%, 66.4% & 21.4% of students had mild, moderate and severe degree of PMS respectively. This result was in accordance with Ziba et al⁽²³⁾ who studied the effect of PMS on Quality of Life of 360 adolescent girls studying in the second year; of high school in south of Tehran and found that, severity of PMS was moderate, mild and severe (62.22%, 8.89% & 28.89% respectively). Also, this finding was also in the same line with Tabassum et al⁽²⁴⁾ who studied premenstrual syndrome with frequency and severity in 384 young college girls and mentioned that degree of PMS among 42% was mild, 18.3% moderate and 39.7% severe.

It was interesting to notice that the frequency of severe PMS was high in

this study in contrary to what had been reported by Nisar et al ⁽²⁵⁾ who studied frequency, intensity and impact of premenstrual syndrome in unmarried medical students aged 18-25 years with regular menstrual period. As mentioned, 59.5% had mild PMS, 29.2% moderate and 11.2% severe PMS. The difference could be due to the sample criteria at the relevant department associated with health that reflected upon the level of knowledge and awareness.

Concerning pain relieve of PMS, findings of the present study indicated that more than one third 35.4% of the studied students used different types of pain relieve and 40.0% of them used sedatives. This finding was in the same line with Gul et al ⁽²⁶⁾ who studied PMS among 316 students at Faculty of Medical Sciences on Baskent University and its effects on their life quality and reported that 25.7% of participated in the study saw a doctor for the premenstrual symptoms.

This finding was in accordance with Pettidr et al ⁽²⁷⁾ who conduct study to analysis of premenstrual syndrome incidence in medical staff and reported that 28% of the young people were applied to the healthcare organization because of severity of the symptoms.

Health Related Quality of Life (HRQOL) is a comprehensive multidimensional concept including at least physical, emotional and social dimensions of functioning and well-being. Therefore, the aggregate measure of HRQOL may provide important information related to impact of PMS. Solveig et al ⁽²⁸⁾

Regarding HRQOL score results of the current study indicated that, there were decline in all dimensions of life quality as degree of PMS worsen among students. This finding was in agreement with Lustyk et al ⁽²⁹⁾ who studied stress, quality of life and physical activity in women with varying degrees of premenstrual

symptomatology and found in their study that the life quality is significantly low in the women who experience PMS complaints densely rather than the women who experience slightly.

Moreover, result of the present study revealed that role limitation due to physical health, general health, body pain and vitality were represent the lowest score among other scales of 11RQOI among the studied students. These findings were in the same line with Nism el al ⁽³⁰⁾ who conducted study aimed at finding the relationship between PMS and QOL in a sample of medical students and indicated that, the quality of life score in the mental and physical component in this sample was lower than the healthy population where the most affected scales had the following order: role limitation due to emotional and physical problems, general health, vitality, social function, bodily pain, mental health and physical performance. Comparing the results of this study, it was found some similarities: role limitation due to emotional problems and psychological aspects.

The previous study findings also were supported by Gul et al ⁽³¹⁾ who studied PMS among 316 students at Faculty of Medical Sciences on Baskent University and its effects on their life quality and reported that, the lower score average of dimensions of the life quality was found as 815.71 ± 4.74 for physical health, 76.63 ± 6.35 for psychological health, 73.12 ± 6.73 for social relations and 68.85 ± 9.34 for environmental area respectively

Conclusion:

Based on findings of the present study, it can be concluded that severity of PMS was ranged from being relatively mild problematic to cause serious premenstrual distress and interfere with physical and social functioning that ended in 40.0% of students used sedatives to relieve them

. PMS has great burden on all dimensions of HRQOL.

- Examine the effect of different management strategies on burden of disease.

Recommendations:

The present study recommended that:

- Awareness session should be provided for all students at different academic level regarding PMS and adolescent QOL.
- A comprehensive health education program suggested being included in nursing curriculum to enable female students to cope with these disturbing problems.
- Further study is needed to study effect of different management strategies on relieving PMS and improving HRQOL.
- Study the effect of students' healthy life style on degree of premenstrual syndrome.
- Identify the factors affecting usage of different management strategies and coping mechanism among adolescent to relieve PMS.

Table (1): socio demographic characteristics of the studied sample.

Socio –demographic characteristics	No	%
Age (years)(n=280)		
19-24	272	97.1
25-30	8	2.9
Mean ± SD	20.5 ± 1.6	
Current Job		
Student	119	42.5
Nurse	156	55.7
Professional nurse	2	0.7
Nurse school	3	1.1
Marital status		
Married	43	15.4
Single	237	84.6
Children number (n=43)		
0	19	44.2
1	19	44.2
2	5	11.6
Residence		
Rural	204	72.9
Urban	76	27.1
Medical History		
Yes	16	5.7
No	264	94.3

Table (2): Distribution of the studied sample according to the menstrual history.

Menstrual data	No	%
Age of menarche(n=280)		
11-12	74	26.4
13-14	149	53.2
>=15	57	20.4
Mean \pm SD	13.4 \pm 1.3	
Regularity of menstrual cycle		
Yes	220	78.6
No	60	21.4
Inter-menstrual period (days)		
<28 days	65	29.6
28-29	127	57.7
>=30	28	12.7
Mean \pm SD	27.5 \pm 3.4	
Duration of menstrual cycle (days)		
2-4	79	28.2
5-7	173	61.8
>7	28	10.0
Mean \pm SD	5.0 \pm 1.1	

Table (3): Distribution of the degree of pain and it's percent.

PMS	No	%
Mild	34	12.2%
Moderate	186	66.4%
Severe	60	21.4%

Mild: 0-9

Moderate: 10-18

Severe: 19-28

Table (4): Presentation of total score of QOL domains

QOL domain	Low		Moderate		High		Mean	SD
	No	%	No	%	No	%		
General QOL (Max46)	3	1.1%	172	61.4%	105	37.5%	33.0	5.0
Physical QOL (Max 24)	178	63.6%	102	36.4%	0	0.0%	10.7	2.2
Psychological QOL (Max 26)	119	42.5%	161	57.5%	0	0.0%	13.1	2.2
Pain (Max 10)	44	15.7%	169	60.4%	67	23.9%	6.3	1.8
Overall QOL (Max 106)	19	6.8%	259	92.5%	2	0.7%	63.1	7.3

Low: Score % < 50%

Moderate: Score % 50 %-< 75%

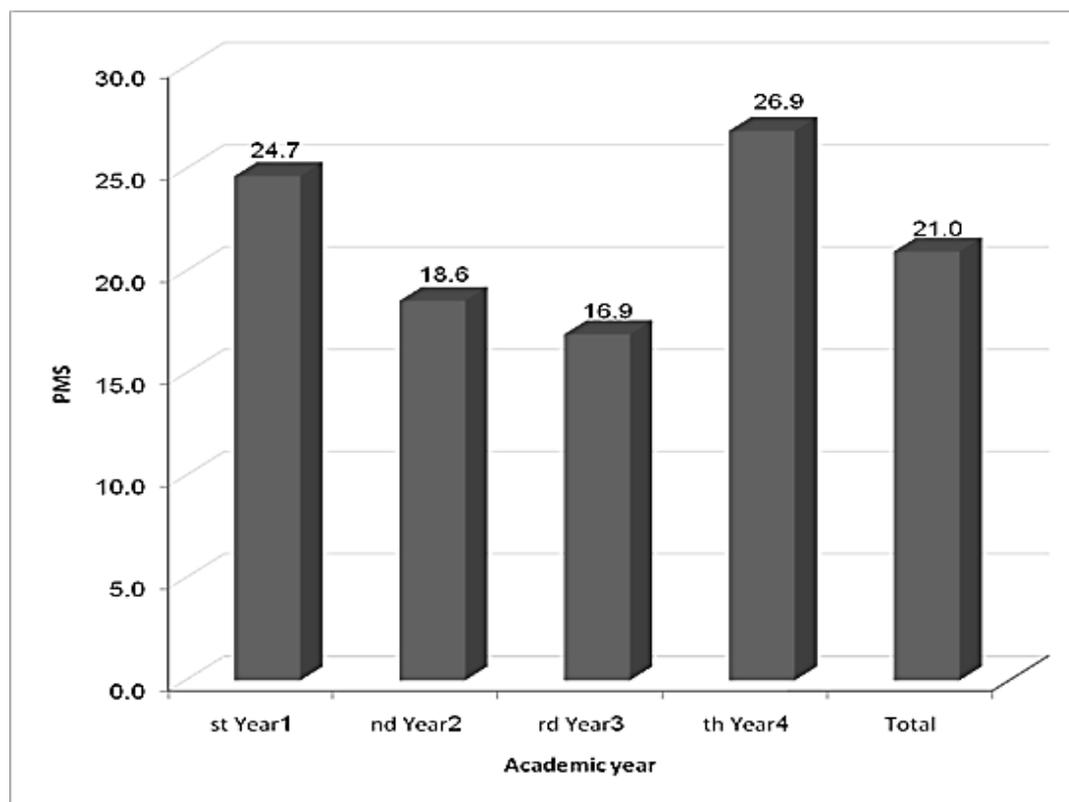
High: Score % ≥ 75%

Table (5): Presentation of the relation between PMS levels as regards HRQOL

QOL	PMS						MCP
	Severe		Moderate		Mild		
	%	No	%	No	%	No	
General QOL							
Low	3.4%	2	0.0%	0	2.9%	1	0.005*
Moderate	58.3%	35	66.7%	124	38.3%	13	
High	38.3%	23	33.3%	62	58.8%	20	
Physical QOL							
Low	78.3%	47	60.8%	113	52.9%	18	0.019*
Moderate	21.7%	13	39.2%	73	47.1%	16	
Psychological QOL							
Low	56.7%	34	38.7%	72	38.2%	13	0.043*
Moderate	43.3%	26	61.3%	114	61.8%	21	
Pain							
Low	13.3%	8	5.4%	10	2.9%	1	0.048*
Moderate	86.7%	52	93.5%	174	97.1%	33	
High	0.0%	0	1.1%	2	0.0%	0	

MCP: Mont Carlo exact probability

* P < 0.05 (significant)



Figure(1): Presentation of premenstrual syndrome among the students according to their academic years.

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