

# Assessment of Primary Dysmenorrhea and Its Effect on the Quality of Life among Female Students at University of Babylon

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## Abstract

**Objectives:** The objectives of this study were to assess primary dysmenorrhea condition among participants. In addition to, find out the correlation between primary dysmenorrhea and quality of life of among female students at Babylon of University.

**Methodology:** A cross sectional study design used in this applied quantitative research through the period of 4 August 2019 to 22 October 2019. The study conducted in Babylon province, Iraq at University of Babylon. Four faculties has been selected randomly as setting of current study. The total participants were (N=145) females students, selected as 20% from each faculty, by using purposive non-probability sampling approach. The data collected by using an adapted questionnaire and analyzed electronically by using SPSS program.

**Result:** The findings of the present study revealed that (89%) of participants were unmarried. Almost the entire of sample had family history of primary dysmenorrhea. According to NPRS scale for assessing pain intensity (62.1%) with severe primary dysmenorrhea. The study's finding found out a negative significant correlation between primary dysmenorrhea intensity and overall quality of life scale at  $P \leq 0.05$  ( $r = -0.642$ ,  $P = 0.000$ ).

**Conclusion:** Primary dysmenorrhea is a very common problem among female students at university of Babylon; it affects their quality of life. QoL decreases with the increase in the severity of primary dysmenorrhea.

**Keywords:** primary dysmenorrhea, quality of life.

## Introduction

The transformation of females from childhood to sexual maturity and become capable of production termed as puberty. Throughout this transitional phase several alterations will take place which include hormonal, psychological, cognitive and physical changes besides to the evolution and sexual developments, these changes occur synchronously. The prime physiological change

in girl life is the onset of menarche which is special event of females' life due to the first occurrence of menstruation<sup>1</sup>. Menstrual cycle is natural phenomenon, it is a significant signal of females' health, and it's an important indicator of endocrine function. There are several structures of women's body that will cooperate with each other in order to initiate the menstrual blood flow, these structures are: hypothalamus, pituitary gland, ovaries, and uterus<sup>2</sup>. One of most common menstrual disorders is dysmenorrhea; is episode of uterine cramp in the lower abdominal segment, immediately before or during cycle, dysmenorrhea variance among women. There is lack in the understanding of menstrual cycle disorders especially dysmenorrhea. Furthermore, lack of knowledge related to this condition among young girl

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because they received scarce education on dysmenorrhea <sup>3</sup> Dysmenorrhea either primary which mean it's not related to pathological reasons or secondary related to pathological reasons. Primary dysmenorrhea (PD) occurs because of excessive amount of prostaglandin which produced during the disintegration of premenstrual uterine endometrium. While, the pain caused by a disorder in the women's reproductive organs, such as endometriosis, adenomyosis, uterine fibroid, or infections, called secondary dysmenorrhea. Pain severity may be measured by using scaled as "no pain, mild pain, moderate pain, severe pain and worst possible pain" <sup>4</sup>. Yet, data on experience of menstrual cycle and its influence on the health conditions, quality of life (QoL) and social integration among females in developing countries are still insufficient <sup>5</sup>.

### Objectives of the Study

1. Assessment primary dysmenorrhea among female students.
2. Find out the correlation between primary dysmenorrhea and quality of life of among female students at Babylon of University.

### Methodology

A cross sectional study design used to apply quantitative research through the period of of 4 August 2019 to 22 October 2019. The study conducted in Babylon province, at university of Babylon. 4 faculties selected randomly. The total participants were (N=145) female students their age between (18-25) years old female students selected as 20% from each faculty, by using purposive non-probability sampling approach. **The questionnaire** was constructed and developed as

a tool for data collection, and it includes three parts; the first part was sociodemographic data of female students. Second part was Numeric pain rating scale to assess the intensity of primary dysmenorrhea <sup>6</sup>. The third was SF-36 Health Survey of quality of life scale consists of 36 items divided into seven sub-scales (General health domain, Limitation of activities domain, Physical health problem domain, Emotional health problems domain, Social activities domain, Pain domain, and Energy and emotion domain <sup>6</sup>. These domains are rated on (3\_level type Likert scale) included (always, sometimes, and never) and scored as (1, 2, 3) respectively. Positive items in the QoL scale reversed for the statistical purposes. The items of SF-36 rated based on a 3-level Likert scale, which was determined according to the mean of items' scores to poor quality of life (1 - 1.66), fair quality of life (1.67 - 2.33) and good quality of life (2.34 - 3).

Mean of scores calculated as follow:

$$M.S =$$

M.S. = mean of scores, f = frequencies, S = scores, N = numbers of samples.

$$\text{Range of Score} = = = 0.66$$

### Methods of Data Analysis

The data of the present study analyzed electronically via the Statistical program (SPSS) version 25. The method that used in this program aimed to find out the descriptive and inferential statistic such as frequencies, percentage, correlation coefficient, and chi-square and Perason correlation of entering data in order to achieve the objectives of the study.

### Result

**Table (1) Distribution of female students by their demographical characteristics (N=145)**

Variables	Groups	F	%
Age	18 - 21	89	61.4
	22 - 25	56	38.6
	Mean = 21.01	S.D. = 1.557	

**Cont... Table (1) Distribution of female students by their demographical characteristics (N=145)**

College's grade	First grade	23	15.9
	Second grade	61	42.1
	Third grade	14	9.7
	Fourth grade	47	32.4
Occupation	Working	11	7.6
	Not working	134	92.4
Marital status	Married	16	11.0
	Un married	129	89.0
Socioeconomic status	Satisfied	83	57.2
	Satisfied to some extent	54	37.2
	Not Satisfied	8	5.5
Address	Urban	123	84.8
	Rural	22	15.2
Residency	Living with family	139	95.9
	Dormitory	4	2.8
	Live with others	2	1.4
Body Mass Index	Below weight (BMI<18.5)	6	4.1
	Normal weight (18.5< BMI< 25)	93	64.1
	Over weight (BMI > 25)	46	31.7

**f= frequency, %= percentage, SD= standard deviation**

Table (1) reveals that a (61.1%) of the sample were within the age group (18-21) years old, the highest percentage represented (42.1%) of the female students are in second grade. According to the occupational status majority of participants (92.4%) were not working. The largest proportion of them sample were unmarried

represented (89%). The table shows that (57.2%) were satisfied with their socio-economic condition; with respect to the sample address it has been found that (84.8%) of them live in the urban. Majority of them (95.9%) living with their families. Finally, (64.1%) of study sample were recorded a BMI (18.5< BMI< 25).

**Table (2): Numeric pain rating scale for assessing the intensity of primary dysmenorrhea in the female students (N=145)**

Dysmenorrhea intensity	F	%
Mild	18	12.4%
Moderate	37	25.5%
Severe	90	62.1%
Total	145	100%

f= frequency, %= percentage

As shown in table (2), the highest percentage represented (62.1%) of the sample experience severe pain.

**Table (3): Correlation between quality of life & primary dysmenorrhea**

Quality of life	Primary dysmenorrhea intensity	
	r	-.642-**
	Sig.	.000
	N	145

r= (Pearson correlation), sig= (significant).

In this table Pearson correlation coefficient used in order to illustrate that there is a negative significant correlation between intensity of P.D. and QoL among female students at  $P \leq 0.05$  ( $r = -0.642$ ,  $P = 0.000$ ). The outcome of statistical test demonstrates that there is significant correlation between the average scores of study subjects with P.D. and overall QoL scale.

**Table (4): Pain relievers' history used with primary dysmenorrhea (N=145)**

Pain reliever	F	%
Pharmacological	89	61.4%
Non pharmacological	54	37.2%
Hormonal therapy	2	1.4%

f= frequency, %= percentage

Table No. (4) Shows that highest percentage of the sample constitutes (61.4%) used pharmacological relievers for primary dysmenorrhea during their menstrual period.

**Table (5): Menstrual characteristics for female students with primary dysmenorrhea (N=145)**

Variables	Groups	F	%
Age of Menarche	10-12 years	51	35%
	13-15 years	88	61%
	Above 15 years	6	4%
Mean =13.15		SD = 1.249	
Duration of Cycle	3-5 Day	76	52.5%
	6-8 Day	69	47.5%
Mean = 5.57		SD = 1.279	
Type of Cycle	Regular	90	62.1%
	Irregular	55	37.9%

**f= frequency, %= percentage**

The table shows that highest percentage represented (61%) of the sample their age of menarche were between (13-15) years old; (52%) their duration of menstrual cycle between (3-5) days. Moreover, a (62.1%) of sample were with regular interval of menstrual cycle.

### Discussion

Many studies and literatures emphasize that the sociodemographic characteristics are relate to most of the nursing subjects because nursing as a science deals with human being, people life, and health issues in different age groups and situations, the present study deals with the primary dysmenorrhea and its effect on QoL of female students; result show in Table (1), that high percent of sample undergone the study with (61.4%) which consider the largest proportion are within age group (18-21) and, their mean (21.01) (SD ± 1.557) this may due to criteria of selection of the current study’s sample, and the lawful age of students in colleges and universities; this result consistent with A cross-sectional study on (240 ) undergraduate female students at the University of Hong Kong by Chia et al. ( 2013) who studied the primary dysmenorrhea among university’s students; their findings show that mean and SD of age is (20.1 ± 1.4).

In regard to the place of residency it has been found about (84.8%) of female students were living in urban as display in Table (1) and that finding is matches

with a cross-sectional study by Tawfeek (2008), who select (322) females students from different colleges , her result show that (273) of them from urban and the rest were from rural areas; while, findings of a cross-sectional study by Aziem et al. (2011) , on (900) girls from (8) schools; show that (469) were of rural residence while (431) were urban ones. The current study results revealed that (89%) of the sample were un married , and (11%) are married that congruent with a descriptive study at University of Jos by Emmanuel et al. ( 2013), their findings were (228 of 245) un married females students. The findings of the present study showed that more than fifty percent were satisfied with their socio-economic condition, which form the highest value, on the other hand, Assefa et al. (2016) a cross-sectional study in Ethiopia ; on (440) participants, it exhibited that (50.1%) stated as satisfied to some extent; this variance may belong to the contentment that widely spreading in Iraqi community and that not indicated in necessary that they are with good socio-economic status but it give them sense of satisfying of what they have. In the light of this study and regarding the BMI a high percentage of respondents were showed normal weight, this finding in line with Shaik et al. (2015)which contributes, to a number of diseases affecting women’s future health. The objective of this study is to assess the mean age at menarche in girls of ages 9-16 and observe its relationship with their body mass index and other covariates in Riyadh, Saudi Arabia. Materials and Methods: A cross-sectional study was conducted among

304 female students of both private and governmental schools in Riyadh, Saudi Arabia, during March –May 2013. Data on demographics, socioeconomic status, physical activity, diet, and age at menarche were collected from students and their mothers, using self-administered questionnaires. Physical examinations were conducted to collect the anthropometric measurements. Results: Out of 304 students with a mean age (SD their study about the cross-sectional study was conducted among (304) female students of both private and governmental schools; it confirmed that the majority (79.9%) had BMI within the standard range, while only (4.9%) of students were under-weight and the prevalence of obesity & overweight (4.9%) & (10.2%), respectively.

Table (2) demonstrated the result of Numeric Pain Rating Scale for assessing pain severity; which shows the highest proportion reported severe pain as (62.1%) then followed by moderate as (25.5%), and finally mild as (12.4%) with mean (6.88) and SD (2.21). It's well known that even with mild level of pain the quality of life of girls may be affected. The study's finding is not consistent to Kazama et al. (2015) who found that only (17.7%) of their participants experience severe primary dysmenorrhea during their period, in their cross-sectional study that targeting female junior high school students in different cities in Japan, a total of (2,819) female students attended the (28) schools. This result seem to be close to findings of the study conducted by Faramarzi & Salmalian (2014) in Iran on (360) medical science female students, they verified that their outcomes show that the number of students who drank tea was (72 %). The onset of menstruation is a part of maturation process, after retrieved articles documenting the menstrual history related to primary dysmenorrhea, studies revealed that the history of first period vary according to the country and the climate as well as the geographical area. It has been appeared from the current study that Mean and SD of menarche's age for females was ( $13 \pm 1$ ), usual menstrual duration (per days) was ( $5 \pm 1$ ) and more than half of the respondents were with regular menstrual period as illustrate in Table (5); a study conducted in Johannesburg, South Africa by Iacovides (2013) on (20) females showed that Mean and SD of the age of menarche was ( $13 \pm 2$ ) and Mean & SD for menstrual period duration was ( $5 \pm 1$ ) these finding similar to current study's findings. In addition to a correlational study in Mansoura city, Egypt by Mohamed

& Mansour (2013) Mansoura, Egypt. Data ! were collected by three tools; one is 1 st Self Administered ! Structured Questionnaire including socio demographic and ! menstruation data, 2 nd Dysmenorrheal Self Assessment tool, ! 3 rd Quality of life assessment tool for girls complains from ! dysmenorrhea. Study results showed that high prevalence of ! dysmenorrhea, that is, 78.8% among technical secondary ! schools girls nearly half of the technical Secondary School ! girls (43.7% on (1092) female students; aimed to study the effect of dysmenorrhea on quality of life of technical secondary schools girls; it found out that the highest percentage represented (46.8%) from their sample had their first period at the age (9-11) with Mean and SD ( $11 \pm 1$ ), and (53%) with regular period beside to (63.8%) their duration of cycle within (3-5) days.

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**Conflict of Interest:** None to declare.

**Ethical Clearance:** All experimental protocols were approved under the College of Nursing, Iraq and all experiments were carried out in accordance with approved guidelines.

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