

THE STUDY OF DYSMENORRHEA IN HIGH SCHOOL GIRLS

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ABSTRACT

Objective: To study dysmenorrhoea in the high school girls in Masjed Solayman Khzestan Province in Iran.

Methodology: Six hundred sixty high school students living in Masjed Soleiman in Khuzestan province in Iran participated in this study. All the participants were invited by letter to take part in the study. Correlation coefficient measures and Pitman's permutation test applicable to both discrete and continuous distributions were calculated to estimate the correlation between the prevalence and severity of dysmenorrhoea and relevant biological and social variables ($P < 0.005$).

Results: The results indicate that 85 respondents (14.4% participants) suffered from dysmenorrhoea which disturbed their daily activities and was unimproved by the use of analgesics. The results of the study also indicate that there was a significant correlation between dysmenorrhoea and certain biological factors, between menarche age and the severity of dysmenorrhoea and the duration of menstrual flow. Furthermore, early menarche was related to an increase in the severity of dysmenorrhoea.

Conclusion: Improved understanding of the pathophysiology of dysmenorrhoea may result in the discovery of more effective treatment regimens.

KEY WORDS: Dysmenorrhoea, Menarche.

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INTRODUCTION

Primary dysmenorrhoea is a painful syndrom which occurs at the time of menstrual flow in ovulatory cycles.¹ The onset is usually 6 to 12 months after menarche, which coincides with the occurrence of regular ovulatory cycles.¹ However, reports of prevalence of dysmenorrhoea among 72% of women vary to a great extent. Fifteen percent of women suffered from dysmenorrhoea which disturbed their daily activities and was unimproved by analgesics.¹

The reduction in working hours as well as school days among young women as the result of dysmenorrhoea has been repeatedly reported to be of national and economic significance.² It could also lead to great personal and family disruption. Also, it was found that daysmenorriec girls have lower achievements and more school adjustment problems than nondysmenorric ones do.¹

SUBJECT AND METHOD

The participants of the study were 660 high school students living in Masjed Soleiman in Khuzestan province in Iran. They were randomly selected out of the total population of females between 15 and 18 years old living in the aforementioned city at the time of study. There were 2321 females aged at 15-18 at the time of study. All the participants were invited by letter to take part in the study. They were asked to fill in the enclosed questionnaires and return them.

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Table-I: Dysmenorrhoea ranked in order of prevalence and severity in the total population.

Grad 0		Grad I		Grad II		Grad III	
No	%	No	%	No	%	No	%
170	28.80	202	34.23	133	22.54	85	14.4

The questionnaire included items delineating the participants' duration and severity of menstrual pain, need for medical attention, ability to work during menstruation and menstrual pattern. All the participants were assured that the information gathered through the survey would be kept as confidential.

There were also some items delineating the participant's age at menarche, medical requirements and absenteeism. In the present study, two instruments were used to measure the participants' severity of dysmenorrhoea. First, verbal multidimensional scoring system was used. This scoring system measures pain severity and takes into account the impacts of pains on daily activities, systemic symptoms and analgesic requirements.

Second, the girls were asked to assess the severity of dysmenorrhoea with a linear analogue scale. This scale involves the use of a 10 cm line on a sheet of paper and represents the girls' continuum of severity of pain beginning with the extreme of "no pain at all" and ending with the extreme of "unbearable pain." Correlation coefficient measures and Pitman's permutation test applicable to both discrete and continuous distributions were calculated to estimate the correlation between the prevalence and severity of dysmenorrhea and rel-

evant biological and social variables ($P < 0.05$). Pitman's permutation test was run to determine the correlation coefficient between the four grades of dysmenorrhea and biological and social variables.

RESULTS

Five hundreds (89.40%) of the participants contributed to the study, while the rest (10%) left questionnaires either unanswered or partially answered. The results of the study indicate that about 71.20% of the participants suffered from dysmenorrhoea.

It should be noted that 85 respondents (14.4% participants) suffered from dysmenorrhoea which disturbed their daily activities and was unimproved by the use of analgesics.

The severity of pain obtained via the two instruments (linear analogue scale and multidimensional scoring system) was compared. The results indicate that there was no significant difference between the two methods of assessment in terms of the degree of the pain. The results of the study indicate that 170 (28.8) experienced no dysmenorrhea. The results of the study also indicate that there was a significant correlation between dysmenorrhoea and certain biological factors (Table-II). Moreover, a significant correlation ($P < 0.01$) was found between menarche age and the severity of

Table-II: The Severity of dysmenorrhea related to certain biological factors

Biological factors	Dysmonorrhea								Correlation analysis
	Grad 0		Grad I		Grad II		Grad III		
	No.	Mean	No.	Mean	No.	Mean	No.	Mean	
High (cm)	170	156.3	202	156.2	133	156.1	85	157.2	NS
Weight (Kg)	170	56.6	202	57.5	133	57.1	85	57.3	NS
Menarche(yr)	170	13.2	202	13	133	12.7	85	12.4	$P < 0.01$
Duration of bleeding(day)	170	5	202	5.2	133	5.5	85	5.8	$P < 0.01$
Length of menstruation cycle(days)	170	27.2	202	27.9	133	28.5	85	28.5	NS

($P < 0.05$ significant; NS = not significant)

dysmenorrhoea. Furthermore, early menarche was related to an increase in the severity of dysmenorrhoea.

The results of the study (Table-I) indicate that there was a significant correlation ($P < 0.01$) between the severity of dysmenorrhoea and the duration of menstrual flow. The severity of dysmenorrhoea increased with increasing duration of menstruation, but was unaffected by the girls' height or weight. Dysmenorrhoea was experienced for the first time during the first year after the menarche by 38.64% of the respondents. The interval between menarche and the start of dysmenorrhoea is represented in the Table-III. Dysmenorrhoea reported by the respondents was significantly correlated with maternal dysmenorrhoea ($P < 0.01$) and also with that of their sisters ($P < 0.01$).

The results of the study, on the other hand, indicate that there was a correlation between the amount of menstrual bleeding and severity of dysmenorrhoea ($P < 0.01$). The amount of menstrual bleeding was assessed by the respondents as slight, moderate, or heavy. The respondents were also requested to record the number of sanitary napkins used daily when menstrual was at maximum level. Here, in Table-IV, we represent the frequency of absenteeism as a result of dysmenorrhoea. A total of 51% respondents had been absent from work or school as a result of dysmenorrhoea. Absence from school or work at every menstruation was reported by 10.5% of the respondents.

It should be added that 36.4% regularly took analgesics or antispasmodics during menstrual periods as a treatment for dysmenorrhoea. 22% of the participants suffering from dysmenorrhoea reported to have consulted a doctor because of dysmenorrhoea. Twenty-one

Table-III: Interval between menarche and the start of dysmenorrhoea

<i>Dysmenorrheal</i>	<i>No</i>	<i>%</i>
In 1st yr after menarche	228	38.64
In 2nd yr after menarche	126	21.35
In 3rd yr after menarche	101	17.11
In 4th yr after menarche	72	12.20
In 5th yr after menarche	56	9.49
In 6th yr after menarche	7	1.18

Table-IV: Percentage distribution of frequency of absenteeism related to severity of dysmenorrhoea

<i>Absence from work or school because of dysmenorrheal</i>	<i>No</i>	<i>%</i>
Every menstruation	62	10.5
Alternate menstruation	54	9.15
Occasionally	184	31.32
Never	290	49

percent of the respondents suffering from dysmenorrhoea had previously consulted a doctor because of dysmenorrhoea.

DISCUSSION

The pain of dysmenorrhoea is difficult to measure partly because it is usually accompanied by other unpleasant sensations and partly because the relative accompaniments affect the judgment of pain. Dysmenorrhoea should, therefore, be regarded as a multidimensional phenomenon and thus be measured by a multidimensional scoring system. In the present study the severity of dysmenorrhoea was measured by a verbal multidimensional scoring system which grades the severity of pain and also takes into account its effects on daily activity, systemic symptoms, and analgesic requirement.

It is possible that the definition of grade of dysmenorrhoea, severe pain unimproved by the use of analgesic associated with systemic symptoms and limitation of daily activity, be the border between a physiologic and a pathologic a pathologic condition. In the present study, the results point out that certain percent of the girls studying at high schools experienced dysmenorrhoea. The frequency of dysmenorrhoea in previous studies ranged from 3% to 90%.³ This great variation in the reported frequency of dysmenorrhoea is partly due to the selective nature of previous investigations. The study carried out by Coppen and Kessel is probably the least selection of earlier studies.⁴ Those investigators studied 500 women from the patient registers of several English general participants. In the English questionnaire study 45% of the women had moderate or severe dysmenorrhoea. Women with early menarche

suffered significantly more from dysmenorrhoea than women with late menarche. Thirty eight percent of the girls experienced dysmenorrhoea for the first year after the menarche. Thus our result confirm Anderson and Milsom's conclusion that dysmenorrhoea is not always a symptom that occurs as a result of ovulation.⁵

In terms of the correlation between relationship between the participants' dysmenorrhoeal and that of their mothers and sisters, it could be argued that there was a highly significant correlation. Our results are supported by the study of Widholm, and Kantero.⁶ A family history of dysmenorrhoea seems to be an important characteristic for women with dysmenorrhoea. The therapeutic requirements of women with dysmenorrhoea were investigated in the present study.

Thirty eight percent of the participants regularly used analgesics or antispasmodics during menstruation as a treatment for dysmenorrhoea. Twenty one percent were referred to a medical practitioner to cure from dysmenorrhoea. There are several possible explanations

for the failure of women to report dysmenorrhoea to their physician. Many women accept dysmenorrhoea as a normal part of their female constitution they may not believe in the treatment for dysmenorrhoea. In summary, improved understanding of the pathophysiology of dysmenorrhoea may result in the discovery of more effective treatment regimens. It will lead to reduction in the medical and social consequences of dysmenorrhoea.

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