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Prevalence, Perceptions and Effects of Dysmenorrhea in School Going Female Adolescents of Karachi, Pakistan

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Abstract:

Background: Dysmenorrhea is one of the pervasive health problems that affect the quality of female adolescence's life globally. Dysmenorrhea is experienced in the first years of reproductive life. There is numbers of socio-cultural factors due to which young adolescents don't seek medical help affecting their social lives.

Objective: The objective of the study is to determine the prevalence of dysmenorrhea, perceptions of female adolescent related to dysmenorrhea, effects and management of dysmenorrhea in the school going female adolescents of Karachi.

Methodology: A cross-sectional descriptive study was carried out to explore this phenomenon was conducted in private and public schools of Karachi and included 337 school and college going female students aged between 12-19 years. The sample was selected through the stratified sampling method. Questionnaire about the perceptions and effects of dysmenorrhea was administered. Approval of study protocol was obtained from Ethical Review Committee Aga Khan University, Karachi.

Results: Dysmenorrhea was reported by 78%. Only 11% females used some home remedies. 27% females who suffered dysmenorrhea took analgesics and 73% did not opt for any analgesic. An association was found between the experience of dysmenorrhea and self-imposed dietary restrictions, dysmenorrhea and analgesic and home remedies by the study participants. In our study 40% females reported a decline in academic performance and attendance during dysmenorrhea.

Conclusion: Dysmenorrhea in the female adolescent age group has a marked impact on their academic performance and social role. Therefore, it is important to create awareness among adolescent girls about the health management during dysmenorrhea.

Keywords: *Dysmenorrhea, Female Adolescent, Perceptions, Quality of life*

1. Introduction

Dysmenorrhea is one of the major health issues that affect the quality of female adolescence's daily life activities (Durain, 2004; Polat et al., 2009). Dysmenorrhea is defined as difficult menstruation flow or painful menstruation (French, 2005; Strinic et al., 2003). In which majority of women experience some degree of cramping, especially in the first year of their reproductive life (Goldstein et al., 2006). Pain may radiate to the back of the legs or the lower back. Menstruation is associated with nausea, vomiting, diarrhea, headache, weakness and /or fainting (Harzel, 2006; Proctor, 2006). Also, it has a negative impact on the social, academic and sports activities of many female adolescents (Kridli, 2002). Moreover, the study on a group of female students indicated that dysmenorrhea may have negative effect on quality of life, mental status and social role (Wilson et al., 1989). Global statistical data shows that 51%

of the population comprises of female adolescents (Alonso, 2001; Cakir et al., 2007). Therefore, health facilities catering to the needs of this increasing population are greatly required.

Prevalence rates reported for dysmenorrhea vary greatly from study to study. Globally, the prevalence rates have been reported to be as high as 90% and as low as 43% (Harzel, 2008; Unsal et al., 2011). In the Pakistani context it has also been observed that girls at their maximum reproductive age fail to perform their activities of daily living effectively during the menstruation period and due to cultural reasons they do not seek medical attention as well. Hence, their health compromised to the extent that may lead to serious consequences pertaining to reproductive health in the future (House, Mahon, & Cavill, 2012).

Maintaining proper hygiene during the menstruation period is important for the overall well being and for the prevention of infection pertaining to reproductive health. It is an assumption that not much attention has been paid to address this phenomenon. Therefore, to flag the importance of this milestone of female life, this study was conducted in order to promote the health of female adolescents by in depth exploration of the phenomenon of interest (dysmenorrhea). The aim of the study is to unfold the phenomena of dysmenorrhea by determining the perceptions, effects and its management in the school going female adolescents of Karachi.

2. Methods

A cross sectional study design was carried out at government and private schools of Karachi to have equal representation from the entire population. Sampling was done at two stages. First, convenient sampling was done to select the schools. Later, to enroll the study participants, stratified sampling method was utilized. There were total 337 participants were selected with age range fell between 10 to 19 years. A structured questionnaire comprising of 37 items was developed bilingually (both in English and Urdu) by the researchers.

In each selected school, the questionnaires were administered to study the effects and perceptions of dysmenorrhea which were examined by inquiring adolescent females with regard to the associated symptoms that they experience during the menstruation period like headache, abdominal cramps, backache, pain radiating to thigh, nausea, vomiting and diarrhea. In addition, questions about whether dysmenorrhea affects their routine physical activities and academic performance were also solicited. The participant's perceptions about dysmenorrhea were identified by exploring any dietary restriction or limited physical activity pattern during this period.

A pilot study was conducted on 31 students maintaining the anonymity and confidentiality of the participants throughout the study. Ethical approval was sought from the Ethical Review committee, Aga Khan University. A written consent was also obtained from the participants and their parents prior to the administration of the questionnaire. In addition, the consent of the school administration was also obtained. The total duration for completing the questionnaire was approximately 30 minutes. Data was analyzed in SPSS version 13.0.

The variables in this study were categorical and were meant to seek opinion about dysmenorrhoea, effects and perceptions. Chi-square, including Multiple Binary Logistic Regression tests was applied to observe the statistical association between various study variables such as use of analgesic, use of home remedies, use of any dietary restrictions, role of personal hygiene during dysmenorrhoea, and type of different analgesics used for pain reduction. P – Value of < 0.25 was taken as significant at the univariate level and < 0.05 at the multivariate level.

3. Results

The study included 337 (n) school and college going females of Karachi for which the response rate was 100%. A total of 228 (67.6%) female reported regular menstrual cycles and out of 337 respondents 109 (32.4%) reported irregular menstruation. The majority of female 255 (75.6%) reported 11 – 13 years as the age of menarche while 82 (24.4 %) females had menarche between 14 – 16 years of age. The majority of females 119 (35.3%) had an average duration of 3 – 4 days of menstrual cycle, whereas 218 (64.7%) reported 5 – 7 days of menstrual cycle. Dysmenorrhea was reported by 262 (78%). Out of total, only 37 (11%) females used some home remedies for the reduction of menstrual pain.

Out of the 262 participants, 92 (35.3%) gave a positive response regarding the use of analgesics. Ponstan was most commonly used analgesic 29 (31.5%) participants had used to relieve dysmenorrhea. Whereas Panadol was used by 18 (19.5%) participants and Buscopan, was taken by 29 (31.5%). Most of the participants, 74 (80.4%), preferred to get analgesics prescribed by the physicians. Findings revealed that the academic performance including class attendance of 105 (40%) females was also affected during dysmenorrhea.

Statistical analysis showed the statistical significance of the predictor variable of taking analgesics for dysmenorrhea. It also indicated a borderline significance for the variable of adopting dietary restrictions as a useful parameter of this model. The Regression model showed that increasing the intake of analgesics, adopting dietary restrictions and personal hygiene decreases the odds of dysmenorrhea, while the use of home remedies increases the odds of occurrence of dysmenorrheal

Name of variable	Response/Category	Frequency	Valid Percent
Age of menarche	11 – 13 years	255	75.6
	14 – 16 years	82	24.4
	Total	337	100.0
Menstrual cycle	Regular	228	67.6
	Irregular	109	32.4
	Total	337	100.0
Average duration of menstruation	3 – 4 days	119	35.3
	5 – 7 days	227	64.7
	Total	337	100.0
Continuation of routine activities during menstruation	Yes	133	39.6
	No	204	60.4
	Total	337	100.0
Academic performance and attendance	Yes	105	40
	No	232	60
	Total	337	100
Reported dysmenorrhea	Yes	262	78
	No	75	22
	Total	337	100.0
Severity of pain on the given scale among dysmenorrhea participants	No pain	35	13.4
	Mild pain	56	21.5
	Moderate pain	98	37.3
	Severe Pain	73	27.8
	Total	262	100.0
Role of personal hygiene in reduction of menstruation pain	Yes	82	31.4
	No	180	68.6
	Total	262	100.0
Use of home remedies to reduce menstruation pain	Yes	29	11
	No	233	89
	Total	262	100.0

Table 1: Frequencies of Important Variables

Multiple Binary Logistic Regression of Dysmenorrhea with selected predictor variables	Odds Ratio	p value
Do you take pain killer?(Yes)	.00	.05
Do you use home remedies to reduce pain?(Yes)	.13	2.06
Do you follow any dietary restrictions?(Yes)	.06	.54
Does personal hygiene play a role in menstrual pain? (Yes)	.86	.94
Constant	.00	.45

Table 2: Multiple Binary Logistic Regression of Dysmenorrhea with Selected Predictor Variables

4. Discussion

Adolescence is critical age group which undergoes several pubertal changes. These developmental changes such as menarche and dysmenorrhea are considered one of the significant events and pose challenges to deal with (Ozerdogan, et al., 2009). Dysmenorrhea or menstrual pain is defined as the chronic pelvic pain that occurs in young women (Polat, et al., 2009). The young female often confront difficulties due to the information communicated to them regarding the menstruation and dysmenorrhea.

In our study, 78% of the participants reported having dysmenorrhea. Various studies have reported the prevalence of dysmenorrhea, ranging from 15% to 70% (Ozerdogan, 2009; Proctor M, 2006). Most frequently, the age group that suffers from dysmenorrhea is the adolescents age group (Proctor, 2006). There are two types of dysmenorrhea, primary and secondary (House, Mahon, & Cavill, 2012). Our study focused on primary dysmenorrhea in adolescent females.

In our study, 40% of the females reported a decline in academic performance and increased absenteeism during dysmenorrhea. Whereas a study conducted in Iran revealed that 51% remained absent from work or school because of dysmenorrhea (Ozerdogan, 2009). In other study, 38 girls (15%) said that menstrual pain caused them to be absent from school and other activities between one to seven 7 in the past

school year. The study conducted in India revealed that quality of life is highly affected in the dysmenorrhic females. The girls while experiencing dysmenorrhea usually have restricted activity, disturbed regular life and relationships (House, Mahon, & Cavill, 2012; Rostami, 2007).

Number of studies reported that dysmenorrhea is the leading cause of absenteeism of women from work, school, and other activities. And between 10% to 18% of young girls believed that it also causes daily life dysfunction (Harzel, 2006; Kridli, 2002; Ozerdogan, 2009; Wilson, 1989; Bodat, 2013; Kumbhar, 2011)

Different females use different management technique to reduce the pain of dysmenorrhea. Due to the easy accessibility, many females prefer to use analgesic as a quick pain reliever technique. In our study 27% of the participants regularly used analgesics during menstruation as a treatment for dysmenorrhea. Another study showed 38% of the participants used analgesics, during menstruation as a treatment for dysmenorrhea (Aflaq & Jami, 2012). Whereas a study conducted in India revealed that 11.3% required an analgesic to relieve (Polat, et al., 2009).

The other methods for pain control are herbal treatment or home remedies. In our study, 11% females used some home remedies for the reduction of the menstrual pain. Other studies from India also showed the same pattern regarding the use of herbal medicines during dysmenorrhea (Proctor, 2006). It is evident that the use of herbs and home remedies plays an imperative role in alleviating dysmenorrhea. Therefore it is crucial to explore this phenomenon in-depth in order to generate some scientific evidences regarding use of herbs in dysmenorrhoea.

Studies also shown that appropriate diet such as fruits, vegetables and corns, along with avoiding too much salt and sugar are useful in pain reduction in menstrual period (Ozerdogan, 2009; Unsal A).

There were some misconceptions found regarding the restriction of certain food during dysmenorrhea. Therefore, it is significant to educate girls about the appropriate nutrition and diet intake during menstruation despite having dysmenorrhea. In our study only 31.4% of the participants have agreed that the personal hygiene have positive influence on dysmenorrhea and it reduces the pain. Other studies conducted at Tehran depict the consistency with our study findings. Most of the female adolescents believed that personal hygiene practice is an effective strategy for reduction of menstruation pain. Only 79 girls (32%) responded that they take bath on the first day of their menstrual period. Furthermore, 162 girls (65%) reported that they do not take bath in the early days of their menstruation cycle, out of which 85 girls (51.5%) reported that they do not take bath even after eight days from the beginning of their menstrual period. It is significant to educate females about the importance of personal hygiene during menstruation and its affect on the pain reduction. Health care providers should encourage young females to maintain personal hygiene during menstruation and parents and school teachers should also be motivated to educate young girls and encourage them to go for safe and effective techniques for management of dysmenorrhea. On contrary, the study conducted in Pune amongst female (18) adolescents in 2013 indicated that the prime reasons for their absence were lack of proper disposal facility of sanitary napkins (75%) and lack of continuous water supply for washing (67.5%) in their schools.

These unhealthy behaviors, along with their inappropriate perceptions and attitudes about the menstrual period, could possibly increase their chances of getting certain infections as well as discomforts related to secondary dysmenorrhea which were also highlighted by other recent studies (Durain, 2004; French, 2005). Therefore, role of health education is quiet essential in addressing the concern of dysmenorrhea among young females.

The obtained study result indicates lack of sufficient information among the study participants of this study. The Health education using special methods should be developed to empower them to shift their knowledge to appropriate health-seeking behaviors. Health care providers should work on developing the strategies to educate adolescent girls about etiology, symptoms and management of dysmenorrhea (Bodat, 2013). For instance, educating young girls about personal health related behaviors and practices, especially taking a bath with warm water even in the very early days of menstrual period, would not only prevent infections but also be effective in reducing such sort of pain and discomfort.

Regardless of these findings, many of the studies revealed that females did not have appropriate knowledge about the dysmenorrhea and menstrual period hygiene, and as a result lead to unhealthy practices. This portrays that their inadequate pubertal related health information may lead harmful health hazard amongst this age group of females. Therefore, it is essential that health education should be an integral part of school curriculum. In addition, parents needs to be encouraged and counseled to engage in such sort of open discussion with girls at right and an appropriate age in order to make them aware since beginning about the healthy practices related to menstruation.

5. Conclusion

Dysmenorrhea in the adolescent age group has a marked impact on their academic and social performance. Those participants who adopted proper management techniques for dysmenorrhea were least compromised. Therefore, this study suggests that timely dissemination of information both at the school and at family level is essential. There is also a need to bridge the gap between the school and family to reduce the suffering and promote the overall health and well-being of female adolescents. There is a dire that at the primordial level, reproductive health education needs to be included as a part of school curriculum and awareness campaign needs to be organized at community level.

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