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A Study to Assess the Prevalence and Risk Factors of Dysmenorrhea among Adolescent Girls (12-14years) in Selected Schools of Tirupati

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Abstract

Background:Dysmenorrhea is a common gynecological condition with painful menstrual cramps of uterine origin. There are two categories of dysmenorrhea primary and secondary dysmenorrhea. Primary dysmenorrhea refers to menstrual pain without any pelvic pathology. These symptoms have underlying cause of elevated endometrial prostaglandins and their metabolites [1]. A dysmenorrhea prevalence of 33.5% among adolescent girls in India was reported by Nag [5]. George and Bhaduri found dysmenorrhea to be a common problem in India with prevalence of 87.7% [6]. *Objectives*: To Assess the Prevalence of dysmenorrhea among adolescent girls(12-14 years).To assess the risk factors of dysmenorrhea among adolescent girls. To Associate the prevalence and risk factors of dysmenorrhea among adolescent girls with their demographic variables. *Methods*:A descriptive study involving 100 adolescent girls were self administeredquestionnaire. Data were collected by using non- probability purposive sampling technique. It included data regarding socio-demographic characteristics and questions pertaining to menstrual practices and checklist related to risk factors of dysmenorrhea. *Results*: Out of 100 adolescent girls, it were seen that 36 per cent adolescent girls had moderate prevalence of dysmenorrhea , 69 per cent adolescent girls had medium risk factors of dysmenorrhea. *Conclusion*: The present study revealed that, a majority of adolescent girls were posed to risk factors of dysmenorrhea and hence it can be concluded that, there should be need to provide awareness and education regarding risk factors of dysmenorrhea to adolescent girls.

Keywords: Assess; Prevalence; Risk Factors; Dysmenorrhea; Adolescent Girls.

Dysmenorrhea is a common gynecological condition with painful menstrual cramps of uterine origin. There are two categories of dysmenorrhea primary and secondary dysmenorrhea. Primary dysmenorrhea refers to menstrual pain without any pelvic pathology. These symptoms have underlying cause of elevated endometrial prostaglandins and their metabolites [1].

A dysmenorrhea prevalence of 33.5% among adolescent girls in India was reported by Nag [5]. George and Bhaduri found dysmenorrhea to be a common problem in India with prevalence of 87.7% [6]. Prevalence studies also have shown several other factors that are associated with dysmenorrhea like body mass index *(*BMI), smoking, early menarche, prolonged menstrual flow and psychological disturbances [4].

Primary dysmenorrhea is one where there is no

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pelvic pathology. Usually occurs within 1-3 years of menarche. Secondary dysmenorrhea is painful menstruation resulting from a pathologic process [12].

Risk factors of Dysmenorrhea are menstrual factors as early menarche, long and heavy menstrual flow, in diet lower consumption of fish, eggs and fruits are believed to increase the incidence of dysmenorrhea. It was also seen that among athletes the incidence of dysmenorrhea was lower, probably due to anovulatory cycles.

Heavy smoking was found to be associated with increased duration of dysmenorrhea thus, duration of dysmenorrhea was increased in heavy smokers with no effect on cycle length. Emotionally dependent and overprotected girls are more likely to develop dysmenorrhea. It is also seen in girls whose mothers suffered from dysmenorrhea [7].

Primary dysmenorrhea is not a disease; it is caused by an excess of prostaglandin 5 Alpha(PGF2 alpha) and increased severity to it. The sequential stimulation of the endometrium by estrogen, followed by progesterone, results in a dramatic increase in prostaglandin production by the endometrium.

With the onset of menses, degeneration of the endometrium releases prostaglandin. Locally, Prostaglandins increase myometrium contractions and constriction of small endometrial blood vessels with consequent tissue ischemia and increased sensitization of pain receptors, resulting in menstrual pain.

Primary dysmenorrhea begins in the few years after menarche, typically with the onset of regular ovulatory cycles [14].

The main symptom of dysmenorrhea is pain,it occurs in lower abdomen during menstruation and may also be felt in hips, lower back, or thighs.

Other symptoms may include nausea, vomiting, diarrhea, light headedness, or general achiness. For most women, the pain usually starts shortly before or during their menstrual period, peaks after 24 hours, and subsides after 2 to 3 days [15].

There are various alternative modalities. Which are currently available as heat fermentation, microwave diathermy, acupuncture, acupressure, yoga, ayurveda and homeopathy [7].

Prognosis is Mild pain killers usually work to get relief from painful periods. Oral contraceptives generally control severe cases. Dysmenorrhea associated with a disease gets better when the underlying problem is treated.

There are no complications from primary dysmenorrhea [16].

Methodology

After obtaining the permission from the Nehru Municipal High school Tirupati. The adolescent girls were aproached individually with the permission of authorities.

The tool Consists of two sections. Section- I consist ofdemographic data and Section – II consist of 22 multiple choice questions related to menstrual practices and checklist related to assess risk factors of dysmenorrhea.

The data was collected from adolescent with informed consent. The sample was selected by non – probability purposivesampling technique. The total 100 adolescent girls were by the investigator using self administered questionnaire schedule.

Inclusion Criteria

Adolescent girls who were attained menarche. Adolescent girls in the age group of 12-14 years. Adolescent girls available during data collection

Results

Table 2 Shows that prevalence of dysmenorrhea out of 100 adolescent girls 32(32%) had severe, 36 (36%) had moderate and 32(32%) had milddysmenporrhea.

Table 3 Shows that risk factors of dysmenorrhea out of 100 adolescent girls 13(13%) had low, 69(69%) had medium and 18 (18%) had high level of factors leading to dysmenorrhea.

Table 4 Shows that the mean and standard deviation scores related to prevalence of dysmenorrhea were 38.81± 4.359 with regard to risk factors the mean and standard deviation scores were 17.34±3.076.

Association between the socio demographic variables with prevalence of dysmenorrhea

There is a significant association between the demographic variables with level of prevalence of dysmenorrhea among adolescent girls. In that father education, income of the family per month, place of the domicile were significant at $p< 0.05$ level.

Table 1: Frequency and percentage distribution of socio demographic variables among adolescent girls

Sl. No.	Socio Demographic Variables	Frequency (F)	Percent (%)
1	Age		
	1. Twelve	10	10%
	2. Thirteen	42	42%
	3. Fourteen	48	48%
2	Height in cms		
	1. <150-150	58	58%
	2. 151-155	29	29%
	3. >155	13	13%
3	Weight in kgs		
	1. <40	48	48%
	2. 40-50	40	40%
	3. >50	12	12%
4	Religion		
	1. Hindu	85	85%
	2. Muslim	2	2%
	3. Christian	13	13%
5	Standard of study		
	1. Seventh	14	14%
	2. Eighth	40	40%
	3. Nineth	46	46%
6	Type of Family		
	1. Nuclear	51	51%
	2. Joint	46	46%
	3. Extended	3	3%
7	Education of Father		
	1. Illeterate	22	22%
	2. Primary School	38	38%
	3. Secondary School	27	27%
	4. Intermediate	7	7%
	5. Graduate	6	6%
8	Education of Mother		
	1. Illiterate	29	29%
	2. Primary	38	38%
	3. Secondary	19	19%
	4. Intermediate	7	7%
	5. Graduate	7	7%
9	Occupation of Father		
	1. Daily wageworker	40	40%
	2. Agriculture	32	32%
	3. Private employee	18	18%
	4. Govt employee	10	10%
10	Occupation of Mother		
	1. Home maker	49	49%
	2. Daily wage worker	32	32%
	3. Agriculture	10	10%
	4. Private Employee	0	0%
	5. Govt.Employee	9	9%
11	Number of elder female children in the family		
	1. Zero	37	37%
	2. One	40	40%
	3. Two	18	18%
	4. Three	5	5%
12	Income of the family per month		
	1. Up to 5000	65	65%
	2. 5001-10000	25	25%
	3. Above 10,000	10	10%
13	Place of the domicile		
	1. Rural	61	61%
	2. Semi urban	11	11%
	3. Urban	28	28%
14	Whether your mother or sister has dysmenorrhea		
	1. Yes	61	61%
	2. No	39	49%

Table 2: Frequency and percentage distribution on prevalence of dysmenorrhea among adolescent girls

S. No	Variable	Mild		Moderate		Severe	
		f	%	F	%	F	%
1	Prevalence	32	32%	36	36%	32	32%

Table 3: Frequency and percentage distribution on risk factors of dysmenorrhea among adolescent girls

S. No	Variable	Low		Medium		High	
		f	%	F	%	F	%
1	Risk factors	18	18%	69	69%	13	13%

Table 4: Mean and standard deviation on prevalence and risk factors of dysmenorrhea among adolescent girls

Sl. No	Category	Mean	Standard Deviation (SD)
1	Prevalence	38.81	4.359
2.	Risk Factors	17.34	3.076

Association between Socio Demographic Variables with the Level of Risk Factors

There is a significant association between the demographic variables and risk factors of dysmenorrhea among adolescent girls .In that standard of study of student, father's education, mother's education, father's occupation, mother's occupation and place of the domicile were significant at P< 0.01 level and height in cms and weight in kgs were significant at P<0.05 level.

Discussion

The discussion part according to the results Obtained from statistical analysis based on the data of the study, the reviewed literature, hypothesis which was selected for the study is to reveal the fact about assess the Prevalence and Risk factors of dysm, enorrhea among adolescent girls.

The first objective of the study was to assess the Prevalence of Dysmenorrhea among Adolescent girls(12-14 years).

The results in the study shows that level of prevalence of dysmenorrhea among 100 adolescent girls, 32(32%) had mild prevalence of dysmenorrhea, 36 (36%) had moderate and 32(32%) had severe of dysmenorrhea.

This results were supported by the Rahma Al-Kindi and Anbarin Al-Bulushi (2011) conducted a cross-sectional survey to determine the prevalence of dysmenorrhea among 404 girls from two public high schools in Omani high school girls by using self administered questionnaire, carried out in May 2010 at Muscat region. The aim was to determine the prevalence of dysmenorrhea. Overall, 94% (n = 380) of the participants had dysmenorrhoea. It was mild in 27% (n = 104), moderate in 41% (n = 155), and severe in 32% (n = 121) [57].

The Second objective of the study was to assess the Risk factors of Dysmenorrhea among Adolescent girls(12-14 years).

The results in the study shows that level of Risk factors of dysmenorrhea among 100 adolescent girls, 18(18%) had mild risk factors of dysmenorrhea, 69 (69%) had moderate risk factors and 13(13%) had severe risk factors of dysmenorrhea. This results were supported by the Salvi Shah, Kristina Makwana (2015)conducted a cross sectional study on menstrual characteristics and prevalence of dysmenorrhea among 133 female Physiotherapy students at SPB Physiotherapy College, Surat, Western India. Prevalence of dysmenorrhoea was found to be 71.2. There was an association between dysmenorrhea and coffee consumption, chocolate consumption, menstrual bleeding duration days, menstrual cycle regularity, family history of dysmenorrhoea and associated gynaecological diseases (P<0.05, for each one) [58].

The third objective of the study was to associate the prevalence and risk factors of dysmenorrhea among adolescent girls with their demographic variables.

The researcher revealed that there was significant association between the prevalence and demographic variables such as father's education, income of the family per month, place of the domicile at p< 0.05 level. The risk factors and demographic factors, shows the significant association between standard of study of student, father's education, mother's education, father's occupation, mother's occupation and and place of the domicile were significant at P< 0.01 level and height in cms and weight in kgs were significant at P<0.05 level. The above results shows that there was significant association between prevalence and risk factors of dysmenorrhea among adolescent girls and their selected demographic variables.This results was supported by the AlaettinUnsal, UnalAyranci., et al (2010) conducted a cross sectional study to assess prevalence of dysmenorrhea and its effect on quality of life among a group of 623 female university students between 15 March and 15 April 2009 at Dumlupinar University, Kutahya, Health High School, Western Turkey. The aim of the study was to assess prevalence of dysmenorrhea and its effect on

quality of life. The average age of the study group were 20.8 ± 1.8 years (range 17–30). Prevalence of dysmenorrhea was found to be 72.7% and was significantly higher in coffee consumers, females with menstrual bleeding duration ≥ 7 days, and those who had a positive family history of dysmenorrhea when compared to the others (P <0.05, for each one). By multivariate analysis, coffee consumption (OR 2.084), menstrual bleeding duration ≥ 7 days (OR 1.590), and positive family history of dysmenorrhea (OR 3.043) were important risk factors for dysmenorrhea [5].

Conclusion

The present study revealed that, majority of adolescent girls were posed to risk factors of dysmenorrhea and some socio demographic variables were statistically significant, and hence it could be concluded that, there would be need to provide awareness and education regarding risk factors of dysmenorrhea to adolescent girls.

Recommendations

The study could be replicated on larger sample, there by findings could be generalized for a large group.

A similar study would be conducted by administering self instructional materials on dysmenorrhea.

A comparative study could be done on risk factors of dysmenorrhea between urban and rural adolescent girls.

Longitudinal studies might be conducted to determine the effectiveness of structured teaching programme over a period of time or with interventions for dysmenorrhea.

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