Dysmenorrhea in Thai Adolescents:Prevalence, Impact and Knowledge of Treatment

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Objective : *To determine the prevalence of dysmenorrhea, impact on school attendance, academic performance, social activities and knowledge of treatment in Thai adolescents.*
Design : *Cross-sectional, descriptive study.*
Setting : *Nakhorn Pathom Ratjabhat University, Nakorn Patom, Thailand.*
Subjects : *A total of 789 women who were 1st and 2nd year students from Nakhorn Pathom Ratjabhat University, Nakorn Patom, Thailand.*
Material and Method : *Subjects were asked to complete the 35 items anonymous questionnaire handed out by the researchers. The questionnaire included data regarding the social data, menstrual pattern, severity and duration of menstrual pain, impact of dysmenorrhea on school attendance, academic performance and social activities. The methods, knowledge of pain relief and medications used to treat dysmenorrhea were also asked.*
Results : *The prevalence of dysmenorrhea were 84.2%. The most common symptoms were stomach cramp (78.0%), backache (58.9%) and mood change (56.9%). Only 31 (4.7%) had severe dysmenorrhea. The factors associated with dysmenorrhea were age at menarche ($p < 0.05$) and body mass index ($p < 0.05$). More than 60% of dysmenorrheic women reported that their class concentration was affected, Paracetamol was the drug known to 98.8% of participants with dysmenorrhea that help to relief their dysmenorrhea.*
Conclusion : *Dysmenorrhea is a significant public health problem. It has an impact on academic activities. Most of the subjects know that Paracetamol is the drug that help to relief their symptoms.*

Keywords : *Prevalence, Dysmenorrhea, Thai adolescents*

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Dysmenorrhea is one of the most gynecologic disorders. Its symptoms can range from suprapubic cramp, lumbosacral backache, radiating pain down to anterior thigh, nausea, headache, dizziness and diarrhea. Traditionally, dysmenorrhea is classified into two categories. Primary dysmenorrhea is menstrual pain occurs in the absence of pelvic disease while secondary dysmenorrhea is related to the underlying pathology[1].

Several studies have shown that prevalence of dysmenorrhea varies greatly between 43-90% depending on methods of data collection, study definition of dysmenorrhea and study population[2, 3]. However this condition is often disregarded by affecting women who consider pain to be a normal part of the menstrual cycle. Thus, many women fail to report their pain to the physician who treated them. The consequences of untreated dysmenorrhea range from lost of work and school hours to family and personal disruption. Therefore, dysmenorrhea affected not only the untreated person but also affected family, social and national economics as well.

This cross-sectional study was conducted to determine the prevalence of dysmenorrhea, impact on school attendance, academic performance, social activities and knowledge of treatment among Thai female adolescent.

Material and Method

The study was conducted on 30th July 2003 at Nakhorn Pathom Ratjabhat University, Nakorn

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Table 1. Grading of severity of dysmenorrhea

Severity Grading	Working ability	Systemic symptoms	Analgesics
Mild: Menstration is painful but seldom inhibits the women normal activity. Analgesics are seldom required.	Rarely affected	None	Rarely required
Moderate: Daily activity affected. Analgesics required and give relief.	Moderately affected	Few	Required
Severe: Activity clearly inhibited. Poor effect of analgesics.	Clearly inhibited	Apparent	Poor effect

Patom, Thailand. The subjects are 16-19 year old who were 1st and 2nd year students from Nakhorn Pathom Ratjabhat University. Women who had primary amenorrhea and had history of abdominal or pelvic surgery were not eligible for the study. The study was ethically approved by Department of Obstetrics and Gynecology, Faculty of Medicine Siriraj hospital. After obtaining consents from all participants, a total of 805 students were asked to complete the 31 items anonymous questionnaire handed out by the researchers. Definition of dysmenorrhea was explained as any type of pain or discomfort associated with menstrual period. The questionnaire included data regarding social data, menstrual pattern, severity of menstrual pain, impact of dysmenorrhea on school attendance, academic performance and social activities. The methods, knowledge of pain relief and medications used to treat dysmenorrhea were also asked.

The severity of dysmenorrhea was measured by multidimensional scoring system[4] and visual analogue scale[5]. Multidimensional scoring system was defined the severity of dysmenorrhea as mild, moderate and severe based on pain, limited activities and medication taken as shown in Table 1. Visual analogue scale using a 10 cm line represented the continuum of her opinion of the degree of pain. One extremity of the line represents "unbearable pain" and the other extremity represents "no pain at all". The participants were asked to rate the degree of pain by making a mark on the line. Scale value was obtained by measuring the distance from zero to that mark.

The data were analyzed using SPSS for Windows version 11. Descriptive statistic was used to determine mean age of participant, age at menarche, prevalence, treatment of dysmenorrhea and activities affected by this condition. The categorical data were analyzed by chi-square or fisher exact test. The continuous data were analyzed using unpaired t test or one-way analysis of variance (ANOVA) as appropriate.

Results

The questionnaires were handed to 805 women and 789 (98.0%) completed it. The prevalence of dysmenorrhea were 84.2% (95%CI 81.4%, 86.5%) and only 15.8% experienced no dysmenorrhea. The most common symptoms were stomach cramp (78.0%), backache (58.9%) and mood change (56.9%). Table 2 shows reported symptoms associated with dysmenorrhea.

Table 3 shows proportion of women with different severity of dysmenorrhea and their pain scores. The majority of the study population had mild to moderate dysmenorrhea and only 31 (4.7%) had

Table 2. Percentage of dysmenorrheic women who suffer from associated symptoms

Symptoms	Women with dysmenorrhea (n = 664)	
	n*	%
Stomach cramps	518	78.0
Backache	391	58.9
Mood change	378	56.9
Fatigue	285	42.9
Diarrhea	174	26.2
Headache	124	18.7
Nausea	60	9.0
Edema	13	1.9

* More than one symptoms/woman

Table 3. Severity of dysmenorrhea and mean pain score

	n (%)	Mean pain score* $\pm$ SD
Mild pain	317 (47.7)	2.7 $\pm$ 1.7
Moderate pain	316 (47.6)	4.6 $\pm$ 2.0
Severe pain	31 (4.7%)	6.9 $\pm$ 2.6

* One-way ANOVA $p < 0.01$. All pairwise significant at $p < 0.01$ by Bonferroni multiple comparison

severe dysmenorrhea. Pain score also differ between groups significantly and correlate with the severity.

Table 4 shows comparison between those with and without dysmenorrhea with regard to various factors. The factors that found to be associated with menstrual cramps from this study were age at menarche ($p < 0.05$) and body mass index ($p < 0.05$). Dysmenorrhea was not associated with the interval, duration of menstrual cycle and bleeding amount in each cycle.

Table 5 shows the impact of dysmenorrhea on activities of affecting women. Low class concentration, school absenteeism, limitation to sports and social activity were significantly affected the women with severe dysmenorrhea ($p < 0.01$). More than 60% of dysmenorrheic women reported that their class concentration was effected, especially in severe dysmenorrhea. It should be noted that academic activities (low class concentration and school absenteeism) were reported to be limited by more than 80% of women with severe dysmenorrhea.

Table 6 shows the management strategies and knowledge of medications for dysmenorrhea. Ninety two percent of the participants with dysmenorrhea rest to alleviate their symptoms. Paracetamol was the most known drug to 98.8% of participants with dysmenorrhea that help to relief their menstrual cramp.

Table 4. Factors associated with dysmenorrhea

	Painn = 664	No painn = 125	p value
Mean age (year)	18.9 ± 0.8	18.9 ± 0.7	0.30
Mean age at menarche (year)	13.0 ± 1.2	13.3 ± 1.3	0.01
BMI (kg/m^2)			
< 20	448 (67.5%)	66 (52.8%)	
20-25.99	179 (27.0%)	48 (38.4%)	0.02
26-28.99	22 (3.3%)	6 (4.8%)	
≥ 29	15 (2.2%)	5 (4.0%)	
Duration (days)			
1-6	643 (96.8%)	122 (97.6%)	1.0
> 7	21 (3.2%)	3 (2.4%)	
Interval (days)			
< 21	46 (6.9%)	9 (7.2%)	
21-34	599 (90.2%)	110 (88%)	0.52
≥ 35	19 (2.9%)	6 (4.8%)	
Bleeding amount (pad/day)			
1	36 (5.4%)	13 (10.4%)	
2-4	610 (91.9%)	109 (87.2%)	0.11
> 4	18 (2.7%)	3 (2.4%)	

Discussion

A major finding of this study was the high prevalence of dysmenorrhea among Thai students studying at Ratchapat College which was 84.2%, this was similar to the prevalence previously reported by Banikarim et al (85%)[6] and Hillen et al (80%)[7].

Previous studies reported the prevalence of dysmenorrhea vary from 43% to 90%[2,3]. The extreme variation in these estimates may be attributed to the use of selected groups of subjects and the absence of a universally accepted method of defining dysmenorrhea. Pain associated with dysmenorrhea is difficult to measure because it is usually accompanied by other unpleasant sensation and partly because the reaction component affects the judgement of pain. It should be regarded as a multidimensional phenomenon and thus be measured by a multidimensional scoring system[4]. Similar to one study, the results also showed that grading of severity of dysmenorrhea by the verbal multidimensional system was correlated to the assessment by a linear analogue scale in this study.

The syndrome of dysmenorrhea is known to encompass a wide variety of physical (and affective) symptoms. Stomach cramp was by far the most frequently reported complaint among sufferers in the present study (78.0%). Backache, mood change, fatigue, headache, nausea and edema during men-

Table 5. Impact of dysmenorrhea on daily activities

	Women with dysmenorrhea n* = 664	Mild n* = 317	Moderate n* = 316	Severe n* = 31	p value
Low class concentration	442 (63.6%)	163 (51.4%)	232 (73.4%)	27 (87.1%)	< 0.001
Limited sports activities	248 (37.3%)	91 (28.7%)	139 (44%)	18 (58%)	< 0.001
School absenteeism	140 (21.1%)	37 (11.7%)	78 (27.7%)	25 (80.6%)	< 0.001
Social activities	121 (18.2%)	38 (12%)	68 (21.5%)	15 (48.4%)	< 0.001
Low grades	12 (1.8%)	3 (0.9%)	7 (2.2%)	2 (6.5%)	0.062

* More than one symptoms/woman

struation were also reported to associate with dysmenorrhea similar to those previously reported[6,7]. Health care providers should consider inquiring about these associated symptoms in conjunction with menstrual pain because these symptoms may be more delibitating.

Menstrual cramp was found to be significantly associated with early age of menarche. This is consistent with previous findings[4,7-9]. In this study we found that being underweight was also significantly associated with dysmenorrhea. This was different from others studies[4,8-10]. However, There were only small numbers of women with high BMI in this population that we could not examine the relationship with dysmenorrhea.

This study showed that low class concentration was the major impact of women with dysmenorrhea ranging from 51.4% in mild group to 87.1% in severe group similar to others studies[6,7]. Our study did not specifically assess school absentee rates, but we found that 80.6% of severe dysmenorrheic women had to skip their class, while 27.7% and 11.7% of moderate and mild group respectively have the same problem. Given these findings, school officials and school health program coordinator may benefit from considering dysmenorrhea in the context of improving their school attendance rates and academic performance of their students.

Table 6. Management strategy and knowledge of medication

	n (%)
Management strategy	
Rest	611 (92.0)
Heating pad	226 (34.0)
Analgesics	216 (32.5)
Herbal Medicine	84 (12.7)
Physician consultation	47 (7.1)
Exercise	45 (6.8)
Meditation	30 (4.5)
Knowledge of medication	
Paracetamol	656 (98.8)
Aspirin	565 (85.1)
Oral contraceptive pills	368 (55.4)
Mefenamic acid	40 (6.0)
Ibuprofen	22 (3.3)

The overall physician consultation rate was 7.1% and medication use rate was 34%. This low rate showed that many women with dysmenorrhea still seem to believe that painful periods are normal female experience[11]. Although there is overwhelming evidence that NSAIDs provide significant relief for the majority of women with dysmenorrhea. Only small numbers of subjects knew that Mefenamic acid and Ibuprofen were such an effective treatment.

Some limitations of this study should be noted. We could not differentiate between primary and secondary dysmenorrhea. However those with severe dysmenorrhea should be counseled for further investigation. In addition, some recall biases might have been occurred when completing the questionaire. Potential misclassification of dysmenorrhea and its severity were minimized by clear explanation of the definitions to all participants.

In conclusion, high prevalence of dysmenorrhea among Thai adolescents demonstrated that this condition is a significant public health problem that requires attention. Educational of premenachal and postmenarchal women as well as the general community is vital in ensuring that dysmenorrhea is no longer seen as a normal female experience. Appropriate medications use should also be educated to the students for effective relief of the dysmenorrhea. Physician consultation must be promoted to the community to help women who have dysmenorrhea problem. Further detailed studies among other groups of population should be conducted to understand its prevalence as well as its impacts at individual and social levels.

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ภาวะการปวดประจำเดือนในสตรีวัยรุ่นไทย ความชุก, ผลกระทบและความรู้ในการรักษา

กมลศักดิ์ ต่างใจ, วิทยา ฐิถาพันธ์, ดิฐกานต์ บริบูรณ์หิรัญสาร

วัตถุประสงค์ *: เพื่อประเมินหาความชุกของการปวดประจำเดือนของสตรีวัยรุ่นไทย และผลกระทบต่อกิจกรรมเกี่ยวกับการศึกษา และการเข้าสังคมตลอดจนความรู้ และประสบการณ์ในการรักษาอาการปวด*

ชนิดการวิจัย *: การวิจัยเชิงพรรณนา*

กลุ่มตัวอย่าง *: นักศึกษาหญิงชั้นปีที่ 1 และ 2 ของสถาบันราชภัฏ วิทยาเขตนครปฐม จังหวัดนครปฐม จำนวน 789 คน โดยดำเนินการวิจัยเมื่อวันที่ 30 กรกฎาคม พ.ศ. 2546 เป็นระยะเวลา 1 วัน*

การกระทำ *: ประเมินโดยการตอบแบบสอบถามที่ประกอบด้วยข้อมูลทั่วไป รูปแบบของการมีประจำเดือน อาการปวดและความรุนแรง ตลอดจนผลกระทบที่เกิดขึ้น ที่มีต่อชีวิตประจำวัน รวมทั้งวิธีการปฏิบัติกรณีที่มีอาการปวดประจำเดือน*

ผลการวิจัย *: ความชุกของการปวดประจำเดือนคิดเป็นร้อยละ 84.2 อาการที่พบมากที่สุดสามอันดับแรกคือ ปวดท้อง (ร้อยละ 78.0) ปวดหลัง (ร้อยละ 58.9) และ อารมณ์แปรปรวน (ร้อยละ 56.9) มีผู้ที่มีอาการปวดประจำเดือนรุนแรง 31 คน (ร้อยละ 4.7) ปัจจัยที่พบว่ามีผลต่อการปวดประจำเดือนอย่างมีนัยสำคัญคือ อายุเมื่อมีประจำเดือนครั้งแรก และดัชนีชี้วัดมวลกาย อาการปวดประจำเดือนมีผลทำให้สมาธิในการเรียนลดลงในผู้ถูกวิจัยมากกว่าร้อยละ 60, ยาแก้ปวดที่รู้จักกันว่าสามารถบรรเทาอาการปวดประจำเดือนได้ ในผู้ถูกวิจัยร้อยละ 98.8 คือ พาราเซทตามอล*

สรุป *: อาการปวดประจำเดือน เป็นปัญหาที่พบได้มากในสตรีวัยรุ่นไทย ซึ่งภาวะนี้มีผลกระทบต่อกิจกรรมทางการศึกษา ทำให้สมาธิในการเรียนลดลง, มีผลกระทบต่อการเข้าสังคม ผู้ที่มีอาการปวดประจำเดือนเกือบทั้งหมดทราบว่ายาพาราเซทตามอลสามารถบรรเทาอาการปวดประจำเดือนได้*