

# A Case Control Survey and Dysmenorrhea in a Family Practice Population: A Proposed Disability Index

Rowena Sobczyk, MD, Mark L. Braunstein, MD, Leif Solberg, MD,  
and Stanley H. Schuman, MD

Charleston, South Carolina and Minneapolis, Minnesota

Dysmenorrhea, though rarely coded as a diagnosis in the records of family physicians, is a common problem in their female patients. Responses to a questionnaire indicated that at least 50 percent of women experience menstrual pain at one time with a minimum of 29 percent experiencing pain in any two-month period. The average duration of pain was greater than one day. A disability index was developed which revealed that half the women were Grade 3, or severely disabled. This study suggests that menstrual pain is a common problem in family practice and clearly ranks as a major cause of temporary disability in women patients.

Dysmenorrhea has been anecdotally reported to be a common problem in routine office gynecology.<sup>1-3</sup> However, a review of the literature revealed no recent studies documenting the actual prevalence of this problem. Published tabulations of clinical experience in family practice have reported that from 1.37 percent to less than 0.5 percent<sup>4</sup> of patient visits involve dysmenorrhea. Data from the Family Practice Center of the Medical University of South Carolina (MUSC) show that one percent of female patients carry this diagnosis and that dysmenorrhea ranks 96th as a clinical problem and 80th as a reason for a visit to the center. Data taken from a community health survey in Tecumseh, Michigan reveal that between 4.3 percent and 6.4 percent of women suffer from menstrual disorder (dysmenorrhea was not specifically surveyed but would be included within this group).\*

\*Tecumseh Community Health Study: Prevalence of Conditions in 1960-1961 Survey. Ann Arbor, Mich, University of Michigan, School of Public Health, unpublished data.

From the Department of Family Practice and the Physician's Assistant Program, Medical University of South Carolina, Charleston, South Carolina, and the Department of Family Practice and Community Health, University of Minnesota, Minneapolis, Minnesota. Requests for reprints should be addressed to Dr. Rowena Sobczyk, Department of Family Practice, Medical University of South Carolina, 171 Ashley Ave, Charleston, SC 29403.

This study was intended to survey female patients attending a family practice clinic to determine (1) the prevalence of dysmenorrhea, (2) the relationship between dysmenorrhea and other common complaints, and (3) the morbidity associated with dysmenorrhea.

## Methodology

Searches were performed on 4,216 female patient records at the Family Practice Center of MUSC utilizing the clinic's PDP-15 computer system.<sup>5</sup> Initially, all patients with the coded diagnosis of dysmenorrhea (RCGP 325) or other unspecified menstrual disorders (RCGP 334) were identified. Problem lists were examined to rule out patients with cause for secondary dysmenorrhea. Of the 56 patients identified, four patients were excluded, one for cervical stenosis and three for pelvic inflammatory disease. The age distribution of the resultant group (hereafter dysmenorrheic group) was computed and two age-matched comparison groups were selected. These two groups consisted of (1) 92 women without the coded diagnosis of dysmenorrhea or other menstrual disorders but who were taking propoxyphene-containing medications for an unrelated problem

(hereafter propoxy group), and (2) 93 women without the coded diagnosis and who were not taking propoxyphene-containing medications (hereafter non-propoxy group). Extra patients were identified in the propoxy and non-propoxy groups because of the anticipation of a lower response rate among these groups to the survey questionnaire.

A questionnaire was devised to measure both the frequency of dysmenorrhea and to assess the functional impairment attributed by the patient to the condition. Additional questions concerned remedies employed by patients and determined the relationship of the pain to menarche, maternal dysmenorrhea, and the menses.

Initially, 52 questionnaires were mailed to the dysmenorrheic group and 78 to the two comparison groups. In the dysmenorrheic group, seven were returned because of incorrect addresses. In the two comparison groups, 34 questionnaires were returned for incorrect addresses, although questionnaires were resubmitted to new patients. In all, 237 questionnaires were mailed. Questionnaires were returned by 30 or 66 percent of the dysmenorrheic group, by 43 or 57 percent of the propoxy group, and 42 or 55 percent of the non-propoxy group. By age, 57 or 50 percent of the respondents were in the 20-29 year age group (55 percent dysmenorrheic, 45 percent propoxy, 52 percent non-propoxy).

### Results

In all, of 113 patients responding to the questionnaire, 101 or 89 percent indicated some history of dysmenorrhea (96 percent dysmenorrheic, 90 percent propoxy, 83 percent non-propoxy). Even if all nonrespondents are assumed to be nondysmenorrheic, the incidence of some history of pain would be 51 percent (Figure 1). When women with dysmenorrhea in the last two months were examined by the group, the rate varied from 52 percent of the non-propoxy group to 74 percent in the propoxy group and 79 percent in the dysmenorrheic group. Thus, even if all nonresponding patients are assumed to be nondysmenorrheic (Figure 2), a minimum estimate of the prevalence of the problem in the three groups would vary from 29 percent in the non-propoxy group to 44 percent in the dysmenorrheic group, with an overall average of 37 percent.

In a later search, the problem lists of coded

dysmenorrheic women were compared with the problem lists of all other women over age ten in the clinic not having the diagnosis of dysmenorrhea.

The five most commonly recorded problems for the dysmenorrheic women were as follows:

1. Dysmenorrhea	100.0%
2. Periodic health examination	92.6%
3. Upper respiratory tract infection	70.7%
4. Urinary tract infection	39.0%
5. Sign, symptom, ill-defined condition	36.5%

The five most commonly recorded problems for the nondysmenorrheic women were as follows:

1. Periodic health examination	75.9%
2. Sign, symptom, ill-defined condition	60.2%
3. Upper respiratory tract infection	42.8%
4. Abdominal pain	25.2%
5. Urinary tract infection	23.1%

It is interesting to note that the nondysmenorrheic women have abdominal pain as one of their five most common complaints.

The problem lists were examined for the five most common problems with a possible psychosomatic component.

The five most commonly recorded psychosomatic problems for the dysmenorrheic women were:

1. Headache	29.2%
2. Abdominal pain	24.3%
3. Obesity	17.0%
4. Low back pain	14.6%
5. Anxiety neurosis	14.6%

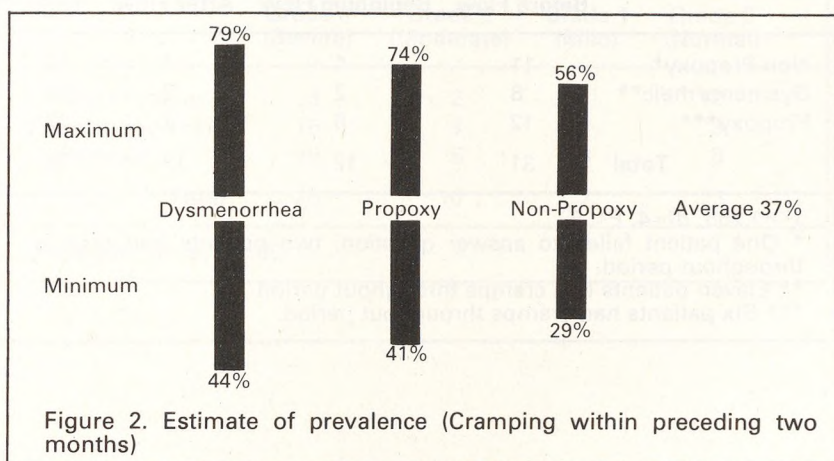
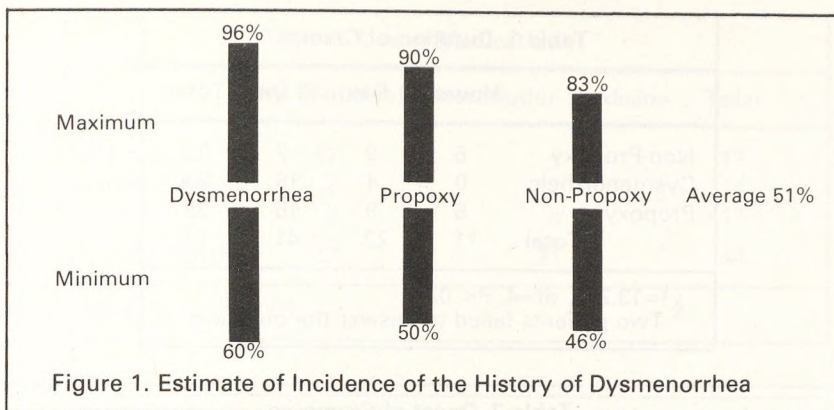
Mean percentage 19.9

The five most commonly recorded psychosomatic problems for the nondysmenorrheic women were:

1. Abdominal pain	25.2%
2. Obesity	21.4%
3. Headache	15.0%
4. Depressive neurosis	13.5%
5. Anxiety neurosis	11.8%

Mean percentage 17.6

The 76 patients who had had dysmenorrhea in the last two months were asked for more information. Of 74 patients responding to the question, the



three groups differed significantly in the duration of pain, with the dysmenorrheic and propoxy groups tending toward longer duration. Fifty-five percent stated that their pain lasted more than one day's duration (82 percent of the dysmenorrheic group, 51 percent of the propoxy group, and 31 percent of the non-propoxy group). Only 15 percent had pain for less than one day, zero percent of the dysmenorrheic group, 17 percent of the propoxy group, and 27 percent of the control group (Table 1). Onset of pain was not found to differ significantly among the three groups, although 41 percent experienced pain prior to menses (Table 2).

The three groups differed significantly in the

use of medication, with the dysmenorrheic and propoxy groups tending toward use of medication (Table 3). Forty-nine of 75 patients responding used either prescription or over-the-counter medications to control their pain, 82 percent of the dysmenorrheic group, 68 percent of the propoxy group, and 45 percent of the non-propoxy group. Nonmedicinal home remedies, such as exercise, hot drinks, alcohol, and heat were used by half (38 of 76) of the patients with pain.

The three groups differed significantly in disability, with the dysmenorrheic and propoxy groups reporting more disability. Consequently, to assess the functional impairment, a disability scale was developed. Patients were considered Grade 3,

Table 1. Duration of Cramps				
	Hours	1 Day	>1 Day	Total
Non-Propoxy	6	9	7	22
Dysmenorrheic	0	4	19	23
Propoxy*	5	9	15	29
<b>Total</b>	<b>11</b>	<b>22</b>	<b>41</b>	<b>74</b>

$\chi^2=13.278, df=4, P<.02$   
 \* Two patients failed to answer the question.

Table 2. Onset of Cramping				
	Before Flow	Beginning Flow	After Flow	Total
Non-Propoxy*	11	4	4	19
Dysmenorrheic**	8	2	2	12
Propoxy***	12	6	7	25
<b>Total</b>	<b>31</b>	<b>12</b>	<b>13</b>	<b>56</b>

$\chi^2=1.255, df=4, P<.9$   
 \* One patient failed to answer question, two patients had cramps throughout period.  
 \*\* Eleven patients had cramps throughout period.  
 \*\*\* Six patients had cramps throughout period.

severe, if they were bedridden and missed both work and recreational activity. They were considered Grade 2, moderate, if they missed work and were bedridden. They were considered Grade 1, mild, if they only missed work or missed recreational activity. They were considered Grade 0, normal, if none of the above occurred.

In all, 69 patients fell into the four grades of disability (Table 4). Four patients failed to answer one or more of the questions and four patients responded with a different combination of answers. Of the patients classified, 28, or 40 percent, were Grade 3 or severely disabled (65 percent of the dysmenorrheic group, 38 percent of the propoxy group, and 15 percent of the non-propoxy group). The finding that about half of the women with dysmenorrhea within the last two months

were disabled agrees with at least one published review of the subject.<sup>1</sup>

As suggested in the literature, no relationship was found between dysmenorrhea and maternal dysmenorrhea.<sup>6</sup> Twenty-five of the dysmenorrheic patients stated their mothers had dysmenorrhea, 14 stated their mothers did not have dysmenorrhea, and 34 did not know whether or not their mothers had dysmenorrhea.

Several commonly stated clinical axioms concerning the onset and duration of menstrual pain were examined in the questionnaire. The pain is described in the literature as typically beginning about one year after menarche.<sup>7-9</sup> However, half of the respondents with a history of pain in the present study remembered their menarche as painful.

It is often stated that menstrual pain diminished

Table 3. Use of Medication			
	No Medicine	Prescription Medicine	Total
Non-Propoxy	12	1	13
Dysmenorrheic	2	12	14
Propoxy	9	8	17
<b>Total</b>	<b>23</b>	<b>21</b>	<b>44</b>
$\chi^2=16.452, df=2, P<.001$			

Table 4. Disability Index				
	Grade 3 (Severe)	Grade 2 (Moderate)	Grade 1 (Mild)	Grade 0 (Normal)
Non-Propoxy	3	2	2	12
Dysmenorrheic	15	3	2	3
Propoxy	10	5	3	8
<b>Total</b>	<b>28</b>	<b>10</b>	<b>7</b>	<b>23</b>
$\chi^2=14.818, df=6, P<.05$				

after pregnancy.<sup>6,10</sup> Concurring with this, it was shown that having had at least one child significantly decreased the probability of having dysmenorrhea (Table 5).

Although oral contraceptives have been advocated in the treatment of dysmenorrhea,<sup>10-12</sup> the dysmenorrheic group and the nondysmenorrheics did not differ significantly in contraceptive technique (Table 6).

## Discussion

Psychiatrists have stated that dysmenorrheic females often have hate-laden fantasies, self-destructive wishes, and social instability.<sup>1,8,13</sup> Surprisingly, dysmenorrhea is largely ignored on problem lists in family practice, a specialty conscious of the behavioral aspects of disease. This study has shown that, contrary to major tabulations on the content of family practice, the minimum prevalence of dysmenorrhea among women in their child-bearing years is 29 percent.

Also, in any month, at least one out of five of such women (seven percent) are severely disabled by dysmenorrhea.

It has been shown that not all people experiencing the same symptoms will seek medical advice.<sup>14</sup> Shontz feels that there are five psychological forces operating on a person in conflict over the need to seek medical help. One of the strongest positive forces (toward treatment) is the anticipation of the return of health. Most women (except those severely disabled) did not discuss their menstrual pain with their family physician. Women with recent dysmenorrhea who had not discussed the problem with their family physician most frequently expressed a belief that no relief could be obtained. Obviously, this would negate the strongest force moving toward treatment.<sup>15</sup> Clearly, family physicians must take the initiative to determine the existence of dysmenorrhea.

Schmale has described a "giving up—given up complex" in which individuals refuse to "give up"

**Table 5. Dysmenorrhea vs Gravity**

	Gravida		Total
	0	1+	
Dysmenorrheic*	35	40	75
Nondysmenorrheic	9	28	37
<b>Total</b>	<b>44</b>	<b>27</b>	<b>112</b>

$\chi^2=5.170$ ,  $df=1$ ,  $P<.05$   
 \* One patient refused to answer.

**Table 6. Contraceptive vs Dysmenorrhea**

	Contraceptive Method		
	Pill	IUD	Other
Dysmenorrheic*	24	8	14
Nondysmenorrheic**	11	5	9
<b>Total</b>	<b>35</b>	<b>13</b>	<b>23</b>

$\chi^2=.434$ ,  $df=2$ ,  $P<.9$   
 \* One patient refused to answer.  
 \*\*Two patients refused to answer.

unrealistic hopes for gratification or to "give up" unachievable goals and ambitions. Consequently, these individuals are predisposed to somatic and psychic dysfunction.<sup>16</sup> Also, Rahe has found that life stresses affect the disease process.<sup>17</sup> Dysmenorrheic women are women in their childbearing years, a time when many milestones of adult life are occurring. This necessitates much growth, change, stress, and "giving up." It is noteworthy that the dysmenorrheic women had a higher incidence of psychosomatic complaints. This suggests the presence of underlying life stresses and/or unrealistic expectations of life which should be appreciated by the family physician.<sup>18</sup>

In view of the above findings, family physicians should routinely question female patients about the existence of menstrual pain. The authors believe that a health status index may contribute significantly to the assessment and management of patients with dysmenorrhea. A simple index, such as that suggested by this study, can be administered in a few moments and could allow objective evaluation of therapy of this commonly disabling condition. It may also serve as a useful reminder to the physician of underlying life stresses and unrealistic expectations which should become the primary focus of therapy.

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