

DYSMENORRHOEA

by

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Introduction

As early as 2000 B.C. some prescriptions are found for the treatment of dysmenorrhoea in Egyptian writings (Ebers and Kahan Pagyri) which suggest that dysmenorrhoea was also a common complaint of women in ancient period.

Estimation of the incidence of dysmenorrhoea varies greatly with different investigators.

Stone estimated that 35% of all women complain of some pain with menstruation. Cunningham found 50% of the 1400 students of California University complaining of severe pain during menstruation. Statistics of women students of 29 colleges and universities showed that 45% of these women students complained of some pain during menstrual periods and 14.6% had severe pain requiring bed-rest (W. B. Brown). J. O. Haman made a detailed study of women working in industrial areas and showed that 16.6% of the 32 million women working were not working for two hours a period or twenty six hours a

year, i.e. 140 million hours are lost annually due to dysmenorrhoea. In our analysis we have not actually investigated the inefficiency of work; but students did complain of absentism from colleges and high schools and thus they suffer from loss of study hours during these days.

Etiology

Dysmenorrhoea is due to spasmodic and disordered contractions of uterine muscles.

Moir believes that the pain is due to the contraction of ischaemic muscle which causes anoxia of the muscle.

Bickers (1941) produced evidence to show that the essential for pain is high tonicity of muscles on which the contractions are superimposed.

Disordered contraction of the muscle may be due to hormone imbalance. A dysmenorrhoeic mother usually has a dysmenorrhoeic daughter.

The inherited pain threshold varied from one individual to another (Haman, 1944). It is lowered by ill-

health of any kind; so the dysmenorrhoea is often associated with debilitating disease. Acute illness may temporarily cause dysmenorrhoea.

Haman found that the average pain threshold in the dysmenorrhoeic group was lower than that for the other group.

The conditions which cause sluggish circulation in the pelvic organs tends to make dysmenorrhoea worse, such as chronic constipation, sedentary life and unsatisfied sex urge.

Theobald (1936) is of the view that the pain is due to rigidity of cervix rather than spasmodic contractions of fundus of uterus.

Goodall and Power (1937) suggested that spasmodic dysmenorrhoea is an allergic manifestation. Various antigens including hormones and menstrual toxins have been blamed.

Davis (1938) is of the opinion that dysmenorrhoea is due to the imbalance in the autonomic nervous control. Overaction of sympathetic leads to hypertonic condition of the circular fibres at the isthmus and internal os. The same condition is found due to the sympathetic upset which produces bowel and bladder tenesmus which accompany dysmenorrhoea.

Malformations of the uterus also cause dysmenorrhoea, because the arrangement of the muscle fibres is abnormal.

In England, menstruation most commonly commences during the 14th and 15th years of life, and it is probable that the menarche occurs either before or after that period of life in less than 15 per cent of girls. At their onset the menses are often irregular and the interval between

the first and second period may exceed a year. The first period is rarely, if ever, painful and it is only after the lapse of one or more years that pain begins to be associated with the flow. In some of the worst cases of dysmenorrhoea the history of freedom from any menstrual pain for some years after the onset of the menarche is frequently elicited. It may, therefore, be reasonably concluded that the pain is not caused by, or even associated with, structural defects in the uterus.

The pain may commence some hours before the flow or may not occur until it becomes established. It may last a few hours or may persist for two days or longer. It is usually described as being cramp-like rather than continuous. The pain may be very mild, causing less discomfort than a purgative, while it may be as intense as that pain is experienced during normal labour and may be associated with pyrexia and vomiting.

The pain is most commonly referred to the lower abdomen but sometimes to the lower part of the back or over the hips and still less commonly down the upper third of the inside of both thighs. The pain may be associated with fainting attacks and vomiting which require bed rest for some hours. On the other hand, some women never experience the pain or discomfort during menstruation. The majority of women complain of pain which is usually tolerable and does not interfere with their daily work but the pain symptoms increase when the same women have to work hard or have an excited life. The onset of dysmenorrhoea is often associated

with a change of work or of environment.

Definition

Dysmenorrhoea is the term used to cover various types of pain during menstruation.

I. Primary dysmenorrhoea or true dysmenorrhoea is the term used when the pain is of uterine origin and directly due to menstruation. It is often called spasmodic dysmenorrhoea, intrinsic, essential or functional dysmenorrhoea.

II. Congestive dysmenorrhoea is the term used when the pain arises in some organs other than the uterus and is merely associated with menstruation. This includes congestive and ovarian dysmenorrhoea.

Material for Investigation

A study of about 750 students of high schools, colleges and training college of Ahmedabad was done as regards their menstrual history.

This paper gives the data of menstrual function in students and incidence of dysmenorrhoea with relation to age, social status, economical condition, family history and infection in young age.

All the students were interviewed personally and full history was obtained about their age; income per head of the family, their diet, infectious diseases in past and family history.

Their height, weight and span were taken. Their measurements of chest, abdomen and pelvic girth were all taken. Blood pressure of each student was noted.

Dysmenorrhoea was meant in this analysis as various types of pains,

experienced by the students just before and during menstruation. Also history of ovulation pain was considered.

In this analysis majority of the students were unmarried and most of them are in the beginning of their menstrual periods.

Comparison between College and High School Students

Not any significant difference was found between these two classes of students, but the percentage of dysmenorrhoea was low in college students because the percentage of married students was high in college; but incidence and severity of dysmenorrhoea was the same in unmarried students of the colleges and high schools.

	Married		Unmarried	
High Schools	566	20	546	
Training Colleges	134	58	76	
Colleges	50	14	36	
	750	92	658	
No change in routine		58	322	
Change in routine		17	199	
Absent from exercise		11	79	
Absent from schools		6	58	
		37%	63%	
		(36.95%)	(63.05%)	

Unmarried students gave the history of dysmenorrhoea more than the married ladies. In this married class of students some of them even had children.

The students from standard ninth, tenth and eleventh were interviewed from different high schools of Ahmedabad city.

Some students from colleges were interviewed. The students below the age of thirty from the Training Col-

lege of Ahmedabad were also taken for this analysis.

was considered as having no infection with mumps.

Severity of Dysmenorrhoea

- (1) Those who had not experienced any pain during menstruation and thus had normal routine life.
- (2) Those students who had some pain during or before the start of menstruation which did not allow them to do hard work, exercise or games.
- (3) Those students who had some pain during menstruation but can attend to their normal work.
- (4) Those students who suffered from the pain so severely that they could not attend the schools or colleges.

Those students who complained of severe dysmenorrhoea were regularly taking some treatment for the relief.

Table I

	No. of cases	Percentage
Symptom free ..	380-4	50.66%
Symptoms ..		
No change in routine	216	28.8 %
Absent from games and exercise ..	90	12%
Absent from schools and colleges ..	64	8.53%
750		

	No mumps	Mumps
Symptom free ..	440	310
Change in routine ..	170	210
Absent from exercise and games ..	128	88
Absent from colleges and schools ..	46	44
	34	30
	55%	45%

Relationship between Exercise and Dysmenorrhoea

On inquiry it was observed that most college students during menstruation were absenting themselves from physical training while high school students were found to do exercise and play games during menstruation in a greater number.

The number of students who daily participate in some sort of exercise and games are very few. In the present series only 40 students gave the history of regular exercise.

	Exercise	No exercise
Symptoms ..	22	358
Change in routine ..	15	201
Absent from exercise	2	88
Absent from colleges and schools ..	1	63
	45%	49.57%

Dysmenorrhoea and Infection (Mumps)

In this series the students who gave the history of mumps were taken. Some of the students could not remember whether they had mumps in the past, so this number

Dysmenorrhoea and Mental Condition

Only nine students had some sort of mental weakness and were asked by their relatives to be absent from schools. It may be that they all had pain and some discomfort during menstruation. Only one student

gave the history of hysterical fit just after the flow of menstruation.

Dysmenorrhoea was experienced by the students a few hours before and after the onset of menstruation. Some of the students had given the history of pain lasting for more than twelve hours, but in the majority of the students the pain did not last for more than ten to twelve hours.

According to Theobald (1946), the pain is distributed over the areas of the body supplied by the first lumbar segment, but others include tenth, eleventh and twelfth thoracic segments. Some students had given the history of nausea, vomiting and fainting attacks during the attacks of pain. The evidence of the rectal and bladder tenesmus was observed in some women students.

Discussion

Drillen's (1946) inquiry among 700 members of the Auxilliary Territorial Service was valuable because it deals with what may be regarded as a cross section of the young adult female population. She found the incidence of pain as high as 60% in women aged 20 and 21, falling slowly in next few years, with a steep drop to 35% by the age of 27 years. In the whole group only

47.5% were completely free from discomfort but only 7.2% had found it necessary to take medical advice about dysmenorrhoea.

J. O. Haman in calculating the industrial importance of dysmenorrhoea figured that if 16.6% of the 32 million women between the ages of 12 and 50 were laid up for two hours during a period or twenty six hours a year, there would be 140 million hours lost annually due to dysmenorrhoea. On the basis of a norm of 2400 working hours a year per person, this loss of time represents an entire year of work by approximately 38,000 women. Not only is the actual time lost of importance, but also the many hours of inefficiency while the woman is in pain and attempting to carry on her job.

Quantity of Flow and Dysmenorrhoea

1. *Scanty*. The flow of blood discharge was taken as scanty when two pads were changed daily by the students.
2. *Moderate*. When students used to change three to five pads daily.
3. *Profuse*. When students require to change more than five pads daily.

Flow of Blood and Dysmenorrhoea

	Scanty	Moderate	Profuse	Amenorrhoea Primary
No change of routine	105	569	72	4
Change of routine	42	218	716	
Absent from exercise	36	150	30	
Absent from schools and colleges	17	58	15	
	10	43	11	
	60%	44.1%	63.88%	

Some fallacies are likely to be in this analysis as standard of cleanliness was not the same in the present group of students.

Also the students who were stout and who perspire more were likely to change the pads earlier.

Some students really wanted to change the pads but could not do so because of school and college working hours and lack of facilities to change the pads.

The material of pads used by all the students of this group was not the same and different materials have different powers of absorption, so the right judgment is not possible by the method of pads.

	Total no. of students
Scanty flow	105
Moderate flow	569
Profuse flow	72
Primary amenorrhoea	4
	750

Here the absenties from schools and colleges may be due to profuse flow of blood rather than actual dysmenorrhoea.

Dysmenorrhoea and Hostel Life

Total students who studied in this group is 134. The students who were staying with their families at home and had to come into the hostel for study were questioned about any change in dysmenorrhoea experienced in the menstrual period.

The incidence of dysmenorrhoea was high in the beginning of their hostel life, but after some periods they got adjusted and forgot the pain syndrome because of their busy life in the hostel.

No change in routine	60
Change in routine	49
Absent from exercise	15
Absent from schools and colleges	10
	134
Total	55.22%

The percentage of pain is not very high. Some of these students are married and have children. These students are training college students who were teachers in primary schools.

Relation of Dysmenorrhoea to the Size of the Family

In this analysis it is found that the only child of the family had more complaints about menstruation as well as of dysmenorrhoea. Also the incidence was high amongst those students whose other family members were experiencing pain during menstruation. This is likely to be more psychological because most of the students observe curtailment of the routine work in their homes.

It has been also found that the students who had left the family environment for the first time had more complaints about dysmenorrhoea than the same group of students who left their homes earlier or had an experience of leaving the house before.

Relation of Dysmenorrhoea with the Length of Menstrual Period

1. *Short.* Short periods were considered in those whose flow of blood lasted from two to three days.
2. *Medium.* Medium periods were considered in those students who gave the history of

TABLE 1
Family and Dysmenorrhoea

	1	2	3	4	5	6	7	8	9	10	11
Rank of the girl ..	1	2	3	4	5	6	7	8	9	10	11
Total number ..	35	40	51	55	109	125	97	93	52	9	44
No pain ..	12	15	23	24	65	67	52	51	25	15	31
Change in routine ..	10	12	15	19	30	34	31	30	19	12	4
Absent from games ..	7	8	7	6	12	10	10	11	7	9	3
Absent from college ..	6	5	6	4	12	14	4	1	1	3	6
Total percentage of discomfort	65%	62.5%	54.9%	56.3%	49.9%	46.4%	46.3%	45.1%	51.1%	48.9%	29.5%

As can be seen the incidence of dysmenorrhoea was highest in the first child. In some cases they were the only child of the family. It is likely that psychological and environmental factors may be responsible for this high incidence in the first and only child.

TABLE 2
Age and Dysmenorrhoea

	15	16	17	18	19	20	21	22	23	24	25	26	Above 27
Age in years ..	15	16	17	18	19	20	21	22	23	24	25	26	Above 27
Total ..	104	97	105	88	72	53	34	39	48	34	26	25	27
Symptom free ..	52	50	52	46	32	25	20	21	27	16	14	13	13
Change in routine ..	29	27	28	27	26	17	8	11	12	12	7	5	7
Absent from games ..	12	12	15	9	8	8	4	4	4	2	3	5	4
Absent from colleges and schools ..	11	8	10	6	7	3	2	3	5	3	2	2	2
Total % of discomfort:	50%	48.43%	50.47%	47.63%	57.77%	41.77%	52.83%	46.16%	43.6%	51.51%	43.6%	48%	51.4%

It can be seen from the above that the incidence of spasmodic dysmenorrhoea is maximum within age group 19 and 20. The slightly higher percentage of dysmenorrhoea in the 15 year group is apparent as the dysmenorrhoea was more of discomfort than actual pain. Similarly, the higher percentage in age group 24 and above 27 was more due to congestive or acquired dysmenorrhoea. These correspond with figures of earlier workers.

the flow of blood from four to six days.

3. *Long.* Long periods were considered in those students who gave the history of bleeding more than seven days.

Lengths of the periods	No. of students
Short less than 3 days	134
Medium less than 6 days	516
Long above 7 days	96
Primary ammenorrhoea	4
	750

Those who gave the history of short periods suffered more from dysmenorrhoea than those who had medium type of duration of blood loss.

Dysm. Married	Schools & Colleges
No change in routine	48
Change in routine	12
Absent from exercise and games	8
Absent from Schools and Colleges	4
Total percentage of discomfort	33%
Unmarried — Total 658	
High School	546
College	36
Training School	76
	112

Dysm. Unmarried	Schools	Colleges
No change in routine	268	51
Change in routine	165	35
Absent from exercise	65	15
Absent from schools and games	48	11
Total % of discomfort	51%	54%

	Short	Medium	Long	Amm.
Total	134	516—4	96	4 = 570
No change of routine	61	289	26	4
Change of routine	40	129	47	
Absent from exercise & games	20	59	11	
Absent from colleges & schools	13	39	12	
	54.40%	43.97%	72.9%	

Dysmenorrhoea and Married Life

	Total no. 750
Total no. of married students	92
History of miscarriage and no full-term delivery	4
Sterility	5
Left husbands' house	11
Married life not more than two years	16
	36

The remaining students had delivered a child, and percentage of dysmenorrhoea is markedly less in them, but three students gave history of sepsis after delivery, and pain of pelvic area has started after the delivery.

It can thus be seen that the incidence of dysmenorrhoea is much higher in unmarried girls than in married girls. There is no appreciable difference between the High School and College girls.

Dysmenorrhoea and Irregularities in Menstrual Periods

Most of the students had some complaint about menstruation. Some had ovulation pain and delayed and irregular periods. Some had given the history of short length of the periods.

	Regular	Irregular
Total	402	348
Symptoms free ..	225	155
Change in routine ..	20	136
Absent from exercise ..	42	48
Absent from College and Schools ..	55	9
Total % of discomfort	44.02%	55.48%

The incidence of dysmenorrhoea was less amongst the students who gave the history of regular menstruation.

Conclusion

Primary dysmenorrhoea does not commence at the menarche but starts usually after the age of 18.

Estimation of pain symptom is very difficult because of the psychogenic factor and criteria of discomfort.

The incidence of dysmenorrhoea varies with age, occupation and social status, family environment and habits, heredity conditions.

Mental conditions make the dysmenorrhoea worse, examination, change of occupation or house (hostel life from home life) previous illness, infectious diseases, temporarily cause painful periods. The most fascinating and illuminating factor of the problem of dysmenorrhoea is its indivisibility from psychological factors. The pain of menstruation is often less complained when the same women go to the hospital for investigation.

The onset of dysmenorrhoea is often associated with change of work or of environment. Primary dysmenorrhoea is almost invariably cured by deliveries.

Primary dysmenorrhoea is often as much dependent on the structural defects in the uterus as it is on psychological factors directly or indirectly.

Acknowledgment

This work was supported by a grant from the Gujarat University. We take the opportunity to thank Dr. M. D. Desai, M.S., F.R.C.S., M.Ch. Orth., Director, School of Post-Graduate Medicine and Research and Superintendent, Sheth Vadilal Sarabhai General Hospital & Sheth Chinai Maternity Hospital, Ahmedabad, for permission to publish this paper. We also thank Dr. K. A. Shah, M.B.B.S., Medical Officer, Gujarat University, for his help in collecting statistical data.

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