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Assessment the effect of menstrual symptoms among female medical students In Tikrit medical college in 2012

ABSTRACT

Menstruation (period) considered as major stages in puberty in girls, it is one of many physical signs that the girls turning into women. Cross-sectional study carried out in Tikrit University College Of Medicine among 120(16%) female medical students during three period, 2012 as stratified simple random sample. A certain questionnaire was given for each students. The range of menarche that reported as common one was between 11-13years by 66.7%(80). 89.2% (107) female students have symptoms associated with menstrual cycle. The most disturbed symptoms was abdominal pain by 72.9%(78). Most of these female use analgesic to relieve symptoms by 72%(77). The highest rate for irregular menstrual cycle reported among those from 1St stage by 26.9% (7) and 50% (8) can't identify the regularity. The menstrual cycle affected by stress 45.9% (55), anemia 14.2%(17) and family history with 45.9%(55). Out of the total (107), 35.5%(38) students had school absent, and 31.8%(34) experienced social withdrawal. Health education on menstrual problems targeting female students and their parents , and routine screening for menstrual problems by healthcare providers , can help prevent the absenteeism .

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Introduction :

The word menstruation is etymologically related to "moon". The terms menstruation and menses are derived from the Latin *menese* (month), which in turn relates to the Greek *mene* (moon) and to the roots of English words month and moon (1). It has suggested that the sensitivity of women's cycles to night lighting is caused by nutritional deficiencies of certain vitamins and minerals(2). The menstrual cycle is the scientific term for the physiological changes that can occur in fertile women for the purpose of sexual reproduction and fertilization, it's under the control of the endocrine system (mainly prostaglandin hormones- PGF₂ alpha), it has divided into three phases : menstruation, proliferative phase and secretory phase. (3) The start of period is known as menarche. During the 1st two years after menarche most cycles are an ovulatory. Normal menstrual cycle lasts from 21 to 35 days, with 2 to 6 days of flow and average blood loss 20 to 60 ml, recurrent bleeding in excess of 80 ml per cycle's result in anemia(4,5,6) Menstrual disorders are a common

presentation by late adolescence, 75% of girls experience some problems associated with menstruation(5,7). Dysmenorrhea is a common problem in women of reproductive age, although primary dysmenorrhea is a painful menses in women with normal pelvic anatomy, usually begins during adolescence(8) Dysmenorrhea prevalence was found indifferent studies : that in Brazil- a population based study 30%, in a study conducted by the medical college Hospital and research center in India in 2011 46.7%, other study done among three medical college in India 73.8%. (5,6,7,8). Affected women experience sharp, intermittent spasm of pain usually concentrated in the suprapubic area. Pain may radiate to the back of the leg or the lower back, systemic symptoms of nausea, vomiting, fatigue, mild fever and headache or light headiness are fairly common. it is usually possible to differentiate dysmenorrhea from premenstrual symptoms based on history (6) Premenstrual symptoms begins-before the menstrual cycle and resolve shortly after menstrual flow begins (5,6,9). The risk factors for

dysmenorrheal are; age < 20 years, null parity, heavy menstrual flow, smoking, high/upper socioeconomic status and attempts to lose weight, physical activity, disruption of social networks, depression and anxiety (6,10). Numerous studies have indicated that a considerable portion of women of reproductive age suffer from menses associated health problems such as premenstrual symptoms, dysmenorrheal and irregular cycles (11,12,13,14,15) specially menstrual disorders are a common presentation by late adolescence, 75% of girls experience some problems associated with menstruation (16) other found 60% to 93% (17,18). In United States, dysmenorrheal is the leading cause of recurrent short-term school absenteeism (11). Several studies have shown that adolescents with dysmenorrheal report that, it affects their academic performance, social and sport activities (5,6,19). The menstrual function is deemed to be affected by stress (20,21,22,23). In Nigeria a study

conducted among female medical students- 2010, found that dysmenorrheal of moderate/ severe intensity correlate significantly with the possibility of having premenstrual dystrophic disorder and had 77 probable psychiatric morbidity (24). These conditions are not life threatening but they can seriously decrease the quality of life of many women and affect their mental health and their productivity (6,24). Therefore this study, concerned about the impact of menstrual disorders in adolescent girls especially of those of medical college students who are already under a lot of academics related stress, we tried to explore the problems faced by female medical students during menses (and to investigate a potential association with social withdrawal and school absenteeism). The objectives are: to recognize the most common age of menarche; the frequent duration of menses, the most associated symptoms and disturbed symptoms, identify the most frequent methods used to relieve symptoms, the rate of regularity and irregularity among stages, recognize the risk factors on menstrual

cycle regularity. The severity of menstrual pain and its relation to school absenteeism and different social activities.

Subject and methods:

This study carried out from March 2012 to April 2012 with objective to rule out the problems related to menstruation. This study conducted in TUCOMI (Tikrit Medical College of Medicine) .A total of 120 females (1st to final years) medical students were chosen as stratified simple random sample (20 students chosen from each stage) . Students was given a questionnaire to complete. The questionnaires prepared before start of the study including most relevant criteria of menstrual cycle elucidated variation in menstrual patterns like length of the cycle , duration of bleeding period, blood loss per cycle, severity of pain , with leading question that yield the main point needed to be proven by objectives including the family history and other detail of collected members, absenteeism from school ,college absence was defined as missing a half day to complete day of college because of pain , social

withdrawal. Pretested questionnaire was done among female students based on pilot study to ensure the clue of the questions. Each participant was given 20 minutes to complete the questionnaire; they were advised not to write their name on the questionnaire and were be told that their responses would remain confidential. To detect the severity of pain we used certain scoring for the items. . 'This study included only unmarried nulliparous , healthy (1st to final) stages female medical students in age group of 18 to 25 years . the participant was purely on voluntarily basis and written consent was taken before initiating the data collection. Data were analyzed by Chi-square test. Statsical significances between groups was tested , P-value was < 0.05 (i.e. statistical significance).

Results

In this study 120 female medical students in TUCOM included , 20 participants (16.6%) was taken from each stage. The age of menarche ranged from 8 to 16years. The most common age of menarche reported between 11 - 13 years age group by 66.7% (80), while 14-16years age

group was have 30.8%(37), those with 8—10 yrs age group have 2.5%(3) and > 16yrs age group have 0%. This represent by figure -1.

The most frequent duration for menarche was reported for 5-7days by

72.5% (87) as followed by 25% (30) for 3-4days duration, 2.5%(3) for >7days duration and 0% for those <3days . this represent by figure-2-

Those whom fresented with symptoms were backache by 65.4%(70), abdominal pain by 55.1%(59), angry and stress 51.4%, breast congestion by 41%(44), tiredness by 40.2%(43)), headache by 20.6%(22) and nausea and vomiting was 18.7% (20). Figure —4-

The most disturbed symptoms were abdominal pain by 72.9%, followed by backache 11.2%(12), stress and angry by 8.4%(9), tiredness 5.6%(6) and breast congestion by 1.9%(2). Figure -5-

While the most drugs use to relieve symptoms was analgesic by 72%(77), and those whom use nothing was 28%(30) and there wasn't other thing use to relieve condition. Figure -6-

Among the female medical students in TUCOM there was 78 have regular menstrual cycle nearly 6.4%(5) was from 1St stage, 19.2%(15)

from 2nd stage , 18%(14) from 3rd stage , from 4th stage was 19.2%(15) ,

18%(14) was from 5th stage and 19.2%(15) was from 6th stage.

While these with irregular menstrual cycle was 26 students divide as following : the highest frequency go to 1st stage by 26.9%(7) followed by 11.5%(6) to those from 5th stage , 15.4%(4) for those from 3rd and 4th stages , 2.5%(3) to those from 2nd stage , and the lowest frequency go to those from 6th stage 7.7%(2), and those whom cannot identify the irregularity was 16% represented as following :

50%(8) the highest frequency go to 1St stage medical students, followed by 18,75% (3) to those from 4th stage, 12.5%(2) go to those from 2nd & 3rd stage, 6.25%(1)

for medical students from 4th stage , and those from 5th stage was 0% table -1-

The last objective find the effect of many factors on menstrual cycle regularity : concern the stress as first factors: 45.9%(55) from those with regular period said yes the stress affect on menstrual cycle regularity ,

19.1%(23) said no , have no effect. From those whom have irregular menstrual cycle , 16.7%(20) said yes , have effect on menstrual cycle regularity, 5%(6) said no. From those whom cannot identify the menstrual cycle regularity , was 9.2% (11) said yes stress affect on regularity and 4.1%(5) said no. Second factors anemia , the result was as following for regular menstrual cycle , there was 5.8%(7) have anemia , 59.1%(71) haven't anemia, for irregular menstrual cycle , 14.2%(17) have anemia and 7.5%(9) haven't . These whom cannot identify the regularity , 11.7%(14) have anemia and 1.7%(2) haven't. Third factor exercise, its effect like the following, for regular menstrual cycle 42.5%(51) said yes we do exercise and 22.5%(27) don't do exercise. For irregular menstrual cycle 2.5%(3) said we do exercise and 19.6%(23) don't do exercise . For those whom cannot identify the regularity was 2.5%(3) do exercise and 10.8%(13) don't do exercise . Forth factor was ovarian cyst , the result was for regular menstrual cycle 1.6%(2) have ovarian cyst and 63.4%(76) haven't. For irregular menstrual cycle 4.1%(5) have ovarian cyst and 17.6%(21) haven't . for those whom

cannot identify the regularity 0% (9) not) have ovarian cyst, 13.3%(16) haven't. For last factor family history the finding was for regular menstrual cycle 45.9%(55) have positive family history and 19.2%(23) have negative family history. For irregular cycle 13.3%(16) have positive family history and 8.3%(10) have negative one. For these whom cannot identify the regularity 8.3(10) have positive family history and 5%(6) have negative result. Table -2-

According to the severity of dysmenorrheal and its association to college absenteeism . out of 53 students with mild form of dysmenorrheal , 12 were absent for the college during their menstruation and out of 225 students with moderate dysmenorrheal 10 were absent and out of 14 with severe dysmenorrheal, 8 were could not attend the college. The P-value> 0.001 which is highly significant. Table -3- Table -4- Shows the association between the severity of dysmenorrheal and social withdrawal . The P-value =0.02 significant.

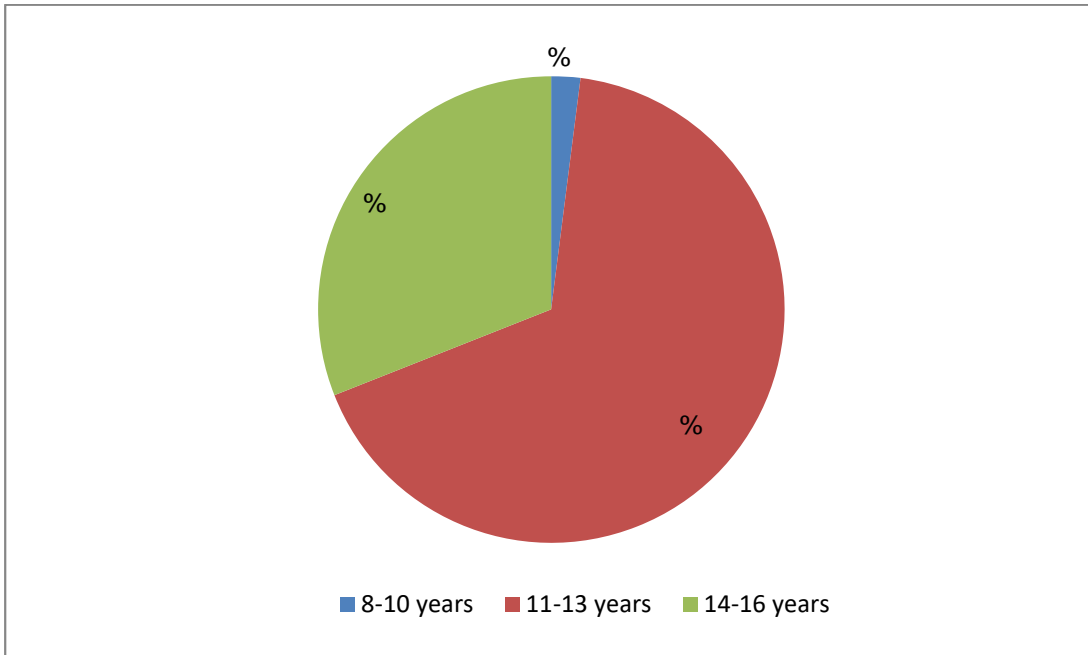


Figure -1- the distribution of the most common age of menarche among TUCOM female medical students .

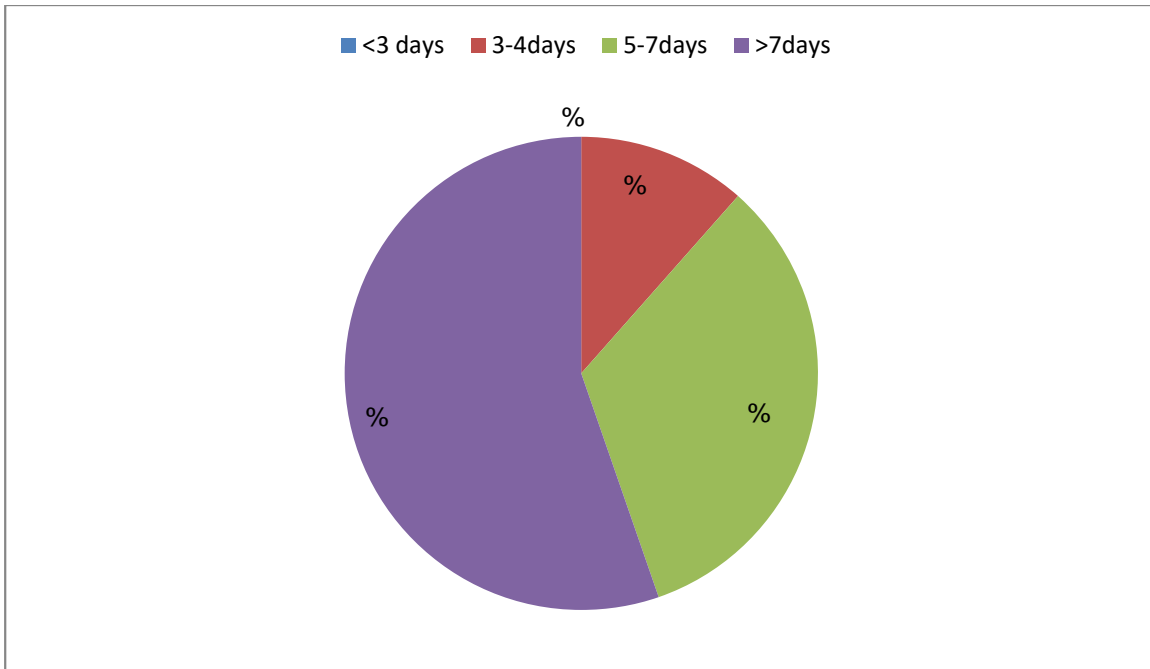


Figure -2- Shows the most frequent duration of menses among female medical students

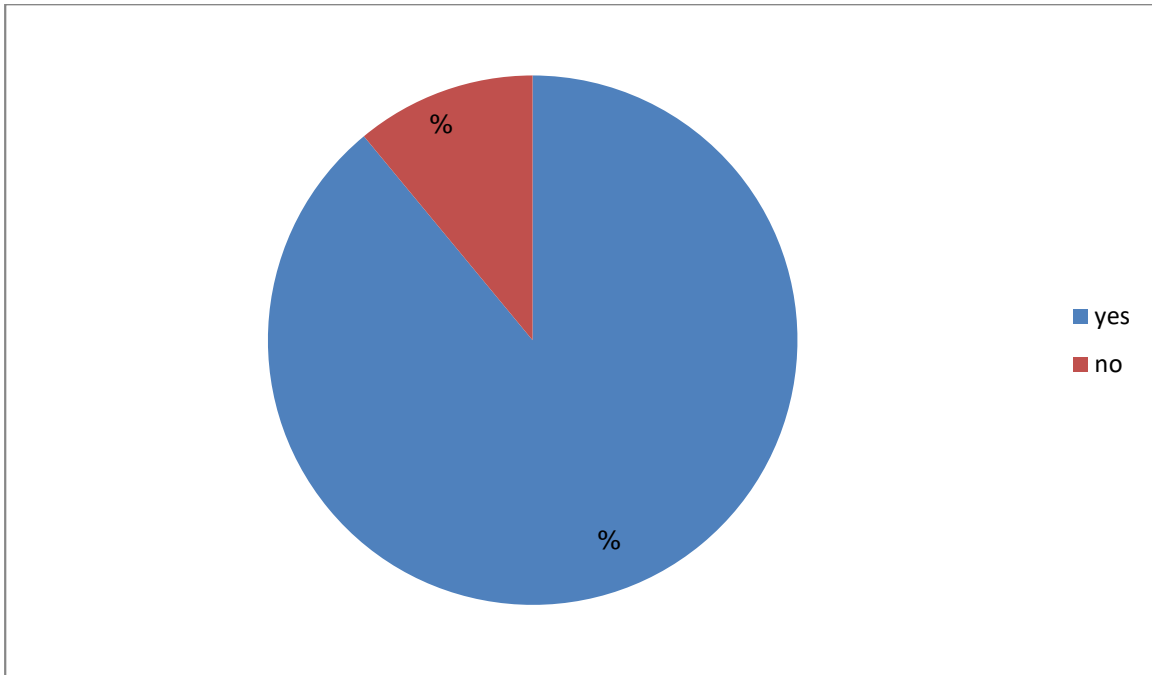
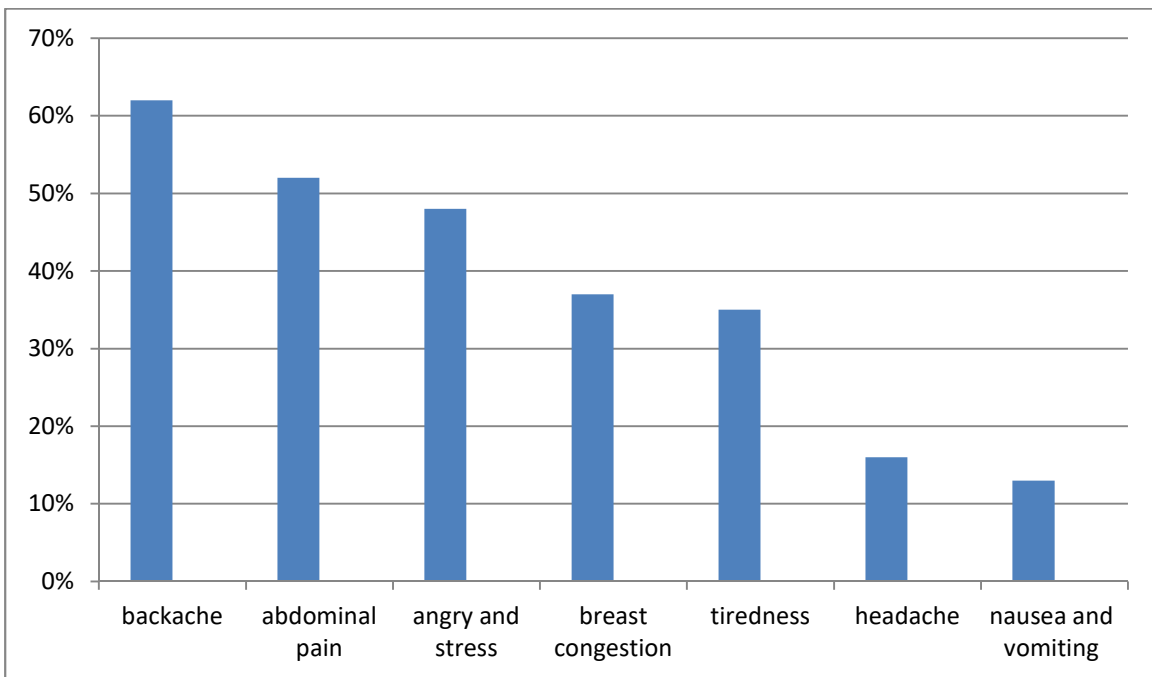


Figure -3- the frequency of female medical students with symptoms of menstrual cycle and whom have not .



Figure—4- the distribution of the most common associated symptoms complained during menstruation

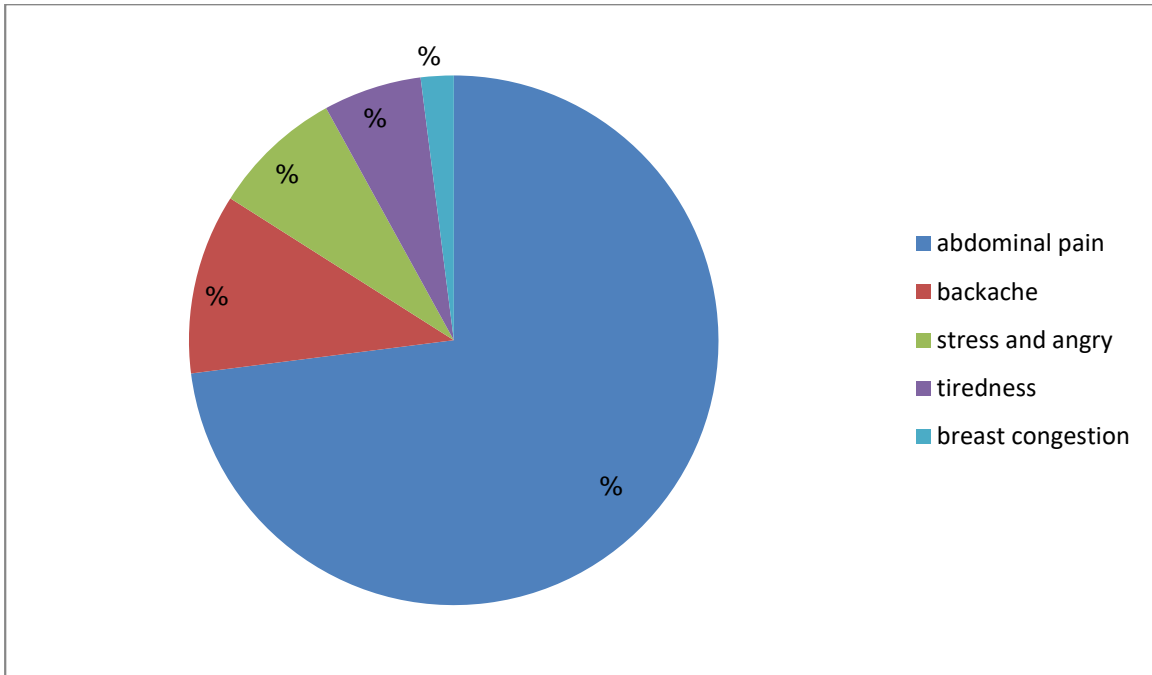


Figure -5- ,Shows the frequency of the most disturbed symptoms interfered with students activities

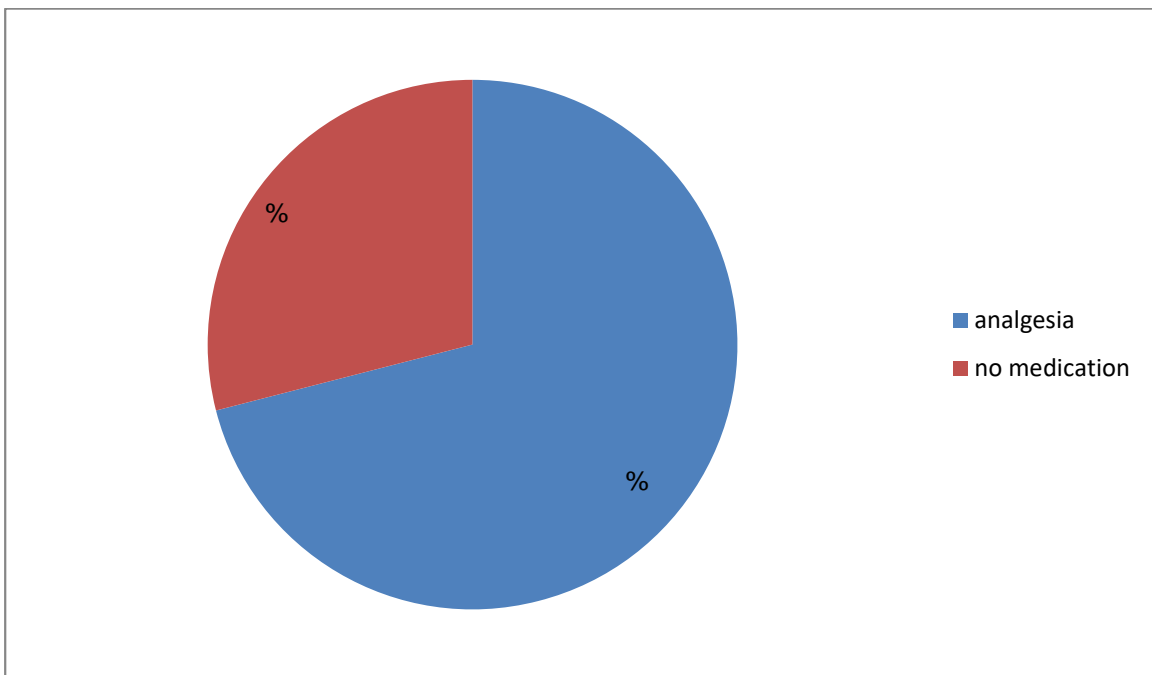


Figure -6- the distribution of analgesic uses among female medical students in TUCOM

Table -1- the distribution of regularity , irregularity and whom cannot identify regularity of menstrual cycle among TUCOM female students

STAGE	REGULAR	IRREGULAR	Cannot identify	total
1st	5 6.4%	7 26.9%	8 50%	20
2nd	15 19.2%	3 11.5%	2 12.5%	20
3rd	14 18%	4 15.4%	2 12.5%	20
4th	15 19.2%	4 15.4%	1 6.25%	20
5th	14 18%	6 23.1%	0 0%	20
6th	15 19.2%	2 7.7%	3 18.75%	20
total	78	26	16	120

Table -2-the frequency of following factors (stress ,anemia , exercise, ovarian cyst and family history) on menstrual cycle.

factors	Regular				Irregularity				Cannot identify				total
	Yes	%	No	%	Yes	%	No	%	Yes	%	No	%	
Stress	55	45.9	23	19.1	20	16.7	6	5	11	9.2	5	4.1	120
anemia	7	5.8	71	59.1	17	14.2	9	7.5	14	11.7	2	1.7	120
Exercise	51	42.5	27	22.5	3	2.5	23	19.6	3	2.5	13	10.8	120
Ovarian cyst	2	1.6	76	63.4	5	4.1	21	17.6	0	0	16	13.3	120
Family history	55	45.9	23	19.2	16	13.3	10	8.3	8.3	8.3	6	5	120

Table-3- the association between the severity of dysmenorrhea and college absenteeism

	mild	moderate	Sever	Total
College				
yes	13	16	10	38
no	48	12	8	69
total	61 (57%)	28(26.2%)	18(16.2%)	107

Chi-square = 9.8 df= 2 p value= 0.02

Table -4- the association between the social withdrawal and the severity of dysmenorrheal among female medical students

	mild	moderate	Severe	total
Social withdrawal				
yes	16	10	15	34
no	45	18	13	73
total	61	28	18	107

Chi-square =7.4 df= 2 p value =0.1 not significant

Discussion

Menstrual cycle is the scientific term for physiological change that occur on fertile women for purpose of sexual reproduction and fertilization (2). menstrual problems are generally perceived as only major health concerns and thus irrelevant to the public health agenda.

Data on frequency of menstrual dysfunction and its impact on health status , quality of life and social integration among women in developing countries are scant. The lack of data and the private nature on menstruation perpetuate the belief that the menstrual complaints do

not warrant the attention of the public health community (7,25) .

Dysmenorrhea and premenstrual syndrome are the commonest gynecological disorders among female adolescents and are among commonest gynecological complaints in young women who present to

doctor today(5,6,26)‘ In our study out of 120 female students, 89.2% had dysmenorrheal . In a study done in Indian medical colleges was found that dysmenorrheal is the most common (73.8%) gynecological problem

associated with their female medical students (5). Several other studies reported its prevalence as 67.7% and 59.7%(27)the ranges of prevalence of dysmenorrheal from 51% to 80% have been reported by many other studies (5). In this study, 16.2%, 26.2% and 57% participants were suffering from severe, moderate and mild grades of dysmenorrheal , agree with study by Jerry et al (27) showed that 14% severe, 38% moderate and 49% subjects were mild suffered, while study by Amita S

et al (5) had found 6.3% severe, 30.3% moderate and 63.2% subjects were mild suffered . The severity of dysmenorrheal varied greatly . these

differences in the degree of pain severity may be related to cultural differences in pain perception and variability in pain threshold (6,26)

this

difference may be related to the sample size , or the severity of pain was

self-reported (limitation) and therefore subject may bias reporting as

what one regards as moderate might regarded as mild or severe by

another . In this study the most common disturbed symptoms was abdominal pain , backache, stress and angry, tiredness and breast

congestion. Similar studies among female high school adolescents showed that the majority of female adolescents identified

dysmenorrheal and premenstrual symptoms as problems that

significantly affected their academic performance (6,19,26).The stress of

medical education and its ability to induce emotional and effective

morbidity might be caused by menses , thus capturing emotional

disturbance that could otherwise have arisen without menses (24),

nevertheless ,with or without mood or anxiety disorder being rule out,

the high rate suggests that they students might have been distressed

by

these symptoms as expressed by them and might therefore need help in alleviating distressful feeling that could reduce not only patient's quality of life , but their working activities (24'28'29). Treatments of dysmenorrhea should be directed at providing relief from cramping pelvic pain and associated symptoms. Non-steroidal anti-inflammatory drugs and oral contraceptives are reported as providing the most effective treatment (6,24). The use on contraceptive by unmarried girls however culturally unacceptable in our traditional and conservative community (23) In this study analgesia was the most frequent drug used to relieve symptoms 72%, this agree with study done in India among female students in college of biologic science in New Delhi which found that 73% of them use analgesia (29) . Although the drugs included analgesic , non-steroidal anti-inflammatory drugs (NSAIDs) and antispasmodics, most self-prescribed(5,6,29).Banikarim , Chaccko and Kelder reported that treatment for dysmenorrheal in Hispanic adolescents included rest (58%), medication (52%), heating pad (26%), tea (20%), exercise (15%) H and/or herbs (7%) (26). It has been reported that the most common

medications used by women with dysmenorrheal were analgesic (53%) V and NSAIDs (42%) (31) In the absence of appropriate pain relief, women with severe dysmenorrheal may not be able to carry out their normal activities (23,25,31) In our study 38.3% of students with dySmenorrheal reported school absenteeism and 31.8% social withdrawal, Agree with study done by Amita Set al (5)had found , 32.6% participants had symptomswhich were sever enough for them to be absent from college and 8.8% were absent from class during menses. Disagree with a study done in SRM medical college Hospital and research center, reported that about 16%tof students had symptoms which were severe enough for them to be absent from college (6). In several studies of young women , rates of absenteeism ranged from 34% to 50% (6,23,26). Other studies showed up to 40% female students in their study reported that their ability to perform work was affected (31,32) .Among the stages , high irregular frequency was among the 1St stage 26.9%, and the regularity increased up to 18% & 19.2% in 5th & 6th stages respectively, this agree with a study done among female medical students in Dimashiq college of medicine , Syria which found that the

regularity increase when stage of study progress by 20% and this may be related to increase health knowledge, so they become able to treat the cause that lead to this irregularity.(33)The introduction of reproductive health component into school and college health education programme could help in providing information; education and support to students regarding reproduction in general and menstrual problems in particular. It is essential to make treatment available for girls. Many girls may feel shameful and reluctant to report dysmenorrhoea and consequently, do not seek medical advice.

It is one of the roles of health care providers in the respective institutions to ask about and screen for dysmenorrhoea and 7 premenstrual syndrome and offer treatment-if necessary(6).

Conclusion& recommendation

In our study out of 120 students, 89.2% had dysmenorrhoea, the most common of the various menstrual problems reported were abdominal pain, backache, tiredness and breast congestion. Menstrual disorders among female students are common and a major problem representing the leading cause of college [class absenteeism. Health education on

menstrual problems targeting female students and their parents, and routine screening for menstrual problems by healthcare providers, can help prevent the absenteeism. With adequate support from parents, school and health care personnel, the problem of loss of invaluable college time can be prevented. As mothers were the main sources of information and knowledge in this study, health professionals should involve mothers in general discussion about menstrual problems and how to deal with them.

References:

- 1-Hopwood NJ et al. The onset of human puberty :biological and environmental factors . In : Bancroft J, Reinish JM. Adolescent and puberty. New York: Oxford university press; 2001 : 29-49.
- 2- Whincup PH et al. Age of menarche in contemporary British teenagers :survey of girls born between 1982 and 1986. *British medical Journal* 2001; 322: 1095-6.
- 3-macquarie J. Below the belt. An owners guide to gynecology, 1St edition. Melbourne: Australia; Text publishing 1994:19-31.
- 4- David LO, Steven FP. Reproductive physiology, Bereck & Novak's" Gynecology. Lippincott William & Wilkins : Wolter Kluwer

business , Philadelphia 2007; 14th edition: 173.

5-Amita S, Dukhu K et al. Prevalence and severity of dysmenorrhea: A problem related to menstruation , among 1st and 2nd year female medical students. *Indian J Physiol Pharmacol* 2008; 52(4): 389-97.

6-Anandha L, saraswathi l et al. Prevalence of premenstrual syndrome and dysmenorrhea among female medical students and it's association with college absenteeism. *Int j ,Biol res* 2011; 2(4): 1011—16.

7-Lee KK ,KaurJ et al. Menstruation among adolescent girls in Malaysia; A cross sectional school survey. *Singapore Med J* 2006 ; 47(10): 874.

8-french L. Dysmenorrhea .*Am Fam Physician* 2005; 71: 285-292.

9- Andrew S, Coco] MD. Primary dysmenorrhea . *Am Fam Physician* 1999; 60: 489-96.

10- Harlaw SD, Park M. A longitudinal study of risk factors for the occurrence , duration and severity of menstrual cramps in a cohort of college women. *BrJ Obstet Gynecol* 1996; 103: 1134-42.

11-Klein J, Litt l . Epidemiology of adolescent dysmenorrhea. *Pediatrics* 1981; 68: 661-664.

12-Flug D, Largo RH et al. Menstrual patterns IN ADOLESCENT Swiss

girls:a longitudinal study. *Ann Hum Biol* 1984; 11: 495—508.

13-dawood MY. Dysmenorrhea. *Clinic Obstet Gynecol* 1990; 33; 168- 78.

14-munster K, Schmidt L et al. Length and variation in the menstrual cycle —across sectional study from a Danish country. *BrJ Obstet gynecol* 1992; 99: 422-29.

15- Johnson SR. Premenstrual syndrome, premenstrual dysphoric disorder and beyond :_a clinical primer for practionniers. *Obstet Gynecol* 2004; 104: 848-59.

16- Johnson SR. \premenstrual syndrome, premenstrual dysphoric disorder and beyond : aclinical primer for practionniers. *Obstet Gynecol* 2004; 104: 848—59.

17-Campbell M, MacGraph P Use of medication by adolescents for the management of menstrual discomfort. *Arch peditater Adolesc med* 1997; 151: 905-12.

18-Alvin P, litt I. Current status of the. etiology & the managment of dysmenorrhea in adolescence . *Pediatric* 1982; 70: 516-525.

19- Wilson C, Keye W. A suvey of adolescent dysmenorrhea and premenstrual symptom frequency. *J Adoles Health care* 1989; 10: 317-33.

20-Woods NF , Most A et al . Major life events ,daily stressors and

premenstrual symptoms. *Nurs Res* 1985; 34: 263-67.

21- Harlow SD, Matansoki GM. The association between weight, physical activity, stress and variation in the length of the menstrual cycle. *Am J Epidemiol* 1991; 133: 38-49.

22—Woods NF, Ienz MJ et al. Perceived stress, physiologic stress arousal and premenstrual symptoms: group differences and intraindividual patterns. *Res Nurs Health* 1998; 21: 511-23.

23-Wang L, Wang X et al. Stress and dysmenorrhea: a population based prospective study. *Occup Environ Med* 2004; 61:1021-26.

24-Baba AI, Abdullah DY et al. Premenstrual dysphoric disorder among medical students of a Nigerian university 2010; 9(3): 112-18.

25-Walraven G et al. Menstrual disorders in rural Gambia. *Studies in family planning* 2002; 33(3): 261-68.

26-banikarim C, Chacko MR et al. Prevalence and impact of dysmenorrhea on Hispanic female adolescents. *Archives of pediatrics and adolescent medicine* 2000; 15(12): 1226-1229.

27- jerry R, Klein MD et al. Epidemiology of adolescent dysmenorrhea. *Pediatrics* 1981; 68: 661-4.

28- Wilson C, Keye W. A survey of adolescent dysmenorrhea and premenstrual symptoms frequency. *J Adolesc Health Care* 1989; 10: 317-22.

29-Pearlstein T, Steiner M. Premenstrual dysphoric disorder: Burden of illness and treatment update. *J Psychiatry Neurosci* 2008; 33: 291-301.

30-Arulkumaran S et al. Essentials of gynecology, 1st edition. New Delhi: Jaypee Brothers; 2004: 199—204.

31-Hillen T. primary dysmenorrhea in young Western Australia women, prevalence, impact and knowledge of treatment. *Journal of adolescent Health* 1999; 25(1): 40-5.

32-Sundell G, Milsom | et al. Factors influencing the prevalence and severity of dysmenorrhea in young women. *Br J Obstet Gynecol* 1996; 97: 588-60.

33—Saar E. Age at menarche: the influence of environmental condition. *International Journal of biometeorology* 1988; 32: 33-35.