

# Impact of menstruation on school performance in Sarwaran and Shahid Khajabawa high school in Erbil city

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## الخلاصة

**المقدمة:** الدورة الشهرية هي حالة نزيف من الرحم و تحدث استجابته لتغيرات هرمونية دورية و التي تؤدي الى الحالات غير المريحة للاناث مثل نزيف الدم من المهبل، اللام، انتفاخ البطن، اوجاع الرأس، التعب، والاحساس بالحم عند لمس الثدي، الغثيان، التقي، الاسهال، تغير المزاج، الازعاج و التعرق والتي تؤثر على الانجاز المدرسي.

**الاهداف:** محاولة ايجاد تأثير الدورة الشهرية و العوامل غير المرضية المتعلقة بها على الانجاز المدرسي و التي تشمل على الحضور والغياب و الواجبات اليومية و نشاطات الاناث.

**طريقة العمل:** دراسة وصفية اجريت على مدرستان ثانويتان في مدينة اربيل و شملت عينه (185) طالب (90 من مدرسة سروران و 95 من مدرسة الشهيد خجه باوه) للفترة من 1/2 و لغايه 2012/8/30. تم جمع المعلومات من خلال المقابلة باستخدام الاسئلة و التي تم تصميمها من قبل الباحثين. اجريت اختيار كاي سيكور لاجاد علاقه بين الانجاز المدرسي و صفات الدورة الشهرية و الحالات غير المريحة.

**النتائج:** نسبة الطالبات المتأثرات بالدورة الشهرية على الانجاز المدرسي كان كما يلي: الواجبات المدرسية (69.2%)، الحضور والغياب (23.2%)، الامتحانات (62.7%) و المشاركة الصفية و تقديم السمينارات (57.1%). اظهرت النتائج هنا لك علاقه ايجابية بين سنة بدايه الدورة الشهرية، كميته النزف و أخذ الدواء خلال الدورة الشهرية على الحالات غير المريحة (الم البطن و الظهر، الغثيان، التقي، القلق النفسي) مع الأنجاز المدرسي.

**الاستنتاج:** ان الحالات غير المريحة التي ظهرت الجسميه و النفسيه كان لها علاقه بالدورة الشهرية و بالنتيجة كان لها تأثير على الانجاز المدرسي.

## Abstract:

**Background:** Menstruation is episodic uterine bleeding in response to cyclic hormonal changes and lead to the following discomforts for the girls: a bloody discharge from the vagina, pains, abdominal bloating, headache, fatigue, breast tenderness, nausea, vomiting, loose stools, mood swings, irritability, and sweating which affect on school performance.

**Objectives:** finding out the effect of menstruation and associated discomforts on school performance including attendance, assignment and activities among female students.

**Methods:** A descriptive study was conducted in the two high school of Erbil city on 185 female students (90 from Sarwaran and 95 from Shahid khajabawa high school) during 2<sup>nd</sup> of Jan to 30<sup>th</sup> of May, 2012. Data were collected by an interview, using a questionnaire designed by the researchers. Chi-square test was used to study the significance of association between school performance and menstrual characteristics and associated physical discomforts.

**Results:** the affected percentage of students by menstruation on their school performance were as following: school homework (69.2%), school attendance (23.2%), exam (62.7%) and participation in class activity and presentation (57.1%). There were significant association between age at menarche, amount of blood flow, taking medication during menstruation and menstrual discomforts (abdominal pain, back pain, nausea and vomiting, anxiety) with school performance.

**Conclusion:** Menstruation characteristics and associated physical and psychological discomforts affect on school performance.

**Key Words:** impact, menstruation, school performance

## INTRODUCTION

Menstruation is episodic uterine bleeding in response to cyclic hormonal changes. It usually occurs at monthly intervals throughout the reproductive period, except during pregnancy and lactation, when it is usually suppressed.<sup>1</sup> Menstruation lead to the following discomforts for the girls: a bloody discharge from the vagina, pains, abdominal bloating, headache, fatigue, breast tenderness, nausea, vomiting, loose stools, mood swings, irritability and sweating which affect on school performance.<sup>2</sup>

Increasing female education is an important policy priority in many developing countries. Girls lag behind boys in schooling attainment, and female schooling is thought to be important for a variety of development outcomes.<sup>3</sup>

The possible role for menstruation in limiting school attendance has received significant attention in popular media, nearly all of which argues that menstruation is likely to be a significant factor in schooling.<sup>4</sup>

Menstruation may seriously affect girls' attendance, attention, and achievement in school in both rural and urban areas. The absence of clean and private sanitation facilities that allow for menstrual hygiene may discourage girls from attending school when they menstruate. In addition, if a girl has no access to protective materials, or if the materials she has are unreliable and cause embarrassment, she may be forced to stay at home while menstruating. This absence of approximately 4 days every 4 weeks may result in the girl missing 10 to 20 percent of her school days. Inevitably, it will be difficult for a girl who misses so much schoolwork to keep up.<sup>5</sup>

A number of researchers and policy-makers have argued the importance of menstruation in limiting school attendance and attainment.<sup>6,7</sup>

By late adolescence, (75%) of girls experience some problem associated with menstruation. Dysmenorrhea which means painful menstruation is the leading reason for school absenteeism among girls.<sup>8,9</sup>

Several studies among American and Australian adolescents have shown that adolescent with dysmenorrhea report that it affects their academic performance and social activities.<sup>10,11</sup> The absenteeism from school and work due to dysmenorrhea ranges from (13 to 51%). Frequent absences have been reported in (5 to 14%) due to severity of symptoms.<sup>12</sup>

The authors did not come across a similar study in Erbil city, so they decided to carry out this study. The objectives of the study were finding out the effect of menstruation and associated discomforts on school performance including attendance, assignment and activities among female students.

## METHODS

A descriptive study was conducted in the two high school of Erbil city (Sarwaran and Shahid Khajabawa), Kurdistan Region, Iraq, between 1<sup>st</sup> of Jan to 30<sup>th</sup> of May, 2012. The sample was collected using the convenience method of sampling. A total of 185 students (90 from Sarwaran and 95 from Shahid khajabawa high school) were included in the study. Data collection started after a formal consent of the Erbil Director of Education and the directors of the high schools, during 1<sup>st</sup> to 30<sup>th</sup> of Feb, 2012. Informed verbal consent was obtained from all participants, and then data were collected by an interview, using a questionnaire designed by the researchers. The questionnaire included demographic characteristics (age, level of education of mother and father, occupation of mother and father and marital status), menstruation characteristics (age at menarche, duration and regularity, discomfort associated with menstruation and taking drug during menstruation period), school performance of female students (attendance, assignment, exam and activities). The students who had any chronic disorder were excluded from the study.

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS version 18). Chi-square test was used to study the significance of association between school performance and menstrual characteristics and associated physical discomforts. A "p value" of  $\leq 0.05$  was considered as statistically significant.

## RESULTS

**Table 1. Demographic data of the study sample**

Variables	No.	%
Student grade		
• 10 <sup>th</sup> grade	57	30.8
• 11 <sup>th</sup> grade	51	27.5
• 12 <sup>th</sup> grade	77	41.6
Educational level of mothers		
• Illiterate	73	39.5
• Primary school	65	35.1
• Intermediate school	26	14
• Secondary school	6	3.2
• Institute and above	15	8.1
Educational level of fathers		
• Illiterate	31	16.8%
• Primary school	56	30.3
• Intermediate school	41	22.1
• Secondary school	19	10.3
• Institute and above	38	20.5
Occupation of mothers		
• Housewife	156	84.3
• Employed	29	15.7
Occupation of fathers		
• Employee	69	37.3
• Worker	92	49.8
• Unemployed	3	1.6
• Death	21	11.3
<b>Total</b>	<b>185</b>	<b>100%</b>

Table 1 show that the highest percentage (41.6%) of the study sample were in 12<sup>th</sup> grade. (39.5%) was the highest percentage of student's mothers who illiterate and (30.3%) of student's fathers were graduated from primary school. The majority of student's mothers (84.3%) were housewife and the most of student's fathers (87.1%) were employee or worker.

**Table 2. School performance and menstruation among study sample**

School performance	No.	%
Effect of menstruation on school homework		
- Yes	128	69.2%
- No	57	30.8%
Effect of menstruation on school attendance		
- Yes	43	23.2%
- No	142	76.8%
If yes, causes:		
1- Physical discomfort	40	93.02%
2- Fear from dirtiness of clothes	3	6.98%
Effect of menstruation on school exams		
- Yes	116	62.7%
- No	69	37.3%
If yes how?		
1- Absent from exam	7	6.1%
2- Get low mark	109	93.9%
Effect of menstruation on participation in class activities and presentation		
- Yes	100	57.1%
- No	85	42.9%
<b>Total</b>	<b>185</b>	<b>100%</b>

Table 2 indicated the affected percentage of students by menstruation on their school performance as following: school homework (69.2%), school attendance (23.2%), exam (62.7%) and participation in class activity and presentation (57.1%). Physical discomforts was greatest cause of absent from the school (93.02%) among students who menstruation affected on their attendance and getting low mark in the exam was allocated 93.9% to the students who mentioned that menstruation affect on their exam.

**Table 3. Association between menstruation characteristics with effect of menstruation on school performance**

School performance	Total	Homework		Attendance		Exam	
		No.(%)	p-value	No.(%)	p-value	No.(%)	p-value
Age at menarche							
• 10-12	65	46(70.8)	0.647	14(21.5)	0.805	30(46.2)	0.013
• 13-15	120	81(67.5)		24(20.0)		78(65.0)	
Amount of blood flow							
• Mild	22	15(68.2)	0.440	3(13.6)	0.094*	13(59.1)	0.030
• Moderate	146	98(67.1)		28(19.2)		80(54.8)	
• Severe	17	14(82.4)		7(41.2)		15(88.2)	
Duration of menstruation							
• 3-5 days	86	59(68.6)	0.990	15(17.4)	0.331	49(57.0)	0.718
• 6-8 days	99	68(68.7)		23(23.2)		59(59.6)	
Taking medication during menstruation							
• Yes	29	28(96.6)	<0.001	12(41.4)	0.002	23(79.3)	0.013
• No	156	99(63.5)		26(16.7)		85(54.5)	

\*Fisher exact test was applied.

Table (3) shows, the mean age ( $\pm$ SD) of the study sample was 17.3 ( $\pm$ 1.6) years old. The mean age ( $\pm$ SD) at menarche was 12.93 ( $\pm$ 0.99). The mean ( $\pm$ SD) duration of bleeding (days of bleeding lasted) was 5.6 ( $\pm$ 1.28) days. There was significant association between age at menarche and amount of blood flow on school exam; also there was significant association between taking medication during menstruation with school performance (homework, attendance and exam).

**Table 4. Association between discomforts during menstruation period and school performance**

School performance	Total number	Homework		Attendance		Exam	
		No.(%)	p-value	No.(%)	p-value	No.(%)	p-value
Abdominal pain							
• Yes	149	103(69.1)	0.775	35(23.5)	0.043	94(63.1)	0.008
• No	36	24(66.7)		3(8.3)		14(38.9)	
Back pain							
• Yes	136	102(75)	0.002	34(25)	0.012	92(67.6)	<0.001
• No	49	25(51)		4(8.2)		16(32.7)	
Nausea and vomiting							
• Yes	28	24(85.7)	0.035	11(39.3)	0.008	17(60.7)	0.785
• No	157	103(65.6)		27(17.2)		91(58.0)	
Headache							
• Yes	30	23(76.7)	0.301	5(16.7)	0.566	21(70)	0.158
• No	155	104(67.1)		33(21.3)		87(56.1)	
Anxiety							
• Yes	95	75(78.9)	0.002	19(20)	0.852	64(67.4)	0.011
• No	90	52(57.8)		19(21.1)		44(48.9)	

Table 4 shows significant association between discomforts during menstruation (abdominal pain, back pain, nausea and vomiting, anxiety) with school performance (homework, attendance, and exam).

## DISCUSSION

The mean age at menarche in this study was 12.93 which is consistent with many other studies.<sup>8,13,14</sup> The mean ( $\pm$ SD) duration of bleeding (days of bleeding lasted) was 5.6 ( $\pm$ 1.28) days which is consistent with other literatures which mentioned that the duration of the menstrual phase is about 5 days.<sup>1,15</sup>

In the present study, 23.2% of the study sample was absent from the school which is inconsistent with other studies in which absenteeism ranged 34 to 50%.<sup>8,11,16</sup> This variation in school absenteeism rate among these studies may be related to the existence of different cultural perception and responses to various gradients of pain and discomfort related to menstruation. Some researchers and policymakers have argued that menstruation may be causing girls to miss a significant number of school days. At the maximum, some have estimated that girls might be missing as much as 10 to 20 percent of school days due to menstruation.<sup>17</sup> In a study done by Liliwati et al on 300 female students in a public secondary school in Malaysia, negative effects of dysmenorrhea (which make physical discomfort like abdominal and back pain) on school activities reported by these adolescent included school absence, class absence, reduced concentration and disability to participate in sport activities.<sup>15</sup> Other studies done worldwide showed that dysmenorrheal was highly prevalent among adolescents ranging from 59.7% to 85% with more than 10% reported affecting school activities.<sup>15</sup> The rate of school absence in a study done by Banikarim et al (2000) on school students was 38%.<sup>10</sup> Oster and Thornton (2010) in four school in Nepal found significant and negative impact of menstruation on school attendance.<sup>3</sup>

In the present study 62.9% of the study sample mentioned that menstruation affect on their homework. Other studies showed that up to 52% of female adolescents in their study reported that their ability to perform work was affected.<sup>8,10,10</sup>

Limitation of this study were small sample size and not studying menstrual disorder like dysmenorrhea and premenstrual syndrome which studied in the most

research on menstruation and its effect on school performance; as a result the comparing of the result of this study with others was difficult.

## **CONCLUSION**

Menstruation characteristics and associated physical and psychological discomforts affect on school performance.

## **RECOMMENDATION**

1. Adolescent girls must be given counseling and should be managed appropriately during menstruation by school administrators.
2. Further studies is needed to determining rate of menstrual disorders like dysmenorrhea and other factors related to managing menstruation such as sanitation and their effects on school performance.

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