

The Impact of Menstrual Periods on Performance of Female Workers

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ABSTRACT

In line with legislative future vision, number of female employees has been increasing in Saudi Arabia. Female workers experience challenges that male counterparts may not face such as monthly physiological and hormonal changes. Consequentially, raising the question; would this affect female work performance? Hence, this study aimed to survey menstrual cycle effects on performance, physical condition and habits of workers for Princess Nourah bint Abdulrahman University (PNU). Target subjects included variable departments and different ages to ensure representatives sample as much possible. Next, data was collected using self-reported surveys approaching convince sampling method. Then, data were coded to SPSS and analysed in forms of descriptive frequencies and percentages with P value less than 0.05 deemed to be significant. 395 useful questioners were analysed. 95% of workers thought that their physical activity decreases during period. 67% of them usually suffer from back pain and 33% reported abdominal pain. Almost halve (47%) feel depressed through their period. More than halve (60%) believed their focus and concentration level is not decreased during menstruation and 73% have never needed to request vacation due to menstrual pain neither permission to leave work 36%. Also, (73%) do not require assistance from colleagues to perform office duties. 50% will take Panadol as analgesic for period pain. As well, 10% will use water bags in workplace to relieve menstruation pain, while (66%) will use herbs to manage period pain. Finally, the study concluded that menstruation do affect PNU workers Physical condition and habits. Yet, they believe their cognitive and focus level is not affected.

Keywords: Female workers; Menstruation; Period; Performance; Riyadh

INTRODUCTION

In the past few decades, the role of women in our society has drastically changed. Women are making tremendous contributions in each sector. Hence, the number of female employees has been increasing in Saudi Arabia in line with the legislative future vision [1]. Female workers experience challenges that male co-workers may not face, such as monthly physiological and hormonal changes and work-life balance, especially workers with children [2].

The menstrual cycle is a normal, monthly, physiological process in women of childbearing age; it begins at puberty and ends at

menopause. It consists of four phases: follicular, ovulatory, luteal/premenstrual, and menstrual. All events of the phases are controlled by the endocrine and nervous systems [3].

Potential effects of menstruation symptoms have been frequently reported in scientific literature and appear to be prevalent. Some variables linked with menstrual cycles are fatigue, pain of various degrees, or somatic and behavioural changes related to the monthly period. These symptoms are often mild but can be severe enough to substantially affect daily activities [4]. Menstrual cycles have a wide variety of signs and symptoms, including mood swings, tender breasts, food cravings, fatigue, irritability, and depression; the pre-menstrual syndrome [5].

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The possibility that female workers might experience temporary cognitive and emotional challenges at the pre-menstrual and menstrual cycles has provoked much controversy. For example, an Australian study explored the potential effects of steroid hormone inconstancy during the menstrual cycle on exercise performance. The study reported menstruation might be associated with elevated body temperature and potentially increased cardiovascular strain, which has a possible negative effect on prolonged exercise performance [6]. Furthermore, an old study in London investigated the adverse effect of the menstrual cycle on normal school work of 217 menstruating girls aged 11 to 17. It found evidence that 1 in every 4 girls had a fall in the weekly mark during menstruation followed by a rise after their period [7]. Moreover, a study explored the effects of pre-menstrual syndrome on work-related quality of life in Turkish nurses. It concluded nurses with pre-menstrual syndrome have decreased levels of work-related quality of life [8]. However, a study from The College of New Rochelle, New York, measured mood and cognitive function simultaneously to determine the degree of depression and anxiety present during menstruation. Subjects were significantly more depressed and anxious pre-menstrually. Yet, this mood change had no effect on the cognitive test performance. It was concluded that the magnitude of the pre-menstrual mood change was not significant enough to affect intellectual function [9].

Generally, less is known about the effect of menstrual cycle and potential associated moods and symptoms in Saudi Arabia. Therefore, this study aims to survey menstrual cycle effects on the performance, physical condition, and habits of workers for Princess Nourah bint Abdulrahman University (PNU).

MATERIALS AND METHODS

This cross-sectional observational study was conducted between December 2018 and January 2019 and recruited a convenience sample. The authors associations as workers in PNU were strategically used to recruit the study sample. The self-administered anonymous questionnaire was a combination of closed-ended questions with qualitative questions to explicit a habitual action. The questionnaire has been used and modified from a previous survey study [10]. The structured questionnaire was written in both English and Arabic; it was divided into 2 major sections. The first section had 6 questions about general information related to the demographic data of participants (such as age, affiliated job, and nature of work); questions about usual average days of the menstrual cycle, physical symptoms associated with the period, and emotional distress were included. The second section contained 10 questions to explore performance, physical condition changes, and habits of the participants during menstruation.

Data of the completed responses were entered to the Statistical Package for Social Sciences (SPSS) version 22 and coded for analysis. Data were transformed to a simple descriptive analysis in the form of frequencies and percentages to summarize the same. The statistical significance level was determined at 95% with a P value less than 0.05 deemed to be significant.

Table 1: Demographics of study's participants.

Demographics	No. (%) of respondents
Age-group (years)	
20-34	125 (32%)
35-44	211 (53%)
45-54	55 (14%)
55-64	4 (1.0 %)
Affiliated college/department	
Main administration	63 (16%)
Research Center	36 (9%)
University Hospital	16 (4%)
The central Library	51 (13%)
College of humanities	91 (23%)
Health college	98 (25%)
College of Science and Computer	39 (10%)
Nature of work	
Administrative office	155 (39 %)
Field Administration	62 (16%)
Educational	134 (34 %)
Lab. Technician	28 (7%)
Researcher	12 (3%)
Doctor	3 (.8%)
Nurse	1 (.3%)
Menstruation Days	
02-Mar	37 (9%)
04-May	138 (34%)
06-Jul	166 (42%)
08-Oct	44 (11%)
>10	10 (3%)
Total	395 (100%)

Ethical clearance for this study was exempted from the Institutional Review Board (IRB) at PNU. Participation was voluntary. A cover page was included, clarifying an overview about the study including the researchers' contact details for related inquiries. Confidentiality of information obtained was

assured by stating that no personal information of participants was required.

RESULTS

Five hundred surveys were recruited, of which 395 completed surveys were analysed with a 79% response rate. Table 1 illustrates the socio demographic data of study subjects. Majority (n=211) of participants were aged between 35 to 44; only 4 subjects were aged above 55. Workers participated from various colleges or departments: mostly 2 affiliated colleges: College of Health and College of Humanities, with percentages of 25% and 23%, respectively. However, the least percentage of participants was reported from the research centre (9%) and the university hospital (4%). Most workers (39%) had an administrative characteristic of their job followed by an educational nature (34%). 166 females (42%) experienced 6 to 7 days of menstruation per month. However, only 3% stated having their period over 10 days a month. Furthermore, a third of the respondents (34%) usually had their menstrual cycle over 4 to 5 days in the month.

Menstruation impact on physical condition

Majority (95%) of participating workers thought their physical activity decreased during period, (Table 2). Four-fifths (79%) reported experiencing colic during their menstrual cycle (Figure 1). Additionally, over half (67%) usually suffered from back pain during their periods; 33% reported abdominal pain. Considerably, 98% of PNU workers reported their need for sleep (38%) and comfort (60%) during the period cycle. However, few reported symptoms like vomiting (5%) and nausea (7%).

Furthermore, exploring emotional wellbeing was considered. Almost half of the respondents (47%) felt depressed, two fourths (41%) felt sad, and many (51%) reported having sleeping difficulties.

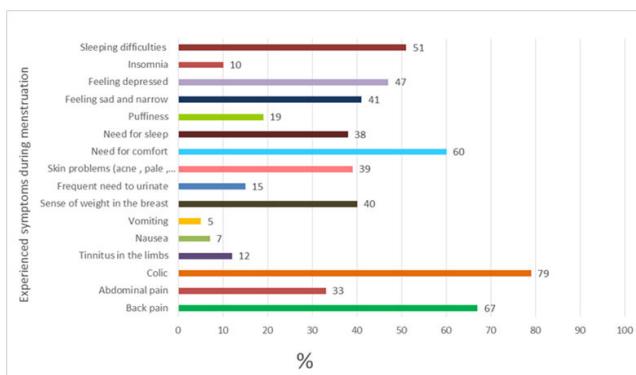


Figure 1: Experienced symptoms during menstruation.

Menstruation impact on work performance

Over half of the participants (60%) believed their focus and concentration level was not decreased during menstruation. 59% noted their performance differed less than usual on their period. Moreover, a major number of subjects (n=289; 73%) reported to never needing to request vacation due to menstrual pain or permission to leave work (n=142; 36%) (Table 2).

Moreover, (73%) did not require assistance from colleagues to perform their duties in the office during their monthly cycle. Remarkably, 44% (n=175) had to request permission to leave work for a day due to period pain.

Table 2: Effect of menstruation on performance and habits.

Performance Related Questions	No. (%) of Respondents	Habits Related Questions	No. (%) of Respondents
Do your usual focus and concentration level decreases during your period?		Do you use analgesics for the period pain?	
No	242 (61%)	Panadol	196 (50%)
Yes	153 (39%)	Profen	142 (37%)
Do your usual physical activity decreases during your period?		No	51 (12%)
No	20 (5%)	Other	4 (1%)
Yes	375 (95%)	Do you take any kind of herbs to relieve period pain?	
Does your performance in work differ during the menstrual cycle?		No	261 (66%)
Be the same as usual	160 (41%)	Yes	133 (34%)
Less than usual	232 (59%)	Have you seen a doctor due to sever period pain?	
Have you ever needed to request a vacation because of menstrual pain?		No	241 (61%)
One day	55 (14%)	Yes	154 (39%)
Two days	31 (8%)	Do you use water bags to relieve the period pain?	
More than two days	18 (5%)	Yes, at home only	122 (31%)
No	289 (73%)	Yes, at work too	38 (10%)
Have you ever asked for permission to leave work because of the menstrual pain?		No	234 (59%)
One day	175 (44%)	Total	395 (100%)
Two days	46 (12%)		
More than two days	31 (8%)		
No	142 (36%)		

Do you require assistance from your colleagues in the office to perform your duties during the period?

No	326 (83%)
Yes	69 (18%)
Total	395 (100%)

Menstruation impact on habits

Half of the workers ($n=196$) will take Panadol as the analgesic for period pain; 37% will take Profen. Nevertheless, a tenth of respondents ($n=51$) will not take analgesics. Furthermore, a third of the ladies ($n=122$) will use water gages to relieve menstruation pain at home; a tenth of them ($n=38$) will use water bags at work.

Moreover, 66% will use herbs to manage period pain. Further in-depth qualitative data were collected regarding this habitual action. The survey question invited the participants ($n=52$) who wished to illustrate to write type of herbs they usually use. Use of cinnamon water, a cumin drink, and ginger and maramia tea were reported.

DISCUSSION

This study explored the effect of menstruation on the physical condition, work performance, and habits of PNU workers. We hypothesized that menstruation does not negatively affect the workers' performance. We used frequency and percentage analysis accounting for the general survey. This allowed us to represent the PNU workers as accurately as possible. Findings suggest that workers are affected physically and habitually; we thus reject our hypothesis. It should be highlighted that in our study, menstruation affected work performance in a lesser degree.

Data of the present study indicate that the most associated menstrual symptoms are colic followed by back pain. This observation is comparable with Indian females. A cross-sectional study conducted among 100 healthy Indian females aged between 11 to 28 reported that prevalence of dysmenorrhea was at 70%, with back pain as the second most prevalent symptom, after tiredness [11]. Note dysmenorrhea can be defined as cyclical abdominal or pelvic pain that might radiate to the back and be related to menstruation [12]. Another consistent finding was reported among Arab females in a study investigating the physical conditions associated with menstrual cycle among the medical students at the Arabian Gulf University [10]. Certainly, differences in specific criteria used to define subjects could contribute to the rate differences between the present study and that of Khamdan et al. [10]. For example, the comparison of the inclusion criteria for our study with the criteria used by Khamdan et al. shows comparable survey questions but different target groups investigated [10].

Furthermore, emotional disturbances during monthly cycle are widely reported. Our data reflects feeling depressed and sad as

frequent mood swings. Concurrent to some reports in the literature, there were findings that the menstrual cycle modulates emotions and cognition. Our findings are in good agreement of the Japanese females presented with human facial expressions as stimuli (happy and angry); they were observed in different phases of menstruation. Findings state that participants had significantly reduced responses to happy faces during their period [13].

Majority of respondents (60%) believed their focus level is not affected. However, a comparable percentage (59%) thought that they worked less than usual during their period. This finding has several possible biases as subjective assessments of the individuals' performance, self-esteem possibility, and general non-criteria-based appraisals. Thus, using key performance indicators compared with self-reporting assessment is recommended.

The results of this study cannot be generalized to the female workers in Saudi Arabia, due to the age of the study population and the proportions of PNU workers by the socio demographic status. Furthermore, the work characteristic of PNU workers is not representative of the total female population.

RECOMMENDATIONS

The researchers recommend organizations to provide stress free environments, comfortable working conditions, and flexible break hours. Supervisors should consider the workload for their staff and encourage cooperation between the team/teamwork. Arranged and announced lectures can be provided to employees to educate them about menstrual periods and associated habits and what they should do/avoid in managing discomfort symptoms. Additionally, educational materials about the usage of pain medications or analgesics must be included, since a significant percentage of female workers use them to relieve period pain.

CONCLUSION

Overall, based on analysed data, this paper concludes that the menstrual cycle might affect physical conditions, habits and, to a lesser degree, the work performance of PNU workers. Participants experienced physical conditions such as colic, abdominal and back pain, and/or feeling depressed during their menstrual cycle. However, they believed that their focus and concentration in accomplishing work-related duties was not diminished. Furthermore, they never needed to request vacations for period pain. Future research should consider the potential effects of food-related habits more carefully; for example, eating chocolate, junk food cravings, and soft drinks' consumption. Considering key performance indicators would be desirable for future works.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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