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COMPARISON OF QUALITY OF LIFE IN WORKING FEMALES WITH OR WITHOUT MENSTRUAL CYCLE

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Abstract

Background

Mood and physical symptoms associated with menstruation may impact a woman's productivity at work and can lead to missed workdays. These factors potentially affect the daily experiences and overall quality of life (QOL) of working women.

Objective

This study aims to investigate the impact of menstruation on the daily experiences and quality of life among working women aged 18-30.

Methodology

This cross-sectional study compared the QOL of working women who are experiencing menstruation with those who are not. Data collection was conducted over a period of six months, using a sample size of 70 working women. The sample size was determined through the Cochrane formula, with a purposive sampling technique applied. A structured questionnaire was used to collect demographic data, while the SF-36 survey was administered to assess quality of life. The participants were asked to read the consent form, and then testify their approval utilizing signature. Data analysis was carried out using SPSS version 27.0, with calculations including paired sample t-tests, means, and standard deviations. Results were presented in tabular form.

Results

Findings revealed that women without a menstrual cycle had significantly higher mean physical function scores (722.39) compared to those experiencing menstruation (464.49). The difference in QOL scores was statistically significant (p = .000) with a large effect size (Cohen's d = -1.267).

Conclusion

Menstruation significantly impacts physical function and overall quality of life among working women. This research highlights the importance of addressing menstrual health to support work productivity and work-life balance in female employees.

INTRODUCTION

The functioning of hormone relations and their impact on the endometrium are essential for a regular menstrual cycle. Period issues may have both indirect and direct effects on a woman's physical and mental health. These conditions generally affect their social and professional lives and may put restrictions on their day-to-day schedule and conditioning (1). Depending on the individual, the duration of a menstrual cycle might range from 28 days to 35 days. (2).

A regular menstrual cycle is an indication of a healthy reproductive system. Previous research has shown that smoking, stress and obesity are the primary risk factors for early menopause and irregular menstruation(3).

In recent times, the notion of 'quality of life' has emerged as a pivotal metric for gauging the impact of diseases on patients. Menstruation-related issues, for instance, are not merely personal inconveniences but significant contributors to school absenteeism. These issues add a layer of complexity to the already tumultuous adolescent phase, affecting both the individuals and their families. Interestingly, the age of menarche is on a downward trend, a phenomenon that amplifies the prevalence and potential severity of menstrual-related morbidities. This shift suggests an increasingly profound negative influence on the lives of young individuals (4).Most common symptom was dysmenorrhea (85% incidence), followed by mental health issues (77% incidence), and exhaustion (71% incidence). Among all women, 38% reported difficulty carrying out all of their daily tasks during menstruation. Only half of the women who reported missing work because of period symptoms told their families that their periods were to blame(5).

According to epidemiologic research, between 5% and 35% of women who are fertile may have some abnormal menstrual symptoms. Out of this, the pre-menstrual phase of the menstrual cycle is responsible for 80% of the irregularity. Menstrual abnormalities have been linked to physical issues as well as work-related and psychological stress, mental illnesses, and other conditions(6).

Evaluating Quality of Life (QoL) is essential for selecting the best treatment and care tailored to a patient's unique health profile, encompassing physical, mental, and social wellness. As stated by WHO, QoL transcends mere health metrics. It encompasses a person's view of their position in the world, woven into fabric of their cultural and value systems and aligned with their aspirations, expectations and concerns all shaped by their surrounding environment. QoL indicators are multifaceted. They encompass one's capacity to continue fulfilling social roles, adapt to changing circumstances, maintain mental well-being, and function within social groups. This intricate tapestry of factors demands a nuanced approach to healthcare, one that recognizes the complexity of human experience and the interplay between various aspects of life (7). Quality of Work Life is dependent on both efficient organizational operations and favorable work environments. Prioritizing employees' abilities, physical and mental health, and performance is crucial for improving and optimizing organizational efficiency. A workload is the total amount of work completed by a team or individual within a given time frame. Even though the term "workload" refers to the quantity of primary duties allocated, it can also endanger the physical and mental well-being of women, lower job satisfaction, and increase job burnout(8).

When women lost 80 milliliters or more of blood per monthly cycle, it was defined as heavy menstrual bleeding (HMB) in the 1960s. A 2007 revision to the original definition by the UK's National Institute for Health and Care Excellence (NICE) defined HMB as excessive menstrual blood loss that has a negative impact on women's physical, emotional, social, and financial well-being, whether noticed alone or in conjunction with other symptoms. It is clear that HMB is common, since reports of its frequency among women vary from 27.2% to 54.0%. Many medical conditions and drugs may lead to HMB. These include fibroids, polyps, adenomyosis, abnormal bleeding, cancer and irregular ovulation. HMB negatively affects women's sexual functioning, physical health, energy levels, social lives and mental health (9).

Up to 90% of women experience some kind of physical discomfort or indicator just before their period begins. The duration, frequency and severity of these symptoms differ across women. While some women may feel completely unaffected, others may have severe premenstrual symptoms that make it

difficult for them to carry out daily tasks. The symptoms may change from one month to the next, but they tend to follow a pattern(10).

Period cramps are a major source of frustration for women since they interfere with their social lives, hinder their capacity to do job-related duties and generally lower their quality of life. (11).

Insights gained from this research can create knowledge about the quality of life in working females with and without consideration of their menstrual cycle that contribute to a better work practice. The objectives of this study were to determine quality of life among working females with and without menstrual cycle and find the menstruation impact on working females' well-being.

HYPOTHESIS

Null Hypothesis: There is no significant difference in quality of life in working females with or without menstrual cycle.

Alternative Hypothesis: There is a significant difference in quality of life in working females with or without menstrual cycle.

Methods

A cross sectional study was conducted to compare the quality of life in working females with or without menstruation. Data was collected from different offices of Lahore, Pakistan. For this purpose, a minimum duration of 6 months was utilized to complete the research. Sample size of 70 cases was taken by using Cochrane formula(12). Non-Probability Purposive sampling technique was used (13). This study was conducted on females from the ages of 18-30 years (12)Females who were not currently consulting with any gynecologist (14), Females experiencing regular menstrual cycles (at least 3 cycles in the past 6 months) (15). Exclusive Criteria was includes females with pregnancy and breastfeeding(12), Females with endometriosis and uterine tumors (13), Female who had given birth (13), Female who had abortion within past years (13).

Data on quality of life in working females and menstrual cycle-related practices collected through questionnaire (SF-36) administered in-person. A multi-method approach was employed to gather data, combining quantitative and qualitative methods to comprehensively examine quality-of-life differences between working females who menstruate and those who do not. A survey was conducted to collect demographic data and assess various quality-of-life factors. Concurrently, focus groups or interviews were conducted to gain in-depth insights into participant's experiences, perspectives and challenges related to menstruation in the workplace. The participants were asked to read the consent form, and then testify their approval utilizing signature. It was assured that the subjects understood all the questions. To make that possible, we often translated the questions into easy language. The entire process was kept professional to ensure everything was managed properly in a calm environment (16). Data was analyzed by using SPSS version 27.0. Mean, Standard deviation, Frequency and percentages presented through tables. The sample t-test was used to determine if there is a significant difference between two groups(13).

Results

The results indicate that females who do not experience menstrual cycles show significantly higher levels of physical function than those who do. The phase without menstrual cycles (196.25) shows better health outcomes compared to the phase with menstrual cycles (141.01). This implies that the menstrual cycle negatively impacts women's overall health, likely due to the periods. The result shows the number of married and unmarried participants' percentages who responded the questionnaire. Out of total 70 females 45.6% were single and 32.2% were married.

Table 1 shows the paired samples correlations show weak and non-significant relationships across all variables. Physical function, role limitations, and general health pairs have low correlations and p-values above .05, indicating no significant relationships between the two groups in these areas.

Table 2 shows the paired samples test results reveal significant differences across all three variables when comparing two groups. For physical function, the mean difference is -257.90, with a t-value of -10.521 and a p-value of .000, indicating a substantial decrease in physical function for one group. Similarly, for role limitations, the mean difference of -156.52 ($t = -8.726$, $p = .000$) suggests a notable reduction in role-related capabilities. Lastly, for general health, the mean difference is -55.24, with a t-value of -6.526 and a p-

value of .000, again highlighting a significant decline in perceived general health in one group. Overall, the results demonstrate that the group comparisons in physical function, role limitations, and general health are statistically significant, with the first group performing worse in all three areas.

Table 3 show substantial differences between the two groups, with the strongest effects seen in physical function and role limitations.

Table 1 Paired Sample Correlations

		N	Correlation	Sig.
Pair 1	PhysicalFunction & W_PhysicalFunction	69	.180	.139
Pair 2	RoleLimitation & W_RoleLimitations	69	.037	.765
Pair 3	GeneralHealth & W_GeneralHealth	70	-.097	.422

Table 2 Paired Test Samples

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PhysicalFunction W_PhysicalFunction	-257.89855	203.61152	24.51195	-306.81138	-208.98572	-10.521	68	.000
Pair 2	RoleLimitation W_RoleLimitations	-156.52174	148.99493	17.93688	-192.31423	-120.72925	-8.726	68	.000
Pair 3	GeneralHealth W_GeneralHealth	-55.23929	70.81529	8.46405	-72.12460	-38.35398	-6.526	69	.000

Table 1 Paired Samples Effect sizes

			Standardizer[a]	Point Estimate	95% Confidence Interval Lower	Upper
Pair 1	PhysicalFunction W_PhysicalFunction	Cohen's d	203.61152	-1.267	-1.581	-.946
		Hedges' correction	204.74305	-1.260	-1.573	-.941
Pair 2	RoleLimitation W_RoleLimitations	Cohen's d	148.99493	-1.051	-1.342	-.753
		Hedges' correction	149.82293	-1.045	-1.335	-.749
Pair 3	GeneralHealth W_GeneralHealth	Cohen's d	70.81529	-.780	-1.046	-.510
		Hedges' correction	71.20308	-.776	-1.040	-.507

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation of the mean difference.
Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Discussion

The Data results of descriptive statistics show a significant difference in mean scores between the menstrual cycle phase and those without menstrual cycle phase, female participants without a menstrual cycle having a significantly higher mean physical function score (722.39) in comparison to those with a menstrual cycle phase (464.49). This outcome is further supported by the paired samples t-test, which shows a highly significant difference (p = .000) with a large effect size (Cohen's d = -1.267). Findings from these results suggest that females without menstrual cycles exhibit a substantially better level of physical function compared to those with menstrual cycles phase.

Weidauer L, Zwart MB, et al. conducted a study in 2020 on 50 college females to find out effect of menstrual cycle on neuromuscular function. The

study results indicated that body strength and power reduce in menstrual phase as compared to the without menstrual phase. Findings where strength was lower during menstrual phase (30.1±0.7kg) than during without (31.5±0.7 kg, p=0.003) and p<0.001). This is maybe due to the hormonal changes during menstrual cycle. These finding are similar to the findings in the current study(17).

ME Schoep and colleagues conducted a study in 2019 to gain a global understanding of pregnancy symptoms and their impact on daily activities. Outcome measures included menstrual symptoms, pain or severity scores, and impact on daily activities. The findings showed that 38% of women were unable to perform all daily activities during pregnancy. The results of this study showed a positive association between the two outcomes.(5).

Another study by Shu-Chuan Yu et al in 2021 revealed similar findings and reasons. The Q-factor analysis showed that five solutions accounted for 48.90% of the total variation. Studies show that menopause symptoms can interfere with working with colleagues, lead to poor work performance, cause stress due to severe symptoms, face 50 different experiences with no clear pattern, and make it difficult to self-regulate with or without drugs.(11).

The phase without menstrual cycles (196.25) indicates better health concerns as compared to the phase with menstrual cycles (141.01). This suggests that menstrual cycle put negative effect on the general health of females due to the fatigue and pains caused during this phase.

In the absence of a menstrual cycle, women demonstrated reduced performance in climbing stairs and walking long distances compared to when they were menstruating (14.4) and (26.7) respectively. This indicates that women without a menstrual cycle may have nutritional deficiencies that limit their physical activities. In 2019, Fayet-Moore, F et al conducted a study which found that low levels of 25-hydroxyvitamin D (25OHD) were linked to a higher risk of osteoporosis and other diseases. Due to the indoor work environment in offices, this group may be more prone to 25OHD insufficiency. In a study involving healthy office workers, the researchers aimed to identify seasonal variations in 25OHD and to explore how sun exposure, skin pigmentation, physical activity (PA), and nutritional intake affect serum 25OHD levels (18).

Female hormones can cause several changes during menstrual phase which effects the life roles of all the females, working females, housewives, married and non-married. As for working females who are determined to excel in their fields work really hard to achieve their goals. During tough working hours the menstrual symptoms can cause early fatigue, pain, mood irritation and limitations related to work. A study conducted on practitioners and female sports players in 2021 indicates that proper individual education, adaptations, exercises, good eating hobbits and life style modifications can help working and all the females to perform their life roles more effectively during menstrual cycle.(19).

Conclusion

Menstruation significantly impacts physical function and overall quality of life among working women. This research highlights the importance of addressing menstrual health to support work productivity and work-life balance in female employees.

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