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Job Satisfaction among Health Professionals Working at Makkah Primary Healthcare Centres: A Cross-Sectional Observational Study

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Abstract **Introduction:** Job satisfaction among healthcare workers influences the organizational performance of primary healthcare centers (PHCs) and the quality of care. However, the specific factors affecting job satisfaction within PHCs remain underexplored. This study investigates job satisfaction among healthcare workers in PHCs and assesses the relationship between job satisfaction and various worker characteristics. **Methods:** A cross-sectional observational study was conducted using a convenience sampling strategy. An electronic questionnaire was distributed to healthcare workers across 52 PHCs in five geographical areas in Makkah, Saudi Arabia. Univariate, bivariate, and multivariate statistical analyses were performed. **Results:** A total of 654 healthcare workers aged 21 to 55 years participated in this study, of whom 59% were male. Female healthcare workers exhibited lower satisfaction "Teamwork" ($\beta = -1.00$, $p = 0.007$) and "Leadership" ($\beta = -0.64$, $p = 0.033$) within the PHCs. Participants aged 35-44 and 45-54 reported lower satisfaction in the "Communication" ($\beta = -1.08$, $p = 0.026$; $\beta = -1.27$, $p = 0.025$). Additionally, healthcare workers with 5 to less than 10 years and those with 10 or more years of experience reported lower satisfaction with "Reward/Recognition" offered in PHCs ($\beta = -2.16$, $p = 0.038$; $\beta = -2.07$, $p = 0.044$). **Conclusion:** Examining the influence of various factors on job satisfaction scores suggests that fostering an environment that prioritizes teamwork, communication, and recognition could increase job satisfaction among healthcare workers and ultimately improve overall healthcare outcomes.

Key Words Job Satisfaction, Primary Care, Healthcare Workers, Saudi Arabia

INTRODUCTION

Job satisfaction reflects employees' sense of fulfillment and engagement in their work. High satisfaction fosters stronger organizational performance, commitment, and teamwork, whereas dissatisfaction in high-stress settings such as healthcare can undermine morale and ultimately compromise the quality of care [1-3]. Beyond its direct link to care quality, satisfaction reflects how effectively an organization manages its workforce pressures, communication, and leadership systems across different factors. Gender-based differences are an important factor influencing job satisfaction in healthcare settings. For example, a study conducted in 2022 among nurses in primary care found that men record a higher job satisfaction than women, on the other hand among physicians, women record higher satisfaction than men [4]. This pattern suggests the interplay between gender, professional role, and team dynamics, which may influence how professionals experienced teamwork and leadership in the organization. [4,5]. Experience also affects job satisfaction. Fewer experienced staff may report higher satisfaction in their earlier career, but it may decline over the time [6].

This highlights the importance of organizational efforts to support healthcare professionals throughout their professional journey and significant impact they have on job satisfaction. As a part of the Saudi ambitious Vision 2030, the Ministry of Health (MOH) in Saudi Arabia is making significant investments to transform and enhance the quality of the healthcare system [7]. Primary healthcare centers (PHCs) are the cornerstone and the first point of contact with the healthcare system. Thus, the MOH is prioritizing the strengthening of PHCs to improve community health and well-being significantly [7].

Many factors are associated with enhancing the quality of PHCs, one of which is job satisfaction among healthcare professionals in the workplace environment [8]. Job satisfaction among healthcare professionals directly contributes to strengthening the overall effectiveness and efficiency of PHCs. This fact is reflected and supported through many studies related to the benefit of robust primary care frameworks [8-10]. This is often influenced by factors such as sufficient resources, enabling leadership, effective communication, professional growth opportunities, and teamwork [11,12]. According to Nauman and his colleagues, empowerment and training create a sense of growth and independence [13]. Another study investigated the impact of internal communication and compensation on employee performance satisfaction by utilizing a quantitative approach with questionnaires [14]. They found that internal communication and compensation have a significant positive effect on employee performance and satisfaction [14]. All these factors are crucial in bringing up job satisfaction and, in turn, drive PHCs quality. Consistent findings have been reported in literature indicating that satisfied health workers are more likely to improve patient outcomes and reduced turnover and recruitment costs [15]. Thus, it is crucial to understand how to improve a job satisfaction among health professionals in healthcare settings to cultivate an optimal environment for better healthcare outcomes.

According to Locke's range of affect theory, job satisfaction is determined by the discrepancy between what a person wants from the job and what he or she perceives he or she gets from the job [16]. It postulates that the smaller the discrepancy, the higher the degree of satisfaction, as one is satisfied when their expectations closely align with reality. On the other hand, if the gap is great, then dissatisfaction occurs, highlighting unmet needs or expectations. The essence of this is to understand employee preference and match the workplace conditions to meet the expectations to increase the level of workforce contentment and motivation. In this study, Locke's range-of-affect theory guided the selection of satisfaction domains, such as reward, leadership, and work conditions, representing key elements of perceived fulfillment versus expectations. While no a priori hypotheses were tested due to the exploratory design, the theory provided a conceptual lens for interpreting the relationships observed between demographic characteristics and satisfaction domains.

Although several Saudi studies have investigated job satisfaction in hospital settings or among physicians only [17,18], there remains a lack of research focusing specifically on PHCs and multidisciplinary primary care teams in Makkah. Only limited local evidence addresses job satisfaction at the PHC level [19], despite its central role in achieving Vision 2030 goals. Most of the research so far has focused on broader job satisfaction in healthcare contexts in a national level, hence leaving a big gap in understanding the unique challenges faced by the workers in PHCs in Makkah. Makkah presents a particularly distinctive context for such investigation. As the host city for Hajj and Umrah, its healthcare system experiences periodic surges in patient volume and uniquely diverse population demands. These seasonal pressures, combined with workforce diversity and continuous service expectations, make Makkah's PHCs a revealing case for understanding workforce satisfaction under high operational load. Insights from this region can inform similar high-demand urban centers across Saudi Arabia.

This study, therefore, attempts to fill this gap by following Locke's range of affect theory, demographic factors such as age, gender, and experience can shape how individuals value and interpret different aspects of their work environment such as leadership, teamwork, and rewards, which in turn influence their overall job satisfaction among PHC workers in Makkah city. Accordingly, the study examines the association between demographic characteristics and total job satisfaction scores among PHC workers in Makkah City and assesses whether these characteristics affect key domains of satisfaction, including teamwork, leadership, rewards, empowerment, training, work, communication, and work conditions. The findings are expected to inform targeted policies that enhance job satisfaction in PHCs by addressing demographic differences and strengthening key organizational domains.

METHODS

Study Design and Participants

A cross-sectional observational study was conducted to investigate job satisfaction among healthcare workers at PHCs in Makkah City, Saudi Arabia. This study was conducted between October and December 2022. Out of 82 PHCs, 52 PHCs in five geographical areas in Makkah city were accessible to recruit the sample. This study used a convenient sampling technique due to its accessibility and practicality in reaching the target population. The sample size of 900 healthcare workers in the selected PHCs was calculated using the Raosoft sample size calculator (http://www.raosoft.com/samplesize.html), with the margin of error, confidence level, and anticipated response rate set at 5%, 95%, and 50%, respectively. All male and female healthcare workers aged 18 years and older and working either as clinicians or administrators at the time of data collection in PHCs in Makkah city were considered eligible for participation in the study.

Data Collection

An electronic survey questionnaire was programmed into Google Forms. A link to the online survey, including information about the study, such as a brief description of the study and the research team contact information, was sent to healthcare professionals through the WhatsApp application, a common and legitimate social media channel used in the healthcare sector.

The survey had two parts. The first part gathered information on participants' demographic characteristics, including age, gender, marital status, occupation, and work

experience. The medical license status was also assessed to differentiate between medical healthcare personnel (clinicians) and administrative personnel (non-clinicians) who are not required to have a medical license to practice in the field. The second part inquired about job satisfaction. This part of the questionnaire includes 34 closed-ended questions that are grouped into eight domains of job satisfaction (teamwork, leadership, reward/recognition, empowerment/participation, training/development, working hours, work conditions, and communication). This questionnaire was adopted from the validated web-based Job Satisfaction Questionnaire (JS-Q) [20], and participants' responses were captured on a five-point Likert scale, ranging from 1 'Strongly Disagree' to 5 'Strongly Agree' to measure their degree of agreement across the various job satisfaction domains. To avoid missing data, responses to all fields were made required. A forward-backward translation method was used to translate the questionnaire from English to Arabic, ensuring accuracy in language. The reliability of JS-Q questionnaire as an instrument was assessed prior use. The Cronbach's alpha (α) was calculated for each domain: Teamwork (α = 0.95), Leadership (α = 0.94), Reward/Recognition (α = 0.89), Empowerment/Participation (α = 0.93), Training/Development (α = 0.95), Working hours (α = 0.87), Work condition (α = 0.86), and Communication (α = 0.95). Appendix A represents the questionnaire used in this study.

Statistical Analysis

Participants' demographic characteristics were summarized using descriptive statistics, including means and standard deviations. Independent samples t-tests were used to compare means between two groups, and ANOVA was employed for comparisons involving three or more groups. To investigate the relationship between demographic characteristics (independent variable) and both overall job satisfaction score and its key domains (teamwork, leadership, rewards, empowerment, training, work, communication, and work conditions) (dependent variable), multiple linear regression analysis was conducted. Statistical significance was defined as a two-sided p-value ≤0.05. All analyses were performed using Stata version 14.2 (StataCorp, College Station, TX, USA).

RESULTS

Participants' Characteristics

This study included 654 healthcare workers working at the PHCs in Makkah city, Saudi Arabia, with a response rate of 72.7%. Most of the participants were male (59%) and married (80%) individuals. Participants' age ranged from 21 to over 55 years, with the largest proportion of respondents falling within the 35-44 years age group (44%). The majority of the participants reported having 10 or more years of professional experience (63%). Among the healthcare workers, clinicians constituted the largest group (70%), followed by non-clinicians (30%). The mean of the total job satisfaction score was 130.91 (range: 34-170, SD: 26.79).

Table 1: Characteristics of Participants from PHCs in Makkah city, Saudi Arabia (N = 654)

Characteristics	Frequency	Percent	Mean (SD)
Gender			
Male	383	58.56	131.53 (1.45)
Female	271	41.44	130.04 (1.44)
Age			
21-34	177	27.06	131.51 (26.26)
35-44	288	44.04	130.04 (27.47)
45-54	148	22.63	130.80 (25.33)
55+	41	6.27	134.78 (29.74)
Marital status			
Single	90	13.76	129.77 (29.25)
Married	523	79.97	130.91 (26.77)
Divorced	33	5.05	134.30 (18.39)
Widowed	8	1.22	129.62 (31.58)
Work experience			
<1 year	33	5.05	141.73 (23.91)
1 to <2 years	36	5.50	129.69 (26.22)
2 to <5 years	63	9.63	122.17 (32.76)
5 to <10 years	109	16.67	130.97 (24.44)
>10 years	413	63.15	131.47 (26.36)
The nature of work			
Clinicians	455	69.57	129.44 (26.94)
Non-clinicians	199	30.43	134.27 (26.19)
Medical License			
Yes	489	74.77	129.63 (26.46)
No	165	25.23	134.69 (27.45)

Table 2: Association between healthcare workers' characteristics and overall score of job satisfaction (N = 654)

	Total job satisfaction				
Characteristics	β estimates	Std. error	p-value	95% CI	
Gender					
Male	Reference				
Female	-1.97	2.29	0.392	-6.48	2.54
Age					
21-34	Reference				
35-44	-3.78	3.19	0.236	-10.05	2.48
45-54	-4.16	3.72	0.264	-11.47	3.15
55+	-1.24	5.34	0.816	-11.74	9.25
Marital status					
Single	Reference				
Married	1.69	3.39	0.618	-4.97	8.36
Divorced	6.79	5.78	0.240	-4.56	18.15
Widowed	1.12	10.11	0.911	-18.72	20.97
Work experience					
<1 year	Reference				
1 to <2 years	-10.91	6.55	0.096	-23.77	1.95
2 to <5 years	-18.21	5.92	0.002	-29.85	-6.57
5 to <10 years	-9.11	5.61	0.105	-20.12	1.90
>10 years	-7.71	5.52	0.163	-18.55	3.13
The nature of work					
Clinicians	Reference				
Non-clinicians	1.44	3.54	0.684	-5.51	8.39
Medical License					
Yes	Reference				
No	2.35	3.75	0.531	-5.02	9.73

Mean scores of the total job satisfaction, stratified by these demographic characteristics, are also presented in Table 1.

Job satisfaction levels among males and females across several domains are almost similar, with male employees exhibiting a slightly higher level of satisfaction than females in most domains (Figure 1). The level of job satisfaction was highest in the domains of teamwork, whereas

Table 3: Association between healthcare workers' characteristics and the different domains of job satisfaction, in Makkah city, Saudi Arabia (N = 654)

	Domains of Job Satisfaction															
	Teamwork		Leadership		Reward/ Recognition		Empowerment/ Participation		Training/ Development		Working Hours		Communication		Work Conditions	
Characteristics	β	p-value	β	p-value	β	p-value	β	p-value	β	p-value	β	p-value	β	p-value	β	p-value
Gender																
Male	Reference															
Female	-1.00	0.007	-0.64	0.033	0.56	0.183	0.03	0.928	0.001	0.996	-0.44	0.101	-0.36	0.296	-0.11	0.661
Age																
21-34	Reference															
35-44	-0.99	0.054	-0.48	0.254	-0.16	0.776	-0.90	0.068	0.12	0.851	-0.18	0.624	-1.08	0.026	-0.08	0.818
45-54	-1.19	0.048	-0.82	0.095	-0.24	0.728	-1.03	0.074	0.20	0.779	0.14	0.735	-1.27	0.025	0.05	0.900
55+	-0.12	0.885	-0.31	0.659	-0.01	0.994	-0.45	0.580	0.83	0.428	0.12	0.842	-1.16	0.151	-0.13	0.827
Marital status																
Single	Reference															
Married	0.68	1.46	0.39	0.374	-0.06	0.923	0.54	0.297	0.35	0.593	-0.25	0.532	0.03	0.954	-0.01	0.969
Divorced	2.35	0.012	1.32	0.084	-0.02	0.978	1.28	0.151	1.25	0.269	0.11	0.870	0.45	0.602	0.03	0.953
Widowed	1.46	0.373	-0.10	0.940	-0.21	0.911	-0.24	0.875	1.26	0.524	-0.52	0.659	-0.45	0.765	-0.05	0.960
Work experience																
<1 year	Reference															
1 to <2 years	-0.11	0.911	-0.94	0.277	-2.61	0.032	-0.81	0.422	-2.71	0.036	-1.36	0.079	-1.47	0.138	-0.87	0.232
2 to <5 years	-1.99	0.039	-2.38	0.002	-2.98	0.007	-1.94	0.035	-3.67	0.002	-1.68	0.016	-1.87	0.037	-1.65	0.012
5 to <10 years	-1.07	0.236	-1.09	0.140	-2.16	0.038	-0.39	0.652	-1.96	0.075	-1.22	0.065	-0.47	0.575	-0.71	0.259
>10 years	-0.54	0.546	-1.21	0.098	-2.07	0.044	-0.30	0.718	-1.96	0.070	-1.00	0.125	-0.39	0.641	-0.21	0.722
The nature of work																
Clinicians	Reference															
Non-clinicians	-0.04	0.936	0.15	0.734	-0.74	0.260	0.17	0.749	0.25	0.712	0.47	0.253	0.52	0.333	0.63	0.106
Medical License																
Yes	Reference															
No	0.24	0.683	-0.13	0.792	0.59	0.396	0.37	0.523	0.20	0.785	0.82	0.065	0.22	0.697	0.02	0.953

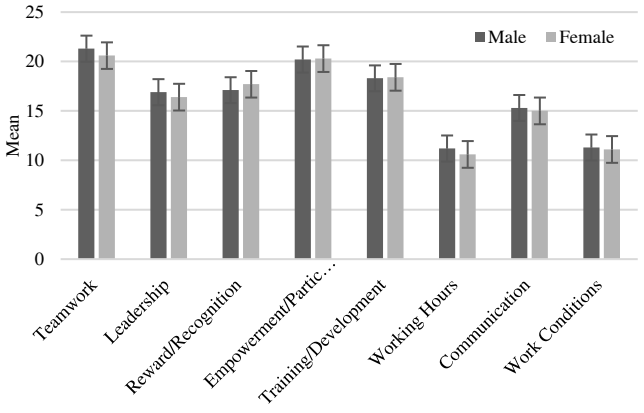

Figure 1: Job Satisfaction Domains Distribution by Gender (N = 654)

dissatisfaction (Male: 21.3, Female: 20.6) and "Empowerment/Participation" (Male: 20.2, Female: 20.3) while the lowest levels of job satisfaction among both genders were observed in "Working Hours" (Male: 11.2, Female: 10.6) and "Working Conditions" (Male: 11.3, Female: 11.1) (Figure 1).

Association Between Characteristics of Healthcare Workers and Job Satisfaction

Examining the relationship between demographic and work-related characteristics of healthcare workers and their overall job satisfaction score shows that work experience was negatively associated with total job satisfaction score. Specifically, healthcare workers who had work experience between 2 to 5 years had significantly lower total job satisfaction score compared to those with less than 1 year of work experience (β = -18.21, p = 0.002), as shown in Table 2.

The relationship between participants' characteristics and each domain of job satisfaction shows that female health workers had a significantly lower level of satisfaction in teamwork (β = -1.00, p = 0.007) and leadership (β = -0.64, p = 0.033) domain compared to male healthcare workers. Compared to young healthcare workers (aged 21-34 years), those aged 35- 44 and 45-54 showed lower satisfaction with communication (β = -1.08, p = 0.026) and (β = -1.27, p = 0.025), respectively. Also, divorced healthcare workers had a significantly higher level of satisfaction in teamwork (β = 2.35, p = 0.012). Compared to those with less than 1 year of experience, healthcare workers with 2 to less than 5 years of experience consistently had significantly lower satisfaction across all eight domains of job satisfaction. Healthcare workers with 5 to less than 10 years and 10 or more experience in their work had lower satisfaction in reward/recognition domain (β = -2.16, p = 0.038; β = -2.07, p = 0.044, respectively).

DISCUSSION

This study offers important insights into job satisfaction among healthcare workers in Makkah's PHCs, which is in line with Saudi Arabia's Vision 2030 objectives aimed at improving healthcare quality. The key findings reveal how demographic factors influence the job satisfaction of healthcare professionals, with significant differences noted in relation to age, gender, and work experience. The study uncovers the impact of demographic factors and work history on the various domains related to job satisfaction,

including teamwork, leadership, communication, and recognition. In-depth analysis also revealed that varying age ranges and years of work experience can result in different job satisfaction scores among healthcare workers.

The study results uncovered lower satisfaction levels in teamwork and leadership domains among female healthcare workers compared to males, suggesting gender-based differences in healthcare workplaces. This finding aligns with recent research that indicates a negative correlation between satisfaction and organizational and leadership barriers that women experience in healthcare sector (such as limited leadership opportunities and decision-making participation) [17,21]. Therefore, certain steps should be taken to increase women's participation in decision-making, establish career paths, and improve leadership assistance [17,21]. Addressing these issues through gender-inclusive policies and programs such as development, mentorship, and sponsorship programs could significantly improve satisfaction levels [22] and align with Vision 2030's emphasis on women's empowerment [23].

The analysis showed that healthcare workers aged 35-54 and 45-54 years had lower scores on communication domain of job satisfaction than those aged 21-34. The literature also indicates generational category mediates the relationship between organizational communication and job satisfaction [24]. The age disparity may be attributed to the evolving communication styles resulting from the communication dynamic of each generation and the integration of digital communication tools within the Saudi healthcare system [25]. The transition to these new communication channels can create challenges for older employees, who may struggle to adapt, thereby impacting their job satisfaction [26]. In contrast, younger professionals, who are generally more adaptable and comfortable with technology, may experience fewer difficulties in communication [27,28]. Our findings align with previous research indicating a higher intention to quit among healthcare professionals dissatisfied with communication [29]. Therefore, addressing communication-related issues within the healthcare workforce is critical to improve job satisfaction across different age groups; thus, mitigating turnover rates and preventing further shortages in the healthcare sector.

Furthermore, this study indicates lower job satisfaction for recognition and rewards, particularly among healthcare workers with more than five years of work experience. In the context of Locke's range of affect theory, the study finding suggests potential discrepancy between healthcare workers' expectations and perceived recognitions and rewards. In a related study, Younies and his colleagues investigated monetary and non-monetary rewards and recognition among healthcare workers in the United Arab Emirates (UAE), highlighting higher preference for monetary rewards (e.g., cash, paid vacation, health insurance, and frequent bounces) [30]. Our finding requires further investigation, especially as Saudi healthcare system is adopting the value-based care model, where healthcare professionals are expected to be paid based on their performance. Although this model is assumed to improve the quality of care and reduce overall healthcare costs, it was perceived as complicated and vague model [31]. Thus, the implementation of value-based model could be perceived as a threatening model that requires higher job demands and cuts the bonus system [32], especially for those with high work experience in the healthcare system. Better communication, along with more transparency and clarity about bounces and recognition within this model of care, could improve job satisfaction among healthcare workers [32].

Moreover, a significant association was observed between lower job satisfaction across various domains and healthcare workers who had job experience of 2 to less than 5 years. This finding indicates an early-tenure vulnerability. Despite the implementation of the health transformation program stemming from the Saudi Vision 2030, aimed at standardizing healthcare services and enhancing accountable care, the rapid changes associated with this initiative may increase work burden, leading to job dissatisfaction. Considering more flexible scheduling and using remote work may address the dissatisfaction related to working hours and workload among healthcare workers [33]. The adoption of health transformation program may also create perceptions of instability within the Saudi healthcare system. Notably, one of the transformation phases in healthcare sector was transferring MOH employees to the Health Holding Company [34], which is a national institution provides comprehensive and integrated healthcare to beneficiaries. Broadcast and social media were extensively documented healthcare workers' concerns regarding leadership hierarchy, salaries, and promotions due to the transferring to the Health Holding Company [35]. Future research should further investigate the contextual factors surrounding healthcare transformation and their implications on job satisfaction.

Additionally, the ambiguity surrounding future roles and the uncertainty stemming from significant reforms in the Saudi healthcare sector, compounded by the challenges posed by the COVID-19 pandemic, may negatively influence job satisfaction among healthcare professionals. Resonating with our study findings and interpretation, an in-depth analysis of the healthcare system based on the Makkah region conducted by Arbaein and his colleagues showed high levels of burnout among healthcare providers during the pandemic [36], along with a negative relationship between work experience and readiness to change [37]. These findings further underscore the complexities contributing to low job satisfaction among healthcare professionals in this context. Given the identified low job satisfaction among healthcare workers, there is a pressing need for assessing the impact of these initiatives on healthcare workers' job satisfaction and overall well-being, making adjustments based on feedback and outcomes to better support the workforce.

CONCLUSIONS

This study sheds light on job satisfaction among healthcare professionals in Makkah's PHCs, filling a critical gap in the

literature. Analyzing the influence of various factors on the overall job satisfaction score and its key domains helped identify opportunities and challenges faced by professionals. By fostering an environment that prioritizes teamwork, communication, and recognition, healthcare leaders and policymakers can enhance job satisfaction and ultimately improve health outcomes in the community. Future research should further explore these dynamics, ensuring that the perspectives of healthcare professionals are central to the ongoing transformation of the Saudi healthcare system.

Limitations

This study has several limitations that must be acknowledged. First, the cross-sectional design of this study inherently restricts the ability to establish causal inferences regarding job satisfaction and related characteristics. Second, non-probability sampling, convenience sampling, of healthcare professionals could have created sampling biases and limits the generalizability of the study findings to the broader population of healthcare professionals within the Saudi healthcare system. Also, recruiting participants via WhatsApp did not allow for precise calculation of the response rate and may have limited the external validity of this study. Moreover, the data collection occurred amid significant changes in the Saudi healthcare landscape due to the ongoing health transformation program, which may introduce temporal bias and temporarily influence healthcare professionals' job satisfaction levels. To address this, continuous monitoring and assessment of job satisfaction are recommended to identify areas for improvement and ensure sustained satisfaction. Additionally, despite implementing measures to maintain anonymity and voluntary participation, there remains a potential for response bias, as participants may respond in a manner, they believe aligns with the expectations of healthcare leaders or vice versa. Finally, this study mainly focused on the impact of individual characteristics on job satisfaction. Future research might consider incorporating more variables such as organizational factors to enhance predictive accuracy and provide more comprehensive insights into the dynamics of job satisfaction among healthcare professionals.

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Ethical Statement

The ethical approval was obtained from Umm Al Qura University (Approval number: HAPO-02-K-012-2022-11-1335). Due to the nature of the study, implied consent was obtained from the participants who accessed and completed the survey after reading a description of the study. Participants' data were anonymized during the data collection, analysis, and reporting phases to ensure participant confidentiality. To ensure privacy of the data, only the research team had access to the password-protected systems where the data was securely stored.

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