

Association of Marital Quality, Loneliness and Demographic Variables among Healthcare Professionals: A Cross-sectional Study from Gujarat, India

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ABSTRACT

Introduction: Marital quality, generally understood as a global evaluation of marriage based on certain criteria, is a significant determinant of psychological wellbeing and work efficacy among individuals, particularly among Healthcare Professionals (HCPs) facing high-stress environments and long working hours. Recently, the World Health Organisation (WHO) has recognised loneliness as a global threat with serious negative impacts on physical and mental health, affecting diverse populations, including HCPs.

Aim: To investigate marital quality among HCPs and its association with loneliness, as well as demographic variables such as age, gender and duration of marriage.

Materials and Methods: This cross-sectional research was conducted from September 2023 to January 2024, including 199 married HCPs practicing as doctors, nurses, or administrative staff in hospitals or clinics in Gujarat, India, based on their marital status and voluntary participation in the study. A semistructured questionnaire was used for demographic details, along with the Marital Quality Scale (MQS) and University of California Los

Angeles (UCLA) Loneliness Scale (version 3) to collect data. Cross-tabulation, Chi-square (χ^2) and Pearson correlation were used to analyse the data in Statistical Package for the Social Sciences (SPSS) software version 28.0.

Results: Out of the 199 participants, 120 were males (60.30%) and 79 were females (39.70%). The average age of the participants was 42.8 ± 9.12 years. An overwhelming majority of 152 HCPs (76.4%) reported severely impacted marital quality. A strong and significant correlation was observed between marital quality and loneliness ($r=0.609$, p -value <0.001). A non significant correlation was observed between age and marital quality ($r=0.061$, p -value=0.396) and loneliness ($r=-0.048$, p -value=0.505). Similar results were also observed between the duration of marriage and marital quality ($r=0.033$, p -value=0.644) and loneliness ($r=-0.023$, p -value=0.747).

Conclusion: The findings suggest that interventions to enhance marital quality among HCPs should focus more on interpersonal and situational factors such as communication style, conflict resolution, support from the spouse, increasing empathy, sexual satisfaction and intimacy, rather than demographic variables.

Keywords: Burnout, Married life, Mental health, Work-life balance

INTRODUCTION

Marital quality, defined as an overall evaluation of the superiority of marriage based on certain criteria [1], is a key determinant of physical and psychological health. High-quality marital relationships are associated with lower levels of stress, anxiety and depression [2-5], particularly among HCPs [2,6]. HCPs often face stressors unique to their profession, such as long working hours, high pressure and emotional strain, which impact their personal and professional lives, leading to mental health issues and a lower quality of life [7,8]. This can also result in burnout [6]. The negative impact of low-quality marriages has also been observed in the workplace of HCPs, leading to both personal and work-related burnout [6]. HCPs who are married have been found to have a poorer quality of life and elevated stress levels [9,10] compared to those who are not married. However, married HCPs exhibit better organisational commitment and job satisfaction than their unmarried counterparts [11]. Conversely, poor marital quality can exacerbate feelings of loneliness, leading to adverse mental health outcomes [12,13].

Loneliness, characterised by the perception of being alone, can cause uneasiness among those who experience it [14]. This issue is particularly pertinent in the context of HCPs, who may face isolation due to a demanding work environment [15], negatively impacting their social, emotional and psychological wellbeing [16,17]. In recent years, loneliness has been recognised as a global threat by WHO, having a serious negative impact on people's physical

and mental health [18,19]. It has been considered a significant psychosocial problem affecting diverse segments of the population, including HCPs [20] and can lead to life-threatening conditions [18]. Loneliness is understood to be multidimensional in nature, impacting occupational wellbeing among HCPs [21].

Especially among Indian adults, loneliness has been documented due to societal changes [22], contributing to poor physical and psychological health and increased sedentary behaviour, putting their overall health at risk [23]. It has also been observed that unmarried individuals have a greater chance of experiencing loneliness. Similar effects are noted among those who are widowed, separated, or divorced [14]. This leads to the understanding that the very status of being married contributes to a sense of belonging and helps overcome loneliness. Furthermore, regarding gender, where no differences are observed in relation to social status, marital status, or level of social engagement, women tend to experience higher levels of loneliness than men [14].

These challenges can significantly impact HCPs [24], who provide patient care through social support and empathy. Therefore, it becomes imperative for them to improve their ability to maintain human connections [18,21,25]. Variables related to the work environment of healthcare workers, social connections and stressors experienced in the workplace have often been researched to understand the loneliness they may experience [15,26]. Although a few studies have illuminated the association between marital status

and loneliness among HCPs [27,28], this is a novel study carried out in select regions of Gujarat that considers the levels of marital quality experienced by HCPs and its relationship with loneliness.

However, data regarding marital quality and its association with loneliness among married HCPs are sparse.

The objectives of the study were to assess the levels of marital quality among HCPs, to investigate the correlation between marital quality and loneliness and to analyse the association between demographic variables (gender, age and duration of marriage) with marital quality and loneliness.

MATERIALS AND METHODS

This cross-sectional study was conducted at the School of Liberal Studies, Pandit Deendayal Energy University, Gandhinagar, Gujarat, India, involving married HCPs currently practicing in hospitals or clinics as doctors, nurses, or administrative staff in Gujarat, India, from September 2023 to January 2024. Informed consent was obtained from all participants, ensuring they understood the study's purpose and procedures. Participants were assured of their anonymity and the confidentiality of their responses. Mentioning their names was also made optional for the respondents. The present study was approved by the Institutional Ethics Committee (ODRD/EC/2024/24/01) and the Institutional Research Committee.

Inclusion criteria: Married individuals over the age of 21 years currently employed as HCPs in Gujarat state, India, who willingly gave their informed consent and were able to read and write in English, after the objective of the study was explained to them were included in the study.

Exclusion criteria: Professionals working as clinical psychologists or counsellors in hospitals were excluded from the study.

Sample size calculation: Out of the 500 participants (both online and offline) contacted to participate in the study, 199 participants meeting the inclusion criteria agreed to fill out the questionnaire and all of them were considered for the data analysis, as no missing data was found.

Data collection was conducted in a hybrid mode (online and offline) based on purposive and snowball sampling, which allowed for greater flexibility and accessibility. For the offline version, a hard copy of the questionnaire was provided after screening for inclusion and exclusion criteria. The online version of the form was accessible through a link that redirected to a Google Form. Participants were given the option to choose the mode of administration that suited their convenience. The Google Form link of the study, along with the requirements, was also posted on social media platforms. Total of 70 HCPs were also contacted offline from hospitals and clinics in Ahmedabad, Gandhinagar, Mehsana and Patan districts, where the authors visited the hospitals and clinics to collect data based on the inclusion criteria after explaining the research objectives through purposive sampling. The participants were given four weeks to respond, with frequent reminders sent throughout the data collection process. The data was collected via a questionnaire aimed at assessing the level of marital quality and loneliness. The questionnaire contained the participant informed consent form along with a self-administered demographic questionnaire, as well as two standardised psychometric tools, namely the MQS and the UCLA Loneliness Scale, to assess their marital quality and loneliness, respectively.

Instruments: Participant information sheet: This sheet includes socio-demographic details such as age, gender, education, occupation, marital status and duration of marriage.

Marital Quality Scale (MQS): The MQS is a multidimensional scale developed by Shah A (1995) to assess the overall quality of marital life. It consists of 50 items rated on a 4-point scale. The scale aims to evaluate marital quality across 12 factors: (a) Understanding; (b) Rejection; (c) Satisfaction; (d) Affection; (e) Despair; (f) Decision-Making; (g) Discontent; (h) Dissolution

potential; (i) Dominance; (j) Self-disclosure; (k) Trust; and (l) Role functioning. The total score ranges from 50 to 200, with higher scores indicating lower marital quality and lower scores indicating higher marital quality [29]. Scores of 50-70 fall into the "good quality" category, 71-90 into "mildly affected," 91-110 into "moderately affected," and 111-200 into "severely affected." The MQS has a co-efficient alpha of 0.91 (n=332) and a test-retest reliability of 0.83 over six-week intervals.

UCLA Loneliness Scale (Version 3): This is a widely used tool for measuring subjective feelings of loneliness and social isolation. It comprises 20 items rated on a 4-point Likert scale (1=Never to 4=Often) and assesses the frequency and intensity of loneliness [30]. The scale has demonstrated high reliability (Cronbach's alpha is 0.94) and good construct validity, correlating well with other measures of loneliness. It is used in research, clinical and community settings to evaluate loneliness across diverse populations. Scores range from 20 to 80, with higher scores indicating greater loneliness.

STATISTICAL ANALYSIS

The data collected was transported to MS Excel, where it was refined and coded. The coded data was then entered into SPSS, version 28.0. The results from MQS were analysed using cross-tabulation and Chi-square (χ^2) analysis to assess how many HCPs fell into the categories of good quality, mildly affected, moderately affected, or severely affected marital quality. Additionally, Pearson correlation was used to find the correlation between marital quality and loneliness, as well as age and duration of marriage.

RESULTS

The sample consisted of 199 respondents, with ages ranging from 25 to 66 years. The mean age of the participants was 42.8±9.12 years and the duration of marriage was 13.40±10.44 years. Among them, 120 participants were males (60.30%), while 79 (39.70%) were females. The youngest age group (21-30 years) constituted 11 respondents (5.53%) of the sample, whereas the largest age group (31-40 years) comprised 77 respondents (38.69%). The respondents aged 41-50 years accounted for 61 individuals (30.65%) and those aged 51 years and above were 50 respondents (25.13%). In terms of education, graduate HCPs constituted a minority, making up 35 individuals (17.59%) of the sample, whereas the majority of respondents held postgraduate degrees, with 164 individuals (82.41%) [Table/Fig-1].

Parameters	n (%)
Gender	
Male	120 (60.30)
Female	79 (39.70)
Age (years)	
21-30	11 (5.53)
31-40	77 (38.69)
41-50	61 (30.65)
51- onwards	50 (25.13)
Duration of marriage (in years)	
1-10	123 (61.81)
11-20	25 (12.56)
21-30	35 (17.59)
31-40	16 (8.04)
Education	
Graduate	35 (17.59)
Postgraduate	164 (82.41)
Healthcare sector	
Physician	25 (12.56)
Dentist	38 (19.10)

Orthopaedic	7 (3.52)
Urologist	4 (2.01)
Physiotherapist	22 (11.06)
Obstetrician and Gynaecologist	28 (14.07)
Dermatologist	15 (7.54)
Anaesthesiologist	7 (3.52)
Oncologist	5 (2.51)
Ophthalmologists	15 (7.54)
Radiologists	10 (5.03)
Psychiatrists	14 (7.04)
Paediatrician	2 (1.01)
Nephrologist	1 (0.50)
ENT	1 (0.50)
Cardiologist	1 (0.50)
Administrative staff	4 (2.01)

[Table/Fig-1]: Socio-demographic characteristics of the participants.

Only 3 (1.5%) out of 199 participants fell into the "Good Quality" category, all of whom were male. This category had the smallest representation, indicating that very few participants perceive their marital quality as high. Fourteen participants (7%) fell into the "Mildly Affected" category, with 9 males (7.5%) and 5 females (6.3%). This suggests that a small portion of the sample perceives mild issues in their marital quality. Thirty participants (15%) were in the "Moderately Affected" category, with 20 males (16.7%) and 10 females (12.7%). This shows a moderate perception of marital issues among these participants. The majority, 152 participants (76.4%), fell into the "Severely Affected" category, with 88 males (73.3%) and 64 females (81%). This indicates that a significant portion of the sample perceives severe issues in their marital quality [Table/Fig-2].

Level of marital quality (score range)	Male 120 (60.30) n (%)	Female 79 (39.70) n (%)	Overall (N=199) n (%)
Good quality (50-70)	3 (2.5)	0	3 (1.5)
Mildly affected (71-90)	9 (7.5)	5 (6.3)	14 (7)
Moderately affected (91-110)	20 (16.7)	10 (12.7)	30 (15.1)
Severely affected (111-200)	88 (73.3)	64 (81)	152 (76.4)

[Table/Fig-2]: Level of marital quality among male and female participants of the study.

The mean marital quality scores for male participants (n=120) in the study were 118.37±21.695, while the mean marital quality scores for female participants (n=79) were 117.35±13.59. The overall mean score for the entire sample (n=199) was 117.96±18.86. The p-value was less than the conventional significance level (0.05), suggesting there is no strong evidence of an association between gender (male and female) and marital quality [Table/Fig-3].

Scale	Male	Female	Overall	p-value
	120 (60.3)	79 (39.7)	199 (100)	
Marital Quality Scale (MQS)	118.37±21.695	117.35±13.590	117.96±18.865	$\chi^2=2.94$ p=0.4
Loneliness scale	52.34±8.49	50.42±6.89	51.58±7.93	$\chi^2=47.56$ p=0.076

[Table/Fig-3]: Mean±SD scores and Chi-square (χ^2) analyses for gender with marital quality and loneliness.

The mean loneliness scores for male participants (n=120) in the study were 52.34±8.49, whereas the mean for female participants (n=79) was 50.42±6.89. The overall mean score for loneliness in the entire sample (n=199) was 51.58±7.93. The p-values were less than the conventional significance level (0.05), suggesting there is no strong evidence of an association between gender (male and female) and loneliness [Table/Fig-3].

Age showed a non significant correlation with marital quality (p-value=0.396, r=0.061) and loneliness (p-value=0.505, r=-0.048) among HCPs. Duration of marriage also showed a non significant correlation with marital quality (p-value=0.644, r=0.033) and loneliness (p-value=0.747, r=-0.023). As p-value>0.05, these findings suggest that there are factors other than age and duration of marriage that impact the quality of one's marriage. The correlation co-efficient of 0.609 indicated a moderately strong positive and significant correlation between marital quality and loneliness (p-value <0.001, r=0.609) among the participants in the study. This means that as marital quality scores increase (indicating poorer marital quality), loneliness also increases significantly. The p-value is <0.001, which is highly significant (p-value <0.001), confirming that the observed correlation was statistically significant and not due to chance [Table/Fig-4].

Variables	Mean score±Std. Dev.	Marital quality	Loneliness
Age	42.8±9.12	r value=0.061 p-value=0.396	r value=-0.048 p-value=0.505
Duration of marriage	13.40±10.04	r value=0.033 p-value=0.644	r value=-0.023 p-value=0.747
Marital quality	117.96±18.865	r value=1	r value=0.609 p-value=<0.001
Loneliness	51.58±7.93	r value=0.609 p-value=<0.001	r value=1

[Table/Fig-4]: Mean±SD scores and correlation values for age, duration of marriage, marital quality and loneliness.

This finding suggests that individuals who report higher levels of marital quality are likely to experience lower levels of loneliness, while those with lower marital quality may experience higher levels of loneliness.

DISCUSSION

In this study, a strong prevalence of poor marital quality was observed among the majority of HCPs, especially among female HCPs. However, the gender differences in marital quality was not significant. These results were consistent with previous research indicating that healthcare workers do experience a poor quality of marriage [31]. However, the lack of gender differences in the results was inconsistent with previous findings, where Bulanda JR and Rostami A et al., observed that women tend to experience a poorer quality of marriage than men [32,33]. Similar results have also been reported in studies by Nofal HA and EL Maghawry HA, who found that the majority of their sample of married women residents experienced low marital satisfaction and poor psychological wellbeing. Comparable results were reported by Metwaly SM and El-Maksoud MMA, where the majority of female nurses displayed poor marital adjustment and low psychological wellbeing, with a significant positive correlation [34,35]. This indicates an urgent need for targeted interventions for healthcare workers facing severe marital issues.

The strong correlation between marital quality and loneliness suggests that individuals who perceive their marital quality as poor are likely to experience higher levels of loneliness. This relationship highlights the potential impact of marital issues on mental health, particularly feelings of loneliness. The significant impact of marital quality on loneliness has also been observed in previous studies. For instance, a study by Marini CM et al., showed that spousal support, an associated factor of marital quality, is correlated with reduced loneliness [13]. Another study by Johar H et al., demonstrated that loneliness affected cortisol levels in married older men, leading to a flatter diurnal cortisol slope and a reduced cortisol awakening response. This highlights the need to address loneliness—a quiet reflection of impaired marital quality—even among married individuals [36]. The strong correlation between poor marital quality and increased loneliness has also been observed in research showing that spouses in unhappy marriages feel lonelier than their counterparts who feel happier and more supported [37]. This

underscores the importance of addressing marital quality, not just for relational health but also for individual mental health.

The absence of a significant correlation between age and duration of marriage with marital quality and loneliness suggests that interventions to enhance marital quality among HCPs should focus more on interpersonal and situational factors rather than demographic variables. While some studies have shown that marital quality increases with age [5], others have found that it decreases with age [38,39]. Therefore, it can be said that a lack of consensus exists among researchers regarding the impact of marital quality and age.

Communication style, conflict resolution, support from a spouse, increased empathy, sexual satisfaction and intimacy will certainly enhance marital quality [40-43] and can thus reduce feelings of loneliness and burnout among healthcare workers. Even though previous research has indicated a correlation between age and loneliness [20,44], as well as marital quality [38], present study did not find such a correlation. Similar results have also been recorded in a previous study where marital satisfaction did not demonstrate a significant correlation with age but was significantly correlated with attachment style, conflicts between spouses and sexual satisfaction [43].

The results achieved highlight the significance of high-quality marital relationships in reducing feelings of loneliness and enhancing overall wellbeing. Good-quality marriages provide a sense of belonging, emotional support and companionship, all of which are essential in dealing with loneliness and improving overall wellbeing. These results challenge the assumption that spending more time together automatically leads to better marital quality. The study by Allendorf K and Ghimire DJ found that the duration of marriage significantly determines marital quality, as spouses who have been married for a longer period tend to experience greater marital quality, including fewer conflicts [45]. Conversely, the review by Karney BR and Bradbury TN indicated that a longer duration of marriage is associated with stable marital life [46].

In reality, marital quality does not automatically improve with age or the duration of marriage. In practical terms, the dimensions associated with the quality of a marital relationship are of greater significance [47] for professionals in demanding and challenging careers. Their overall wellbeing, emotional resilience and productivity in their work-life can be enhanced by improving the quality of their marriages [47,48].

These studies emphasise the importance of marital quality. For instance, Postler KB et al., found that dimensions associated with marital quality, such as frequent interactions, intimacy and fewer negative behaviours (e.g., criticisms from a spouse), are inversely correlated with anxiety [47]. Similarly, Liu Y and Upenieks L found that older adults (both men and women) in unhappy marital relationships reported lower levels of happiness and, for men, worsened physical health [48].

These findings become especially imperative to focus on in current times when HCPs face higher levels of stress than those in other professions and experience elevated rates of anxiety depression and low quality of life [8,24]. These trends are observed not only in India but are also noted globally [49,50]. This leads to an urgent need for measures to improve the psychological wellbeing of HCPs, as well as their organisational commitment [11,49].

Developing targeted programs that focus on improving communication, emotional intimacy and conflict resolution skills within their marriages can be a crucial first step toward enhancing the overall wellbeing of HCPs [14].

The results demonstrate that to overcome loneliness and ensure high-quality marriages, targeted interventions are necessary. This implies that organisations should consider providing assistance, such as peer support groups and counseling specifically designed to

address the challenges faced by HCPs in maintaining healthy marital relationships. The use of qualitative approaches in future research would be important for a better understanding and improvement of marital quality among HCPs.

It is therefore essential for policymakers to be aware of the effects of loneliness and marital quality on the overall performance, retention and wellbeing of HCPs. Policymakers can develop interventions such as work-life balance programs alongside mental health support systems, which may help improve both their personal and professional lives.

Limitation(s)

The focus of this study was to understand marital quality and its association with loneliness and demographic variables among HCPs, specifically focusing on doctors. As a result, the representation of paramedical staff was relatively small. Future studies should include a more substantial representation from paramedical staff to better reflect a larger segment of the population. Additionally, since domain-specific results of marital quality were not considered, future research should conduct domain-specific analysis for better insights into understanding marital quality.

CONCLUSION(S)

The results of this study highlight the importance and complexity of marital quality with reference to gender, age, duration of marriage and feelings of loneliness among HCPs. The majority of HCPs reported severely affected marital quality, but no significant gender differences were observed. Age and duration of marriage also did not show a significant correlation with marital quality and loneliness. Therefore, it can be said that factors beyond age and marriage duration, such as emotional intimacy, communication, sexual satisfaction and work-life balance, may be more critical determinants for understanding and enhancing marital quality. These findings emphasise the importance of high-quality marital relationships for the overall wellbeing of medical professionals. Given the demanding nature of their work, improving marital quality could be an important strategy for reducing loneliness and enhancing psychological wellbeing among HCPs.

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