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Optimism and its relationship with physical and mental well-being among registered nurses

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ABSTRACT

BACKGROUND & OBJECTIVE: Nurses frequently face health challenges, including moral distress, low job satisfaction, and poor physical and mental health. Optimism, believing in positive outcomes, influences not only the quality of patient care but also enhances nurses' health outcomes. This study aimed to determine the relationship of optimism with the physical and mental well-being of registered nurses in the Tertiary care hospitals of Rawalpindi

METHODOLOGY: The study used a cross-sectional analytic design and convenience sampling. After obtaining written informed consent, questionnaires were distributed to 270 registered nurses in Rawalpindi, using the Life Orientation Test-Revised to assess optimism, the self-care questionnaire to evaluate physical well-being, and the Warwick-Edinburgh Mental Well-being Scale to assess mental well-being. Data were analyzed using SPSS 26, with Spearman's rank correlation applied to examine the relationship between optimism and physical and mental well-being.

RESULTS: The study shows that registered nurses in Rawalpindi have moderate optimism (63.1%), moderate physical well-being (60.7%), and moderate mental well-being (64.3%), with varying levels of optimism and well-being. The Spearman's rank correlation coefficient between optimism and physical well-being showed ($r = 0.202^{**}$, $p < 0.001$), and optimism and mental well-being with ($r = 0.478^{**}$, $p < 0.001$) revealed weak and moderate positive correlation respectively, both correlations were statistically significant.

CONCLUSION: The study concludes that optimism is positively correlated with both physical and mental well-being among registered nurses of Rawalpindi. The study suggests that fostering optimism can enhance physical and mental health outcomes, potentially enhancing healthcare quality and efficiency.

KEYWORDS: Mental Well-Being, Optimism, Physical Well-Being, Registered Nurses, Health Behaviors.

INTRODUCTION

The nursing profession is one of the most essential resources in the world. Their diverse and multifaceted roles, along with their extensive expertise, are critical to the effective operation of modern healthcare systems. By applying their knowledge, skills, and experience, nurses deliver high-quality patient care and work diligently to achieve intended health outcomes, often in response to patients' evolving needs [1].

Healthcare professionals face challenges, including stress and burnout, due to the high demands and responsibilities associated with their roles. To effectively serve their patients, nurses must also prioritize their own health and well-being [2]. However, despite this awareness, many nurses face personal and professional challenges, including personal beliefs, perceived benefits, self-efficacy, age, gender, social support, institutional support, job scheduling, shift work, and additional responsibilities [3].

Recent research shows that self-care is a persistent challenge for healthcare providers [4]. Given the complexities of their work environments, enhancing nurses' quality of life is crucial, as it directly influences the quality of care they provide and their patients' overall well-being [5]. Optimism, in particular, has been shown to help nurses better cope with work-related stress, promoting a positive outlook and resilience. By fostering optimism, nurses can enhance their overall well-being, mitigate stress, and develop effective coping mechanisms, all of which positively influence their quality of life [6].

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Dispositional optimism, a personality trait coined by Carver and Scheier, refers to a person's enduring tendency to view life in an optimistic manner. This trait differentiates optimists, who generally expect positive outcomes, from pessimists, who anticipate challenges and setbacks more readily [7]. Optimism is largely modifiable, with approximately 75% influenced by social and environmental factors, such as family and peer relationships, while only 25% is genetically determined [8].

Environmental factors, such as higher academic achievement in adolescence, completing vocational education, and stable employment in early adulthood, have been shown to predict increased optimism in later life [9]. Research suggests that we can improve optimism through various strategies and programs, including teaching people about the benefits of positive thinking and helping them reframe negative thoughts [10]. Despite optimism improving throughout life, people's capacity to consistently anticipate the best for the future may be compromised by constraints such as health and mobility [11]. This trait does more than foster positivity; it acts as a protective factor, reducing vulnerability to psychological and physical illnesses and supporting healthy lifestyle habits, adaptive behaviors, and sound decision-making [12].

Optimistic nurses are more likely to develop effective coping mechanisms that help them manage stress, maintain sensitivity, and cultivate resilience. Studies reveal that optimism is directly linked to both physical and mental well-being [13]. Although optimism generally increases throughout life, certain factors, such as declining health or reduced mobility, may affect a person's ability to maintain a positive outlook [11]. In fact, research on dispositional optimism suggests that physical health is more strongly linked to the absence of pessimism than to the presence of optimism itself [14]. Addressing the factors that foster optimism in nursing is essential to creating healthier, more resilient healthcare providers and, ultimately, a stronger healthcare system.

Furthermore, the Future of Nursing 2020–2030 report emphasizes the importance of nurse well-being, urging support from nursing leaders, educational institutions, policymakers, and professional organizations to prioritize nurses' health on both personal and professional levels [15]. Many studies have examined optimism and its connection to mental and physical health in general populations; however, a research gap remains in understanding how this trait affects nurses' health [14].

This gap highlights the need for studies like the present one to deepen the understanding of optimism and its psychological implications for nurses in Pakistan's healthcare system. Recent studies suggest that optimism can have a positive influence on both mental and physical health, making it an area of great importance in research and practice , [12]. Understanding this relationship in registered nurses, particularly in tertiary care hospital settings where stress levels may be heightened, could provide valuable insights for improving nurse wellness and, subsequently, patient care outcomes. Optimism is a powerful tool that influences not only the quality of patient care but also the well-being of nurses themselves. Being optimistic might serve as a point of intervention for enhancing health outcomes [6].

This research will help hospital administrators develop targeted interventions and training programs to promote optimism and enhance the physical and mental well-being of registered nurses, ultimately reducing burnout and turnover. The objectives of the study were to assess the levels of optimism and physical and mental well-being among registered nurses in tertiary care Hospitals of Rawalpindi, and to evaluate the relationship between optimism and physical and mental well-being.

METHODOLOGY

The study used a cross-sectional analytical design and was conducted at five tertiary care military hospitals of Rawalpindi, including the Combined Military Hospital (CMH), Military Hospital (MH), Armed Forces Institute of Cardiology and National Institute of Heart Disease (AFIC/NIHD), Armed Forces Institute of Mental Health (AFIMH) and Armed Forces Institute of Urology (AFIU) from April 2024 to September 2024. The target population consisted of all female registered nurses working in these five tertiary care hospitals of Rawalpindi. A non-probability convenience sampling technique was employed, selecting participants based on their availability and willingness to participate. According to the WHO calculator, the sample size was 246, with a 5% margin of error, a 95% confidence interval, and a population prevalence of 50%. Due to the unavailability of a specific prevalence rate in the existing literature, a standard prevalence rate was utilized for sample size calculation. However, to obtain more precise results and reduce missing data during questionnaire collection and data processing, a 10 percent non-response rate was included, resulting in a sample size of 270.

Non-Response Rate = 10 % i.e. 24

Now sample size is = 246+12= 270

Inclusion criteria included registered nurses with over five years of experience, while student nurses or those in administrative roles were excluded from the study. Male nurses were excluded from the study, as military settings do not recruit male registered nurses.

Ethical approval was obtained from the Institutional Review Board (IRB) of Armed Forces Post Graduate Medical Institute, Rawalpindi (Re:459-AAA-ERC-AFPGMI), dated March 27, 2024). Participants were informed about the purpose of the study and provided written informed consent. Anonymity and confidentiality were assured, and nurses were informed of their right to withdraw from the study at any point. Data collected was stored securely, password-protected, and locked away to ensure its protection.

The data collection process involved distributing questionnaires to registered nurses during their shifts. Three pre-structured and open access questionnaires were used to determine the outcomes of this study. The questionnaire consisted of four sections. The first section

gathered demographic information such as age, marital status, education, and pregnancy status. The second section consists of the Life Orientation Test-Revised (LOT-R) which used to assess nurses' levels of optimism. The 10-item scale used a 5-point Likert format ranging from (Strongly Agree = 4, Agree = 3, Neutral =2, Disagree = 1, Strongly Disagree = 0). It included 3 optimism items (Q1, Q4, Q10) and 3 reverse-scored pessimism items (Q3, Q7, Q9). The remaining 4 items (Q2, Q5, Q6, Q8) were filler questions and not scored. Total scores ranged from 0 to 24, with higher scores indicating greater optimism. Scores of 0–13 indicated low optimism (high pessimism), 14–18 moderate optimism, and 19–24 high optimism (low pessimism) [16].

The third section utilized the Institute of Functional Medicine's self-care questionnaire to evaluate physical well-being, with higher scores reflecting better physical health The scales contained 10 items with a 5-point Likert-type scale (1=Never, 2= Sometime, 3= Often, 4= Regularly, 5= Always).14-25 low physical well-being, 26-37 moderate wellbeing, 38-49 high physical wellbeing [17].

In forth part the study utilized the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) to evaluate the mental wellbeing of the participants. This scale consists of 14 positive items, encompassing both eudaimonic (related to personal growth and purpose) and hedonic (related to pleasure and happiness) elements. Each item was measured by using a 5-point Likert scale (1=none of the time, 2= rarely, 3=some of the time,4= often, 5=all of the time). Scores can range from 14 to 70, with higher values indicating higher levels of mental well-being. The scale shows as low wellbeing, is less than 43, moderate for 43-60 and high for greater than 60. A study among Pakistani healthcare professionals found the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) to have a strong internal consistency ($\alpha = 0.89$). The scale also showed good convergent validity, confirming its reliability in the Pakistani context [2].

The researcher collaborated with hospital matrons to select wards, departments, and shifts for distributing the questionnaires. Participants were given clear instructions on how to complete the survey, which was collected once filled out. Accuracy and completeness of the responses were reviewed by the researcher during the collection phase.

A pilot testing was conducted with 30 registered nurses to validate the instruments, confirming reliability of the WEMWBS, physical well-being scale, and LOT-R . The findings of the pilot test supported the good reliability of the scales when used among Pakistani nurses with Chronbach's alphas of 0.91 for the WEMWB Scale 0.79 for physical well-being 0.68 for the LOT-R. For content validity purpose the tool was given to six experts of the field. For relevance it was 0.93, and for content clarity it was 0.93. According to Polit and Beck 2017, the CVI if greater than 0.90 is considered as excellent content validity. This provided assurance that the tools were appropriate for the main study. The study used the SPSS version 26.0 for data entry and analysis, with data cleaning to address incomplete responses.

The optimism scale (LOT-R) consists of 10 items: three measure optimism, three reversed-scored items measure pessimism, and four are filler. First, the researcher removed the filler, which had no score, and then the scores of the three negatively worded items were reversed (1 = 4, 2 = 3, 3 = 2, 4 = 1) before summation. Continuous variables were expressed as mean ± SD and categorical variables were shown as frequencies and percentages, while inferential statistics used Spearman's rank correlation coefficients to measure the relationship between optimism and well-being. The normality of the variables was assessed using the Shapiro-Wilk test. The results of these tests indicated that the data was not normally distributed, with p-values lesser than 0.05, confirm their non- parametric nature.

RESULTS

A total of two hundred and fifty-two (n=252) nurses were included in the study. Out of 270 distributed questionnaires, 260 were returned, with eight being eliminated due to inadequate data, leaving 252 valid questions for analysis.

Table-I: Demographic characteristics of the study participants (n=252).

Demographic Variables	Categories	n(%)
Education of Participants	Diploma	89(35.3)
	Post RN BScN	102(40.5)
	BSN (Generic)	52(20.6)
	MSN	9(3.6)
Marital Status	Single	62(24.6)
	Married	187(74.2)
	Divorced	3(1.2)
Pregnancy Status	Pregnant	18(7.1)
	Non-Pregnant	234(92.8)
Mean Age in Years	38.08 ± 6.77	

Table -I shows the socio-demographic characteristics of study participants. The mean age of respondents was 38.08±6.77 years, ranging from 26 to 55 years. Most respondents hold a Post RN BScN 102 (40.5%), followed by those with a Diploma 89 (35.3%). BSN (Generic) holders make up 52 (20.6%), and a small percentage have an MSN 9 (3.6%). The majority are married, 187 (74.2%), with single respondents, 62(24.6%), and a minimal number are divorced, 3(1.2%). Most respondents are non-pregnant 234 (92.8%), while a small percentage are pregnant18 (7.1%).

Table -II shows most registered nurses (63.1%) exhibit moderate optimism, suggesting a balanced outlook. A notable portion (26.2%) demonstrates low levels of optimism. A smaller yet significant group (10.7%) displays high levels of optimism.

The distribution of physical well-being levels among registered nurses in tertiary care hospitals in Rawalpindi. The majority, 60.7% (153 nurses), reported a moderate level of physical well-being. 21.8% (55 nurses), experienced low physical well-being, while the smallest group, 17.5%

(44 nurses), reported high physical well-being.The results shows that out of the total sample, 34 (13.5%) nurses reported having low mental well-being. The majority of the nurses 162 (64.3%) fall within the moderate mental well-being category. A smaller yet notable proportion 56(22.2%) nurses reported high levels of mental well-being.

Table-II:Distribution of Level of Optimism, Physical Well-being and Level of Mental Well-being characteristics of the study participants (n=252).

Variables	Categories	n(%)
Level of Optimism	High	28(11)
	Moderate	159(63)
	Low	65(26)
Level of Physical Well-being	High	44(17.5)
	Moderate	153(22)
	Low	55(22)
Level of Mental Well-being	High	56(22.2)
	Moderate	162(643)
	Low	34(13.5)

Table-III: Spearman's rank Correlation of Optimism and Physical and Mental Well-being.

Variables		Physical well-being	Mental well-being
Optimism	Correlation Coefficient	0.204**	0.478**
	P-Value	< 0.001	< 0.001

** Correlation is significant at the 0.01 level (2-tailed).

Table- III shows the relationships between three variables: Optimism, Physical, and Mental Well-Being. The correlation coefficient value between optimism and physical well-being is 0.204**, which shows a weak positive correlation between optimism and physical well-being. The p-value is < 0.001which means the relationship is statistically significant. So, we can say that increased optimism is related to better physical well-being. This table indicates correlation coefficient value between optimism and mental well-being is 0.478**, which shows a moderate positive correlation between optimism and mental well-being. The p-value is < 0.001which means the relationship is statistically significant. So, we can say that higher levels of optimism are associated with better mental well-being.

DISCUSSION

This study investigated the level of optimism, physical well-being, and mental well-being of registered nurses of tertiary care hospitals in Rawalpindi. This study also examined optimism relationship with physical and mental well-being of registered nurses in tertiary care hospitals of Rawalpindi.

The results of this study reveal level of optimism among registered nurses. Most (63.1%) exhibit moderate optimism, indicating a balanced outlook. Meanwhile, 26.2% of nurses display low levels of optimism, suggesting a need for targeted interventions and support systems to boost their morale and overall well-being. In contrast, a smaller yet significant group (10.7%) demonstrates high optimism levels, likely to impact workplace dynamics and patient care outcomes positively. These results were supported by the previous study which shows the average score, slightly above the midpoint, signifies modest optimism among the nursing cohort. This is important for overall health and could support further health promotion efforts [6].

However, it's important to recognize that levels of optimism among nurses can vary across different cultural and geographical contexts. For instance, a cross-sectional study conducted in China by Zhang et al. 2021 found that the average optimism score among nurses was 20.52 ± 3.50, significantly higher than the average found in both Cruz et al.'s and this study's results [18].

Such discrepancies highlight how cultural, environmental, and systemic factors may influence nurses' outlook on life and work. While these international comparisons are insightful, they must be interpreted with caution. External factors, including workplace conditions, societal support systems, and even local norms in Rawalpindi, could have shaped the results of this study.

The study findings highlight a generally positive outlook on physical well-being among registered nurses of tertiary care hospitals in Rawalpindi, with significant adherence to healthy eating and hydration. In contrast, another study highlights that Pakistani healthcare workers generally follow a meat-based diet with limited fruits and vegetables [19]. However, in our study, there is variability in exercise frequency, suggesting room for improvement in physical activity levels. In contrast, American nurses' physical health is often lower than the general population's, particularly regarding sleep, diet, and physical exercise [20]. Most respondents of Rawalpindi often wake up feeling refreshed and get enough sleep, frequently making time to relax or nap. However, some still struggle with feeling refreshed, getting enough sleep, or finding time to relax. A study conducted involving nurses from 10 U.S. hospitals.

Nurses wore wrist actigraphs and pedometers for seven days to measure sleep and steps and completed electronic diaries to document their diet. Findings revealed that average sleep duration did not meet national recommendations of at least 7.5 hours per 24 hours and the overall diet quality was low, falling short of high-quality standards on duty [21], and they did not meet the physical activity guidelines for the number of steps taken during off-duty periods [22]. A review of 13 large-scale studies on U.S. hospital nurses found that the majority had poor quality diets (53%-61%) and inadequate physical activity (60-74%) [23]. Poor diets and low exercise levels in nurses increase their risk of chronic disease [24].

Registered nurses in Rawalpindi's tertiary care hospitals show high usefulness, and confidence. They are relaxed, problem-solving, and clear-thinking, but face challenges in social connections and self-esteem. Enhancing social

connections and managing energy levels could support their holistic well-being. The Royal College of Nursing survey highlights critical well-being issues among NHS nurses, with 9 in 10 working while ill and 71% experiencing excessive pressure. High stress has led 45% to consider quitting, and 21% regret their career choice. These worsening conditions since 2021 stress the need for enhanced staff support in the [25].

Nurses working in Trust and Private hospitals had notably lower mental health and well-being scores compared to their counterparts in Government hospitals. While physical health and well-being were below average across all hospital types [26]. The study indicated that healthcare professionals' mental well-being, diet, and exercise habits in Pakistan need to be improved, indicating a need for improvement to enhance the overall healthcare system for individual and community benefits [2].

The study found a weak positive correlation between optimism and physical well-being among registered nurses, indicating that higher optimism is linked to better physical well-being. A moderate positive correlation ($r = 0.478^{**}$) was observed between optimism and mental well-being, showing that higher optimism is associated with better mental well-being, with the relationship being statistically significant ($p < 0.01$). Additionally, a moderate positive correlation ($r = 0.455^{**}$) between physical and mental well-being was found, suggesting that better physical well-being is linked to better mental well-being, with the relationship also being statistically significant ($p < 0.01$). Some previous researches support this finding, noting that optimism, a mental attitude, positively affects physical and psychological health, daily life, and coping strategies [12]. The study found that positive emotions, relationships, and optimism significantly influence physical and mental health [27]. Optimism has been associated with improved emotional well-being, more effective coping strategies, and better outcomes in various aspects of physical health [7].

RECOMMENDATIONS

We propose the following recommendations considering the findings from the reviewed work and the issues raised in our discussion.

1) Nurses should adopt health strategies like healthy eating, exercise, and mindfulness for physical and mental well-being.2) Nursing management should implement wellness initiatives and provide regular health screenings.3)Fitness facilities and group exercise classes should be made available to nurses.4)Hospital administrators develop targeted interventions and training programs to foster optimism

5)Policymakers, in collaboration with relevant stakeholders, can improve nurses' well-being and address burnout by fostering optimism.

LIMITATIONS

This study employs a cross-sectional analytical design, collect data at a single point in time. As such, it does not allow for causal inferences or the examination of changes over time. Additionally, convenient sampling technique was utilized, which may limit the generalizability of the findings. The data collection method may introduce bias due to self-reported information, which may be influenced by social desirability and personal perspectives. However, the nature of the study is such that its findings and recommendations will apply to all registered nurses in Tertiary care military hospitals in Pakistan. Further research is needed to identify factors that may motivate nurses to better care for themselves and measures that can be implemented by employers to initiate and sustain their physical and mental wellbeing.

CONCLUSION

Nurses with higher levels of optimism tend to experience better physical and mental health. Additionally, physical well-being is positively correlated with mental well-being. The findings highlight the importance of fostering optimism and promoting higher education to improve the overall well-being of nurses, suggesting that optimism-boosting interventions could enhance physical and mental health outcomes in this population. This study provides potential benefits of promoting optimism to improve physical and mental health outcomes, which could have broader implications for healthcare quality and efficiency.

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Rahila Shafiq: Substantial contributions to the conception and design of the work.

Khadija Qamar: Drafting the work.

Shahida Anwar: Reviewing it critically for important intellectual content.

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Shagufta Parveen: Proof reading and final approval of the version to be published.

Naila: The Acquisition of data for the work.

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