

The Relationship among Religious Orientation, Health Anxiety, and Hope in Iranian Emergency Department Nurses



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Abstract:

Introduction/Objective: Emergency Department (ED) nurses experience high stress levels, which can lead to health anxiety. Understanding how religious orientation, hope, and health anxiety are related can help support these nurses. This study explores the connections between these factors in Iranian ED nurses.

Methods: A descriptive cross-sectional study was conducted with 420 nurses from EDs affiliated with Mazandaran University of Medical Sciences (2022-2023) using convenience sampling. Participants completed the Health Anxiety Inventory (HAI-18), Allport-Ross Religious Orientation Scale (ROS), and Herth Hope Index (HHI). Data analysis included Pearson correlation.

Results: Religious orientation weakly correlated with health anxiety ($r = 0.21, p < 0.001$), while hope showed an inverse correlation ($r = -0.23, p < 0.001$). Intrinsic religious orientation was positively correlated with hope ($r = 0.32, p < 0.001$), but extrinsic orientation was not ($p = 0.315$). Neither intrinsic nor extrinsic orientations were independently associated with health anxiety.

Discussion: The study found that ED nurses with a strong intrinsic religious orientation tend to have higher levels of hope, which is linked to lower health anxiety. However, the study's design does not allow for causal conclusions, and the correlations observed are moderate at best.

Conclusion: This study suggests that hope and intrinsic religiosity may be associated with lower health anxiety in emergency department nurses. Further research is needed to determine causality. Hospitals may benefit from promoting hopeful thinking and creating spiritually supportive environments to support staff well-being.

Keywords: Religious orientation, Hope, Health anxiety, Emergency department, Nurses, Hopeful thinking.

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1. INTRODUCTION

Nurses make up a significant portion of healthcare staff, with 40-60% working in the field [1]. Emergency Department (ED) nurses, in particular, face high-pressure situations due to urgent care needs and unpredictable patient conditions [2]. They encounter stressors like quick decision-making, critical patient care, long shifts, resource shortages, and emotional demands from families [1]. These challenges can lead to psychological strain, including anxiety, depression, and fatigue [3].

Recent cohort studies have shown that significant stressors or medical diagnoses can have a lasting impact on mental health. This emphasizes the need for preventive and supportive measures [4, 5].

Research has shown that nurses are susceptible to various physical, emotional, and psychological harms arising from the high-stress nature of their profession [6, 7]. One growing concern among this population is health anxiety—an excessive preoccupation with the possibility of having or developing a serious illness [8]. Health anxiety has been conceptualized as a dimensional construct ranging from mild health concerns to severe anxiety about physical symptoms, encompassing cognitive, emotional, behavioral, and perceptual components [9]. Given the inherently complex and emotionally demanding nature of nursing, especially in emergency care, it is imperative to explore effective mechanisms to reduce such anxiety [10].

One potential factor that could help reduce the impact of occupational stress is religious orientation. Engaging in religious activities and holding religious beliefs have consistently been linked to lower levels of stress and anxiety [11]. Religion, as a structured system of beliefs and practices, offers a sense of purpose, aids in resolving conflicts in values, and influences lifestyle choices that contribute to psychological well-being [11, 12]. Gordon Allport introduced the concept of religious orientation, distinguishing between intrinsic and extrinsic orientations [13]. Intrinsic orientation involves deeply internalized religious beliefs that shape a person's life, while extrinsic orientation is more utilitarian, using religion for personal gains like social support or security [14]. A meta-analysis revealed that 47 percent of studies showed a positive correlation between religious beliefs and mental health [15, 16].

Religious beliefs can significantly impact psychological well-being, especially in demanding professions such as nursing. Those with an intrinsic religious orientation may experience inner peace, a sense of purpose, and acceptance of life's uncertainties, which can help reduce health anxiety [17]. On the other hand, individuals with an extrinsic orientation may benefit from community support and practical coping strategies. The role of hope in this dynamic has not been thoroughly investigated. Hope, a positive motivational state rooted in the belief that one can find ways to achieve their goals, can be strengthened by religious beliefs and practices. This forward-looking perspective can serve as a protective factor against anxiety [18].

Despite the acknowledgment of religious orientation and hope as separate factors influencing mental health, there is a lack of research on how they jointly impact health anxiety, particularly among emergency department nurses. Previous studies have primarily focused on general anxiety or stress in nurses without specifically examining health-related anxiety, and few have delved into the role of different types of religious orientation (intrinsic vs. extrinsic) in influencing health anxiety through hope [8, 19]. Therefore, this study seeks to fill these gaps by exploring the direct and mediating relationships among religious orientation, hope, and health anxiety in ED nurses. This model could provide valuable insights for mental health interventions in high-stress healthcare settings.

Hope can act as a psychological tool that converts religious beliefs into a concrete protective element against health anxiety. Nurses who are strongly connected to their religious faith may develop a positive perspective, see obstacles as surmountable, and approach the future with a sense of empowerment, leading to a decrease in health-related worries [18]. Hope boosts resilience by providing emotional support in dealing with work-related stress and unpredictability. Therefore, hope is explored as a psychological factor linked to religious beliefs [20].

Recognizing the crucial role of nurses in public health and the challenges they face, especially in emergencies, it is important to study their psychological and spiritual well-being. Research, such as nationwide cohort studies, has linked stressors to mental health issues in healthcare workers [4, 5]. This study explores the impact of religious beliefs, health concerns, and hope on the well-being of emergency department nurses. By examining these factors, the study aims to fill a gap in the literature and offer insights to support frontline healthcare providers.

2. METHODS

This descriptive cross-sectional study explored the connections between religious orientation, health anxiety, and hope in Emergency Department (ED) nurses. The researchers chose a cross-sectional design to analyze the initial relationships among these psychological factors in a real healthcare setting at a specific point in time, without experimental interventions. The study took place from 2022 to 2023.

The research sample comprised nurses employed in emergency departments at hospitals affiliated with Mazandaran University of Medical Sciences. Participants were selected using convenience sampling, a frequently used method in healthcare research when random sampling is impractical due to time or accessibility constraints.

Based on a power analysis for detecting a Pearson correlation coefficient of small to moderate magnitude ($r \approx 0.20-0.25$) with 80% power and a two-tailed alpha of 0.05, a minimum sample size of approximately 310-390 participants was required [21, 22]. To account for potential incomplete responses and ensure adequate power for subgroup analyses, a total of 420 nurses were recruited.

2.1. Inclusion and Exclusion Criteria

The study included nurses aged 19-45 with a bachelor's degree and at least 6 months of ED clinical experience. Those who did not complete at least 20% of the questionnaire items were excluded. The age range was chosen to minimize variability from factors like age-related health issues, managerial responsibilities, or nearing retirement, which could impact health anxiety and hope.

2.2. Procedure

Convenience sampling was implemented following thorough explanations to the nurses and obtaining written consent. Of the roughly 670 eligible nurses approached in emergency departments, 420 completed the questionnaires, yielding a participation rate of 62%. The participants completed the demographic questionnaire, the Health Anxiety Inventory, the Allport Religious Orientation Scale, and the Herth Hope Index. The questionnaires were completed in approximately 30 to 40 minutes, and participants did so in the researcher's presence.

2.3. Scales

2.3.1. The Health Anxiety Inventory (HAI)

The Health Anxiety Inventory (HAI), an 18-item questionnaire designed by Salkovskis and Warwick, measures health anxiety. Each item has four options, each describing an individual's perception of health and illness components. Each item's score ranges from 0 to 3; a higher score indicates greater health anxiety. The questionnaire includes three main subscales: worry about health, negative consequences, and awareness of bodily sensation or change. Items 5-6-8-9-11-12 pertain to the awareness of bodily sensation, items 13-15-16-17-18 to the negative consequences, and items 1-2-3-4-7-10-14 to the general health worry subscale [23]. The validity and reliability of the questionnaire have been approved [24]. In the present study, the HAI demonstrated good internal consistency (Cronbach's $\alpha = 0.85$).

2.3.2. The Herth Hope Index (HHI)

Developed by Herth in 1991, the Herth Hope Index (HHI) is a tool designed to measure levels of hope specifically in young individuals living with chronic diseases. It consists of 12 items, with options ranging from "strongly disagree" (score 1) to "strongly agree" (score 4). The total score ranges from 12 to 48; higher scores indicate higher levels of hope [25, 26]. However, the scoring is reversed for items 3 and 6. Its validity and reliability have been confirmed in Herth's studies and other studies with various samples, indicating good psychometric properties [27, 28]. In the present study, the HHI demonstrated good internal consistency (Cronbach's $\alpha = 0.82$).

Although the HHI was originally developed for individuals with chronic illness, subsequent studies have validated its use in general, occupational, and healthcare professional populations, demonstrating its applicability beyond clinical samples.

2.3.3. The Religious Orientation Scale (ROS)

Allport and Ross developed the Allport Religious Orientation Scale in 1967 to measure intrinsic and extrinsic religious orientations. This scale consists of 20 items: 9 measure intrinsic orientation and 11 measure extrinsic orientation. They reported a correlation of 0.21 between extrinsic and intrinsic orientations based on initial studies. This questionnaire is scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It does not have a cut-off point, and higher scores indicate a higher level of religious orientation [29]. The validity and reliability of this scale [30] have been confirmed. In the present study, the HHI demonstrated good internal consistency (Cronbach's $\alpha = 0.89$).

2.4. Statistical Analysis

Data were analyzed using SPSS version 24.0. Descriptive statistics for continuous variables are presented as mean $\pm$ Standard Deviation (SD), and categorical variables as frequency (percentage). The primary analysis focused on examining the bivariate relationships among the core study variables (religious orientation, hope, and health anxiety) using Pearson's correlation coefficient. This approach was selected for its clarity and appropriateness for the initial, exploratory investigation of these relationships in this specific population. Given the exploratory nature of the study and the primary objective of establishing these fundamental associations, more complex multivariate modeling was reserved for future confirmatory research. Statistical significance was set at $p < 0.05$. Statistical significance was set at $P < 0.05$.

2.5. Ethical Approval and Consent to Participate

The questionnaires were completed anonymously, and the participants were assured of the confidentiality of their information. Informed consent was obtained from all subjects or their legal guardian. All methods were performed in accordance with the Helsinki Declaration. The Ethics Committee of Mazandaran University of Medical Sciences approved this study (code: IR.MAZUMS.REC.1402.145).

3. RESULTS

According to Table 1, the majority of participants were female (76.2%) and married (54.5%). Most nurses held a bachelor's degree (96.4%), and 43.6% were permanent employees. The mean age of participants was 32.0 ± 5.67 years. Detailed demographic characteristics are presented in Table 1.

The mean total score of religious orientation among emergency department nurses was 33.41 ± 6.68 , indicating a moderate level of religious orientation. Regarding dimensions, the mean score for intrinsic religious orientation was 28.24 ± 3.90 , and for extrinsic religious orientation, 35.56 ± 3.89 . The mean score of health anxiety was 12.48 ± 2.85 , reflecting a relatively high level of health anxiety among participants. The mean hope score was 22.01 ± 3.94 .

Table 1. Demographic profiles of respondents.

Variables	N (%) or Mean (SD)	Variables	N (%) or Mean (SD)
Gender	-	Shift rotation	-
Male	100 (23.8%)	Day	42 (10%)
Female	320 (76.2%)	Evening	28 (6.7%)
Marital Status	-	Night	27 (6.4%)
Single	191 (45.5%)	Rotation	323 (76.9%)
Married	229 (54.5%)	Interest in work	-
Education Status	-	Low	52 (12.4%)
Bachelor of sciences	405 (96.4%)	Moderate	301 (71.7%)
Master of sciences or higher	15 (3.6%)	High	62 (14.8%)
Employment Status	-	Very high	5 (1.2%)
Permanent employee	183 (43.6%)	Age	67 (± 5.32)
Temp-to-hire employee	48 (11.4%)	Work experience	23.95 (± 5.9)
Contractual employee	36 (8.6%)	Overtime hours	57.22 (± 13.80)
Agency employee	75 (17.9%)	-	-
Bonded employee	78 (18.6%)	-	-

Correlation analyses are presented in Table 2. A statistically significant association was observed between overall religious orientation and health anxiety ($r = 0.21$, $p < 0.001$). However, the magnitude of this correlation indicates a weak relationship, suggesting that religious orientation is only modestly related to health anxiety among emergency department nurses. A statistically significant positive correlation was found between religious orientation and hope ($r = 0.53$, $p < 0.001$), indicating a moderate association between these variables. Nurses with higher levels of religious orientation tended to report higher levels of hope.

Table 2. Correlation among religious orientation, health anxiety, and hope in emergency department nurses.

Variables	R	P
Religious orientation $\leftrightarrow$ health anxiety	0.21	<0.001
Religious orientation $\leftrightarrow$ hope	0.53	<0.001
health anxiety $\leftrightarrow$ hope	-0.23	<0.001

In addition, health anxiety was significantly and inversely correlated with hope ($r = -0.23$, $p < 0.001$). This correlation was weak in magnitude, indicating that higher hope was modestly associated with lower levels of health anxiety. No separate statistically significant associations were observed between the intrinsic and extrinsic dimensions of religious orientation and health anxiety.

4. DISCUSSION

This cross-sectional study examined the relationships among religious orientation, hope, and health anxiety

among emergency department nurses. The results shed light on the psychological and spiritual factors that could help alleviate work-related stress in high-pressure environments.

The strong positive correlation between intrinsic religious orientation and hope supports the idea that a deeply ingrained belief system can provide a solid foundation for meaning, purpose, and perceived control—key elements of hopeful thinking [18]. On the other hand, the absence of a significant link between extrinsic orientation and hope implies that using religion mainly for social connections or immediate comfort (an instrumental approach) may not cultivate the broader, forward-looking optimism measured by the Hope Index. This difference highlights the importance of Allport's two-dimensional model, showing that the intention behind religious involvement plays a crucial role in shaping its psychological effects.

While our data indicate a connection, the cross-sectional design prevents us from making causal conclusions. The proposed pathway, in which intrinsic religiosity fosters hope, leading to a reduction in health anxiety, makes sense in theory. However, we need to consider other possible explanations, such as reverse causality (for example, individuals with higher levels of hope may be more inclined to seek out and embrace religious beliefs) or the impact of unmeasured variables. Additionally, in Iran's socio-cultural context, where religious identity is significant, responses may be influenced by social desirability bias, potentially leading to an overestimation of reports of intrinsic religiosity and hope. The cultural significance of religion in Iran may also shape these concepts differently compared to more secular societies, which could account for differences in our results compared to studies conducted in other cultural contexts [18, 31].

The relationship between hope and health anxiety in ED nurses supports the idea that hope can be a valuable resource in helping nurses cope with clinical uncertainty [31]. This contrasts with some studies that have found no such connection in other groups [32]. The unique stressors faced by emergency nurses may make hope particularly effective in reducing health anxiety. Future research could use longitudinal studies with robust controls to better understand the role of hope in preventing anxiety disorders in clinical populations [33].

The correlation between religious orientation and reduced health anxiety, as observed in this study, is consistent with previous research linking religiosity to improved mental health outcomes [34]. However, conflicting evidence also exists [18]. These discrepancies could be due to various factors, such as differences in how general *versus* health-specific anxiety is measured, the distinct impacts of intrinsic *versus* extrinsic orientations (which are often combined in broader measures), and cultural influences. In a highly religious society, for example, the normative nature of religiosity may limit its variability or its effects may be intertwined with other cultural factors, making it challenging to isolate its unique

contribution. This study highlights that intrinsic orientation, rather than extrinsic orientation, is significantly associated with the hope-anxiety pathway in this professional group.

The results show that ED nurses in this study had high levels of health anxiety but also maintained moderate levels of hope. This suggests a complex resilience process. The prevalence of an extrinsic religious orientation indicates a practical coping mechanism in a challenging work environment [35]. However, the stronger connection between intrinsic orientation and hope suggests a potentially more effective internal resource for maintaining well-being [36]. Therefore, while interventions that focus on the communal aspects of religion may provide immediate relief, programs that encourage intrinsic spiritual reflection and finding meaning could enhance long-term psychological resilience. Interventions that aim to build hope, such as setting goals and positive thinking, could directly address reducing health-related anxieties.

4.1. Study Limitations

Like any other study, this research has some limitations. Firstly, nurses faced time constraints in reading and completing the questionnaires, potentially impacting data accuracy. However, efforts were made to address this issue by encouraging completion during break times. Another limitation was the reliance on self-report questionnaires, which could lead to discrepancies and misunderstandings between researchers and participants regarding definitions and the intended meaning of assessment constructs.

This study has the potential to foster a peaceful environment with reduced tension, thereby alleviating anxiety and stress among healthcare providers, particularly ED nurses, and enhancing healthcare service delivery.

An additional limitation is the absence of multivariate analysis to control for potential confounding variables such as age, gender, marital status, work experience, shift rotation, and overtime hours, all of which can influence anxiety and psychological well-being among nurses. Future research should incorporate regression-based or multivariate models to address these variables.

The use of convenience sampling may introduce selection bias and limit the generalizability of the findings beyond the specific emergency departments and hospitals studied. Additionally, restricting participation to nurses aged 19–45 years may introduce systematic selection bias by excluding older nurses with potentially different psychological and spiritual dynamics, thereby limiting the generalizability of the findings.

Future studies should consider longitudinal or cohort designs to assess whether enhancing hope and intrinsic religiosity can causally reduce the incidence or severity of health anxiety over time in nursing cohorts, similar to research on depression incidence in at-risk medical populations.

4.2. Implications

The findings of this study have important implications for healthcare policy, mental health interventions, and organizational support systems aimed at Emergency Department (ED) nurses. The study suggests that there is a significant inverse relationship between religious orientation and health anxiety, indicating that spiritual beliefs and practices can serve as valuable internal coping mechanisms. In particular, the strong association between intrinsic religious orientation and hope suggests that deeply held personal religious beliefs can promote psychological resilience and reduce the burden of health anxiety in high-stress healthcare settings.

These findings highlight the potential benefits of incorporating spiritual care and culturally tailored interventions into nursing support programs. Initiatives such as guided reflection sessions, access to spiritual counseling, or inclusion of spiritual well-being modules in professional development curricula could help foster a more meaningful engagement with religion, thereby enhancing emotional well-being among ED nurses.

The prevalence of extrinsic religious orientation among participants suggests a practical or instrumental use of religious practices for emotional reassurance or social support, rather than deeply internalized belief systems. While extrinsic religiosity can still provide short-term coping benefits, promoting intrinsic religiosity as a more stable and internally driven protective factor may offer additional value. Hospital administrators and mental health professionals should consider this distinction when developing wellness programs that incorporate spiritual components.

Furthermore, the high levels of health anxiety reported in the study highlight the urgent need for systemic support structures to address the psychological strain experienced by ED nurses. Regular mental health screenings, staff debriefings, and access to psychological services should be prioritized, especially in fast-paced environments where emotional exhaustion is common.

CONCLUSION

Based on our study findings, we found a positive link between intrinsic religious orientation and hope, as well as a negative link with health anxiety among Iranian emergency nurses. Although these connections are correlational and do not establish causation, they suggest that in high-stress clinical settings, promoting hope and meaningful religious involvement may benefit coping and resilience.

Further research using longitudinal or experimental methods is necessary to explore the causal relationships among these variables. Nevertheless, the observed patterns underscore the importance of developing culturally appropriate interventions to nurture hope and foster intrinsic spiritual contemplation, which could enhance nurses' mental well-being and the quality of patient care.

AUTHORS' CONTRIBUTIONS

H.S-N., M.M.L., H.J., and O.K.: Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; H.S-N., M.M.L., H.J., A.H.G., and O.K.: Drafting the work or revising it critically for important intellectual content. All of the authors approved the final version of the manuscript.

LIST OF ABBREVIATIONS

ED = Emergency Department
 HAI-18 = Health Anxiety Inventory (the 18-item version)
 ROS = Religious Orientation Scale
 HHI = Herth Hope Index
 HAI = Health Anxiety Inventory

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The Ethics Committee of Mazandaran University of Medical Sciences, Iran approved this study (code: IR.MAZUMS.REC.1402.145).

HUMAN AND ANIMAL RIGHTS

All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from all subjects or their legal guardian.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

All the data and supporting material are available within the article.

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None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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