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# Prevalence of Depression and Anxiety Symptoms among Healthcare Workers in Selected Hospitals in Jeddah, Saudi Arabia

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## ABSTRACT

*This quantitative cross-sectional study determined the prevalence and levels of depression and anxiety symptoms among healthcare workers in selected hospitals in Jeddah, Saudi Arabia, and examined their association with selected demographic and work-related factors. The first thirty (30) respondents were used for pilot testing and were excluded from the final analysis, while the remaining three hundred (300) respondents served as the final study sample. Data were gathered using a structured printed questionnaire composed of demographic and work-related profile items, the Patient Health Questionnaire-9 (PHQ-9), and the Generalized Anxiety Disorder-7 (GAD-7). Descriptive statistics, t-test, analysis of variance, Spearman rho, and Pearson correlation were used. Pilot testing showed good internal consistency for the PHQ-9 (Cronbach's alpha = 0.864) and GAD-7 (Cronbach's alpha = 0.889). Results showed a mean PHQ-9 score of 6.20 (SD = 5.23), with 128 respondents (42.7%) having at least mild depressive symptoms. The mean GAD-7 score was 3.60 (SD = 3.92), with 114 respondents (38.0%) having at least mild anxiety symptoms. Significant differences and relationships were found for selected variables. The findings served as basis for a proposed mental health support program focused on awareness, screening, referral, stress management, peer support, and workplace wellness.*

***Keywords:*** *anxiety, depression, healthcare workers, mental health, PHQ-9, GAD-7*

## INTRODUCTION

Healthcare workers are routinely exposed to occupational stressors such as heavy workloads, long working hours, rotating shifts, staffing shortages, emotional demands, and exposure to critically ill patients. These conditions have been associated with adverse mental health outcomes, particularly depression and anxiety. Mental health concerns among healthcare workers are important because they affect individual well-being and may influence job performance, patient safety, productivity, workforce retention, and quality of healthcare services.

Globally, depression and anxiety remain common among healthcare professionals. Pappa et al. (2020) reported pooled prevalence rates of 22.8% for depression and 23.2% for anxiety among healthcare workers during the COVID-19 pandemic. In Saudi Arabia, studies have reported considerable levels of anxiety and depression among healthcare professionals, indicating the need for continuous assessment and institutional support. However, limited post-pandemic studies have simultaneously examined depression and anxiety according to demographic and work-related factors among nurses, physicians, and allied healthcare professionals across selected hospitals in Jeddah.

**Statement of the Problem**

This study determined the prevalence and levels of depression and anxiety symptoms among healthcare workers in selected hospitals in Jeddah, Saudi Arabia. Specifically, it answered the demographic profile, work-related characteristics, prevalence and levels of depressive symptoms based on PHQ-9, prevalence and levels of anxiety symptoms based on GAD-7, significant differences in depression and anxiety when grouped according to demographic and work-related factors, significant relationships between selected variables, and the proposed mental health support program.

**Scope and Delimitations**

The study was limited to healthcare workers in selected hospitals in Jeddah, Saudi Arabia, who were directly involved in patient care and voluntarily participated in the survey. It focused only on selected demographic factors, work-related factors, PHQ-9 depressive symptom scores, and GAD-7 anxiety symptom scores. The findings are screening-based and should not be interpreted as clinical diagnoses.

**Review of Related Literature**

Previous studies show that depression and anxiety remain significant concerns among healthcare workers because of workload, shift work, emotional demands, and organizational stressors. Demographic factors such as age, gender, and marital status, and work-related factors such as profession, clinical specialty, years of service, and work schedule may influence mental health outcomes. The literature also supports workplace mental health interventions, including routine screening, counseling, stress management, peer support, and referral systems.

**Theoretical Framework**

This study was anchored on Lazarus and Folkman's Stress and Coping Theory, Roy's Adaptation Model, and the Job Demand-Control-Support Model. These theories explain how healthcare workers appraise, cope with, and adapt to work-related stressors, and how job demands, control, and workplace support may influence depression and anxiety symptoms.

**Conceptual Framework**

The conceptual framework followed an Input-Process-Output model. The inputs were demographic and work-related factors; the process involved printed survey administration, PHQ-9 and GAD-7 scoring, data coding, and statistical analysis; and the outputs included prevalence and severity levels, significant differences and relationships, and a proposed mental health support program.

**METHODOLOGY**

This section describes the procedures used in conducting the study, including the research design, research steps, sample selection, data collection process, methods of analysis, and ethical safeguards. The methodology ensured that data were gathered systematically from eligible healthcare workers using printed questionnaires and that the responses were coded, analyzed, and interpreted according to the objectives of the study.

### Research Design

The study used a quantitative cross-sectional survey design in selected hospitals in Jeddah, Saudi Arabia. This design was appropriate because the study measured depression and anxiety symptoms and examined their association with demographic and work-related factors at one point in time.

### Research Steps

The research process included adviser and ethics approval, validation of the demographic and work-related profile items, pilot testing, coordination with selected hospitals, distribution and retrieval of printed questionnaires, data checking, coding, statistical analysis, interpretation of findings, and development of a proposed mental health support program.

### Data Collection and Sample Selection

Purposive sampling was used to select healthcare workers who were directly involved in patient care and who voluntarily agreed to participate. The first thirty (30) respondents were used for pilot testing and excluded from the final analysis. The final sample consisted of three hundred (300) healthcare workers. The instrument was a structured printed survey questionnaire composed of demographic profile, work-related profile, PHQ-9, and GAD-7 sections.

### Methods of Analysis

Frequency, percentage, mean, and standard deviation were used for descriptive analysis. Independent samples t-test and analysis of variance were used to determine significant differences in depression and anxiety when grouped according to demographic and work-related factors. Spearman rho and Pearson correlation were used to determine significant relationships among selected variables. The level of significance was set at 0.05.

### Ethical Considerations

Participation was voluntary, and respondents were informed of their right to refuse or withdraw without penalty. Privacy and confidentiality were maintained by using codes instead of names. Because PHQ-9 Item 9 relates to self-harm thoughts, respondents who experienced distress or indicated possible self-harm concern were advised to seek immediate support from available healthcare or mental health services in the institution, subject to hospital policy.

## RESULTS AND DISCUSSION

### Profile of Respondents

The final sample consisted of 300 healthcare workers. Most respondents were 31-40 years old (61.7%), female (84.7%), and married (50.3%). In terms of work-related characteristics, most were nurses (87.3%), followed by physicians (6.0%), physical therapists (3.7%), and patient care assistants (3.0%). Most were assigned in medical areas (23.7%), surgical areas (19.7%), or psychiatry (18.7%). The largest group had 6-10 years of service (34.3%), followed by 11-15 years (26.7%), and most respondents were on rotating shifts (69.0%).

### Depression and Anxiety Results

The PHQ-9 results showed a mean score of 6.20 (SD = 5.23). A total of 128 respondents (42.7%) had at least mild depressive symptoms, and 104 respondents (34.7%) had moderate to moderately severe depressive symptoms. No respondent was classified under the severe depressive symptom category. PHQ-9 Item 9 was endorsed by 12 respondents (4.0%), indicating the need for appropriate referral and institutional support. The GAD-7 results showed a mean score of 3.60 (SD = 3.92). A total of 114 respondents (38.0%) had at least mild anxiety symptoms, and 35 respondents (11.7%) had moderate anxiety symptoms. No respondent was classified under the severe anxiety category.

### Significant Differences and Relationships

Significant differences in depression and anxiety were found according to age group, marital status, profession, clinical specialty, and years of service. Work schedule was significant for depression only, while gender was not significant for both outcomes. Significant relationships were found between age and depression, age and anxiety, years of service and anxiety, and depression and anxiety scores. These findings indicate that selected demographic and work-related factors were partly associated with mental health outcomes.

### Hypotheses and Conceptual Framework Alignment

The null hypotheses were partially rejected because significant differences and relationships were found in several variables, but not all demographic and work-related factors were significant for both depression and anxiety. The findings aligned with the Input-Process-Output conceptual framework because the demographic and work-related inputs, processed through survey administration and statistical analysis, produced evidence-based outputs for a proposed mental health support program.

## SUMMARY

The study determined the prevalence and levels of depression and anxiety symptoms among healthcare workers in selected hospitals in Jeddah, Saudi Arabia. The first 30 respondents were used for pilot testing, while the final analysis included the remaining 300 respondents. The statement of the problem was answered by describing the respondents, identifying symptom prevalence and levels, testing significant differences and relationships, deciding on the hypotheses, aligning the findings with the conceptual framework, and proposing a mental health support program.

## CONCLUSIONS

- Depression and anxiety symptoms were present among healthcare workers, with 42.7% reporting at least mild depressive symptoms and 38.0% reporting at least mild anxiety symptoms.
- Selected demographic and work-related factors were partly associated with mental health outcomes.
- The hypotheses were partially rejected because significant findings were present in some variables but not in all variables.

- The Input-Process-Output conceptual framework was supported by the final findings and proposed program.

## RECOMMENDATIONS

- Healthcare institutions should strengthen mental health awareness, routine screening, stress management, referral mechanisms, peer support, and workplace wellness activities.
- Nursing administrators should give focused support to groups with higher depression and anxiety scores and review workload, shift schedules, and available support systems.
- Future researchers may conduct larger multi-site or longitudinal studies to monitor changes in healthcare workers' mental health over time.

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## AI DECLARATION STATEMENT

AI-supported tools were used to assist with grammar, organization, and formatting of this IMRAD manuscript. The researcher remains responsible for the academic content, verification of results, interpretation, and final submission of the paper.

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