**Examining the levels of anxiety and depression among nurses working at Al- Diwaniyah Teaching Hospital during COVID-19 pandemic**

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| **Abstract**  This study investigated the anxiety and depression of nurses working at Al-Diwaniyah Hospital during the COVID-19 pandemic. The study also looked into the effect of demographic characteristics (age, gender, and marital status) on their anxiety and depression levels. This descriptive study was conducted at Al-Diwaniyah Teaching Hospital in Iraq during the COVID-19 pandemic between December 27, 2020, and February 26, 2021. The sample consisted of 150 nurses. Participation was voluntary. Data were collected face-to-face using a personal information form and the Hospital Anxiety and Depression Scale (HADS). More than half the participants were women (65.3%). More than a quarter of the participants were younger than 26 (34%). More than half the participants were married (58.7%). Less than half the participants had bachelor’s or higher degrees (45.3%). Most participants were non-smokers (71.3%). More than half the participants had been working for less than five years (54.7%) and had no chronic disease (69.3%). One-third of the participants had mild anxiety (33.3%), while one in ten had severe anxiety (10%). Half the participants had normal depression (50%), while ten had severe depression (6.7%). Married participants had a significantly higher mean depression score than single participants. Participants with more than five years of work experience had a significantly higher mean depression score than those with less than five years of work experience. Age, education, income status, gender, place of residence, and smoking habits did not affect participants’ HADS scores. Authorities should provide nurses with psychosocial services to support their mental health in times of crisis, such as pandemics. |
| Keywords: COVID-19, Anxiety, Depression, Nursing |

1. **Introduction**

Healthcare professionals experienced high levels of stress and anxiety during the COVID-19 pandemic because they had no direct medical information and no full training in personal protective equipment and infection control procedures [1]. The study was conducted a global multicenter trial during the COVID-19 pandemic [2]. They reported that four in five healthcare professionals (n=906) suffered moderate to severe depression. The COVID-19 pandemic significantly impacts the mental health of healthcare professionals. They have worked tirelessly and without pause for months to combat the COVID-19 pandemic. Healthcare professionals were away from their families for months. They lost their colleagues to the pandemic. They worked for months wearing protective equipment [3]. Since the onset of the pandemic, there has been a growing demand for nurses in areas with high COVID-19 hospitalization rates. COVID-19 cases are predicted to exceed hospital capacity, and personal protective equipment may be in short supply. Nurses are more likely to experience PTSD and burnout in high-stress and high-risk working conditions [4]. The study was found that COVID-19 patients were more likely to suffer from despair, anxiety, and insomnia when cared for by healthcare staff in China [5]. They also determined that nurses had more serious mental health problems than other healthcare professionals. This study investigated the effect of sociodemographic characteristics on the anxiety and depression of nurses during the COVID-19.

1. **Materials and Methods**

This was a descriptive cross-sectional study. Data were collected in Al-Diwaniya teaching hospital, Iraq, between December 27, 2020, and February 26, 2021. The study population consisted of 300 nurses. The sample consisted of 150 nurses recruited using purposive sampling. Data were collected using a personal information form and the Hospital Anxiety and Depression Scale (HADS). There are the researh questions: What HADS scores do participants have?;Is there a difference between participants’ anxiety and depression levels? and do participants’ demographic characteristics affect their HADS scores? The study was approved by the ethics committee of the Ministry of Higher Education and Scientific Research – the University of Karbala - College of Nursing. All nurses were informed about the research purpose and procedure. Informed consent was obtained from those who agreed to participate. Data were nonnormally distributed. Therefore, nonparametric tests were used to analyze the data. The Mann-Whitney U test was used to determine the effect of sociodemographic characteristics (gender, marital status, monthly income, place of residence, smoking status, and having a chronic disease) on HADS scores. The Kruskal-Wallis H test was used to determine the effect of age, education, and work experience on HADS scores.

1. **Results and Discussion**

More than half the participants were women (65.3%). More than a quarter of the participants were younger than 26 (34%). More than half the participants were married (58.7%). Almost half the participants had bachelor’s or higher degrees (45.3%). Most participants were non-smokers (71.3%). More than half the participants had less than six years of work experience (54.7%). Most participants had no chronic disease (69.3%) (Table1)

Table 1. Demographic Characteristics (n = 150)

|  |  |  |
| --- | --- | --- |
| Demographic Characteristics | n | % |
| **Age (years)** |  |  |
| ≤25 | 51 | 34 |
| 26 – 30 | 40 | 26.7 |
| 31 – 35 | 23 | 15.3 |
| 36 – 40 | 15 | 10 |
| 41≥ | 21 | 14 |
| **Gender** |  |  |
| Woman | 98 | 65.3 |
| Man | 52 | 34.7 |
| **Marital status** |  |  |
| Single | 62 | 41.3 |
| Married | 88 | 58.7 |
| **Education (degree)** |  |  |
| Secondary school of nursing | 36 | 24 |
| Institute of nursing | 46 | 30.7 |
| Bachelor’s or higher | 68 | 45.3 |
| **Monthly income** |  |  |
| Enough | 89 | 59.3 |
| Not enough | 61 | 40.7 |
| **Residence** |  |  |
| Rural | 44 | 29.3 |
| Urban | 106 | 70.7 |
| **Smoking** |  |  |
| Yes | 43 | 28.7 |
| No | 107 | 71.3 |
| **Work experience** |  |  |
| ≤ 5 | 82 | 54.7 |
| 6 – 10 | 29 | 19.3 |
| 11- 15 | 15 | 10 |
| 16≥ | 24 | 16 |
| **Chronic disease** |  |  |
| Yes | 46 | 30.7 |
| No | 104 | 69.3 |
| Total | 150 | 100 |

One-third of the participants experienced mild anxiety (33.3%). Three in ten participants did not experience anxiety (28.7%). Three in ten participants experienced moderate anxiety (28.7%). One in ten participants experienced severe anxiety (10%). Half the participants did not experience depression (50%). A quarter of the participants experienced mild depression (24.7%). One in five participants experienced moderate depression (18.7%). Ten participants experienced severe depression (6.7%).

Married participants had a significantly higher mean HADS-D score than single participants (p <0.05). Participants with more than five years of work experience had a significantly higher mean HADS-D score than those with less than five years of work experience. However, the other variables did not significantly affect participants' HADS scores (Table 2)

**Table 2:** The relationship between HADS scores and age, education, work experience and marital status (n = 150)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grouping Variables | HADS-A | | | | | HADS-D | | | |
| Age (years) | N | Mean Rank | SD | Chi-Square\*\* | P\*\* | Mean  Rank | SD | Chi-Square\*\* | P\*\* |
| ≤25 | 51 | 80.44 | 16.0 | 4.246  df=4 | 0.37 | 67.53 |  | 5.846  df=4 | 0.21 |
| 26-30 | 40 | 69.51 | 13.9 | 77.64 |  |
| 31-35 | 23 | 70.87 | 14.1 | 71.04 |  |
| 36-40 | 15 | 64.83 | 12.9 | 78.27 |  |
| 41≥ | 21 | 87.60 | 17.52 | 93.69 |  |
| Education (degree) |  |  |  |  |  |  |  |  |  |
| Secondary school of nursing | 36 | 74.08 | 24.6 | 0.127  df=2 | 0.93 | 64.72 | 21.5 | 4.222  df=2 | 0.121 |
| Institute of nursing | 46 | 71.59 | 23.8 | 66.87 | 22.29 |
| College and post. | 61 | 71.08 | 23.6 | 80.16 | 26.72 |
| Work experience (year) |  |  |  |  |  |  |  |  |  |
| ≤5 | 82 | 74.12 | 14.8 | 2.608  df=3 | 0.45 | 67.59 | 16.8 | 8.826  df=3 | **0.03** |
| 6-10 | 29 | 76.90 | 19.2 | 86.17 | 21.5 |
| 11-15 | 15 | 63.73 | 15.9 | 69.67 | 17.4 |
| 16≥ | 24 | 85.90 | 21.4 | 93.27 | 23.3 |
| Marital Status |  |  |  |  |  |  |  |  |  |
| Single | 58 | 78.78 | 39.3 | U=2478; p=0.46 | | 64.94 | 32.4 | U=2055**; p=0.01** | |
| Married | 92 | 73.43 | 46 | 82.16 | 41.0 |

Half of our participants had no depression (50%), while ten had severe depression (6.7%). These results are consistent with the literature [5-7]. Nadeem et al. also found that the prevalence of normal and severe depression among nursing staff in Pakistan was 50% and 7.1%, respectively [8]. This study was conducted in Iraq during the COVID-19 pandemic. However, due to cultural factors, Iraqi nurses are not significantly affected by anxiety and depression. However, there are individual differences between nurses based on demographic data.

Married participants had a significantly higher mean depression score than single participants. Çelik and Dağllı also found that nurses married with children had higher depression than singles [9]. On the other hand, Sheikhbardsiri et al. reported that single nurses experienced more anxiety and depression than their married counterparts [10]. Married Iraqi people experience more depression probably because they have more burdens than single people.

Participants with more than five years of work experience had a significantly higher mean depression score than those with less than five years of work experience. Some study was reported that a significant association between depression and work experience and monthly working hours among nurses during the pandemic [11, 12]. Hospitals should provide married nurses with counseling programs to alleviate their depression. Such programs can help married nurses feel better and provide effective patient care. Authorities should develop social bulletins and programs for all healthcare professionals, especially nurses with less than five years of experience, to help reduce their depression levels. Mental health nurses can treat COVID-19-related mental health concerns using cutting-edge technologies, such as telemedicine. Registered community nurses or advanced practice nurses can provide psychotherapy or psychososcial support to our colleagues for mental health.

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