

Resilience Skills in Relation to Psychiatric Nurses' Work Engagement and Mental Health in Facing COVID-19 Pandemic

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Abstract

Background: Psychiatric nurses encounter a vast amount of work-related pressures in caring for psychiatric patients that increased during COVID 19 pandemic. The ability to cope with different stressful situations, keep up mental health and engagement in work are vital to maintain patient care quality. **So**, this study aimed to assess resilience skills in relation to psychiatric nurses' work engagement and mental health in facing COVID-19 pandemic. **Method:** Correlation cross-sectional design was used. The current study was conducted at Tanta Mental Health Hospital affiliated to the Ministry of Health and Population. **Subjects** included 84 psychiatric nurses. **Tools:** Tree tools were used to collect the present study data. **Tool I: Nurses' Resilience Skill Scale, Tool II: Utrecht Work Engagement Scale and Tool III: General Health Questionnaire.** **Results:** 42.6 % of the psychiatric nurses had a low level of resilience skill, 45.2 % of them had a low level of work engagement, 57.1% of them had a high level of vigor engagement and 79% of them had a high distress. **Conclusion:** During COVID-19 pandemic psychiatric nurses' resilience was found to have positive significant association with their work engagement and mental health.

Keywords: *COVID-19, Mental Health, Pandemic, Psychiatric Nurses, Resilience Skill & Work Engagement.*

Introduction

COVID-19 was considered a pandemic by the World Health Organization on March 2020 due to its rapid spread worldwide (World Health Organization, 2020 a). Like all viral diseases it undergoes mutation producing a variety of strains. Each strain has specific virulence, immune response and is being affected differently by vaccines (Roy et al., 2021). By the end of February 2021, there have been more than one hundred and eleven million cases worldwide, with around two and a half million confirmed deaths all over the world (World Health Organization, 2020 b). Around 20 mutations differ from the first strain has been shown up during the period from January to October 2020 (European Centre for Disease Prevention and Control, 2020). Definitely, such pandemic is considered stressful time for nurses as front line healthcare providers; due to a lack of available information about the mode of transmission, lines of treatment, the nursing shortage and lack of resources (Millar, 2020; Velavan & Meyer, 2020).

In particular, psychiatric nurses; who care for patients with psychiatric and behavioral disorders; are in direct contact with patients from admission to discharge. They confront many challenges including aggression from patients, bullying from peers, staff shortage, poor skill mix, threats from clients; and lack of support from hospital administration (Cranage & Foster, 2022). All of this added an extra burden on

psychiatric nurses in facing COVID-19 pandemic and lead to stress and mental suffering (Hu, et al., 2020). Psychiatric nurses need to be sensitive, caring, and capable of handling stressful and uncertain clinical situations (Berma, et al., 2022). A supportive workplace, during the pandemic, is an important factor for not only maintaining care quality but also keeping nurses motivated (Farmakas et al., 2013). Besides, Psychiatric nurses experience psychological distress and environmental constraints that negatively affect their job performance, personal life and well-being (Hu, et al., 2020). Moreover, nurses have additional concerns about being contagious and infecting their families, and colleagues which increase their anxiety and can cause long-term psychological implications (Pfefferbaum & North, 2020).

Even though all these dangerous conditions, psychiatric nurses; like many nurses; continue providing nursing services. This could be referred to certain personal attributes possessed by those nurses, they develop resilience so they effectively endure with stress and buffer their mental health whilst facing adverse situations during the current pandemic crisis. Resilience is the nurses' ability to cope with numerous adversative situations while keep-up a sense of purpose, equilibrium, and healthy physical and mental state (Kang, et al., 2020, Mohamed et al., 2022, & Salas et al., 2021). Lack of resilience can

cause nurses burnout, poor job performance, and turnover, which are major concerns in nursing management. Also, prolonged exposure to these unmanaged stressors has adverse consequences on psychiatric nurses' mental health. Thus, nurses' welfare and safety are fundamental not only for maintaining safe patient care, but also for managing any future outbreaks (Kang, et al., 2020, Mohamed et al., 2022, & Salas, 2021).

Resilience in nursing can be categorized into four types. Type I, reality harmony, psychiatric nurses belong to this type do not rely on external factors to face workplace hardship but use realistic coping skills such as self-suggestion, enduring, and trying new things to achieve. Type II, own will, psychiatric nurses fall in this type chose to remain working with stressors and attempt to improve their psychological well-being and self-esteem through look at the bright side in stressful situations. Type III, professionally oriented; in this type; psychiatric nurses try to gain support from families and patients to enjoy a sense of achievement for their responsibilities. Finally type IV, relation oriented, in this type psychiatric nurses are proud of being nurses they pursue support from colleagues (Abualruz & Hayajneh, 2019).

Resilience skill is subjective nature; it combines nurses' feelings, thoughts, and cultural backgrounds; which can be learned and developed through intellectual practices through academic learning (Shin et al., 2018). Developing resiliency enhances psychiatric nurses' ability to apply psychomotor skills such as communication and task performance in the proper manner as well as cognitive-behavioral skills such as attentiveness, sympathy, and emotional intelligence. Thus, resilience abilities can help psychiatric nurses not only to engage but also to thrive in work during disasters (Schock, 2020).

Work engagement is a desirable condition that benefits healthcare organizations by enhancing nurses' commitment, involvement and enthusiasm, it is essential for work related well-being (Shekari, 2015). Work engagement is an active, positive and persistent motivational work related state that accompanies the behavioral investment of psychiatric nurses' energy including three dimensions; dedication, absorption and vigor. Dedicated nurses are characterized by being strongly inspired (emotional) and involved in work experiencing emotional states of pride, and significance, in addition to challenge. Absorbed nurses feel happily detached from their surroundings (cognitive) with elevated levels of focus on work, lacking the awareness of time spent on work related tasks. Vigor nurses have high levels of energy (physical) and mental resilience and are willing to invest consistent effort in their work even when facing problems. Thus, vigor and

dedication can be considered opposites of burnout (Fountain, 2016; Garcia-Sierra et al., 2016; Gonzalez et al., 2019; Giménez-Espert et al., 2020). Work engagement is influenced by three psychological conditions meaningfulness, safety and availability. Meaningfulness refers to feeling valued, and useful, safety denotes the ability to work without fear of negative consequences on self-esteem and professional status, and availability is related to accessibility to required resources to fully perform one's work tasks. Thus, engagement is conceptualized as one being immersed and happily engrossed in work (Fountain, 2016; Garcia-Sierra et al., 2016; Gonzalez et al., 2019; Giménez-Espert et al., 2020). Through resilience and engagement psychiatric nurses are not only attached to their job but also to their work-colleagues and hospital which in turn significantly can affect the quality of their performance (Gera et al., 2019). Consequently, work engagement is one of the main aspects of improving nurses' mental well-being as it acts against the occurrence of anxiety or exhaustion among nurses and enhances their intrinsic motive for work (Giménez-Espert et al., 2020; Gera et al., 2019; & Pierce et al., 2020). Evidence showed that work engagement is protective agent against burnout; during crises; by creating a constructive mental condition within work (Juan, et al., 2021). Mental health can be defined as a condition of well-being where psychiatric nurses realize their abilities, be able to cope with stressful life and work events and maintain productivity. This condition is not contradictory to mental illness but rather influenced by daily factors, and can cope with a stressful situation such as COVID-19 pandemic (Gonzalez et al., 2019).

Significance of the study

Psychiatric nurses' welfare is being affected during the pandemic by hospital policies, daily work conditions, and shortage of staff and equipment. That lead to nurses' burnout and them feel insufficiency, dissatisfaction, and will have serious implications for the nursing profession (Cranage, Foster, 2022 & Sampaio, et al., 2022). Thus, nurse managers are not only responsible for ensuring a safe workplace, and create a culture of inclusion. But also protecting nurses' well-being and supporting them with skills and tools that allow nurses to practice autonomously and competently; to facilitate their adaptation to the hardship faced in both familial and workplace during pandemics. And make nurses feel supported, respected and remain optimistic providing hope for patients to navigate their health challenges (Hall; Knuth, 2019 & Alfifi et al., 2019). So, our study aimed to investigate the association between

psychiatric nurses' levels of resilience and their engagement with mental health during COVID-19 pandemic.

Methodology:

Aim:

This study aimed to assess the resilience skill in relation to psychiatric nurses' work engagement and mental health in facing COVID-19 pandemic

Research questions:

- What are the levels of psychiatric nurses' resilience skills?
- What are the levels of psychiatric nurses' work engagement?
- What are the levels of psychiatric nurses' mental health?
- What is the relation between psychiatric nurses' resilience skills, work engagement and mental health during COVID 19 pandemic?

Study design: Correlational, cross-sectional study design was used to collect data and make inferences about the sample to describe the relationships among the study variables at one point in time.

Setting: The study was carried out at Tanta Mental Health Hospital affiliated to the Ministry of Health and Population. It is 107 beds capacity; is divided into four wards two female wards consists of (40 beds) and two male wards consisting of (67 beds). This hospital provides healthcare services to El-Gharbeya, El-Menofeya, and Kafr El-Sheikh governorates, 7 days a week - 24 hours a day.

Subject: All (84) nurses who were working in the previously mentioned setting, provide direct care for patients and agreed to participate in the present study.

Tools: Three tools were used to collect the present study data by researchers.

Tool I: Nurses' Resilience Skill Scale developed by **Shin et al., (2018)** and modified by the researchers, involved two parts. **Part 1:** Psychiatric nurses' personal data as sex, age, residency, marital status, years of experience in the current unit, work unit, level of nursing education and the number of children. **Part 2:** Nurses' Resilience Skill Scale, consisted of (33 items) classified into four categories reality-harmonic (14 items), own will (8 items), professionalism-oriented (5 items), and relation-oriented (6 items). Psychiatric nurses' responses were measured on a three points Likert Scale 3 =always, 2 =sometimes and 1=rarely. The total scores were classified into levels according to the cutoff points as: high resilience skill $\geq 75\%$, moderate resilience skill $65\% - <75\%$ and low resilience skill $<65\%$

Tool II: Utrecht Work Engagement Scale (UWES) developed by **Carmona-Halty et al., (2019)** and modified by the researchers, consisted of (17 items) distributed into three subscales; dedication (5 items), absorption (6 items) and vigor (6 items). Psychiatric

nurses' responses were measured on a three points Likert Scale 3=always, 2=sometimes and 1=rarely. The total scores were classified into levels according to the cutoff points as: high work engagement $\geq 75\%$, moderate work engagement $65\% - <75\%$, and low work engagement $<65\%$.

Tool III: General Health Questionnaire, which was developed by researchers guided by **Goldberg et al., (1997)** consisted of 12 items, to assess psychiatric nurses' mental health. Nurses' responses were measured on a three points Likert Scale 3 =always, 2 =sometimes and 1=rarely. The six negative items (2, 5, 6,9,10 and 11) had a reverse score. Total scores were classified into levels according to cutoff points as follows: high distress $\geq 75\%$, moderate distress $<75\% - 65\%$ and low distress $<65\%$

Method for data collection:

The tools were modified, translated by the researchers into Arabic and presented to five experts in the field of nursing administration to assess the face and content validity; according to the experts' opinions some modifications and rewording of some items were done. Content Validity Index values were 85%, 88% and 91% for tools I, II, and III respectively. Then the researchers carried out a pilot study (10%) 9 nurses to assess the tools' applicability and reliability. Those 9 nurses were excluded from the study sample. By applying Cronbach's coefficient alpha test, reliability values were 0.88, 0.92, and 0.95, for tools I, II, and III respectively. Data were collected through a self-administered questionnaire. Time spent in filling out study tools was approximately 20 minutes for each psychiatric nurse. The researcher met five to six nurses each day – four days a week. The data were collected within one month of February 2021.

Ethical considerations: An approval of The Scientific Research Ethics Committee was obtained (Code No.176-12-22). Then the approval of the head of psychiatric hospital was obtained, the study's purpose was explained to psychiatric nurses and their approval to participate in the study was taken through oral consent. They were assured about the privacy of their obtained data, their right to withdraw from the study was confirmed and the study would not cause any harm for them.

Statistical analysis

The study data was fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data was described using numbers and percentages. The Shapiro-Wilk test was used to verify the normality of distribution Quantitative data were described using range, mean, standard deviation and median. Significance of the obtained results was judged at the 5% level. Using, Student t-test, F-test (ANOVA), and Pearson coefficient.

Results

Table (1): Psychiatric nurses’ personal characteristic (N=84)

| Items | No. | % | Items | No. | % |
|-----------------------|--------------|------|--|--------------|------|
| Sex | | | Years of Experience in current unit | | |
| Female | 62 | 73.8 | < 10 | 22 | 26.2 |
| Male | 22 | 26.2 | 10-< 20 | 40 | 47.6 |
| Age | | | ≥20 | 22 | 26.2 |
| ≤ 30 | 22 | 26.2 | Mean ± SD | 14.50 ± 6.52 | |
| > 30-40 | 56 | 66.7 | Work Unit | | |
| > 40 | 6 | 7.1 | Male unit | 58 | 69.0 |
| Range | 24.0 – 47.0 | | Female unit | 26 | 31.0 |
| Mean ± SD | 35.33 ± 6.28 | | Level of nursing education | | |
| Residency | | | Post grad. studies | 10 | 11.9 |
| Rural | 40 | 47.6 | Bsc. In nursing | 30 | 35.7 |
| Urban | 44 | 52.4 | Diploma | 44 | 52.4 |
| Marital status | | | Number of children | | |
| Married | 78 | 92.9 | None | 6 | 7.1 |
| Not married | 6 | 7.1 | 1-2 | 52 | 61.9 |
| | | | 3-4 | 26 | 31.0 |

SD: Standard deviation

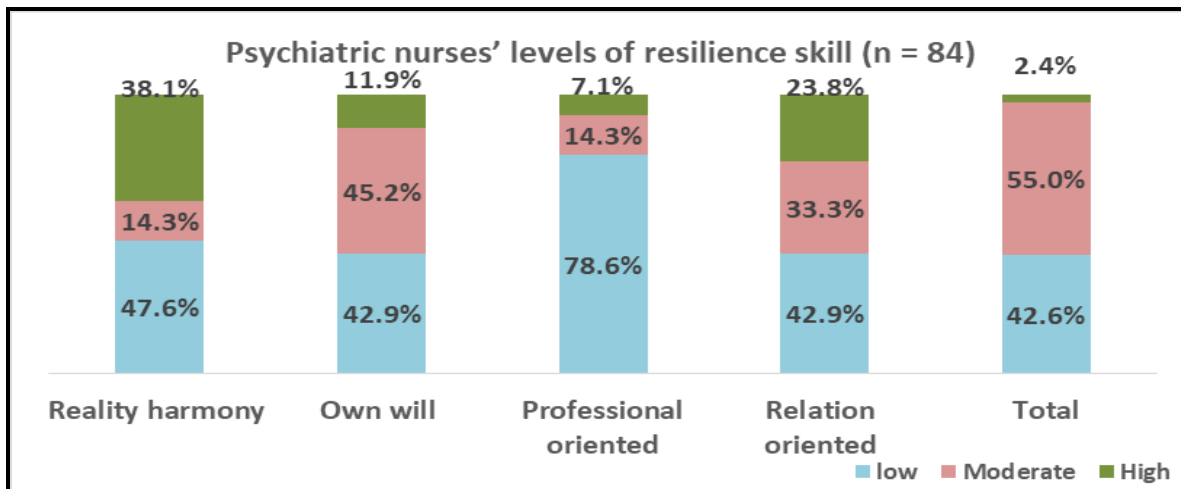


Figure (1): Psychiatric nurses’ levels of resilience skills (n = 84)

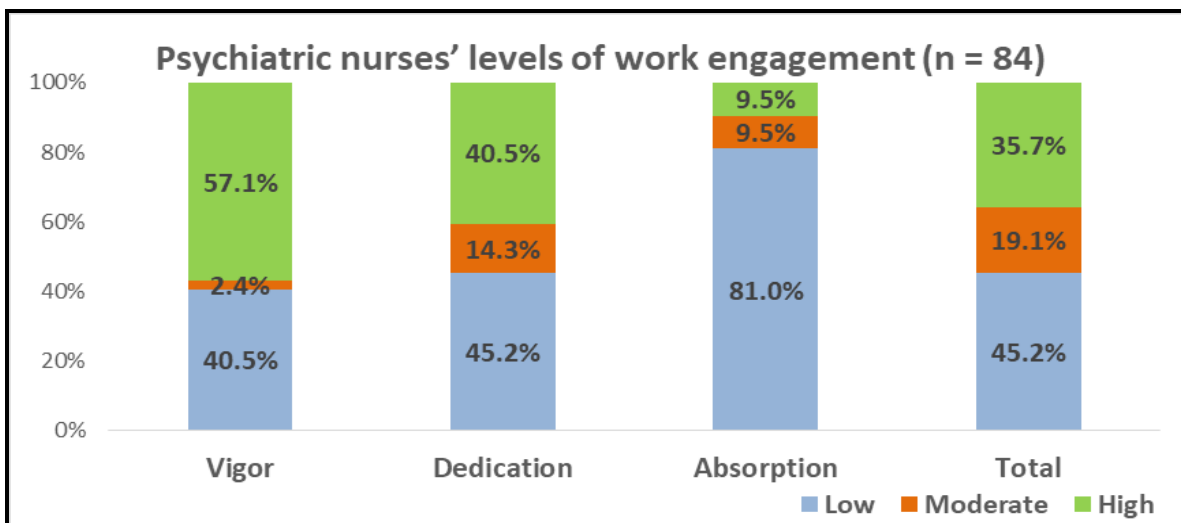


Figure (2): Psychiatric nurses’ levels of work engagement (n = 84)

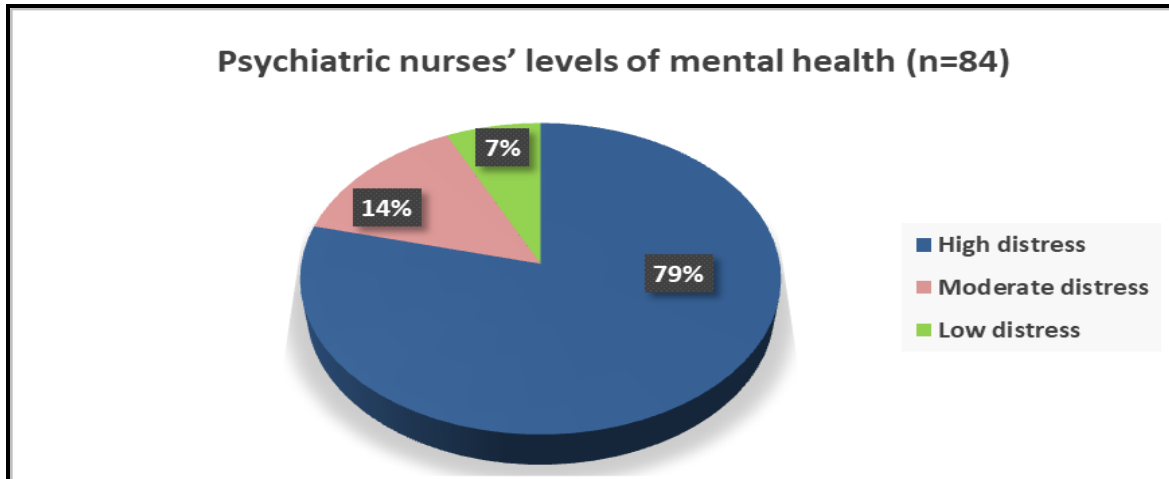


Figure (3): Psychiatric nurses' levels of mental health (n = 84)

Table (2): Relation between psychiatric nurses' demographics and resilience skills (n = 84)

| Items | Reality-harmonic | Own will | Professionalism-oriented | Relation-oriented | Total |
|---------------------------|------------------|-----------------|--------------------------|-------------------|------------------|
| Gender t (p) | 1.481 (0.146) | 1.812 (0.079) | 1.155 (0.255) | 0.434 (0.667) | 0.882 (0.383) |
| Age t (p) | 3.723* (0.001*) | 2.206* (0.034*) | 0.011 (0.991) | 2.551* (0.015*) | 3.865* (<0.001*) |
| Residency t (p) | 0.892 (0.378) | 0.392 (0.697) | 1.430 (0.161) | 0.059 (0.954) | 0.050 (0.961) |
| Marital status t (p) | 0.927 (0.360) | 0.279 (0.781) | 1.078 (0.287) | 1.156 (0.254) | 0.628 (0.533) |
| Years of Experience F (p) | 1.236 (0.302) | 1.842 (0.172) | 0.088 (0.916) | 3.383 (0.044) | 2.373 (0.107) |
| Nursing education F (p) | 0.186 (0.831) | 0.372 (0.691) | 6.994* (0.003*) | 1.265 (0.294) | 1.630 (0.209) |
| Work Unit t (p) | 0.745 (0.461) | 1.138 (0.262) | 1.631 (0.111) | 2.850* (0.007*) | 1.872 (0.069) |

t: Student t-test

F: F for ANOVA test

p: p value for comparing between the groups

*: Statistically significant at $p \leq 0.05$

Table (3): Relation between psychiatric nurses' demographics and work engagement (n = 84)

| Items | Vigor | Dedication | Absorption | Total |
|---------------------------|-----------------|------------------|-----------------|-----------------|
| Gender t (p) | 0.395 (0.695) | 0.108 (0.914) | 0.803 (0.427) | 0.048 (0.962) |
| Age t (p) | 2.479* (0.021*) | 4.848* (<0.001*) | 2.743* (0.010*) | 3.583* (0.001*) |
| Residency t (p) | 0.167 (0.868) | 0.271 (0.788) | 0.251 (0.803) | 0.098 (0.923) |
| Marital status t (p) | 0.561 (0.578) | 0.213 (0.832) | 0.023 (0.982) | 0.360 (0.721) |
| Years of Experience F (p) | 0.129 (0.879) | 1.762 (0.185) | 1.789 (0.181) | 0.852 (0.434) |
| Nursing education F (p) | 0.495 (0.613) | 2.191 (0.125) | 5.048* (0.011*) | 1.671 (0.201) |
| Work Unit t (p) | 0.548 (0.586) | 1.890 (0.066) | 1.993 (0.053) | 1.377 (0.176) |

t: Student t-test

F: F for ANOVA test

p: p value for comparing between the groups

*: Statistically significant at $p \leq 0.05$

Table (4): Correlation between psychiatric nurses' resilience skill and work engagement (n = 84)

| Items | | Vigor | Dedication | Absorption | Total work Engagement |
|--------------------------|---|---------|------------|------------|-----------------------|
| Reality-harmonic | r | 0.802 | 0.769 | 0.545 | 0.795 |
| | p | <0.001* | <0.001* | <0.001* | <0.001* |
| Own will | r | 0.577 | 0.685 | 0.594 | 0.667 |
| | p | <0.001* | <0.001* | <0.001* | <0.001* |
| Professionalism-oriented | r | 0.012 | 0.154 | 0.366 | 0.141 |
| | p | 0.939 | 0.330 | 0.017* | 0.374 |
| Relation-oriented | r | 0.534 | 0.627 | 0.365 | 0.564 |
| | p | <0.001* | <0.001* | 0.017* | <0.001* |
| Total Resilience skills | r | 0.767 | 0.846 | 0.679 | 0.837 |
| | p | <0.001* | <0.001* | <0.001* | <0.001* |

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

Table (5): Correlation between psychiatric nurses' resilience skills, work engagement and mental health (n = 84)

| Items | | Total work Engagement | Total Resilience skill | Total Psychological Health |
|----------------------------|---|-----------------------|------------------------|----------------------------|
| Total Work Engagement | r | | 0.837 | 0.294 |
| | p | | <0.001* | 0.059 |
| Total Resilience skills | r | | | 0.427 |
| | p | | | 0.005* |
| Total Psychological Health | r | | | |
| | P | | | |

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

Table (1): Psychiatric nurses' personal characteristic. High percentage (73.8%) of the psychiatric nurses were female and (66.7%) fall in the age group 30-40 years with a mean of 35.33 ± 6.28 . (52.4%) of psychiatric nurses lived in urban areas and the majority (92.9%) of them were married. Around half (47.6%) of psychiatric nurses had between 10 to less than 20 years of experience and (69%) of them are working in the male units. (52.4%) had a diploma in nursing and (61.9%) of psychiatric nurses had 1-2 children.

Figure (1): Psychiatric nurses' levels of resilience skills. The figure illustrates that (55%) of psychiatric nurses had a moderate level of total resilience skills. More than two fifths (42.6%) of them had a low level of total resilience skills. The figure also revealed that (78.6%) of psychiatric nurses had a low level of professionalism-oriented resilience. More than two fifths (47.6% 42.9% and 42.9%) of them had a low level of reality-harmonic, own will and relation-oriented resilience skills respectively. The highest percentage (45.2%) of psychiatric nurses had a moderate level of own will resilience.

Figure (2): Psychiatric nurses' levels of work engagement. The figure shows that (45.2 %) of the psychiatric nurses had a low level, while only (35.7%) of them had a high level of total work engagement. More than half (57.1%) of psychiatric nurses' had a high level of vigor engagement. Around half (45.2%) of them had a low level of dedication engagement. More than four fifths (81%) of them had a low level of absorption engagement.

Figure (3): Psychiatric nurses' levels of mental health. The figure showed around four fifths (79%) of psychiatric nurses had high distress. While only less than one tenth (7%) of them had low distress.

Table (2): Relation between psychiatric nurses' demographics and resilience skills. The table showed that there was a statistically significant relation between psychiatric nurses' age and their total resilience skills at $p \leq 0.05$. Also there were statistically significant relationships between psychiatric nurses' levels of education and their

professionalism-oriented type, in addition between psychiatric nurses' work unit and their relation-oriented type of resilience skills at $p \leq 0.05$.

Table (3): Relation between psychiatric nurses' demographics and work engagement. The table showed that there was a statistically significant relationship between psychiatric nurses' age and their work engagement at $p \leq 0.05$. Also there was a statistically significant relationship between psychiatric nurses' level of education and their absorption type of work engagement at $p \leq 0.05$.

Table (4): Correlation between psychiatric nurses' resilience skills and work engagement. The table showed that there was a statistically significant correlation between psychiatric nurses' work engagement dimensions and their resilience skill types at $p \leq 0.05$ except for professionalism-oriented resilience skill types with vigor, dedication and total work engagement.

Table (5): Correlation between psychiatric nurses' resilience skills, work engagement and mental health. The table showed there was a statistically significant correlation between psychiatric nurses' total work engagement and their total resilience skills. Also there was a statistical significant correlation between psychiatric nurses' total resilience skills and their total mental health. While, there was no statistically significant correlation between psychiatric nurses' total work engagement and their total psychological health.

Discussion

Psychiatric Nurses' work nature involves a lot of stressors stemming from the kind of patients they care for, and the shortage of staff that add extra burden on those nurses. Moreover, new challenges come into view with COVID-19 pandemic. Psychiatric nurses' resilience and ability to handle adverse events; even though; keeping a sense of purpose, equilibrium, and positive mental health are all essential to maintain a high quality of patient care. In this sense our study aimed to assess the relation between psychiatric nurses' resilience skill, work engagement and mental

health during COVID 19 pandemic.

The current study results illustrated that more than half of psychiatric nurses had a moderate level of total resilience skill and more than two fifths of them had a low level of total resilience skills. This can be justified as a high percentage of those nurses were female, married and around one third of them had between three to four children which increase their burnout by taking on additional responsibilities as wives and mothers and augmenting their fear to spread the infection to their families during COVID-19 pandemic. These findings were supported by **Ren et al. (2018)** who found that more than half of the studied nurses had low and moderate levels of resilience. Also **Elsayes; Abdelraof (2020) & Harfush et al. (2020)** found that more than two fifths of the studied nurses had a moderate and a low resilience before the educational intervention.

Present study results revealed that around four fifths of psychiatric nurses had a low level of professionalism-oriented resilience skills. This can be due to that nurse could not be given the proper support from their patients to attain the sense of achievement; because of the nature of psychiatric patients' illnesses. Also our findings showed that more than two fifths of nurses had a low level of reality-harmonic, own will and relation-oriented resilience skills. This can be due to around one quarter of them being still young had less than thirty years of age, and around half of them having only a Diploma degree in nursing so they were less-likely able to use realistic coping skills, or even work with stressors and pastimes with work colleagues. A long the same line **Shin et al., (2018)** found that around half of the participants belonged to reality-harmonic, one quarter belong to own-will type, around one fifth of his study subjects had relation-oriented resilience, and the lowest percent belonged to professionalism-oriented resilience.

The current study results show that around half of the psychiatric nurses had a low level of work engagement. This may be due to the highest percentage of nurses being females, married and around one half of them had between ten and twenty years of experience in their current work unit, so they might lack of passion and challenge; and devote more time to their personal life than seek a sense of work fulfillment. These findings go in the same line with **Diab; Elnagar (2019) & Fountain, (2016)** who declared that the highest percentage of the studied nurses reported low levels of overall work engagement. Also **Alfifi et al. (2019)**, found that around a quarter of the nurses had low and very low levels of work engagement. On the contrary, **Allande-Cussó et al., (2021) & Ahmed et al. (2020)** found that registered nurses had a high levels of total work

engagement during the health crisis.

According to the work engagement dimensions our study results revealed that more than a half of psychiatric nurses had a high level of vigor engagement. This can be explained by the nature of the work of psychiatric nurses they exert high levels of energy working with their patients for long hours during the pandemic, regardless of the overload resulting from carrying out extra precautions to keep the patient safe during a pandemic. **Fountain (2016)** pointed out that vigor individuals have a high vitality physically and mentally invested in work related activities. Our result was confirmed by **García-Iglesias et al., 2021** who revealed that primary care nurses' as well as emergency care nurses' lowest mean score were regarding vigor engagement.

The current study results declared that around half of nurses had a low level of dedication engagement. This can be justified as around three quarters of them had more than ten years of experience in their current unit so they couldn't find enthusiasm or inspiration in work related tasks with limited levels of progress in psychiatric patients. **Fountain (2016)** stated that dedicating individuals had an intense sense of significance, and involvement, in their work even when faced with challenges. In contrary **García-Iglesias et al., (2021)** results revealed that nurses' highest mean score was regarding dedication engagement.

Furthermore, our results illustrated that more than four fifths had a low level of absorption engagement. This can be justified as a high percentage of the psychiatric nurses were female, married and around one third of them had between three to four children and high percentage of them had more than ten years of experience so, they need to devote more time to their families as they find limited challenges in their routine work, and found it easy to detach themselves from the work. Unlike our results **García-Iglesias et al., (2021)** who revealed that nurses' had a moderate mean score regarding absorption engagement.

In the same regard, **Allande-Cussó et al., (2021)** revealed that nurses obtained high mean scores regarding dedication then absorption and finally vigor during COVID-19. While, **Ahmed et al. (2020)** declared that nurses obtained high mean scores regarding vigor, followed by dedication and absorption during the COVID-19 pandemic.

Present study results declared that around four fifths of psychiatric nurses had highly distressed mental health. This can be due to the extra effort and stress, faced with the pandemic, and the lack of support from the hospital management. This finding is consistent with **Diab & Elnagar (2019)** their results revealed that more than three quarters of staff nurses had a high and moderate level of psychological stress. Also

Perry et al., (2015) found that nurses experienced both reduced mental health and vitality including sleep disturbance, headaches and severe tiredness.

Our study results indicated that there was a statistically significant relation between psychiatric nurses' age and their work engagement. Also there was a statistically significant relation between psychiatric nurses' level of education and their absorption type of work engagement. This indicates that older psychiatric nurses, also psychiatric nurses with higher levels of education were more engaged in work. This was supported by Diab and Elnagar (2019) their results showed that there was a statistically significant relation between work engagement and the nurses' demographic characteristics, except for marital status. In contrast, Allande-Cussó et al., 2021; Guo & Zhu, (2018), found a significant relation between gender, work unit, and attending previous training and work engagement dimensions. Similarly, Kim et al. (2020) found lower scores of work engagement among female participants.

Present study results showed that there was a statistically significant relation between psychiatric nurses' age and their resilience skills. Also there was a statistically significant relation between psychiatric nurses' level of education and their professionalism-oriented type of resilience skill. There was a statistically significant relation between psychiatric nurses' work unit and their relation-oriented type of resilience skills. This indicate that older psychiatric nurses and nurses with higher levels of education were more resilient. Also, current study results showed that there was a statistically significant relation between psychiatric nurses' work engagement and their resilience skills except for professionalism-oriented resilience skill with vigor, dedication and total work engagement. Wu et al., (2020) & Zhao et al., (2016) reported that resilience possibly can predict mental health and well-being.

Our result declared that there was a statistically significant correlation between psychiatric nurses' total resilience skills and total work engagement as well as their total mental health. While there was no statistical significant correlation between psychiatric nurses' total work engagement and their total mental health. Kimhi et al., (2020) & Eshel et al., (2020) reported a positive association between individual resilience and wellbeing. Also they found that demographic characteristics such as age, sex, and income were associated with resilience, mainly in the context of threats. Hetzel-Riggin et al., (2020) & Taufiq (2021) indicated that resiliency is associated with work engagement dimensions and partially mediated the relationship between work-related stress and burnout.

Conclusion

During COVID-19 pandemic around half of psychiatric nurses' had a moderate level of total resilience skills and a low level of work engagement, while majority of them had high distress. There was a statistical significant correlation between psychiatric nurses' total resilience skills and both their total work engagement and their total mental health.

Based on the present study findings we recommend the following:

Faculty of nursing role:

- Conduct workshops for nursing administrators to prepare them with the required knowledge and competencies to develop psychiatric nurses' personal resilience.

Nursing administrators' role:

- Create a healthy work environment and pay attention to heavy workload, prolonged work shifts and emotional overburden during pandemics.
- Develop healthy supporting social networks in the workplace.
- Set strategies to improve resilience among psychiatric nurses, through acquiring them problem solving and decision making skills.
- Help nurses to set work goals, lead change and maintain optimistic.

Further investigation

Additional research is needed

- To recognize nurse administrators' role to promote nurses' resilience to face the pandemic of COVID-19.

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