



congruency with the organization, and their desire to maintain membership (5). Organizational commitment is the bond between an employee and the employing organization (6).

Nurse Managers have the opportunity to build supportive work environments that promote nurses' health and well-being, which consequently increasing nurses' organizational commitment (7). Demonstrating caring behaviors that build relationships with individuals and groups is a necessary competency of nursing administrators to advance healthcare (8). Nurse Managers play a pivotal role in addressing nurses' anxiety from and fears of COVID-19 by supporting their mental, psychological and emotional health through evidence-based measures, supportive organizational policies, and the provision of a safe and secure work environment (9).

The emergency of COVID-19 exerts unprecedented pressure on the healthcare system and presented various challenges to its nursing workforce, it potentially affecting nurses' work performance, mental health, organizational commitment, and their manager treatment during the outbreak, even putting all their lives at risk (10). Eventually, the current study's authors have not found any research papers covering the relations between the COVID-19 anxiety, nurses' organizational commitment, and nurse managers' caring behavior; therefore, this study was conducted in order to investigate the effect of COVID-19 anxiety on front-line nurses' organizational commitment and their perception of nurse managers' caring behavior.

## **Methods**

### ***Research design***

An explanatory research design was adopted to carry out this study.

### ***Sample and setting***

The current study was conducted in three medical units: Hepatology, Chest, and Neurology, which are located in Elkasr

Elaini Teaching Hospital and affiliated to Cairo University Hospitals, Egypt. To explain, those units received the confirmed or suspected COVID-19 cases with comorbidities related to their main specialty.

To achieve an 80% power, ( $\beta = 1 - .80 = .20$ ) with alpha set at 0.05 and small effect size set at 0.05, a sample size of 100 nurses would be required, as determined using the G\*power program, software version 3.1.9.9 (11). A convenient sample consisted of 60 registered nurses were selected based on the inclusion criteria such as: Assigned to care for patients, specifically diagnosed with confirmed or suspected COVID-19 with other comorbidities related to the three units' specialty; Had a minimum of one year employment in their unit; Accepted to participate in the current study.

### ***Data collection measures***

Three tools were utilized to collect data pertinent to this study as follows:

*First tool: Coronavirus Anxiety Scale (CAS)*, which consists of two parts as follows:

*Part I: Personal Data of Nursing Staff*, it was consisted of gender, marital status, worked department, years of experience and nursing educational degree.

*Part II: Coronavirus Anxiety Scale (CAS) questionnaire*, which was designed and developed by (12), and used to assess or identify individuals who may have abnormal levels of anxiety related to the COVID-19 pandemic. This scale contained five items that reflect the common symptoms of anxiety experienced by nurses. Possible scores of (CAS) ranged from 5 to 25. The scale discriminates well between persons with or without dysfunctional anxiety using an optimized cut-off score of greater or equal to 9 (12).

Dysfunctional anxiety refers to a disproportionate state of anxiety, defined as persistent or uncontrollable fear that interferes with daily life and causes disruptions to behavior and psychological well-being (12). Nurses participating in the study indicated the frequency of symptoms







**Table 5.** Predictors of front-line nurses' organizational commitment (n=60)

Variables	$\beta$	SE	Partial R <sup>2</sup>	95% CI	P
Intercept	2.590	.360		1.8,3.3	<0.001
Mutual problem solving	.164	.114	0.038	-0.06,0.39	.159
Facilitating a healing environment	-.085	.134	0.008	-0.35,0.18	.527
Basic human needs	-.015	.060	0.001	-0.13,0.1	.802
Attentive reassurance	.060	.146	0.003	-0.23,0.35	.683
Human respect	.319	.130	0.104	0.05,0.58	.017
Encouraging manner	-.036	.106	0.002	-0.25,0.17	.736
COVID-19 anxiety	-.457	.072	0.435	-0.6,0.31	<0.001
R <sup>2</sup>			0.72		
Adjusted R <sup>2</sup>			0.69		
F (p)			19.8(<0.001)		

\*statistically significant at p-value <0.05

**Table 6.** Predictors of front-line nurses' perception of nurse managers caring behavior (n=60)

Variables	$\beta$	SE	Partial R <sup>2</sup>	95% CI	P
Intercept	0.31	0.24		-0.16,0.8	0.19
COVID-19 anxiety	0.98	0.07	0.61	0.82,1.1	<0.001
R <sup>2</sup>			0.617		
Adjusted R <sup>2</sup>			0.613		
F (p)			157.7(<0.001)		

\*statistically significant at p-value <0.05

## Discussion

The current study investigated the effect of COVID-19 anxiety on front-line nurses' organizational commitment and their perception of the nurse managers' caring behavior during this pandemic where the front-line nurses perceived that COVID-19 caused them dysfunctional levels of anxiety, decreased their level of organizational commitment, and boosted the nurse managers' human respect as a caring behavior toward them.

Using a cut-off score on the COVID-19 Anxiety Scale, the majority of the study participants were identified to have dysfunctional levels of anxiety. These findings went in the same direction of previous researches that concluded that it is crucial to implement measures to decrease anxiety levels among nurses (17, 3) as dysfunctional anxiety levels have been identified as strong precursors of nurses' psychological distress, depression, and other psychological disorders. In this study, the most common symptoms of coronavirus anxiety were 'appetite loss' and 'sleep disturbance'. These findings were parallel to those of a study done by Skalski, et al. in Poland where these items obtained the highest means also (18).

Furthermore, the results indicated that organizational commitment was perceived to be moderate within staff nurses despite the results of Arbabisarjou that reflected a higher level of perception (19). In addition, findings reflected that continuous commitment was the highest whilst affective commitment was the lowest among nurses. Where, these findings went the same along with that of Agarwala et al. and Al-Haroon & Al-Qahtani which both indicated that nurses demonstrated more agreement with the continuous commitment subscale than the normative and affective commitment subscale (20, 21).

Additionally, Agarwala et al., also mentioned that staff member's assessment of costs of leaving the organization was greater than the costs of staying which this finding was close, to some extent, to the findings of Poortaghi, Shahmari & Ghobadi that indicated that one of the measures taken by managers is to increase motivation for nursing staff was the distribution of corona allowance among the staff working in COVID-19 wards, and also the fair distribution of donations by the charities, public and private institutions among the staff (20, 22).







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