




## ORIGINAL ARTICLE

# Professional quality of life and caring behaviours among clinical nurses during the COVID-19 pandemic

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**Aims and Objectives:** To investigate the professional quality of life and caring behaviours among clinical nurses in Saudi Arabia during the COVID-19 pandemic. We also examined the influence of the nurses' socio-demographic and professional characteristics on the professional quality of life. Moreover, the study examined the influence of professional quality of life on caring behaviour among the nurses amid the COVID-19 pandemic.

**Background:** Caring is the core of the nursing profession and considered the heart of the humanistic clinical nursing practice. However, the work nature of the clinical nurses, especially during the COVID-19 pandemic, continues to challenge their professional quality of life and caring behaviours. The factors influencing the professional quality of life and caring behaviours of clinical nurses have not been extensively explored.

**Design:** Cross-sectional, descriptive study.

**Methods:** A purposive sample of 375 clinical nurses in three academic medical centres in Saudi Arabia were surveyed using the professional quality of life version 5 and the short-form 24-item Caring Behavior Inventory from May–August 2020. A standard multiple regression analysis was performed to investigate the predictors of the professional quality of life and caring behaviour. This study adhered to the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology guidelines.

**Results:** The majority of the respondents reported average level of compassion satisfaction (57.9%), burnout (54.4%) and secondary traumatic stress (66.9%) in the professional quality of life domains. The result also showed highest degree of caring in terms of 'assurance of human presence' while lowest in the 'knowledge and skills' in four subscales of caring behaviour. The following variables significantly predicted compassion satisfaction: education, area of assignment and position. Age, education and religion were identified as significant predictors of burnout while religion, nationality and position were significant predictors of secondary traumatic stress. Positive

and negative domains of professional quality of life influenced the caring behaviours among clinical nurses.

**Conclusions:** Based on the results of the study, clinical nurses exhibited moderate level of professional quality of life and correlates to their caring behaviours. Moreover, clinical nurses' demographic characteristics predicted their professional quality of life and caring behaviours.

**Relevance to clinical practice:** The importance of ensuring good professional quality of life and caring behaviour among clinical nurses during the COVID-19 pandemic is underscored. Nursing leaders can utilise this baseline evidence and apply programmes for clinical nurses to tackle professional quality of life issues and enhance caring behaviours.

#### KEYWORDS

caring behavior, clinical nurses, COVID-19 pandemic, professional quality of life

## 1 | INTRODUCTION

Caring is the core of the nursing profession and considered the heart of the humanistic clinical nursing practice, distinguishing nurses from other healthcare professionals. Nurses are encouraged to deliver the highest possible standard of care to improve quality of health care. However, the work nature of the nursing profession, especially during the Coronavirus Disease 2019 (COVID-19) pandemic, continues to challenge the professional quality of life (ProQoL) and caring behaviours of registered nurses on the clinical frontline. Watson's Theory of Human Caring provides in-depth explanation of caring as the strength of nurse-to-patient connection, aimed at helping the care recipient to preserve dignity and achieve holistic health (Watson, 2018). Nurses cultivate genuine transpersonal caring relationships during the process, assisting people give meaning to their existence, suffering and disharmony (Watson, 2018). Caring is built based on the authentic relationship between the nurses, patients and families, said to be influenced by clinical nurses' personal attributes and perceptions of work life (Upton, 2018).

Professional quality of life is defined as the persons' negative and positive feelings in relation to their work of helping others experiencing suffering or trauma, consisting of two components including compassion satisfaction (CS) and compassion fatigue (CF) (Stamm, 2010). CF encompasses two parts: burnout (BO), that concerns exhaustion, frustration, anger and depression, and secondary traumatic stress (STS), which is a negative feeling driven by fear and work-related trauma (Stamm, 2010). CF in nursing was first coined by Joinson (1992) referring to the persistent stress and negative emotions such as anger and feeling of helplessness experienced by the nursing personnel, in association with patient care. Few empirical studies have attempted to analyse the compassion among nurses in the clinical settings (Coetzee & Klopper, 2010; Sinclair et al., 2017;

### What does this paper contribute to the wider global clinical community?

- The study reported average level of ProQoL among clinical nurses during the COVID-19 pandemic and degree of their caring behaviours.
- There were significant correlations between the demographic characteristics, ProQoL domains and the caring behaviours among clinical nurses.
- This baseline data can provide valuable insights for nursing leaders in formulating interventions to ensure highest level of well-being among clinical nurses during this pandemic and in the long-term to reduce the risk of developing mental health problems and improve the quality of nurse caring

van der Cingel, 2014). Although sometimes lacking in many health-care systems, compassionate nurses deliver humanistic care aimed at addressing the unique needs of patients with certain medical conditions (Sinclair et al., 2017).

During the conduct of the study, the World Health Organization (2020a) recorded increasing number of confirmed COVID-19-infected cases in the Kingdom of Saudi Arabia (KSA), resulting to hospitals reaching bed capacity limit. The unprecedented burden associated with surging COVID-19-infected cases such as deficiency of personal protective equipment in high demand, possibility of acquiring the disease, physical and psychological strain, and changing practice guidelines (World Health Organization, 2020b) put the frontline clinical nurses at risk for impairment in ProQoL, which may consequently affect their caring behaviours.

## 1.1 | Background of the study

Nursing the sick and dying can be both physically and emotionally straining (Upton, 2018). A nonexperimental, descriptive and predictive study among emergency room nurses in United States (US) revealed an overall low-to-average level of CF and average-to-high level of CS, predicted significantly by degree of manager support (Hunsaker et al., 2015). In a large multisite multisystem health organisation, US nurses scored moderate-to-average on CS, BO and CS (Kawar et al., 2019). Moreover, a cross-sectional study of US nurses found significant relationship between nurse caring and CS as well as BO explaining the variability in caring behaviours (Burtson & Stichler, 2010).

In Greece, nurses were at the high-risk category for STS/CF (44.8%) and BO (49.4%), while only 8.1% of nurses expressed high potential for CS (Mangoulia et al., 2015). It was evident in a multi-centre descriptive cross-sectional analysis of the nurses' ProQoL in Spain that ProQoL was influenced by the nurses' socio-demographic and professional characteristics such as age, sex, marital status, job context and the work shift (Ruiz-Fernández et al., 2020). Moreover, a self-reported study involving 200 nurses in Italy concluded that a work environment that value caring and give support in managing emotions can reduce emotional dissonance and improve caring self-efficacy (Aviles Gonzalez et al., 2019). Thus, examining how the socio-demographic and professional characteristics of nurses influence their ProQoL is necessary to understand the factors that likely influence their ProQoL.

A facility-based cross-sectional study in Ethiopia involving 253 nurses showed 67.2% of the nurses were dissatisfied with the quality of their work life influenced by educational status, monthly income, working unit and work environment (Kelbiso et al., 2017). In India, nurses reported average level of CS and BO but higher STS (Kaur et al., 2018). This highlights the need to devise strategies that maintain and promote positive practice environment by the nurse managers. A study in Taiwan confirmed the importance of optimism and proactive coping in prevention of symptoms of BO, suggesting interventions to promote mental health among staff nurses (Chang & Chan, 2015).

In the KSA, there is a limited study that examined the relationship between ProQoL and caring behaviour among clinical nurses. Of note, clinical nurses reported highest quality of life in the social relationship domain while physical domain was rated the poorest dimension (Cruz et al., 2018). Two studies conducted in the country had reported that majority of the nurses had moderate levels of CS, BO and STS (Alshehry et al., 2019; Cruz et al., 2020). A cross-sectional study of hospital nurses (Alharbi et al., 2019) revealed moderate overall quality of nursing work life with significant correlation with factors such as non-Saudi nationality, higher age, more work experience, married status, full-time employment, rotating shift and specialty units contributing to higher scores ( $p < .05$ ). A gap in systematic data has been documented on the burden of BO among healthcare providers in the region (Chemali et al., 2019). Thus, this study aimed to investigate the ProQoL and caring behaviours among

clinical nurses in Saudi Arabia during the COVID-19 pandemic. The result of the study can be used to inform nursing leaders in formulating interventions to ensure highest level of well-being among clinical nurses during this pandemic and in the long-term, thereby facilitating clinical nurses to provide more compassionate and humanistic patient care.

## 1.2 | Aim

The study investigated the ProQoL and caring behaviours among clinical nurses in Saudi Arabia during the COVID-19 pandemic. We also examined the influence of the nurses' socio-demographic and professional characteristics on the ProQoL. Moreover, the study examined the influence of ProQoL on caring behaviour among the nurses amid the COVID-19 pandemic.

## 2 | METHODS

### 2.1 | Design

A cross-sectional, descriptive study design was used to describe the ProQoL and caring behaviours among clinical nurses during the COVID-19 pandemic. This study adhered to the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines (File S1).

### 2.2 | Settings and participants

The study was conducted in three tertiary government university hospitals in Riyadh, KSA. These academic medical centres were among the designated COVID-19 facilities in the KSA. The sample size was calculated using the G\*Power. For the 18 predictor variables for the multiple linear regressions on the nurses' caring behaviours, the sample size is approximated to be 213 at 0.15 effect size, 0.05 margin of error and 95% statistical power. The researchers used purposive sampling and distributed the questionnaire to 400 clinical nurses. The following inclusion criteria of the targeted participants include the following: the clinical nurses should be employed for more than one year, are involved in the screening and care management to COVID-19-suspected or positive patients, and voluntarily consented to participate in the study.

### 2.3 | Measurements

The research questionnaire used in this study is comprised of three main parts. Part 1 obtains the demographic profiles and work-related characteristics of the respondents including age, gender, educational attainment, marital status, religion, nationality, area of assignment and job position. The second portion was the ProQoL Scale

version 5 by Stamm (2010). This tool was provided freely from the author source. The 30-item scale measures three domains including the positive part of helping patients which is referred as CS, and the negative components of CF which are BO and STS. The instrument used a 5-point Likert-type scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often). Interpretation of the total raw scores follows the instrument manual, where 22 or less means low level; 23–41, average level; and >41 indicates high level. For the overall scores, higher overall scores in CS, BO and STS indicate having higher CS, higher levels of BO and STS, respectively. Earlier research papers used the ProQoL instrument in their study documented good alpha reliability results ranging from 0.75–0.88 (Alshehry et al., 2019; Stamm, 2010).

The third part used the validated 24-item short-form Caring Behavior Inventory (CBI-24) by Wu et al. (2006), to assess the nursing care behaviour among clinical nurses. The authors obtained permission from the copyright holder of the original 42-item CBI, from which the CBI-24 was derived (Wolf et al., 1994). CBI-24 has similar psychometric properties, validity, reliability and scoring for caring behaviours among patients and nurses with the CBI-42 (Wu et al., 2006). The four subscales of the questionnaire include the following: (i) assurance of human presence; (ii) professional knowledge and skill; (iii) respectful deference to others; and (iv) positive connectedness. The CBI-24 has 6-point Likert scale responses category ranging from 1 (never)–6 (always). The caring behaviour for each subscale is calculated as the mean value within each separate scale. Higher mean score indicates more specific caring behaviour expressed by clinical nurses. CBI-24 showed good test–retest reliability ( $r = .82$  for nurses) and high internal consistency with Cronbach's alpha value ranging from 0.95 (Wu et al., 2006). Previously published studies utilised the CBI-24 in assessing nurses' caring behaviour (Burtson & Stichler, 2010; Papastavrou et al., 2012).

## 2.4 | Ethical considerations

An ethics approval was sought from the Institutional Review Board of Health Sciences College Research on Human Subject, the umbrella committee of the three university hospitals (IRB Project No. E-20-4898). Permission to collect the data in the clinical area was obtained from the nursing administration, with a signed recommendation letter intended to encourage the clinical nurses to participate. Informed consent was presented and obtained to indicate wilful participation to the study. Assurance of confidentiality was upheld throughout the research process.

## 2.5 | Data collection

Data were collected between May–August 2020. The clinical nurses from each university hospital were visited by the researchers during their working hours. The objectives and significance of the study, assurance of anonymity, confidentiality of the data and voluntary

participation without any service implications were explained. Clinical nurses were provided ample time to answer the questionnaire in the staff lounge. Privacy and confidentiality were maintained, and a drop box was kept in the room. There were no rewards of any kind offered to the research participants.

## 2.6 | Analysis of data

Data tallying was entered in the excel sheet and processed using IBM SPSS Version 22. The demographic characteristics of the respondents were expressed in frequency counts and percentages, with exception for age, total years of experience and in KSA that were presented in mean and standard deviations. ProQoL and caring behaviours were also analysed using descriptive statistics such as mean, standard deviations and range. Total frequency counts and percentages were also used for ProQoL domains. A multiple linear regression analysis was performed to investigate the predictors of the ProQoL and caring behaviour. There were a total of seven regression models that were built, three models for each of the dimensions of ProQoL (CS, BO and STS) and four for each of the dimensions of caring behaviour (knowledge and skills, assurance of human presence, respectful difference of others and positive connectedness). The normality of the residuals for each regression model was checked by examining the normal probability plots. Our observation of the  $p$ - $p$  plot in each dependent variable showed that the plots fell close to the diagonal reference line and there were no excessive deviations from the diagonal line. This indicates that the normality of the residuals in each of the regression model was not violated. Thus, the multiple regression analyses were appropriate. Categorical predictor variables were dummy-coded before entering them in the regression. Binary categorical predictor variables, such as gender (0 = Male, 1 = Female), marital status (0 = Single, 1 = Married), religion (0 = Christian, 1 = Islam) and area of assignment (0 = specialty areas, 1 = Non-specialty areas) were coded as 0 or 1. Decision for statistical significance was taken if  $p$  value is below .05.

## 3 | RESULTS

The mean age of the respondents was 36.16 (standard deviation [SD] = 8.17) years. Most of the respondents were females (84.8%), bachelor's degree in nursing holder (74.7%), married (54.9%), Christians (80.5%), Filipinos (67.2%) and working in non-specialty areas of the hospital (68.8%) including general ward and outpatient units. The mean years of experience in the nursing profession was 12.60 ( $SD = 7.98$ ) years, whereas the mean years of experience as a nurse in Saudi Arabia was 9.46 ( $SD = 6.34$ ) years. The highest percentage of the respondents was in a staff nurse 3 or an entry-level position (SN3, 41.3%), followed by staff nurse 1 or senior nurses (SN1, 30.1%), and staff nurse 2 (SN2, 18.1%). Around 10.4% of the respondents occupied managerial or leadership positions in the hospital (see Table 1).

TABLE 1 Demographic and work-related variables ( $n = 375$ )

Variable	Mean	SD
Age in years	36.16	8.17
Total years of nursing experience	12.60	7.98
Years of experience in KSA only	9.46	6.34
	<i>n</i>	%
Gender		
Male	57	15.2
Female	318	84.8
Education		
Diploma in nursing	71	18.9
Bachelor's in nursing	280	74.7
Graduate programme	24	6.4
Marital status		
Single	169	45.1
Married	206	54.9
Religion		
Christian	302	80.5
Islam	73	19.5
Nationality		
Saudi	45	12.0
Filipino	252	67.2
Indian	61	16.3
Others	17	4.5
Area of assignment		
Specialty areas	117	31.2
Non-specialty areas	258	68.8
Position		
Staff nurse 1 (SN1, senior nurses)	113	30.1
Staff nurse 2 (SN2)	68	18.1
Staff nurse 3 (SN3, entry level)	155	41.3
With managerial positions	39	10.4

Abbreviation: KSA, Kingdom of Saudi Arabia; SD, standard deviation

### 3.1 | Results of the descriptive analyses of the study variables

As reflected in Table 2, the mean score of the respondents in the CS scale was 39.75 ( $SD = 5.68$ ), while in the BO and STS scales, the respondents reported a mean score of 23.41 ( $SD = 5.29$ ) and 24.47 ( $SD = 5.32$ ), respectively. When we categorise the respondents' scores based on the cut-off scores, more than half of the respondents are categorised as having average level of CS (57.9%), BO (54.4%) and STS (66.9%).

In terms of the caring behaviour, the highest mean of 5.19 was recorded in the subscale 'assurance of human presence' ( $SD = 0.78$ ), followed by 'respectful differences of others' with a mean of 5.14 ( $SD = 0.76$ ), and 'positive connectedness' with a mean of 4.85 ( $SD = 0.82$ ). The subscale 'knowledge and skills' received the lowest mean of 4.22 ( $SD = 0.63$ ).

### 3.2 | Predictors of the nurses' ProQoL

The results of the multiple regression analysis on each dimension of the ProQoL were summarised in Table 3. The following variables significantly predicted CS: education, area of assignment and position. Age, education and religion were identified as significant predictors of BO while religion, nationality and position were significant predictors of STS.

Specifically, nurses who had either master's or doctorate certificate had lower scores in CS ( $\beta = -3.72$ , 95% confidence interval [CI] =  $-6.61$  to  $-0.83$ ,  $p = .012$ ), but higher scores in BO ( $\beta = 3.92$ , 95% CI =  $1.27$ – $6.57$ ,  $p = .004$ ) than nurses with diploma in nursing. Being a Christian was associated with higher levels of BO ( $\beta = -2.73$ , 95% CI =  $-5.31$  to  $-0.16$ ,  $p = .038$ ) and STS ( $\beta = -3.38$ , 95% CI =  $-6.04$  to  $-0.71$ ,  $p = .013$ ) as compared with being a Muslim. A year increase in age resulted to 0.20 point (95% CI =  $-0.36$  to  $-0.04$ ,  $p = .014$ ) decrease in the BO score. Nurses who self-reported 'others' in the nationality variables (i.e., Egyptian, Jordanian) had lower scores in STS ( $\beta = -4.17$ , 95% CI =  $-7.48$  to  $-0.85$ ,  $p = .014$ ) than Saudis. Staff Nurses from all levels (SN1-senior, SN2 and SN3-entry level) recorded significantly lower scores in CS than nurses who had managerial or leadership position, while nurses in SN2 position recorded significantly lower scores in STS than nurses who had managerial or leadership position.

### 3.3 | Predictors of nurses' caring behaviour

The regression model for each of the dimension of the caring behaviour of nurses was significant, and the results are shown in Table 4. As indicated, a year increase in age corresponded to  $-0.04$  point (95% CI =  $-0.06$  to  $-0.02$ ,  $p < .001$ ) decrease in the 'knowledge and skills' scores. Male nurses reported higher scores in 'knowledge and skills' ( $\beta = -0.22$ , 95% CI =  $-0.39$  to  $-0.05$ ,  $p = 0.010$ ) and 'assurance of human presence' ( $\beta = -0.34$ , 95% CI =  $-0.56$  to  $-0.12$ ,  $p = 0.002$ ) than female nurses. Nurses who finished a graduate programme reported lower scores in 'knowledge and skills' ( $\beta = -0.46$ , 95% CI =  $-0.75$  to  $-0.16$ ,  $p = .003$ ) and 'assurance of human presence' ( $\beta = -0.60$ , 95% CI =  $-0.98$  to  $-0.21$ ,  $p = 0.002$ ) than nurses who finished diploma in nursing. Nurses who with Indian nationality had better scores in 'knowledge and skills' ( $\beta = 0.67$ , 95% CI =  $0.31$ – $1.03$ ,  $p < .001$ ) than Saudis. Nurses with managerial position had poorer scores in 'assurance of human presence' and 'respectful difference of others' than those nurses in SN1 position, lower scores in the four dimensions of caring behaviours than nurses SN2 position and lower scores in 'respectful difference of others' than nurses in SN3 position. A year increase in the experience in the nursing profession was associated with 0.03 point (95% CI =  $0.01$ – $0.04$ ,  $p < .001$ ) increase in the 'knowledge and skills' scores.

In terms of the influence of ProQoL, one-point increase in the CS score corresponded to 0.05 point (95% CI =  $0.04$ – $0.07$ ,  $p < .001$ ), 0.05 point (95% CI =  $0.03$ – $0.07$ ,  $p < .001$ ), 0.05 point (95% CI =  $0.03$ – $0.07$ ,  $p < .001$ ) and 0.04 point (95% CI =  $0.02$ – $0.07$ ,  $p < .001$ ) increase

Variable	Mean	SD	Range	n (%)
Professional quality of life (ProQoL)				
Compassion satisfaction (CS)	39.75	5.68	26.00–50.00	
Low				0 (0)
Average				217 (57.9)
High				158 (42.1)
Burnout (BO)	23.41	5.29	10.00–37.00	
Low				171 (45.6)
Average				204 (54.4)
High				0 (0)
Secondary traumatic stress (STS)	24.47	5.32	11.00–50.00	
Low				122 (32.5)
Average				251 (66.9)
High				2 (0.5)
Caring behaviour				
Knowledge and skills	4.22	0.63	1.60–4.80	
Assurance of human presence	5.19	0.78	1.00–6.00	
Respectful difference of others	5.14	0.76	1.00–6.00	
Positive connectedness	4.85	0.82	1.00–6.00	

ProQoL Interpretation: 22 or less means low level; 23–41, average level; and >41 indicates high level.

SD, standard deviation.

in the scores in the dimensions 'knowledge and skills', 'assurance of human presence', 'respectful difference of others' and 'positive connectedness', respectively. Moreover, a point increase in BO corresponded to 0.04 point (95% CI = 0.02–0.06,  $p < .001$ ) increase in the 'knowledge and skills' scores, while a point increase in STS resulted to 0.02 point (95% CI = –0.03 to –0.00,  $p = .038$ ) decrease in the 'knowledge and skills' scores.

## 4 | DISCUSSION

This study reported the ProQoL and caring behaviours among clinical nurses in Riyadh, KSA during the COVID-19 pandemic, and investigated predictors of the study variables. This baseline information can be used to formulate and implement interventions geared at improving nurses ProQoL and caring behaviours. Previous studies from other countries indicated variations in the perceptions of caring (Burtson & Stichler, 2010; Warshawski et al., 2018) and quality of work life among nurses (Hunsaker et al., 2015; Kaur et al., 2018; Kelbiso et al., 2017). This study adds to the literature affirming the notion that environmental, sociocultural factors and intrapersonal perspectives influence the variables being studied (Etemadifar et al., 2015; Upton, 2018). Thus, it is expected for clinical nurses to have differences at certain degree on their ProQoL and caring behaviours.

Based on the current study, the clinical nurses in Saudi Arabia had average level of ProQoL in the three aspects (CS, BO and STS), similar to previously conducted studies in KSA before the COVID-19

TABLE 2 Results of the descriptive analyses of the professional quality of life and caring behaviour ( $n = 375$ )

pandemic (Alshehry et al., 2019; Cruz et al., 2020). Generally, the finding is comparable to the results of other studies in United States and India (Hunsaker et al., 2015; Kaur et al., 2018; Kavar et al., 2019), but displayed better work life than Ethiopian nurses, who were dissatisfied (Kelbiso et al., 2017), and Greek nurses who were at high risk of STS and CF with lower expression of CS (Mangoulia et al., 2015). This indicates that clinical nurses in Saudi Arabia were able to maintain a balance of satisfaction even though experiencing some fatigue from their work during the pandemic. Stamm (2010) stated that nurses with this high CS and moderate-to-low BO and STS can be highly effective at their job. It has to be emphasised that there is an area for improvement on the present state of the clinical nurses' ProQoL to prevent exhaustion and enhance positive feeling towards working with COVID-19-infected patients, as further engagement can lead to trauma and fear (Stamm, 2010), and can adversely change the nurses' ability to provide compassionate care (Upton, 2018). This particularly noting that there were few nurses having high level of STS raising an alarm for immediate intervention to mitigate the prevalence and level of CF.

It is interesting to note that clinical nurses with higher educational attainment had lower level of CS and higher degree of BO than diploma nurses. This is consistent with Moradi et al. (2014) explaining that nurses with higher of education have higher expectations from their work and may be exhausted emotionally when their work environment does not meet their expectations. In the Saudi clinical setting, clinical nurses perform similar nursing workload regardless of their educational degree. However, this is inconsistent with the

TABLE 3 Results of the multiple regression analyses on professional quality of life (n = 375)

Predictors	Compassion satisfaction				Burnout				Secondary traumatic stress			
	β	SE-b	p	95% CI	B	SE-b	p	95% CI	β	SE-b	p	95% CI
Age in years	0.11	0.09	.228	-0.07 to 0.28	-0.20	0.08	.014*	-0.36 to -0.04	-0.08	0.08	.356	-0.24 to 0.09
Gender <sup>a</sup>	-0.81	0.85	.339	-2.48 to 0.85	0.86	0.78	.269	-0.67 to 2.39	-0.53	0.80	.507	-2.11 to 1.05
Education (Ref. group: Diploma)												
BSN	-0.80	0.95	.399	-2.67 to 1.07	0.48	0.87	.579	-1.23 to 2.20	-0.36	0.90	.691	-2.13 to 1.42
Graduate programme	-3.72	1.47	.012*	-6.61 to -0.83	3.92	1.35	.004**	1.27 to 6.57	0.52	1.39	.709	-2.22 to 3.26
Marital status <sup>b</sup>	-0.93	0.70	.188	-2.31 to 0.46	0.76	0.65	.237	-0.51 to 2.03	-0.47	0.67	.480	-1.78 to 0.84
Religion <sup>c</sup>	1.00	1.43	.486	-1.81 to 3.81	-2.73	1.31	.038*	-5.31 to -0.16	-3.38	1.36	.013*	-6.04 to -0.71
Nationality (Ref. group: Saudi)												
Filipino	-1.06	1.69	.532	-4.38 to 2.27	0.56	1.55	.718	-2.49 to 3.61	-1.49	1.60	.352	-4.65 to 1.66
Indian	-2.49	1.82	.172	-6.06 to 1.09	0.56	1.66	.735	-2.71 to 3.84	-1.90	1.72	.270	-5.29 to 1.48
Others	-0.04	1.78	.982	-3.53 to 3.46	-1.04	1.63	.525	-4.24 to 2.17	-4.17	1.69	.014*	-7.48 to -0.85
Area of assignment <sup>d</sup>	-2.46	0.65	<.001***	-3.74 to -1.18	0.62	0.60	.298	-0.55 to 1.80	0.28	0.62	.649	-0.94 to 1.50
Position (Ref. group: With managerial positions)												
Staff nurse 1 (SN1, senior nurses)	-3.13	1.13	.006**	-5.35 to -0.90	0.41	1.04	.691	-1.63 to 2.45	-.64	1.07	.553	-2.75 to 1.48
Staff nurse 2 (SN2)	-2.78	1.23	.024*	-5.19 to -0.37	0.25	1.12	.826	-1.96 to 2.46	-2.42	1.16	.038*	-4.70 to -0.13
Staff nurse 3 (SN3, entry level)	-3.46	1.17	.003**	-5.76 to -1.15	1.38	1.07	.199	-0.73 to 3.49	-0.99	1.11	.373	-3.18 to 1.19
Total years of nursing experience	0.02	0.08	.812	-0.14 to 0.17	-0.01	0.07	.873	-0.15 to 0.13	-0.03	0.07	.699	-0.17 to 0.12
Years of experience in KSA only	0.00	0.09	.999	-0.18 to 0.18	0.10	0.08	.214	-0.06 to 0.27	0.07	0.09	.387	-0.09 to 0.24
R <sup>2</sup> (Adjusted R <sup>2</sup> )												.118 (.081)
											.147 (.111)	
											.094 (.056)	

Note: β is the unstandardized coefficients; SE-b is the standard error.

Abbreviation: CI, confidence interval; KSA, Kingdom of Saudi Arabia.

<sup>a</sup>Male = 0 and Female = 1.

<sup>b</sup>Single = 0 and Married = 1.

<sup>c</sup>Christian = 0 and Islam = 1.

<sup>d</sup>Specialty areas = 0 and Non-specialty areas = 1.

\*Significant at .05; \*\*Significant at .01; \*\*\*Significant at .001.

TABLE 4 Results of the multiple regression analyses on the nurses' caring behaviours (n = 375)

Predictors	Knowledge and skills			Assurance of human presence			Respectful difference of others			Positive connectedness						
	$\beta$	SE-b	p	95% CI	B	SE-b	p	95% CI	B	SE-b	p	95% CI				
Age in years	-0.04	0.01	<.001***	-0.06 to -0.02	-0.02	0.01	.114	-0.04 to 0.01	-0.01	0.01	.245	-0.04 to 0.01	-0.00	0.01	.731	-0.03 to 0.02
Gender <sup>a</sup>	-0.22	0.09	.010*	-0.39 to -0.05	-0.34	0.11	.002**	-0.56 to -0.12	-0.11	0.11	.306	-0.31 to 0.10	-0.16	0.11	.154	-0.39 to 0.06
Education (Ref. group: Diploma)																
BSN	0.09	0.10	.357	-0.10 to 0.28	-0.04	0.13	.755	-0.29 to 0.21	-0.02	0.12	.895	-0.25 to 0.22	-0.04	0.13	.758	-0.29 to 0.21
Graduate programme	-0.46	0.15	.003**	-0.75 to -0.16	-0.60	0.20	.002**	-0.98 to -0.21	-0.34	0.18	.062	-0.70 to 0.02	-0.32	0.20	.113	-0.71 to 0.08
Marital status <sup>b</sup>	-0.07	0.07	.349	-0.21 to 0.07	-0.11	0.09	.260	-0.29 to 0.08	-0.03	0.09	.759	-0.20 to 0.14	-0.06	0.10	.517	-0.25 to 0.13
Religion <sup>c</sup>	0.06	0.15	.673	-0.23 to 0.35	-0.04	0.19	.832	-0.41 to 0.33	-0.04	0.18	.806	-0.39 to 0.31	-0.09	0.19	.657	-0.47 to 0.30
Nationality (Ref. group: Saudi)																
Filipino	0.17	0.17	.313	-0.16 to 0.51	-0.20	0.22	.360	-0.64 to 0.23	-0.32	0.21	.129	-0.73 to 0.09	-0.38	0.23	.095	-0.83 to 0.07
Indian	0.67	0.19	<.001***	0.31 to 1.03	0.23	0.24	.337	-0.24 to 0.70	0.16	0.22	.471	-0.28 to 0.60	0.15	0.25	.531	-0.33 to 0.64
Others	0.32	0.18	.076	-0.03 to 0.68	-0.01	0.24	.975	-0.47 to 0.46	-0.15	0.22	.507	-0.58 to 0.29	0.01	0.24	.966	-0.46 to 0.49
Area of assignment <sup>d</sup>	-0.06	0.07	.414	-0.19 to 0.08	0.02	0.09	.801	-0.15 to 0.20	0.04	0.08	.596	-0.12 to 0.21	0.13	0.09	.152	-0.05 to 0.31
Position (Ref. group: With managerial positions)																
Staff nurse 1 (SN1, senior nurses)	0.23	0.12	.054	-0.00 to 0.45	0.35	0.15	.020*	0.06 to 0.65	0.49	0.14	.001**	0.22 to 0.77	0.23	0.16	.140	-0.08 to 0.53
Staff nurse 2 (SN2)	0.35	0.13	.005**	0.11 to 0.60	0.38	0.16	.020*	0.06 to 0.70	0.59	0.15	<.001***	0.29 to 0.90	0.46	0.17	.006**	0.13 to 0.79
Staff nurse 3 (SN3, entry level)	0.23	0.12	.057	-0.01 to 0.47	0.31	0.16	.050	0.00 to 0.61	.37	0.15	.012*	0.08 to 0.66	0.25	0.16	.114	-0.06 to 0.57
Total years of nursing experience	0.03	0.01	<.001***	0.01 to 0.04	0.01	0.01	.331	-0.01 to 0.03	-0.01	0.01	.596	-0.02 to 0.01	-0.01	0.01	.508	-0.03 to 0.01
Years of experience in KSA only	0.01	0.01	.267	-0.01 to 0.03	0.01	0.01	.230	-0.01 to 0.04	0.02	0.01	.175	-0.01 to 0.04	0.01	0.01	.328	-0.01 to 0.04
Compassion satisfaction	0.05	0.01	<.001***	0.04 to 0.07	0.05	0.01	<.001***	0.03 to 0.07	0.05	0.01	<.001***	0.03 to 0.07	0.04	0.01	<.001***	0.02 to 0.07

(Continues)



TABLE 4 (Continued)

Predictors	Knowledge and skills			Assurance of human presence			Respectful difference of others			Positive connectedness						
	$\beta$	SE-b	p	95% CI	B	SE-b	p	95% CI	B	SE-b	p	95% CI				
Burnout	0.04	0.01	<.001***	0.02 to 0.06	0.01	0.01	.395	-0.02 to 0.04	-0.01	0.01	.576	-0.03 to 0.02	-0.02	0.01	.170	-0.05 to 0.01
Secondary traumatic stress	-0.02	0.01	.038*	-0.03 to -0.00	-0.00	0.01	.721	-0.02 to 0.02	-0.00	0.01	.896	-0.02 to 0.02	0.01	0.01	.468	-0.01 to 0.03
R <sup>2</sup> (Adjusted R <sup>2</sup> )				.282 (.246)				.208 (.168)				.269 (.232)				.240 (.201)

Note:  $\beta$  is the unstandardized coefficients; SE-b is the standard error.

Abbreviation: CI, confidence interval; KSA, Kingdom of Saudi Arabia.

\*Male = 0 and Female = 1.

<sup>b</sup>Single = 0 and Married = 1.

<sup>c</sup>Christian = 0 and Islam = 1.

<sup>d</sup>Specialty areas = 0 and Non-specialty areas = 1.

\*Significant at .05; \*\*Significant at .01; \*\*\*Significant at .001.

result of one study where nurses with higher qualifications achieved higher score on CS (Shahar et al., 2019) and another study which did not find significant relationship between educational levels and work life (Suleiman et al., 2019). Further studies are needed to fully understand the impact of education on the ProQoL among clinical nurses.

Older clinical nurses had lesser degree of BO than younger nurses. This further relates to the explanation that older people become more adaptive to their work and frequently participate in religious community where they receive social support, in addition to their family (Cruz et al., 2017). The review of literature revealed conflicting role of age as an influencing factor on the ProQoL among clinical nurses (Ruiz-Fernández et al., 2020). For example, data among acute care hospital nurses in UK showed correlation between age and CF where younger nurses aged 31–35 years had low levels of CF and older nurses aged 51–55 had severe level of CF (Upton, 2018), while older nurses in a long-term care facility in Israel manifested lower CF (Shahar et al., 2019). Explaining this diversity of findings may be due to the differences in specialty services of the research environments. This requires strategies like resiliency training and mentorship programme, which may benefit new nurses to get acclimated to their job roles and responsibilities.

Clinical nurses with staff nurse position recorded significantly lower scores in CS than those who had managerial or leadership position, contrary to the previous study (Alharbi et al., 2019). Literature has cited leadership position as an important determinant to quality of work life (Leitão et al., 2019). Meanwhile, Muslim nurses had lower BO and STS. Based on a psychology expert (Wu, 2020), workers adopt to decrease CF by sorting to religious faith and use it as a coping strategy.

The results also showed that Saudi local nurses maybe more vulnerable to CF. The Saudi nurses are faced with many challenges during their nursing practice (Alharbi et al., 2019). This is supported by another study (Al-Makhaita et al., 2014), observing work-related stress among Saudi national nurses as most of them are at the early stage of their nursing careers, coupled with the family responsibilities and social obligation. This interpretation should be used with caution, as a decade old study found non-Saudi nurses were significantly more prone to emotional exhaustion than Saudi local nurses (Al-Turki et al., 2010). A systematic review of BO among healthcare providers in the Middle East noted methodological limitations in the research studies requiring more robust epidemiologic description (Chemali et al., 2019).

The clinical nurses showed highest degree of caring behaviours in terms of ‘assurance of human presence’. This affirms that humanistic nursing practice constitutes the cornerstone of the nursing profession (Delmas et al., 2018) and strengthens the value of altruism among clinical nurses for the greater good of the patients (Alavi et al., 2017). Altruistic nurses support the well-being of the patients within their professional capacity (Lillis et al., 2010) and engage in caring acts motivated by concerns for others (Swank et al., 2013). However, lowest score was in the ‘knowledge and skills’ among the

four domains of caring behaviour. This supports the findings of an exploratory study (Etemadifar et al., 2015) that patients believed they have inadequate knowledge related to their disease conditions and treatment, as they lack guidance from healthcare team with no reliable source of information. This confirms that science and caring forms the basis of nursing profession integrating human care process in clinical nursing practice (Watson, 2018). This has an important implication in continuing nursing education to ensure that clinical nurses are provided with updated information and evidence-based knowledge.

The four domains of the caring behaviours among clinical nurses were significantly predicted by their demographic characteristics and ProQoL. A surprising result was that a year increase in age corresponded decrease in the 'knowledge and skills' scores. Uthaman et al. (2016) identified in a literature review that older nurses may find some tasks less desirable and challenging. It is implied in this study that as the pandemic suddenly struck globally, organisations might be caught off-guarded and have not fully prepared the clinical nurses. Educational programmes focussing on evidence-based interventions may help maintain and enhance clinical nurses' knowledge and skills with the ageing workforce (Häggman-Laitila et al., 2016).

A noteworthy difference in caring behaviours between genders is found in this study, where male nurses scored higher in 'knowledge and skills' and 'assurance of human presence'. Female nurses traditionally display more caring than male due to internal conflicts between masculinity and caring concepts (Lee et al., 2010). It has to be emphasised that nursing profession has become more diverse to have men in nursing. The extent of differences in caring between genders is a topic that needs further research.

Nurses who finished a graduate programme reported lower scores in 'knowledge and skills' and 'assurance of human presence' than nurses who finished diploma in nursing. Nursing education is deemed to nurture and develop professional caring behaviour but some evidence suggest that this process inures caring behaviour. A study on the impact of nurse education on the caring behaviour of student nurses found statistically significant difference in the caring behaviour with third years scoring lesser than first years (Murphy et al., 2009). Others reported that nurses become uncaring in certain situations and may change over the period (Bujoreanu et al., 2020; Tingle, 2007). It is important to reiterate the inclination of care and compassionate outlook as part of the essential skills cluster in higher education programmes.

The study also found that religion of the nurses did not significantly contribute to differences in their caring behaviour scores, in congruence with the result of Li et al. (2020), although effect may have reflected to some extent in part of other variables differences. Bakar et al. (2017) found significant relationship between nurses' spirituality and caring behaviour. In the aspect of nationality, Indian nurses had better scores in 'knowledge and skills' than Saudi nurses. This is consistent with the idea that collective Indian worldviews integrate evidence-based strategies to provide culturally appropriate care in various situations (Hernandez, 2019).

Nurses with managerial position had poorer scores in 'assurance of human presence' and 'respectful difference of others' than those nurses in SN1 position, lower scores in the four dimensions of caring behaviours than nurses SN2 position and lower scores in 'respectful difference of others' than nurses in SN3 position. This finding can be supported by some studies that humanistic nursing practice in clinical settings fade over time, raising awareness of the existing presence of some dehumanising care practices (Delmas et al., 2018). Rudolfsson et al. (2007) indicated that nurse leaders struggled to retain sight of the patient in developing a caring culture. The nursing leaders should safeguard welfare of the patients and establish good relationship with the staff nurses and patient, as proposed by the idea of humanistic caring (Watson, 2018). This implicates the need to develop nurse leadership programmes to strengthen capability of nurse leaders to balance fulfilling both organisational management tasks and direct hands-on patient care.

The result affirms with other previously published studies that significant relationship between ProQoL and nurse caring exists (Aviles Gonzalez et al., 2019; Burtson & Stichler, 2010; Cruz, 2017). This finding expands the literature supporting the influence of nurses ProQoL on the caring behaviour among clinical nurses. With this knowledge, nurse managers can develop interventions to support frontline clinical nurses during the pandemic to improve CS and prevent CF, which may ultimately enhance caring behaviours.

#### 4.1 | Limitations of the study

The current study is faced with some limitations. Careful interpretation of the findings should be considered. First, it is recognised that self-reported data may have degree of social desirability bias of the respondents' own perception and tendency to produce response bias. Non-random selection of research respondents might also produce sampling bias, as some members of the population were more likely to be included in the study. The study did not explore the patients' perspective on the caring behaviour of the clinical nurses for comparison. In addition, cross-sectional design may also limit the predictive determination of true cause and effect of the studied variables. The current study environments may also limit the generalizability of the results to other countries, although it has been conducted in a larger scale comprising of multiple sites in KSA. It is recommended to conduct studies employing longitudinal design and involving multiple countries, to capture further understanding of ProQoL and caring behaviours among clinical nurses during COVID-19 pandemic.

## 5 | CONCLUSION

Nursing is a rewarding career but can sometimes be demanding and challenging. This study strengthens the understanding of the ProQoL and caring behaviours among clinical nurses during the COVID-19 pandemic and the factors influencing them. Nurses

exhibited moderate level of ProQoL and correlates to their caring behaviours. Moreover, clinical nurses' demographic characteristics predicted their ProQoL and caring behaviours. Improvement in the ProQoL may positively affect the degree of caring behaviours among clinical nurses. Further clinical studies are needed to investigate strategies to address work life issues and improve nurse caring.

## 5.1 | Relevance to clinical practice

Ensuring good ProQoL and caring behaviour among clinical nurses during the COVID-19 pandemic are underscored. The findings revealed moderate level of ProQoL. Nursing leaders can utilise this baseline evidence and apply programmes for clinical nurses to tackle quality of work life issues and enhance caring behaviours. For example, implementing a mentoring programme to engage new graduates with seasoned nurses may strengthen the team spirit and be the key to ease the transition of new graduates from the novice to expert role. Nurse leaders should acknowledge the risk factors and barriers to achieving high-quality care. They could apply criteria in staffing with considerations to demographic predictors, to balance ProQoL among clinical nurses and prevent CF, thereby promoting humanistic caring behaviours. Needs of an older workforce for long-term staff sustainability by building resiliency training programmes should be given attention. The nursing leaders should strengthen capability of clinical nurses with management function to enhance caring traits such as 'assurance of human presence' and 'respectful difference of others' through leadership and management programme. Finally, the finding showed clinical nurses scored lowest in the 'knowledge and skills' caring behaviour domain, which requires continuous educational trainings, especially about COVID-19 guidelines.

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## CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

## AUTHOR CONTRIBUTIONS

EPI, JPC, AA and RBT wrote the manuscript. EPI, AA and EHI distributed and collected the study questionnaires. JPC conducted all statistical analyses. All authors reviewed the final manuscript.

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## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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