IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 9, Issue 6 Ser. VII (Nov. – Dec. 2020), PP 51-61
www.iosrjournals.org

Nurses Worries, Perceived Sufficiency of Information and Associated Psychological Distress During COVID-19 In Jeddah City

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Abstract
Introduction: *There is an increase in the number of coronavirus cases worldwide. As a result, the nurses suffer from psychological burdens related to workload, risk of infection, lack of information, and feelings of being unsupported.*
Aim: *The study purposed identifying thenursesworries and associated psychological distress when dealing with COVID-19 cases in Jeddah city.*
Method: *The study employed a descriptive correlational study. Which was conducted in quarantines and hospitals. A convenience sample of 386 nurses completed the questionnaire.*
Results: *This study found that almost all nurses, 86.0% agreed that they worry about COVID-19. While 51.6 % of them determined their worries as very high. Whereas the results reveal a significant negative association between psychological distress and sufficiency of information about COVID-19. Conversely, there is a significant positive association between psychological distress and nursing worries.*
Conclusion: *Nurses should be provided with psychological programs while working with COVID-19 cases and are offered information about the disease and protective measures.*
Keywords*: Worries, uncertainties, staff nurse, COVID-19*

Date of Submission: 14-12-2020 Date of acceptance: 28-12-2020

I. Introduction

Coronavirus was first known in Wuhan, China, through an investigation during the outbreak that has spreadfrom Wuhan throughoutChina to several countries in the world, including Saudi Arabia. [1] Defined the coronavirus disease "as a respiratory illness that can spread from person to person." COVID-19 is the official name that has been announced by the World Health Organization [WHO], which was known before as (2019 novel coronavirus).[2]

The primary method of transmission of COVID-19 is believed to be via droplets, but there is a possibility that it can be transmitted through airborne transmission.[3]

With the increasing numbers of COVID-19 cases, the health care practitioners suffer from the psychological burden related to overwhelming workload, the risk of infection, lack of personal protection equipment, lack of specific medications, and feeling of being unsatisfactorily supported.[4]

The systematic reviews conducted by [5] indicated that the results asserted quarantines or isolation departments in the hospitals influenced health and related psychological outcomes negatively. This impact is mainly derived from stigma or fear of avoidance and isolation by members of the community. Knowing that the effect does not only affect the healthcare practitioners but their families as well.[6]

Healthcare practitioners experience psychological stress, an increase in workload, and long working hours while caring for confirmed or suspected cases of COVID-19. Moreover, they reported a sense of fear of transmitting the infection to their families and friends. [7, 8]

A study conducted by [9] found a high incidence of mental health symptoms such as psychological distress, depression, insomnia, and anxiety among health care practitioners who care for COVID-19 cases. This result echoed by [10], who addressed the staff worries and psychological distress during the A/H1N1 influenza pandemic and concluded that the vast majority of health care practitioners experienced moderately high anxiety about the A/H1N1 influenza.

The outbreak of the COVID-19 has led to enormous psychological problems in various populations. Despite the Chinese authorities' announcements of relevant policies and actuating principles, the COVID-19 outbreak was posted as a severe emerging challenge for China's mental health services. [11]

Nurses are at a higher risk of suffering from psychological distress than other medical staff because nurses are the first line in the health care system. They provide constant care and have close contact with suspected or confirmed COVID-19 cases.[7] Therefore, it is essential to ensure the physical and psychological safety of nurses.[12]

Furthermore, it has been demonstrated that the level of the perceived risk of disaster has affected nurses' awareness about the disaster. The results of prior studies suggested that a sufficient amount of information may have led to a decrease in the degree of worry.[10, 13]

Evidently, measures might help decrease the nurses' worries and psychological distress during the COVID-19 outbreak, including psychological skill training, which showed a positive impact in reducing the participants' psychological distress such as anxiety, panic, and other emotional problems. In addition to hospitals' services, such as a place for rest, where staff could temporarily isolate themselves from their families, also guaranteed food and daily living supplies and disease sufficiency of information and protective actions.[14]

In the Kingdom of Saudi Arabia, there are limited studies that addressed nurse's worries, perceived sufficiency of information, and associated psychological distress during COVID-19 in Jeddah city. The study purposed to identify the nursing staff worries and associated psychological distress when dealing with suspected or confirmed cases of COVID-19 in Jeddah city. Objectives are to assess the nurse's acute responses to the COVID-19 pandemic as indicated by their degree of worries over the pandemic, identify the degree of worries and perceived sufficiency of information concerning the COVID-19 pandemic and their intended behaviourduring the pandemic, and whether these factors were associated with psychological distress.

II. Materials/Subjects and Methods

2.1 Design: This study used a cross-sectional descriptive design.
2.2 Setting: The study was carried out between March 1st and 30th July in quarantine hotels and hospitals that providecare to suspected or confirmed cases of COVID-19.
2.3 Subjects: A convenience sample of those who agreed to participate in this investigation was recruited in the study.

2.4 Sample size calculation
Based on [15] sample power calculation, the minimum required sample size with the desired probability level of (0.05), a small effect size of (0.05), and the statistical power level of (0.8), the required sample size is 307**.** The researcher has obtained around (386) valid responses from the target sample of the study.

2.5 Inclusion criteria
A convenience sample of nurses who satisfied the following inclusion criteria
Registered nurse.
Nursing staff working in quarantine hotels and hospitals that provide care to suspected or confirmed cases of COVID-19.

2.6 Exclusion criteria
Any nurses who did not meet the inclusion criteria were excluded from the study.

2.7 Outcome measures

The study was administering four parts of outcome measures to collect the required data. The first part was the participants' sociodemographic data; this part included gender, age, educationallevel, total years of experience, marital status, and nationality. The second part was related to general information, including nursing experience, current workplace place, employment system, direct care provided, attended a lecture or activity to raise awareness, and improved their knowledge. The third part was about worries and perceived sufficiency of information adapted from Goulia et al. [10]. This part comprises 20 items selected by [10], based on the literature and experts' opinions about the infectious disease outbreaks. Answers were distributed into dichotomous (Y/N), Likert scale from very little to very much, very low to very high, or strongly agree to disagree strongly. The fourth part was the Kessler Psychological Distress Scale (K10). It contains 10-items aimed to generate a global measure of distress created on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4-week period adopted from Kessler. [16]

2.8 Ethical considerations

Approval obtained from the Institutional Review Board (IRB), Jeddah, Ministry of Health, Saudi Arabia. The investigators assured participants that confidentiality was maintained. Informed consent was gained from all participants; rules and regulations set out by the IRB committee were applied to guarantee the application of a code of ethics and guarantee no negative impact or harm shall occur.

2.9 Analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS, version 24. IBM). Descriptive statistics were used to summarize and describe the learning needs and sociodemographic data of the participants. On the other hand, the inferential statistical methods used include the T-test and Analysis of variance [ANOVA]. In addition to that, Cronbach's Alpha was used to examine the survey instrument reliability, and Pearson's correlation was used to test the research instrument's validity. The Pearson product-moment correlation coefficient was utilized to assess relationships between learning needs, sociodemographic, and health history data. The level of significance was set at $p < 0.05$ for the statistical data.

2.10Survey instrument reliability and validity

To obtain accurate information from the survey instrument, it is essential to ensure that the constructed survey instrument is highly reliable and valid. [17] Defined the validity of the research instrument as "the extent to which a concept is accurately measured in a quantitative study, while reliability relates to the consistency of a measure."

2.10.1 Research instrument validity

The pilot study on ten eligible participants checked on the validity and understanding of the questionnaire. A pilot study can be defined as a 'small study to test research protocols and data collection instruments." [18] To perform the research method validity, Pearson's correlation coefficient has been used to measure the degree of association between each statement (item) included in the survey instrument, with the total scores of the dimension to which it is related, and the results demonstrated as in Table 2.1

Table 2.1The survey instrument validity

Item No.	Correlation coefficient	Item No.	Correlation coefficient	Item No.	Correlation coefficient	Item No.	Correlation coefficient
1	0.836**	8	0.577**	12	0.716**	21	0.696**
2	0.821**	9	0.642**	13	0.645**	22	0.763**
3	0.760**	10	0.762**	14	0.205**	23	0.816**
4	0.859**	11	0.624**	15	0.291**	24	0.835**
5	0.845**			16	0.570**	25	0.884**
6	0.818**			17	0.315**	26	0.874**
7	0.769**			18	0.250**	27	0.865**
				19	0.544**	28	0.692**
				20		29	0.859**
						30	0.826**

**Correlation is significant at the (0.01) level

The results in Table 2.1 reveal a statistically significant correlation relationship between the score of each statement included in the survey instrument, with the total scores of the dimension to which related. Meaning, all statements achieve the purpose of measurement that supports the validity of the survey instrument.

2.10.2 Research instrument reliability

To assess the survey instrument reliability, the coefficient of Cronbach's Alpha has been employed to find the internal consistency of all items, and for each dimension, the results demonstrated as in Table 2.2

Table 2.2 The survey instrument reliability (internal consistency)

	No. of items	Cronbach's Alpha
Overall reliability	30	0.827

The result in Table 2.2 shows that the questionnaire method's overall reliability measured by Cronbach's Alpha is reaching (0.827), which is highly sufficient to justify the questionnaire method's reliability and its suitability to collect the needed data.

III. Results

Part.3. 1Demographic Data

Table 3.3Respondents' demographic characteristic

Demographic variables	Frequency	Percentage %
1.Gender		
Male	25	6.5
Female	361	93.5
2. Age		
20-29	124	32.1
30-39	173	44.8
40-49	70	18.1
50-59	19	4.9
3. Educational level		
Diploma	112	29.0
BSN	245	63.5
Master	29	7.5
4. Totalyears of experience		
1 - 5 years	131	33.9
6 - 10 years	76	19.7
11 - 15 years	113	29.3
16 - 20 years	31	8.0
21- 25 years	24	6.2
26 and above	11	2.8
5. Maritalstatus		
Married	246	63.7
Single	122	31.6
Divorced	12	3.1
Widowed	6	1.6
6. Nationality		
Saudi	235	60.9
Non-Saudi	151	39.1

It can be noted that the results in Table 3.3 reveal that the female nurses comprised the majority of the sample (93.5%) while the males represent only (6.5%). According to age, most of the respondents are less than (40) years. Concerning the study's educational level (63.5%), participants attained study bachelor’s degree in nursing. The majority of the participantshave five years of experience or less. Regarding the nurse's distribution by marital status, the results found that nearly all the participants (63.7%) were married. Related to the nurses' distribution by nationality, the findings indicated that the Saudi nurses comprised the majority by (60.9%), while the Non-Saudi nurses represent about (39.1%).

Part 3. 2 General information

Table 3.4Nurses general information

General information	Frequency	Percentage %
1.Nursing experience		
Emergency department	61	15.8
Surgical or medical department	89	23.1
Critical care department	63	16.3
Clinic	46	11.9
Supervisor	27	7.0
Head nurse	30	7.8
Other	70	18.1
2. Current place of work		
Hospital	334	86.5

Public health center	45	11.7
Quarantine	7	1.8
3.Employment system		
Employed in civil service bureausystem	230	59.6
Employed in operational programs	156	40.4
4.Nurses' perceptions regarding if they provide direct care for suspected or confirmed cases of COVID-19		
Yes	306	79 %
No	80	21 %
5. Nurses' perceptions regarding if they have attended a lecture or activity to raise awareness about psychosocial distress and stress management techniques		
Yes	178	46.1
No	208	53.9
6.Nurses' perceptions regarding if they need to improve their knowledge related psychosocial distress and stress management techniques		
Yes	327	84.7
No	59	15.3

Regarding the nurses' experiences, as shown in Table 3.4, it is evident that (23.1%) of the nurses have experience in the surgical or medical department, whereas at the least level comes supervisor with (7.0%). Concerning nurses distribution according to the current place of work, the results reveal that the majority of nurses by (86.5%) are working at a hospital, whereas (11.7%) of the nurses are working at a public health center, while those who work at quarantine comprised just (1.8%). The results in Table 3.4 indicate that most of the participants (59.6%) are employed in the civil service bureau system. The results in Table 3.4 reveal that (79 %) of the nurses confirmed that they provide direct care for suspected or confirmed cases of COVID-19, while (21%) provide Indirect care for suspected or confirmed cases of COVID-19. However, they do work as supervisors or administrators in hospitals that offer this service.

Furthermore, Table 3.4 shows that (46.1%) of the nurses' participants in the current study confirmed that they had attended lectures or activities to raise their awareness about psychosocialdistress and stress management techniques. In comparison (53.9%) never attended such lectures. Table 3.4 shows that most nurses (84.7%) believe that they need to improve their knowledge related to psychosocialdistress and stress management techniques, while only (15.3%) never need to improve their knowledge.

Part 3.3The nurses' worries, perceived sufficiency of information and associated psychological distress during COVID-19

Table 3.5Nurses' concerns and worries during COVID-19 in Jeddah city

Item No	Items		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD
1	I think that being infected with COVID-19 pandemic would have major consequences on my health	F	132	123	83	37	11	3.85	1.09
		%	34.2	31.9	21.5	9.6	2.8		
2	I believe that the infection is difficult to treat	F	72	121	102	70	21	3.40	1.14
		%	18.7	31.3	26.4	18.1	5.4		
3	I feel that my department is well prepared for the COVID-19 pandemic	F	87	123	86	56	34	3.45	1.23
		%	22.5	31.9	22.3	14.5	8.8		
4	I think it would be important if there was a service offering psychological support regarding my concerns about the pandemic	F	145	144	62	25	10	4.01	1.02
		%	37.6	37.3	16.1	6.5	2.6		
			Very high		**Median**		**Very low**		
5	Perceived risk for being infected with COVID-19 pandemic	F	299		78		9		
		%	77.5		20.2		2.3		
			Yes		**No**				
6	I worry about the COVID-19 pandemic	F	332		54				
		%	86.0		14.0				
			Very high		**Medium**		**Very low**		
7	Degree of my worry	F	199		144		43		
		%	51.6		37.3		11.1		

The results in Table 3.5 show nurses' perceptions regarding their worries and concerns about COVID-19. As the perceived risk for nurses being infected by COVID-19. The results reveal that almost all nurses (77.5%) confirmed that there is a high risk of being infected, while only (20.2%) feel that there is a moderate risk, whereas only (2.3%) think that there is a low risk of being infected. Therefore, we conclude that the majority of nurses believe that the risk of being infected is very high. Whereas, when examining the nurses'

worries about the COVID-19 pandemic, the result shows that almost all study participants (86.0%) agree that they worry about COVID-19, while only (14.0%) feel that they are not worried about the COVID-19 pandemic. At the same time, when respondents of the current study provided their beliefs regarding the degree of their worries. The results found that more than half of the participants believe that there is a very high degree of worry by (51.6 %), whereas (37.3%) think that there is a moderate level of worry, while just (11.1%) show that there is a low level of worry. (74.9%) of the study, participants emphasized the importance of offering psychological support regarding any concerns about the pandemic.

Table 3.6Nurses' perceptions regarding what do nurses worryabout mostly

Item No	Items		Yes	No
1	I mostly worry about the disease's danger	F	66	320
		%	17.1	82.9
2	I mostly worry about the risk for family and relatives to be infected	F	357	29
		%	92.5	7.5
3	I mostly worry about the isolation from family and/or social environment	F	309	77
		%	80.1	19.9
4	I mostly worry about the consequences on my functional ability	F	288	98
		%	74.6	25.4

When examining nurses' perceptions regarding what they are mostly worried about, the majority (92.5%) confirmed that they mostly worry about the risk for family and relatives being infected by the disease. Furthermore, the results found that most participants by (80.1%) think that they mostly worry about the isolation from familyor social environment. On the other hand, when nurses provided their responses regarding if they mostly worry about their functional ability, the results reveal that there are about (74.6%) confirmed that they worry about the consequences of their functional ability. Finally, when nurses' respondents of the current study showed their views regarding if they were mostly worried about the disease's danger (17.1%) confirmed that, whereas (82.9%) showed negative responses. Thus, we conclude that the most critical things nurses worry about are the risk for family and relatives to be infected, and they mostly worry about the isolation from family or social environment.

Table 3.7Nurses' perceived sufficiency of information during COVID-19 pandemic

Item No	Items		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	SD
1	I believe that I have heard sufficient information about COVID-19 pandemic symptoms	F	163	131	58	22	12	4.06	1.04
		%	42.2	33.9	15.0	5.7	3.1		
2	I believe that I have heard sufficient information about COVID-19 pandemic prognosis	F	110	154	84	24	14	3.83	1.03
		%	28.5	39.9	21.8	6.2	3.6		
3	I believe that I have heard sufficient information about COVID-19 pandemic treatment	F	77	139	114	39	17	3.57	1.06
		%	19.9	36.0	29.5	10.1	4.4		
4	I believe that I have heard sufficient information about COVID-19 pandemic infection route	F	160	138	60	19	9	4.09	0.99
		%	41.5	35.8	15.5	4.9	2.3		
5	I believe that I have heard sufficient information about COVID-19 pandemic preventive measures	F	158	141	52	27	8	4.07	1.00
		%	40.9	36.5	13.5	7.0	2.1		
6	I believe that my department provided clear information about the COVID-19 pandemic	F	136	147	56	26	21	3.91	1.12
		%	35.2	38.1	14.5	6.7	5.4		
7	Overall, the information I have heard about the COVID-19 pandemic has been clear	F	117	151	72	32	14	3.84	1.06
		%	30.3	39.1	18.7	8.3	3.6		
8	I prefer having no more information than needed about the COVID-19 pandemic	F	63	96	98	67	62	3.09	1.31
		%	16.3	24.9	25.4	17.4	16.1		
9	I prefer as much information as possible about COVID-19 pandemic	F	130	145	78	25	8	3.94	0.99
		%	33.7	37.6	20.2	6.5	2.1		
Overall mean value								**3.82**	**0.80**

In Table 3.7, item number (4) shows that most nurses (77.3%) believe that they have heard sufficient information about the COVID-19 pandemic infection route. Regarding item number (5), about (77.4%) of the sample reported that they had heard sufficient information about COVID-19 pandemic preventive measures. When the study's participants provided their perception of the item number (1), the results show that almost all

nurses believe that they heard sufficient information about COVID-19 pandemic symptoms, as there are about (76.1%) provided positive evidence. Furthermore, when nurses were being asked to present their perception regarding statement number (9), the results show that nearly all respondents (71.3%) prefer as much information as possible about the COVID-19 pandemic. On the other hand, regarding item number (6) (73.3%), the participants confirmed that their department provided clear information about the COVID-19 pandemic.

Table 3.8Nurses' perceptions of psychological distressduring COVID-19 pandemic

Item No	Items		All of the time	Most of the time	Some of the time	A little of the time	None of the time	Mean	SD	Ranking
1	During the last 30 days, about how often did you feel tired out for no good reason	F	40	78	136	65	67	2.89	1.21	3
		%	10.4	20.2	35.2	16.8	17.4			
2	During the last 30 days, about how often did you feel nervous?	F	45	90	130	76	45	3.04	1.17	2
		%	11.7	23.3	33.7	19.7	11.7			
3	During the last 30 days, about how often did you feel so nervous that nothing could calm you down?	F	31	68	114	84	89	2.66	1.23	5
		%	8.0	17.8	29.5	21.8	23.1			
4	During the last 30 days, about how often did you feel hopeless	F	32	65	106	73	110	2.58	1.29	8
		%	8.3	16.8	27.5	18.9	28.5			
5	During the last 30 days, about how often did you feel restless or fidgety	F	37	72	106	79	92	2.70	1.28	4
		%	9.6	18.7	27.5	20.5	23.8			
6	During the last 30 days, about how often did you feel so restless you could not sit still?	F	30	64	91	74	127	2.47	1.31	9
		%	7.8	16.6	23.6	19.2	32.9			
7	During the last 30 days, about how often did you feel depressed	F	35	76	92	87	96	2.66	1.29	6
		%	9.1	19.7	23.8	22.5	24.9			
8	During the last 30 days, about how often did you feel that everything was an effort	F	57	86	117	76	50	3.06	1.24	1
		%	14.8	22.3	30.3	19.7	13.0			
9	During the last 30 days, about how often did you feel so sad that nothing could cheer you up	F	32	77	94	82	101	2.63	1.29	7
		%	8.3	19.9	24.4	21.2	26.2			
10	During the last 30 days, about how often did you feel worthless	F	26	64	99	70	127	2.46	1.28	10
		%	6.7	16.6	25.6	18.1	32.9			
Overall mean value								2.71	1.03	

Table 3.8 shows the nurses' participants of the study perceptions about the psychological distress they feel during the COVID-19 pandemic. The results overall revealthat the mean value is reaching (2.71) with SD (1.03). Meaning that on average, nurses some of the time they feel psychological distress during COVID-19 among the most important things, related to item number (8) about (37.1%) of the nurses all the time and most of the time, they felt that everything was an effort during the last 30 days. While (30.3%) some of the time they felt that there was an effort, whereas (32.7%)felt that there was little to no effort. When nurses' participants of the study were required to provide their perceptions regarding the item number (2), the results reveal that there are (35.0%) all of the time, and most of the time, they felt nervous. While (33.7%) they sometimes feel nervous, whereas (31.4%) they felt a little or non-nervous. Furthermore, when participants of the study were asked to show their perspectives regarding the item number (1), the results reveal that there are (30.6%) who all the time, and most of the time felt tired out for no good reason, while (35.2%) sometimes felt tired, whereas (34.2%) were little and non-of the time felt tired. On the other hand, when nurses were required to present their perceptions regarding the item number (6), it is clear that (24.4%) who all the time and most of the time felt so restless,(23.6%) who some of the time felt restless, while the majority by (52.1%) confirmed that they felt little of the time and none of the time. Finally, when nurses were asked to present their perceptions regarding the item number (10), the results reveal that there are about (23.3%) thought they all the time, and most of the time felt worthless, whereas (25.6%) some of the time they felt worthless, while the majority of (51%) they felt little of the time and none of the time.

3.4Testing significant differences

To examine whether there is a significant association between psychological distress, nurses' concerns and worries of COVID-19, and sufficiency of information about the COVID-19 pandemic. The Spearman-Brown correlation was run, and the results were presented as in Table 3.9

Table 3.9association between psychological distressand nurses' worries of COVID-19, and sufficiency of information

	Psychological distress	
	Spearman-Brown Coefficient	**P-Value**
Nurses' concerns and worries	0.086	0.09
Nurses perceived sufficiency of information	-0.188**	0.00
Nurses' perceptions regarding what they worry aboutmostly	0.356**	0.00

**Correlation is significant at the (0.05) level

The results in Table 3.9 show that there is no significant association between psychological distress as an independent variable, and nurses' concerns and worries about the COVID-19 pandemic that was mentioned in Table 3.5. At the same time, the results reveal that there is a significant negative association between psychological distress and the sufficiency of the information about COVID-19. This indicated that as psychological distress increases for nurses, their sufficiency of information decreases. In addition to that, the results found that there is a significant positive association between psychological distress and what nurses are mostly worried about, as stated in Table 3.6. Meaning that, as psychological distress increases, this will lead to nursing worry about things such as the disease's danger, the risk for family and relatives to be infected, isolation from family or social environment, and consequences on their functional ability. Regarding if there are any statistically significant differences between nurses' worries, perceived sufficiency of information, and associated psychological distress during COVID-19 in Jeddah city, related to participants' demographic characteristics, including (gender, age, educational level, years of experience, marital status and nationality). To examine the significant differences, the T-test statistics are used to find significant differences between nurses related to gender, and nationality, whereas One-Way analysis of variance (ANOVA) was used to examine differences related to (age, educational level, years of experience, and marital status). The results conclude that there are no statistically significant differences between nurses regarding their worries about the COVID-19 pandemic, and mostly worries about, at the significant level (0.05) related to nationality, marital status, age, and gender, which means that age, marital status, and gender do not influence the nurses' worries of COVID-19 in Jeddah city. At the same time, there are significant differences related to some demographic characteristics, as presented in the following tables.

Table 3.10[ANOVA] to test if there are statistically significant differences between nurses' worries, of what they worry about and sufficiency of information about COVID-19 related to educational level

	Source of variation	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Nurses' concerns and worries	Between Groups	8.960	2	4.480	6.343**	.002
	Within Groups	270.504	383	.706		
	Total	279.465	385			
Nurses' perceptions regarding what they worry about mostly	Between Groups	4.969	2	2.484	4.709**	.010
	Within Groups	202.059	383	.528		
	Total	207.027	385			
Nurses perceived sufficiency of information	Between Groups	.222	2	.111	1.814	.164
	Within Groups	23.384	383	.061		
	Total	23.606	385			

** indicated that the difference is significant at the (0.01) level.

The results in Table 3.10 show that there are statistically significant differences between nurses towards their worries about the COVID-19 pandemic and what they mostly worry about, at the significant level (0.01) related to education level, which means that educational level is considered as a factor that makes a difference in nurses' worries of COVID-19 in Jeddah city. When examining to which educational level the significant differences exist, the results found that it exists between nurses who have a BSN educational level, compared with a diploma and master, and positive to the side of bachelor's degree [BSN]. The results presented in Table 3.11

Table 3.11 Multiple comparison analysis to examine significant differences between nurses' worries about COVID-19 pandemic related to educational level

	Educational level	**Diploma**	**BSN**	**Master**
Nurses' concerns and worries	Diploma	-	-0.32*	-
	BSN	0.32*	-	-
	Master	-	-	-
Nurses' perceptions regarding what they worry about mostly	Diploma	-	-0.17*	-
	BSN	0.17*	-	0.37*
	Master	-	-0.37*	-

Table 3.12[ANOVA] to examine significant differences between nurses' worries about COVID-19, and sufficiency of information related to total years of experience

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Nurses' concerns and worries	Between Groups	5.167	5	1.033	1.922	.090
	Within Groups	204.254	380	.538		
	Total	209.421	385			
Nurses' perceptions regarding what they worry about mostly	Between Groups	.232	5	.046	.686	.635
	Within Groups	25.714	380	.068		
	Total	25.946	385			
Nurses perceived sufficiency of information	Between Groups	7.772	5	1.554	2.500*	.030
	Within Groups	236.242	380	.622		
	Total	244.014	385			
Psychological distress	Between Groups	3.542	5	.708	.666	.649
	Within Groups	404.043	380	1.063		
	Total	407.584	385			

*****Indicated that, the difference is significant at the (0.05) level.

The results in table 3.12 reveal a statistically significant difference between the nurses' perceived sufficiency of information and total years of experience, which means that the variations in years of experience influence nurses' sufficiency of information regarding COVID-19 in Jeddah city. While the results did not find statistically significant differences between nurses' concerns and worries, what they worry about most, and psychological distress.

IV. Discussion

In the current study, when examining the nurses' concerns and worries about the COVID-19 pandemic, the results showed that most study participants (86.0%) agreed that they are worried about COVID-19. About (51.6 %) of the participants determined their worries as a high degree, while (37.3 %) of the participants determined their worries as a moderate level. Similarly, this result is supported by the findings of [10], who examined the nurses' worries and reported that more than half of health care workers (56.7%) were worried about the A/H1N1 influenza pandemic, and they encountered a moderate level of anxiety. Besides, the studies conducted by [19,20] confirmed that (86%) of the participants highlighted that they were worried about the effect of coronavirus.

The results of the present study demonstrated that when examining nurses' perceptions concerning what they are mostly worried about, the majority (92.5%) confirmed that they mostly worry about the risk for family and relatives to be infected by the pandemic, and (74.6 %) of the participants confirmed that there is a high risk of being infected. This indicated that the majority of nurses believe that the risk of being infected by COVID-19 is very high. A prior study revealed that the most frequent worries of the participants during COVID-19 were infection of family, friends, and the health consequences of the illness. [10] In line with these results, the fear of getting infected for themselves and colleagues was ranked as the top source of stress and anxiety among the participants. [19]

Further, most nurse's participants in this study (80.1%) are most worried about the isolation from the family or social environment in which they live. This result's disagreement with the previous study found that (6.6%) of the participants had restricted their social contacts. Fewer (3.8%) felt isolated by their family members and friends because of their hospital work.[10]

Based on the current study concerning the information sufficiency about COVID-19, the results found some vital positive things. The majority of nurses (76.1%) believed that they had heard sufficient information about COVID-19 pandemic symptoms. Moreover, about (77.3%) of the nurses confirmed that they had heard sufficient information about the COVID-19 pandemic infection route. While (77.4%) of the participants reported that they had heard sufficient information about COVID-19 pandemic preventive measures. These findings are not consistent with the results obtained from [21] suggested that a significant proportion of health care workers had poor knowledge of its transmission (61%) and symptom onset (63.6%) of COVID-19. Similar findings were reached by [22] the participants who scored (80%) or more were considered to have sufficient knowledge about COVID-19. However, the present study results reveal that almost all the nurse's participants lack sufficient information about how to treat and the preventive measures of the COVID-19 pandemic.The present study found that (54.4%) of the respondents feel that their departments are well prepared for the COVID-19 pandemic. While the rest of the respondents feel that their departments are not properly well prepared. As well (74.9 %) of nurses in this study think that it would be important if there were a service offering psychological support about the pandemic in their place of work. This finding is supported by research

showing that hospital managers and directors should consider nurses and other medical staff's views toward the proper department preparing for the COVID-19 pandemic. [10]

Regarding the nurses' perceptions of psychological distress during the COVID-19 pandemic, the results indicated that the average of nurses some of the time, and most of the time, felt psychological distress during the COVID-19 pandemic. There is a significant positive association between psychological distress and nursing worries, meaning that as psychological distress increases, this will lead to nursing worry about things such as the disease's danger, the risk for family and relatives to be infected, isolation from family or social environment, and consequences on their functional ability, and as the nurses' psychological distress increases their sufficiency of information decreases. These results are consistent somewhat with what had been found in a previous study, which showed that nurses suffered from psychological distress,the risk factors for psychological distress included having an infected family member, longer quarantine period, lack of practical support, and stigma. [23] Generally, (53.9%) of the nurse's participants in the current study confirmed that they never attended lectures or activities related to the proper management of psychosocial distress and stress management techniques. The present study also showed that most nurses (84.7%) believed that they need to improve their psychological distress and stress management information. These results highlight the importance of nurses' education, training, and support in dealing with restlessness and psychological distress. Consistent with prior evidence, continuous professional education is suggested to improve nursing knowledge, practices, avoidance of negative attitudes, promoting therapeutic practices, and positive preventive measures. [22]

Accordingly, a previous study found that nurses experiencing negative emotions during an epidemic outbreak, and after a while, their feelings change to positive emotions. The self-coping styles and psychological support play significant roles in maintaining mental health and changing their feelings positively. [24] Inline, the previous study recommended that offering training and continuous education about important issues such as adequate compensation and meaningful reassurance lead to reduce nurses' stress reactions. [25]

The results of the recent study found that there are no statistically significant differences between nurses' responses regarding nurses' worries about the COVID-19 pandemicand what nurses mostly worry about related to gender, nationality, age, marital status, meaning that these factors do not influence nurses' perceptions toward their worries of COVID-19 in Jeddah city. Correspondingly, the results conclude that there are statistically significant differences between nurses toward their worries about the COVID-19 pandemic and what they mostly worry about at the significant level (0.01%) related to the educational level and total years of experience, which means that the educational level and total years of experience are considered as factors that make a difference in nurses worries of COVID-19 in Jeddah city. Conversely, [21] Results found that factors such as age and profession were associated with inadequate knowledge and a poor perception of COVID-19.

4.1 Limitations

The researcher used a non-probability sampling technique to collect the data, which means that the sample was selected based on subjective decisions instead of random selection. Therefore, it limits the generalizability of the study findings. Besides, most study participants were females.

4.2. Recommendations

1. Prepare a current and future emergency plan for pandemic diseases, focusing on the psychological aspect and how to support the nurses
2. Provide measures of psychological intervention programs for nurses who are working with confirmed or suspected COVID-19 cases such as psychological counselor and training on how to relax and manage stress
3. Provide scientific updated and correct information about the COVID-19 pandemic, such as disease prevention, treatment, management ،and the use of protective equipment to decrease worry

V. Conclusion

In conclusion, the outbreak of the COVID-19 has Led to enormous psychological challenges. This study showed that a significant percentage of nurses suffered from high degrees of worry during the COVID-19 pandemic. (92.5%) of the participants are worried about the risk of family and relatives to be infected. (77.5%) of participants confirmed that they are at higher risk for infection. Maintaining psychological support is essential for nurses during the COVID-19 outbreak.

Acknowledgement

Our genuine thanks to our colleagues who are working in quarantines and hospitals in Jeddah city for their participation in this study and for their great work in fighting COVID-19.

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