
▪ **Basic Research**

Effect of Stigma on Nurses' Mental Health and Social Support during COVID-19 Pandemic

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Abstract

Background: Nurses always a public target of stigmatization through extensive infections and COVID-19 which lead to psychological and social disorders among them. **Aim** of this study was to evaluate the effect of Stigma towards nurses during COVID-19 pandemic on nurses' mental health and social support. **Design:** descriptive correlational was utilized. **Setting:** The study was conducted at the survey through a link shared on nurse networking sites. **Sample:** A purposive sample of 500 nurses was asked to complete an online survey. Data collection conducted from 8 May 2021 to 9 July 2021 in Egypt. **Tools:** an online semi-structured questionnaire consisted of 4 parts; (1) personal data such as age, sex, residence, marital status, and level of education. (2) Effect 16 items COVID19 stigma (E16-COVID19-S); measuring level of stigma, (3) scale of Indicators of negative mental health impact to measure negative health impacts, and (4) scale of impact on social and family support to measure level of social support. **Results:** showed that nurses suffered from a moderate level of stigma and social support. But, one half of the nurses studied suffered from a high level of Negative impact on mental health. Statistical tests showed a statistically significant difference between all factors of stigma and years of experience, courses of training and worked in COVID-19 facility. Also, there was a positive effect of the stigma on impacts indicators of negative health, and negatively impacts social support. **Conclusion:** Stigma towards nurses during COVID-19 pandemic was positive predictors of the negative mental health impact, while being negative predictors of family and social support improvement. **Recommendations:** educational and Psychological intervention program about stigma and discrimination for nurses to ensure adequate adaptation and high quality of health care.

Key words: Stigma, Covid-19, Psychological impact & Social support

Introduction

According to the World Wellbeing Association, the corona infection is known as SARS-CoV-2, and the disease it causes is known as COVID-19. The letters "CO" and "VI" stand for Corona, infection, and illness, respectively. This phrase was chosen in order to avoid forming gloomy associations with specific gatherings or locales ⁽¹⁾. The Corona virus causes mental stress, the most serious of which are anxiety and depression, due to its rapid and widespread spread. Individuals are concerned about their surroundings, which causes them to be fearful of what is to come ⁽²⁾.

During the COVID-19 pandemic, stigma has turned into general well-being challenge ⁽¹⁰⁾. COVID-19-related stigma refers to an objecting or pessimistic self-mentality caused by contamination with, or close contact with, COVID-19, which results in "a ruined personality." Social stigma with regards to wellbeing is the pessimistic relationship between an individual or group who shares specific qualities and a particular infection ⁽¹¹⁾. The degree of stigma related to COVID-19 depends on three principal factors: 1) it is an infection that is new and for which there are as yet numerous questions; 2) we are frequently scared of the obscure; and 3) connecting that dread with 'others is simple' ⁽¹²⁾. Stigma can sabotage social attachment and brief conceivable social segregation of gatherings, which could add to a circumstance where the infection is more, not less, liable to spread. This can bring about more extreme medical issues & trouble controlling an infection episode

Feelings of stigma associated with getting the illness or harming relatives, friends, and family around them cause persistent unpleasant, restless, or "empty" feelings; feelings of terribleness; feelings of guilt; feelings of helplessness or vulnerability; crabbiness; fretfulness; and a loss of interest in once delightful exercises or leisure activities. ⁽⁵⁾. It leads to feelings of pressure and tension, as well as enormous psychological demands related to the way of behaving to be continued in these circumstances.

Mental health disorders are one of the top 10 causes of impairment in nurses between the ages of 25 and 50 ^(1,4). The World Health Organization (WHO) demonstrated the need for a coordinated, evidence-based effort to enhance mental health services. ^(2,5). Most nurses' emotional and social well-being is impacted by work responsibilities, and these factors may negatively affect their personal satisfaction. As a result, WHO identified a need to learn about and assess their daily environments, which has increased their endurance and social assistance ⁽⁷⁾.

Nurses are at the forefront of patient care. But, their genuine responsibility as a vocation can leave them exhausted and pushed. Nurses manage the cost of care and assistance to patients, but they also participate in their recovery, give back to patients and

their families, and promote well-being training^(3, 8), playing an important role in advancing and further developing wellness administrations in the public⁽⁸⁾. Since the flare-up of COVID-19, nurses have experienced record levels of responsibility and tension⁽⁹⁾. In Egypt, there has been little significant awareness of stigma's accurate effect on nurses and related factors.

Significance of the study:

The global number of Corona infections was around 81 million, with 6.12 million deaths, whereas the number of infected people in Egypt was 85 thousand, with 25,361 deaths. Nurses regularly experience a different of work-related stressors such as long work hours, meeting patients' needs, unpredictable timetables, and absence of expert help^(2, 5, 14). With such requesting occupations, the continuous strain looked by healthcare experts could seriously affect their mental health and quality of life⁽¹⁴⁾. Therefore, this study intends to recognize the effect of Stigma towards nurses during COVID-19 pandemic on nurses' social support and mental health⁽⁹⁾ in try to help in conserving the psychological wellbeing of them, chiefly with its expansion in Egypt and other countries.

Health care's team especially nurse have always been a common target of stigmatization during pandemic⁽²⁾. Stigma is predominant and well researched concerning mental diseases, non-infectious, and infectious diseases. Social stigma toward nurse who is look for COVID-19 patients is highly expected^(6, 15).

Aim of the Study: to assess the effect of Stigma towards nurses during COVID-19 pandemic on nurses' mental health and social support

Research hypothesis: The stigma will have a positive effect on the mental health and negative effect on social support of nurses

Subjects and Method:

Research design: A descriptive correlational design was utilized in this study.

Study setting: The study was carried out on nurses who are working in health care settings and who were accessible over the Internet. The nurses were invited to complete an online survey. **Study duration,** Data was collected between 8 May 2021 to 9 July 2021 in Egypt.

Subjects: A total of 500 nurses completed the questionnaire with a reply rate of 65.47%. All prospective participants completed the informed consent process prior to study entry.

The inclusion criteria: Nurses who are currently working in health care settings for at least three months and who did not currently have corona disease Egyptians aged 20 years or more, and use social media.

Tools for data collection: The semi-structured questionnaire comprised of 4 parts:

- 1- **Socio-demographic characteristics:** It was designed by the researchers based on review of the related literatures^(8,10,12). It includes: age, sex, residence, marital status, educational level and economic status. Place of work- previous Covid-19 experience, and experience years, experience year and Courses of training.
- 2- **Effect 16 items COVID19 stigma (E16-COVID19-S).** It developed by **Mostafa et al., (2021)**⁽¹⁶⁾ stigma scale consisted of 16 items. The tool is measuring 3 stigma-related factors including: 1) personalized stigma (8 items), 2) concerns of disclosure and public attitudes (5 items) and 3) negative experiences (3 items). Each item had four possible responses distributed as 1-4 Likert scale points: “strongly disagree”, “disagree”, “agree”, and “strongly agree. The total score of the 16-item COVID-19-stigma scale “E16-COVID19-S” could range from 16 to 64. By categorizing the continuous E16-COVID19-S scale into low, moderate, and high stigma levels⁽¹⁶⁾.

Categories	Score
Low	16- 21
Moderate	22-42
High	43- 64

- 3- **Scale of Indicators of negative mental health impact:** was developed by **Lau, (2006)**⁽¹⁷⁾. 6 indicator variables were used in the study to assess negative health impacts. 3 questions asked were whether respondents felt much horrified, felt much apprehensive & felt helpless. Respondents were also asked whether their level of stress at home, work and in financial matters has increased or decreased, Each item had 5 possible responses distributed as 1-5 Likert scale points (much increased, increased, same as before, decreased and much decreased)⁽¹⁸⁾. Total score was calculated as the sum of the scores of its 6 items, ranging from 6 to 30, with a higher score indicating a higher level of Indicators of negative mental health impact. Scale categories

Categories	Score
Low	6-12
Moderate	13-19
High	20-30

- 4- **Scale of impact on social and family support**, was developed by **Lau, (2006)** ⁽¹⁷⁾. These consisted of 5 items, including whether getting decreased or increased support from friends, whether getting increased or decreased support from family members, whether having more or less sharing of feeling with others when in the blue, whether having more or less sharing of feelings with other family members, and whether becoming more caring for family members' feeling. Each item had five possible responses distributed as 1-5 Likert scale points (much increased, increased, same as before, decreased and much decreased) Total score was calculated as the sum of the scores of its 5 items, ranging from 5 to 25, with a higher score indicating a higher level of social support. Scale categories:

Categories	Score
Low	5-11
Moderate	12-18
High	19-25

Validity and reliability of the tools:

part 1 of tool I and developed by the researchers based on systematic review of relevant literature then; tool 1 part (2), tool II, III were translated by the researchers into Arabic language. The Arabic version of all these tools was tested for content validity by 5 experts in the related field (Psychiatric Nursing and Community Health Nursing). The necessary modifications and omissions of some details were done. The reliability of tool II (Indicators of negative mental health impact) was 0.893 while reliability of tool III (scale of social and family support) was 0.87 were tested on 50 of nurses in order to measure the internal consistency of these tools by using Cornbrash's alpha test.

Using accepted rule for translation-back-translation. The Indicators of negative mental health impact and Impact on social and family support questionnaires were translated into Arabic. The tools validity was examined by five experts of the Psychiatric and community health nursing field to test the clarity, applicability, and completeness of the questions, and their suggested adjustments were done in order to reach the final form.

Pilot Study: A pilot study was uses to assess the applicability of the tools, the feasibility of the study and to estimation the time needed for data.

Study procedure:

1. An official approved was issued from the Faculty of Nursing, Fayoum University.
2. Data collection for this study was carried out over a period of 8 May 2021 to 9 July 2021.

3. All nurses were called in to participate in the survey by what's-app platform face book, and twitter groups after presenting the purpose, instructions, inclusion criteria, and precautions. After the nurses' agreement to participate was obtained, the questionnaires were sent and answered online.

Ethical considerations

Official permission was taken. This research was depending on an online survey. So, the researchers introduced themselves online to the nurses who met the inclusion criteria and informed them about the aim of the current study in order to obtain their acceptance to share in this study. The nurses were informed their participation is voluntary and they have the right to withdraw from the study at any time. The participants' agreement was sought by filling out a questionnaire form. Confidentiality and anonymity of them were assured through coding the data. When compiling the data, the researchers would encode the surveys evenly.

Data analysis

Data were processed using SPSS 22.0 for Windows statistical software program. The entered data were analyzed using descriptive analysis, frequencies and percentages, charts, means and standard deviations, and correlations. Inferential statistics: independent student t-test, Chi-square tests and ANOVA, used. Multivariable linear regression analysis was used. A p-value < 0.05 was considered statistically significant.

Results:

Table (1) notice that three quarters of the nurses (75.0%) were females, less than half of them aged from 20–30 years old (45.4%). Also, majority of them were married and live at rural areas (80% & 89.4%) respectively. About three fifth of nurses (58.2%) had bachelor. More than two fifth of the nurses (44.4) h 1–10 Years of experience

Table (2) shows **total** mean score of stigma factors (E16-COVID19-S) mean \pm SD was 35.25 ± 15.1 ; personalized stigma mean was 34.25 ± 15 , concerns of disclosure and public attitude mean was 13.68 ± 6.9 , and negative experiences mean 12.83 ± 6.19 .

Table (3): Reveals that The relationship between personal data and E16-COVID19-S stigma factors. The current study showed that reveals that male nurses, those aged 20–30, highly educated nurses, trained nurses (11–20 years), and those working at COVID facilities or quarantine centers have the highest percentage of personalized stigma, disclosure concerns, public attitudes, and negative experiences. There is a statistical significance between all of them and all three stigma-related factors.

Table (4) reveals that there is a statistically significant relationship between the females and increased financial stress, increased home stress, feeling horrified, apprehensive, helpless, and caring for family. While the nurses who aged between 30-40 years old and married have a statistically significant relationship with increased financial stress, increased home stress, feeling horrified and caring for family

Table (5) reveals that there is a significant relationship between years of experience (11–20 years) and all indicators of negative health impact, family support, and caring family. While, there is a significant relationship between trained nurses and increased financial stress, increased home stress and feelings of horror and caring for the family.

Table (6): reveals that there is three stigma-related factors were positive predictors of the negative mental health impact, while they were negative predictors for improvement in family and social support.

Fig 1: Displays that more than half of the studied nurses (55.2%) had worked either in a COVID-19 facility or in a quarantine center. Also, less than three quarters of them (70%) did not trained on COVID-19-related stigma and discrimination

Fig.(2): depicts that about one fifth of the studied nurse suffered from helpless feelings, horrified feelings, and stress from home due to the COVID-19 pandemic (20, 19, and 18 %) respectively. while, equal percent (15%) of them suffered stress from work, and apprehensive feelings due to the COVID-19 pandemic. At last; few of them had financial stress (13%).

Fig.(3) describes the level of Family and Social support; the nurse reported increased Shared feeling with family Members 32% , while about one fifth of nurse received increased support from members of family and sharing feelings with others (21% & 18% respectively), caring for family members' feelings 16% and Getting support from friends, 15%.

Fig. (4) Display that two fifth of the studied nurses suffer from moderate level of covid 19 stigma and social support (40% & 41%) respectively. While one half of the studied nurses suffer from high level of negative mental health impact (50%).

Fig.(5): indicator of negative health and marital status; the present study describes that married nurses are high score more of Negative health impact elements than unmarried.

Table (1): Distribution of Socio-demographic characteristics of nurses under study (N=500)

Socio-demographic characteristics	N=500	%
Gender:		
Male	125	25
Female	375	75
Age		
20–	227	45.4
31–	180	36.0
41–	93	18.6
Marital status		
Married	400	80
Unmarried	100	20
Level of education		
Diploma	42	8.4
High education	291	58.2
Post-graduate degrees	167	33.4
Residence		
Urban	220	44
Rural	280	56
Years of experience		
1–10	222	44.4
11-20	87	17.4
21-	191	38.2

Table (2) Mean score of stigma factors (n=500)

stigma factors (E16-COVID19-S)	Mean ± (SD)
personalized stigma (8 items)	34.25 (15.0)
concerns of disclosure and public attitudes (5 items)	13.68 (6.90)
negative experiences (3 items)	12.83 (6.19)
Total	35.25 (15.1)

Table (3): The relationship between personal data and E16-COVID19-S stigma factors (N= 500)

Personal data		E16-COVID19-S stigma factors			
		personalized stigma	concerns of disclosure and public attitudes		negative experiences
	N	(N row (%)	N row (%)	N row (%)	
Gender:					
Male	125	56 (44.8)	103 (82.4)	102 (81.6)	
Female	375	118 (31.5)	171 (45.6)	208 (55.5)	
P-value		. 0.5	0.2.	0.02.*	
Age					
20–	227	178 (78.4)	198 (87.2)	192 (84.6)	
31–	180	134 (74.4)	89 (49.4)	103 (57.2)	
41–50 yrs.	93	50 (53.8)	60 (64.5)	51 (54.8)	
P-value		0.01*	<0.001*	0.04*	
marital status					
Married	400	395 (98.8)	387 (96.8)	383 (95.6)	
Unmarried	100	80 (80)	89 (98.0)	87 (87.0)	
P-value		0.20	.0.3	0.2	
Level of education					
Diploma	42	30 (71.4)	30 (71.4)	26 (61.9)	
Bachelors	291	200 (68.7)	151 (51.8)	126 (43.9)	
Post-graduate degrees	167	123 (73.7)	131 (78.4)	125 (74.8)	
P-value		0.001**	0.001**	0.001**	
Courses of training					
Yes	350	289 (82.6)	289 (82.6)	288 (82.3)	
No	150	75 (50.0)	73 (52.0)	78 (52.0)	
P-value		0.001**	0.001**	0.001**	
Years of experience					
1–10	222	171 (77.1)	174 (78.4)	168 (75.7)	
11-20	87	82 (94.3)	79 (90.1)	83 (95.4)	
21-	191	172 (90.1)	144 (73.4)	167 (87.4)	
P-value		0.001**	0.001**	0.01*	
Worked in a COVID19 facility:					
Yes	276	194 (70.3)	193 (69.9)	194 (70.3)	
No	222	155 (69.8)	134 (60.4)	123 (55.4)	
P-value		0.001**	0.001**	0.001**	

Table (4): The Relationship between Indicators of Negative Health Impact, Social Support and Personal Data (N=500)

Variable	Gender			P-value	Age				Marital status		
	Male (%)	Female (%)			20- (%)	30- (%)	40- (%)	P-value	Married (%)	Single/divorced (%)	P-value
Increased work stress	(22.2)	(35.1)	0.5	(38.5)	(33.2)	(30)	0.6	(33.2)	(60.0)	0.5	
Increased financial stress	(59.1)	(53.9)	0.02*	(46.8)	(60.9)	(33.3)	0.00*	(55.9)	(59.9)	0.00*	
Increased home stress	(56.6)	(64.9)	0.02*	(59.2)	(68.4)	(60.5)	0.00*	(68.4)	(30.9)	0.00*	
Feel horrified	(49.4)	(60.3)	0.005*	(52.2)	(86.4)	(35.5)	0.00*	(56.4)	(52.0)	0.00*	
Feel apprehensive	(55.6)	(62.3)	0.001*	(63.1)	(70.4)	(69.8)	0.06	(70.4)	(30.0)	0.06	
Feel helpless	(43.4)	(56.4)	0.001*	(50.8)	(53.4)	(52.0)	0.4	(53.4)	(53.1)	0.6	
Family & social support											
Friends support	(18.5)	(26.5)	0.8	(24.6)	(23.8)	(25.5)	0.8	(23.8)	(33.0)	0.8	
Family support	(43.8)	(30.5)	0.9	(36.9)	(43.0)	(35)	0.2	(43.0)	(39.6)	0.3	
Family sharing	(45.4)	(47.0)	0.7	(41.9)	(49.5)	(39.9)	0.9	(49.5)	(38.9)	0.8	
Sharing with Others	(32.0)	(36.3)	0.2	(34.0)	(34.9)	(32.3)	0.8	(49.5)	(535)	0.6	
Caring family	(57.4)	(60.5)	0.01*	(54.7)	(71.3)	(69.8)	0.001*	(71.3)	(50.9)	0.001*	

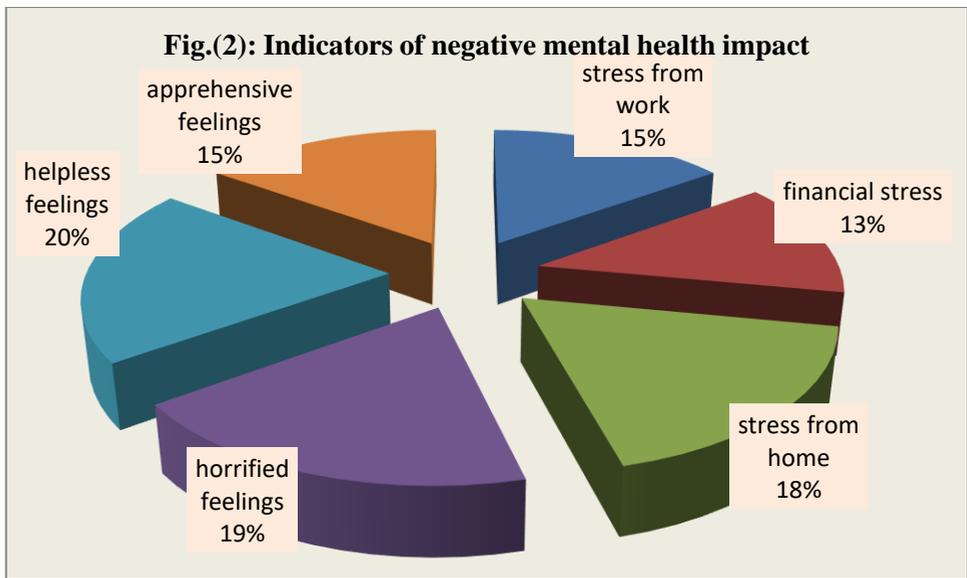
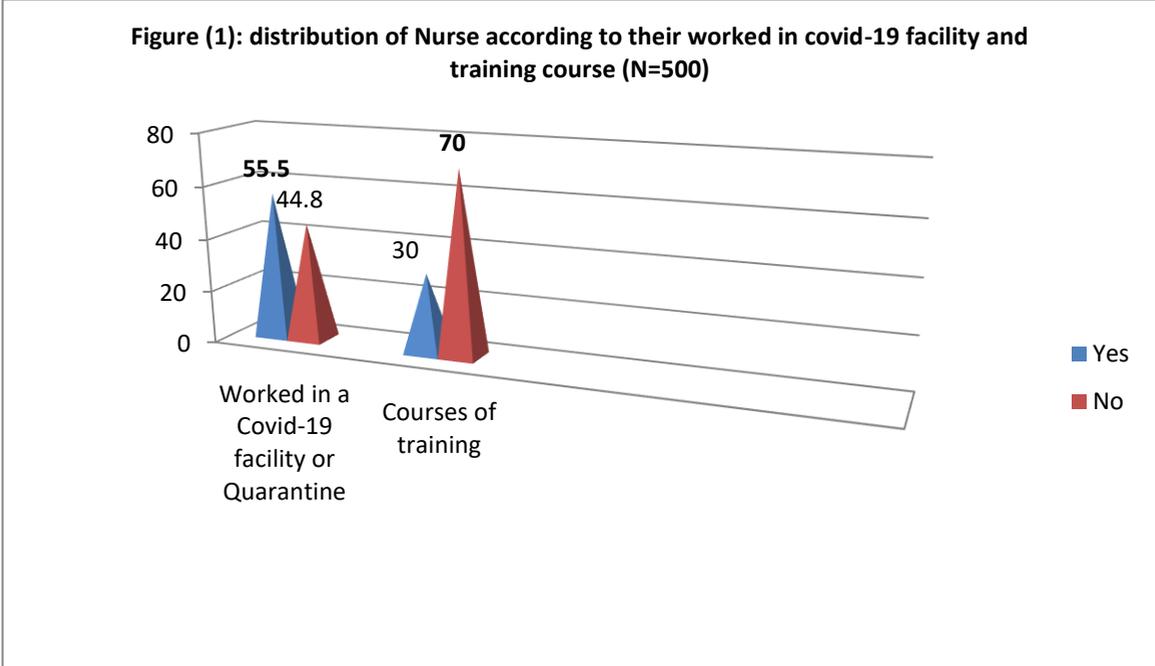
Table (5): The Relationship Between Indicators of Negative Health Impact & Social Support Items According to Years of Experience and Training. (n=500)

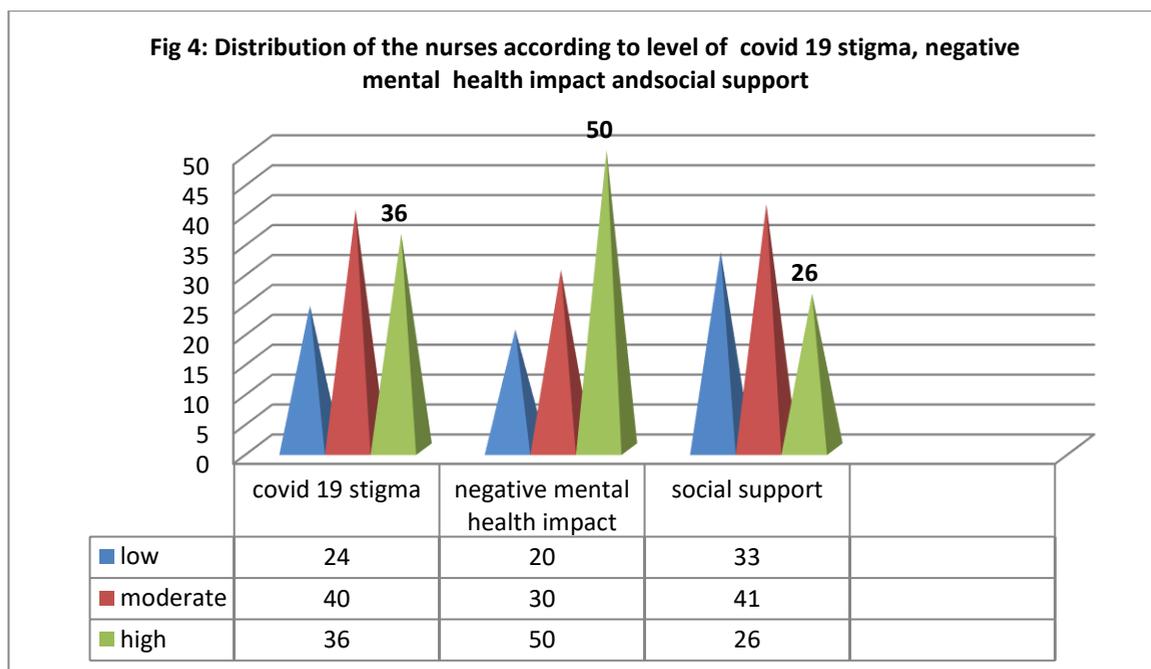
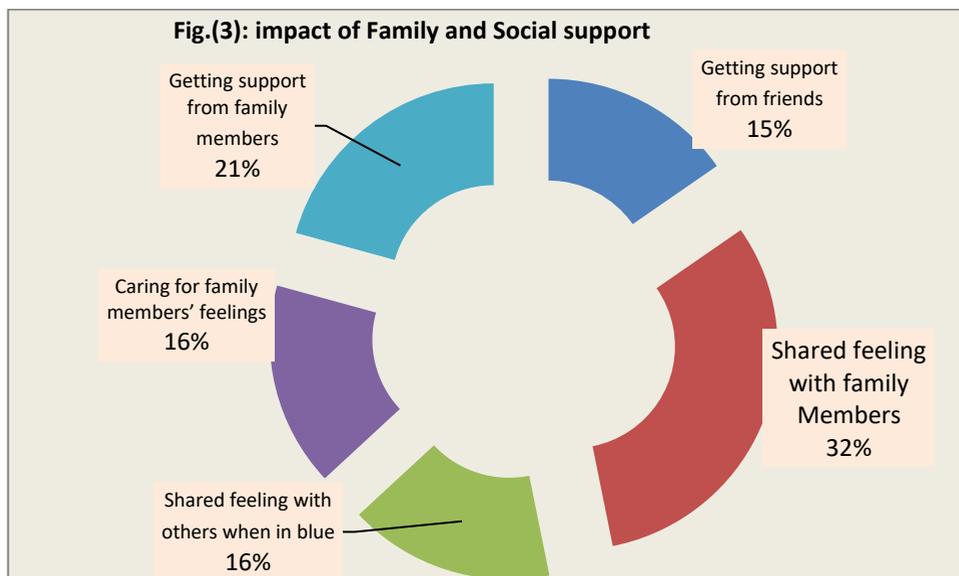
Variable	Years of experience			Courses of training		
	1–10yrs (%)	11-20 yrs. (%)	P-value	Yes (%)	No (%)	P-value
Indicators of Negative health impact						
Increased work stress	(31.2)	(35.1)	0.03*	(35.5)	(33.2)	0.6
Increased financial stress	(28.1)	(53.9)	0.02*	(47.8)	(60.9)	0.00**
Increased home stress	(38.6)	(64.9)	0.02*	(54.2)	(68.4)	0.00**
Feel horrified	(43.4)	(58.3)	0.005*	(50.2)	(86.4)	0.001*
Feel apprehensive	(55.6)	(72.3)	0.001*	(60.1)	(70.4)	0.06
Feel helpless	(46.4)	(57.4)	0.001*	(49.8)	(53.4)	0.4
Family &social support						
Friends support	(19.5)	(26.5)	0.8	(24.6)	(23.8)	0.8
Family support	(41.8)	(40.5)	0.02*	(36.9)	(43.0)	0.2
Family sharing	(43.4)	(47.0)	0.7	(41.9)	(49.5)	0.9
Others sharing	(31.0)	(36.3)	0.2	(34.0)	(34.9)	0.8
Caring family	(57.4)	(68.5)	0.01*	(54.7)	(71.3)	0.001*

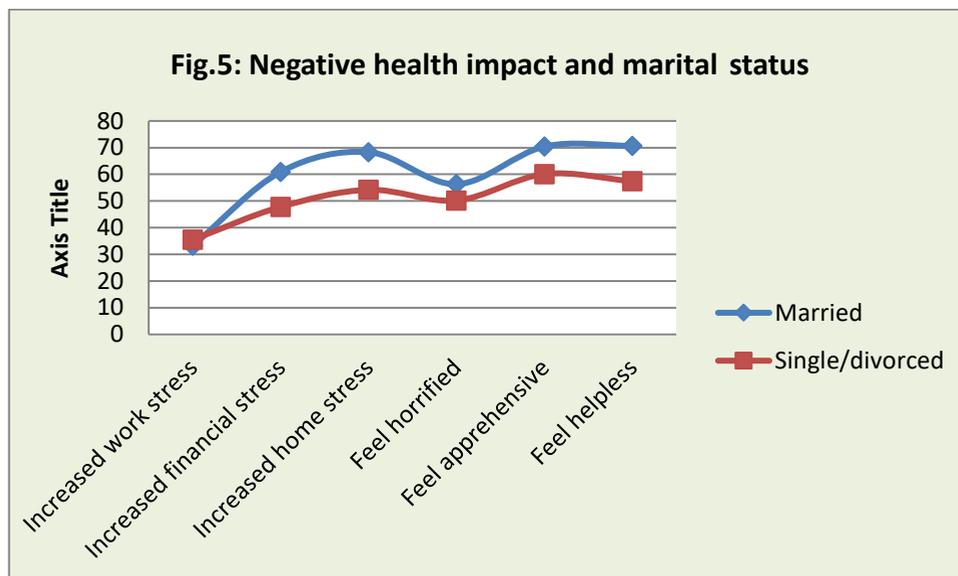
*Statistically significant (P<0.05) X² test

Table (6): Correlation between three stigma factors (E16-COVID19-S), Indicators of negative mental health impact items and Impact on social and family support score (n=500)

Negative Mental Health Impact and Social support item	personalized stigma	Concerns of disclosure and public attitudes	negative experiences
Increased work stress	1.2	5.1	0.5
Increased financial stress	0.1	00	0.02
Increased home stress	8.6	4.9	0.00
Feel horrified	3.4	8.3	2.3
Feel apprehensive	5.6	2.3	3.1
Feel helpless	6.4	7.4	0.00
Friends support	-9.5	- 6.5	0.8
Family support	-1.8	- 0.5	0.9
Family sharing	- 4.4	-7.0	0.7
Others sharing	-1.0	-6.3	0.2
Caring family	-7.4	-0.5	0.01







Discussion

Several nations, including Egypt, have observed COVID-19-related stigma symptoms. Furthermore, some nurses refused to return home to avoid infecting their families. Stigma towards nurses during COVID-19 pandemic was brought to light as a result of this incidence (19). This is one of the first studies to use a stigma-specific measure to investigate COVID-19-related stigma among nurses and analyses its consequences on mental health and social support.

Concerning to distribution of personal data, the current study showed that the majority of the Egyptian nurses in this study were female and married. Approximately two-fifths of nurses were under the age of thirty and had a moderate level of stigma and social support associated to COVID-19. More than half of the nurses had bachelor's degrees, were from rural areas, and worked in a COVID-19-designated facility or a quarantine facility. This result confirms with study conducted in Egypt by **Mostafa A. (2020)** ⁽¹⁶⁾ on here title "COVID-19-related stigmatization among a sample of Egyptian healthcare workers" who found that most participants were females, married, had a post-graduate degree, and lived in rural. More than half of the participants had worked in a covid-19 designated facility or in a quarantine center. The congruent in this study and others studies due to same governorate.

Concerning the distribution of nurse according to their worked in covid-19 facility and training course. The present study revealed that more than half of the studied nurses had worked either in a COVID-19 facility or in a quarantine center. This result was in the same

line with **Sadati AK (2022)** ⁽²⁰⁾ who carried out a study about a qualitative study on stigmatization associated with Covid-19.

As to stigma factors, the present study revealed that personalized stigma is more than concerns about disclosure and public attitude, while negative experiences came in final; this due to less trained and low self-esteem among nurses. These results are in accordance with **S. Jayakody et al., (2021)** ⁽²¹⁾. Who detailed the dimensions and the main driving forces of stigma and discrimination among COVID-19 patients in Sri Lanka.

As regards to the indicators of negative mental health impact, the present study reported that about one fifth of the studied nurses suffered from helpless feelings, horrified feelings, and stress from home due to the COVID-19 pandemic. While stress from work is equal to apprehensive feelings due to the COVID-19 pandemic, finally, financial stress sets in. These results express the lack of psychological support among nurses. These results are in accordance with **Son C, et al., (2020)** ⁽²²⁾ who detailed the effects of COVID-19 on college students' mental health in the United States.

Regarding the impact of family and social support, the present study describes the level of family and social support; the nurses reported increased shared feelings with family members, while about one fifth of the nurses received increased support from family members, caring for family members' feelings and getting support from friends of psychological support among nurses. These results express the strong family link in Egyptian society. These result disagreed with **Labrague L.J. (2002)** ⁽²³⁾, who reported that psychological resilience, coping behaviors, and social support among health care workers during the COVID-19 pandemic were decreased.

According to the distribution of nurses based on COVID-19 level, stigma, negative mental health impact, and social support, the present study reported that two fifths of the studied nurses suffer from moderate levels of COVID-19 stigma and social support. One-half of the studied nurses suffer from a high level of negative mental health impact. This result is unsupported by **González et al., (2021)** ⁽²⁴⁾, who revealed that two thirds of the studied nurses suffer from a high level of COVID-19 stigma and low social support.

The relationship between personal data and E16-COVID19-S stigma factors
The current study showed that reveals that male nurses, those aged 20–30, highly educated nurses, trained nurses (11–20 years), and those working at COVID facilities or quarantine centers have the highest percentage of personalized stigma, disclosure concerns, public attitudes, and negative experiences. There is a statistical significance between all of them and all three stigma-related factors. These results explain that the young age in nurses is more confidence and better training. Also,

the natures of work with patients give many experiences and skills that make the nurse more facing the attitudes and sensation. These observations were in the same line with **Hossain MM. et al., (2020)** ⁽²⁵⁾ that carried out a study about Epidemiology of mental health problems in COVID-19

Currently, the results in this study indicate a statistically significant **relationship between female and negative health impact and social support changes**; increased financial stress, increased home stress, feeling horrified, apprehensive, helpless, and caring for family. While those aged between 30 and 40 years old and married have a statistically significant relationship with increased financial stress, increased home stress, feeling horrified and caring for family. This result is supported by **Giorgi et al. (2020)** ⁽²⁶⁾, who revealed a statistically significant relationship with COVID-19-Related Mental Health Effects in the Workplace.

The relationship between indicators of negative health impact and social support items according to years of experience and of training reveals that there is a significant relationship between years of experience (11–20 years) and all indicators of negative health impact, family support, and caring family. There is a significant relationship between trained nurses and increased financial stress, increased home stress, and feelings of horror and caring for the family. Years of experience and trained nurses are more effect on force stigma. This result is supported by **Giorgi et al. (2020)** ⁽²⁶⁾, who revealed a statistically significant relationship with COVID-19-Related Mental Health Effects in the Workplace.

Items with a **negative mental health impact and their impact on the social and family support score**: those three stigma-related factors were positive predictors of the negative mental health impact, while they were negative predictors for improvement in family and social support. This result is supported by **Si MY et al. (2021)** ⁽²⁷⁾ who revealed a statistically significant relationship with the prevalence and predictors of PTSD during the initial stage of the COVID-19 Epidemic among female college students in China.

Finally, COVID-19-related stigma has a significant role in general mental health and social support for Egyptian nurses ^(28,29). It can have a positive impact on those suffering from helpless feelings, horrified feelings, and stress from home ^{30,31}. Using the frequency of mental and social support assessment by new technology such as a smartphone for providing and monitoring care at home and work is an effective method. It can improve the health status and wellbeing of healthy people ^(31, 32).

Limitations of the Study

the study performed on nurses, so that cannot generalize results for others jobs. Also, it included people who have access to social media; no data about nurses who cannot use the smart phone and have not email address.

Conclusions

Covid-19 stigma has a great psychological impact on nurses Egyptians and highly affected social support. The most affected groups were less than 10 years' experience, females; married, worked either in a COVID-19 designated facility or in quarantine center and did not trained on COVID-19-related stigma and discrimination. It caused increased stress regarding work, home, finances, the feelings of being horrified, and apprehensive, or helpless. The results Showed negative relationship between three stigma factors (E16-COVID19-S) and negative mental health impact while the results showed positive relationship between three stigma factors (E16-COVID19-S) and Social support.

Recommendation: health educational and Psychological intervention program about stigma and discrimination to face the effect of stigma among nurses and to ensure adequate adaptation and high quality of health care.

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Compliance with Ethical Standards Conflict of interest

The authors declare that they have no conflict of interest.

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الملخص العربي

تأثير الوصمة على الصحة العقلية للممرضات والدعم الاجتماعي خلال جائحة كورونا

الخلفية: الممرضات دائماً معرضون للشائعات والوصم من خلال نشر العدوى. يؤدي فيروس COVID-19 إلى اضطرابات نفسية واجتماعية. **الهدف:** كان الهدف من هذه الدراسة هو تقييم تأثير وصمة العار خلال جائحة COVID-19 على الممرضات والصحة العقلية والدعم الاجتماعي لهم. **التصميم:** تم استخدام المقطع العرضي. **الاجراءات:** أجريت الدراسة في المسح من خلال رابط مشترك على مواقع التواصل مع الممرضات. **العينة:** تمت دعوة عينة مقصودة من 500 ممرضة لاستكمال استطلاع عبر الإنترنت. تم جمع البيانات في الفترة من 8 مايو 2021 إلى 9 يوليو 2021 في مصر. **الأدوات:** استبيان نصف مقابلة منظم عبر الإنترنت ، مقياس تأثير 16 عنصراً للوصمة COVID19 (E16-COVID19-S) ، مقياس مؤشرات التأثير السلبي على الصحة العقلية ، مقياس التأثير على الدعم الاجتماعي والأسري. **النتائج:** أظهر التقييم أن خمسى الممرضات عانين من مستوى معتدل من الوصم ومستوى متوسط من الدعم الاجتماعي . ونصف الممرضات واجهوا مستوى عالٍ من التأثير السلبي على الصحة النفسية. أظهرت الاختبارات الإحصائية وجود فروق ذات دلالة إحصائية بين جميع عوامل الوصمة وسنوات الخبرة ، والدورات التدريبية والعمل في منشأة COVID-19. كما كان هناك تأثير إيجابي للوصمة على مؤشرات الآثار الصحية السلبية ، وتأثيرات سلبية على الدعم الاجتماعي. **وقد خلصت الدراسة إلى:** ان الوصمة تجاه الممرضات خلال جائحة COVID-19 تنبأ إيجابياً بالتأثير السلبي على الصحة العقلية ، بينما كانت تنبأً ايجابياً بتحسين في الدعم الأسرى والاجتماعي. **التوصيات:** أوصت هذه الدراسة: بانشاء وتطبيق برنامج تدخل تربوي ونفسي حول مواجهة الوصمة والتميز للممرضات لضمان التكيف المناسب وجودة الرعاية الصحية العالية لهم.

الكلمات الرئيسية: كوفيد-19 • وصمة العار • الصحة النفسية • التأثير النفسي • الدعم الاجتماعي