

Effect of Psycho Educational Intervention Program on Psychological Problems among Nurses Caring for Patients with COVID-19

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Abstract

Background: Nurses affected emotionally and exposed to psychological problems symptoms during of the COVID-19. Most nurses caring of patients with COVID-19 had overwhelming feelings of anxiety, stress and depression. **Aim of the Study:** Was to evaluate the effect of psycho educational intervention program on psychological problems among nurses caring for patients with COVID-19. **Research design:** A Quasi-experimental research design was utilized. **Research Setting:** This study conducted at Benha teaching hospital. **Sample:** A purposive sample of 50 nurses, working in quarantine for patients with COVID-19. **Data Collection Tools:** Three tools were used, **Tool I:** Socio demographic data& occupational data questionnaire of nurses caring for patients with COVID-19 which divided into two parts: **Part one:** Socio-demographic data. **Part two:** Occupational data. **Tool II:** A Structure questionnaire about nurses' psychological problems and challenges during caring for patients with covid-19: divided into: **A-** Nurses' psychological problems. **B-** Nurses' Challenges. **Tool III:** Depression Anxiety Stress Scales (DASS. **Results:** More than two thirds of the studied nurses faced challenges during caring for patients with Covid-19. There was highly significant statistical positive correlation between nurses' depression, anxiety and stress pre and post implementation of psycho educational intervention program and the challenges facing them during caring for patients with Covid-19. **Conclusion:** The psycho-educational program had a positive effect on reducing the psychological problems (Depression, Anxiety and Stress) among nurses caring for patients with COVID-19. **Recommendation:** Effective mental health protection strategies to prevent burnout and depression should be developed and implemented for nurses to fulfill their responsibilities in tackling crisis

Keywords: Covid-19, Educational Intervention Program, Nurses, Psychological Problem

Introduction

Coronavirus Disease 2019 (COVID-19) is caused by the Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-COV 2), which was first detected in 2019 at a wet market in Wuhan, China. Early 2020, the WHO declared COVID-19 a global pandemic as it spread across several continents, causing a high mortality rate in most countries affected.

Africa confirmed its first case in Egypt on February 14, 2020. As of June 30, 2021, 47 countries in Africa were affected, with about 3,962,827 confirmed cases and 94,634 reported deaths (El-Azzab., & El-Nady., 2021).

Coronavirus disease transmitted through air droplets and respiratory secretions produced when an infected person speaks,

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sneeze or cough. Generally, most people infected produce mild or no symptoms, but in some people (elderly and those with comorbidities), it may provoke severe symptoms, which may be fatal. The nurses are usually the first point of contact during epidemics and are susceptible to infectious diseases during outbreaks that cause the nurses having high level of psychological problems (Buheji & Buhaid, 2020).

Significance of the study

The coronavirus 2019 disease (COVID-19) outbreak in December 2019, caused by severe acute respiratory syndrome coronavirus, is a major global health crisis (Lipsitch et al., 2020). Declared as a global pandemic on March 11th 2020. COVID-19 had spread to more than 212 countries and territories since December 2019. Until 20th December 2020. Crude data shows that there are globally 75,110,651 confirmed cases of COVID-19, including 1,680,395 deaths. In Egypt, there have been 124,891 confirmed cases of COVID-19 with 7,069 deaths Egypt is among the five countries reporting the highest number of cases in Africa (World Health Organization, 2020).

Research showing that the COVID-19 pandemic has profound psychological effects on general populations (Rajkumar, 2020). The COVID-19 pandemic may also exacerbate poor psychological health, loneliness, and social isolation in particular, which are strongly associated with increased anxiety, depression, and stress (Dsouza et al., 2020; Matthews et al., 2019). Psychiatric mental health nurse has a pro vital role in psychological support and how to cope the psychological problems that exposed to the nurses caring of patients with COVID-19.

Aim of the study

The aim of this study was to evaluate the effect of psycho educational intervention

program on psychological problems among nurses caring for patients with COVID-19.

Research hypothesis

The Psycho-educational intervention program will have a positive effect on reducing the psychological problems among nurses caring for patients with Covid-19.

Subject and methods:

Research design:

Quasi-experimental research design (pre-test /post-test) was utilized to conduct and achieve the aim of this study.

Setting:

This study was conducted at Benha teaching hospital, which is affiliated to Egyptian ministry of health Benha city, Qalubia Governorate.

Sampling:

A Purposive sample of 50 nurses, working in quarantine and caring for patients with Covid-19 patients according to the following Criteria: -

- Nurses who give direct care to patients with Covid-19.
- Willing and agreeing to participate in the study.

Tools for Data Collection:

Three tools were used for data collection.

Tool (1): Socio demographic data & occupational data questionnaire which was developed by the researcher under the guidance of the supervisors & consisted of two parts:

Part 1: Socio demographic data: To elicit data about nurses and their characteristics such as: Sex, age, level of education, marital status, job, residence and income.

Part II: Occupational data

Tool (2): A Structure Questionnaire about nurses' psychological problems and challenges during caring for patients with Covid-19 which was developed by the

researcher under the guidance of the supervisors & consisted of two parts:

A- Nurses' problems: It was consisted of 17 items such as assess needs of nurses caring for patients with COVID-19 such as work pressure and the current challenges in light of the outbreak of the Covid-19.

B- Nurses' Challenges: It involved 15 items about challenges facing nurses caring for patients with Covid-19.

Tool (3): Depression Anxiety Stress Scales (DASS):

The DASS is a 42-item self-report instrument adopted by **Lovibond, & Lovibond, (1995)**. It was designed to measure the three related emotional states of depression, anxiety and stress. Nurses' responses were distributed using (4) likert scale, ranging from didn't apply to me (0) to apply to me at all (3).

The Scale Scoring System:

Nurses' responses were distributed using (4) likert scale, ranging from (0) didn't apply to me (1) Apply to me sometimes (2) Apply to me, and (3) apply to me at all. Total Scoring system for each subscale

Interpretation	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	>28	>20	>34

Content validity and reliability:

To achieve the criteria of trust worthiness of the data collection tools in the study, tools were tested by 5 expertise in Psychiatric Mental Health Nursing specialties at Benha university to ascertain relevance, clarity and completeness of the tools. Based on experts

comments and recommendations modifications had been made such as rephrasing and re-arrangement of some sentences.

Reliability of tools: Internal consistency reliability

The reliability of tool was assessed through measuring their internal consistency by Cronbach Alpha Coefficient test and was 0.873

Pilot study:

The pilot study was carried out on (5) nurses who represented 10% of total sample of nurses. The pilot study was done to assess the applicability, clarity and time needed to fill each sheet, completing the sheet consumed about 10-15 minute. The pilot study sample was excluded from the total sample.

Ethical consideration:

Before conducting the study, the participants were assured about confidentiality and anonymity of their obtained information throughout the study. They were informed about their right to refuse to participate in the study and the right to withdraw from the study at any time. Approval to conduct the study and implementation of the program was obtained by submission of an official letter issued from the dean of faculty of nursing benha university to the manager of benha teaching hospital.

Field work:

The actual field work of the study was divided into four phases:

Part (1): Assessment phase:

Assessment of psychological problems among the studied nurses caring for patients with covid-19 was done, this assessment focused on identifying current level of problems & challenges and help in developing the psycho-educational intervention program according to results. It took one month to collect data by using pre-test questionnaire.

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Part (2): Planning Phase:

The researcher made an exploratory visit to the study sample (Benha teaching hospital) to put a plan for carrying out the study , educational program was developed by the researcher according to the studied nurses' needs , moreover teaching materials such as (discussion , demonstration and booklet) used to help in covering theoretical and practical information and the content stressed on psychological problems among the studied nurses caring for Covid-19 patients and apply different techniques (Stress management , relaxation technique) to reduce psychological problems.

Part (3): Implementation Phase:

The Actual implementation lasted over period of (5 months) which started from the beginning of January 2021 to the end of May 2021. The researcher collected data about psychological problems & challenges among nurses caring for Covid-19 patients before developing the educational program and booklet regarding psychological problems caused by Covid-19 according to nurses' problems and challenges in simple Arabic language. The educational program & booklet were given by the researcher to nurses and were asked to apply its theoretical and practical contents.

The researcher divided the study nurses (50) into (5) groups and each group consisted of (10) nurses. The program consisted of (14) sessions, (3) sessions theoretical and (9) session practical in addition to, introductory session and closing session. Each group received (14) sessions of psycho-educational program. Sessions were implemented at two days per week for (60 minutes) for each session and these days were chosen according to their duty. The researcher began the session from 12 pm to 2 pm.

The teaching sessions were conducted at the Lecture Hall of Benha teaching hospital which located in the ground floor. The Lecture Hall was air conditioned, quiet, well ventilated, furnished, adequate lighting and adequate spacing for implementing program. Every session of the program had objectives; these were achieved through several teaching methods and media as lectures, group discussion, role play, booklet, video and posters. The importance and benefits of the program were explained to all nurses to motivate them to follow the included instructions.

Each session started by greeting the nurses, assessing the nurses' motivation for learning, getting feedback about what was given through the previous session, and the objectives of the new topic, taking into consideration using simple language. The researcher emphasized the importance of adherence to each step of the program, and the rational for the benefits of engaging in each new technique were explained.

After finishing the program sessions, the researcher thanked the nurses for participation and asked for any inquiries or unclear points. Post-test was done immediately after the educational program at the teaching hospital.

Strategies of Program implementation:

-Method of teaching: Lecture, Interactive Group discussion, demonstration, role play.

-Media: Booklet, videos, pictures.

-Method of Evaluation: Feedback through oral questions.

Educational program:

The Psycho-educational program consisted of 14 sessions as following:

- 1- Introductory and evaluation sessions (2 sessions)**
- 2- Theoretical part:** Knowledge booklet was given to nurses. **(3 sessions)**

- 3- **Practical part:** Demonstration and re-demonstration was done for nurses (9 sessions)

General Objectives of the psycho-educational program:

At the end of the psycho-educational program implementation, the nurses were able to acquire skills and knowledge to manage and cope with psychological problems during caring for COVID-19 patients.

Specific Objectives of the psycho-educational program:

At the end of the Psycho-educational Program Implementation, the nurses were able to:

- ❖ Define the concept of COVID-19 and its characteristics.
- ❖ Discuss causes, symptoms, and complications of COVID-19.
- ❖ Enumerate the problems and challenges facing nurses caring for COVID-19 patients.
- ❖ Explain the psychological and social problems among nurses caring for COVID-19 patients and their symptoms.
- ❖ Explain strategies to manage psychological stress.
- ❖ Apply the best methods to address and face these problems.
- ❖ Demonstrate physical techniques that can help them to manage and cope with psychological problems caused by COVID-19.
- ❖ Acquire strategies that help them to overcome stress caused by COVID-19.
- ❖ Apply stress management techniques on different situations.
- ❖ Apply strategies and steps to manage depression caused by COVID-19.
- ❖ Discuss the role of the social interaction, support, healthy food to overcome psychological problems caused by COVID-19.

Statistical analysis:

Data presented in the form of tables and figures using the Statistical Package for Social Sciences version 25.0 (SPSS). Descriptive statistics were applied (e.g. frequency, percentages, mean and standard deviation). Qualitative variables were compared using chi square test (X^2). Correlation coefficient test (r) was used to test the correlation between studied variables. Reliability of the study tools was done using Cronbach Alpha.

The P-value was considered significant as the following:

Highly significant (HS) $P < 0.001^{**}$

Statistically Significant (S) $P < 0.05^*$

Not significant (NS) $P > 0.05$

Results:

Table (1): Shows the socio-demographic data of the studied nurses caring for covid-19 patients. It is observed from the table that, less than half (44.0%) of the studied nurses aged between 28-<38 years old with mean age 34.8 ± 7.55 years. Regarding sex, more than three quarters (76.0%) of them are female, half (50.0%) of them are married, less than half (46.0%) of them work as a nurse. Moreover, more than half (54.0% and 52.0%) of them live in urban areas and do not have enough income.

Figure (1): Shows the percentage distribution of the studied nurses according to their educational level. It also reveals that less than half (48.0%) of the studied nurses have Bachelor of Nursing. Also, less than one-third (26.0%) of them have graduated from health technical institute.

Table (2): Displays the nurses' levels of depression at pre and post implementation of psycho educational intervention program. It clarifies that there is a marked improvement in nurses' depression levels post implementation of psycho educational intervention program

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with a highly statistically significant difference at ($P = < 0.001$). As evidence, more than half (58.0% and 52.0%) of the studied nurses almost always feel sad, depressed and couldn't seem to get any enjoyment out of the things they do pre intervention phase, while changes to the minority (8.0% and 12.0%) post intervention, respectively.

Table (3): Shows the nurses' levels of anxiety pre and post implementation of psycho educational intervention program. It displays that, there is a marked improvement in nurses' anxiety levels post implementation of psycho educational intervention program with a highly statistically significant difference at ($P = < 0.001$). As evidence, more than half (58.0% and 52.0%) of the studied nurses almost always found themselves in situations that make them so anxious when they deal with COVID- 19 patients and have trembling (e.g., in the hands) pre intervention phase, while change to the minority (16.0% and 14.0%) post intervention, respectively.

Table (4): Illustrates the nurses' levels of stress pre and post implementation of psycho educational intervention program. It reveals that, there is a marked improvement in nurses' stress levels post implementation of psycho educational intervention program with a highly statistically significant difference at ($P = < 0.001$). As evidence, more than half (58.0%) of the studied nurses almost always tend to over-react to situations and find themselves getting agitated pre intervention phase, while change to the minority (14.0% and 12.0%) post intervention, respectively.

Table (5): Shows that, there is highly significant statistical positive correlation between nurses' depression, anxiety and stress pre implementation of psycho educational intervention program and their challenges facing

them in dealing with Covid-19 patients at ($P = < 0.001$, $P = < 0.001$ and $P = < 0.001$), respectively.

Table (6): Reveals that, there is highly significant statistical positive correlation between nurses' depression, anxiety and stress pre implementation of psycho educational intervention program at ($P = < 0.001$, $P = < 0.001$ and $P = < 0.001$), respectively. Also, there is highly significant statistical positive correlation between nurses' depression, anxiety and stress post implementation of psycho educational intervention program at ($P = < 0.001$, $P = < 0.001$ and $P = < 0.001$), respectively.

Table (1): Distribution of the studied nurses according to their socio-demographic data.

Socio-demographic data of the studied nurses (n=50)	No	%
Age (years)		
18 -< 28	15	30.0
28 -<38	22	44.0
38 -<48	13	26.0
$\bar{x} \pm SD$	34.8±7.55	
Sex		
Male	12	24.0
Female	38	76.0
Marital status		
Single	16	32.0
Married	25	50.0
Separated	3	6.0
Divorced	6	12.0
Job type		
Nurse	23	46.0
Nurse specialist	20	40.0
Department Supervisor	4	8.0
Head of nurse	3	6.0
Place of residence		
Rural	23	46.0
Urban	27	54.0
Income		
Enough	18	36.0
Not enough	26	52.0
Enough and save	6	12.0

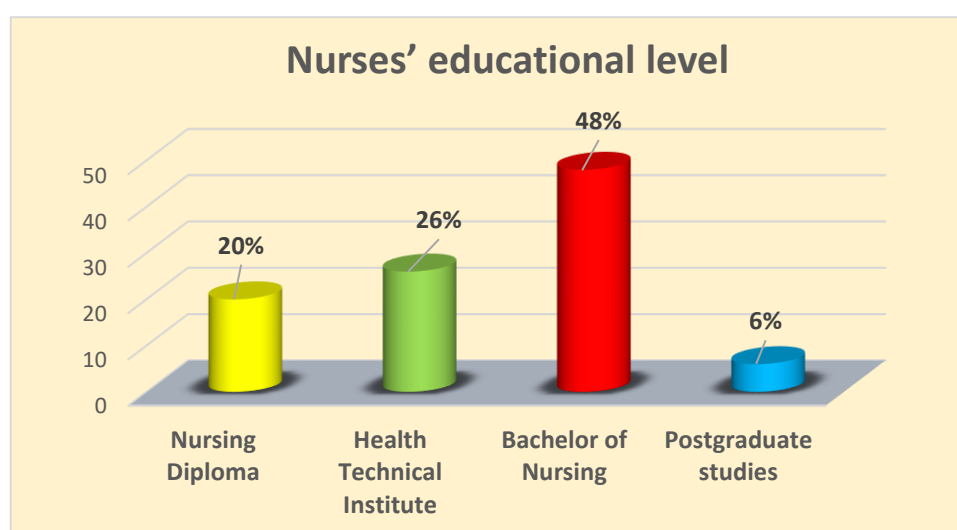


Figure (1): Percentage distribution of the studied nurses according to their educational level.

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Table (2): Comparison between nurses' levels of depression pre and post implementation of psycho educational intervention program.

Depression (n=50)	Pre intervention								Post intervention								X ²	p-value
	Never		Sometime		Often		Almost Always		Never		Sometime		Often		Almost Always			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
I couldn't seem to experience any positive feeling at all.	8	16.0	18	36.0	10	20.0	14	28.0	25	50.0	18	36.0	4	8.0	3	6.0	21.28	0.000**
I just couldn't seem to get going situations.	7	14.0	14	28.0	4	8.0	25	50.0	25	50.0	17	34.0	4	8.0	4	8.0	19.19	0.000**
I felt that I had nothing to look forward to.	11	22.0	7	14.0	14	28.0	18	36.0	29	58.0	7	14.0	7	14.0	7	14.0	15.37	0.001**
I felt sad and depressed	4	8.0	7	14.0	10	20.0	29	58.0	21	42.0	15	30.0	10	20.0	4	8.0	19.33	0.000**
I felt that I had lost interest about everything	7	14.0	21	42.0	3	6.0	19	38.0	23	46.0	13	26.0	3	6.0	11	22.0	17.17	0.000**
I felt I wasn't worth much as a person.	4	8.0	14	28.0	18	36.0	14	28.0	24	48.0	11	22.0	11	22.0	4	8.0	19.40	0.000**
I felt that life wasn't worthwhile	4	8.0	15	30.0	7	14.0	24	48.0	23	46.0	11	22.0	4	8.0	12	24.0	18.49	0.000**
I couldn't seem to get any enjoyment out of the things I did	7	14.0	4	8.0	13	26.0	26	52.0	26	52.0	4	8.0	14	28.0	6	12.0	15.11	0.001**
I felt down-hearted and blue	4	8.0	16	32.0	11	22.0	19	38.0	26	52.0	13	26.0	11	22.0	0	0.0	20.67	0.000**
I was unable to become enthusiastic about anything.	8	16.0	11	22.0	16	32.0	15	30.0	29	58.0	7	14.0	10	20.0	4	8.0	21.01	0.000**
I felt I was pretty worthless	0	0.0	17	34.0	22	44.0	11	22.0	12	24.0	23	46.0	4	8.0	11	22.0	18.17	0.000**
I could see nothing in the future to be hopeful about	11	22.0	7	14.0	12	24.0	20	40.0	29	58.0	10	20.0	3	6.0	8	16.0	16.01	0.001**
I felt that life was meaningless	10	20.0	7	14.0	10	20.0	23	46.0	22	44.0	21	42.0	3	6.0	4	8.0	19.24	0.000**
I found it difficult to work up the initiative to do things	4	8.0	6	12.0	14	28.0	26	52.0	20	40.0	7	14.0	11	22.0	12	24.0	17.87	0.000**

(**) highly statistically significant at $p < 0.001$.

Table (3): Comparison between nurses' levels of anxiety at pre and post implementation of psycho educational intervention program.

Anxiety (n=50)	Pre intervention								Post intervention								X ²	p-value
	Never		Sometime		Often		Almost Always		Never		Sometime		Often		Almost Always			
	No	%	No	%	No	%	No	%	No	%	No.	%	N.	%	No	%		
I was aware of dryness of my mouth.	11	22.0	15	30.0	7	14.0	17	34.0	31	62.0	12	24.0	3	6.0	4	8.0	17.4	0.000**
I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion).	7	14.0	11	22.0	4	8.0	28	56.0	17	34.0	12	24.0	14	28.0	7	14.0	18.1	0.000**
I had a feeling of shakiness (e.g., legs going to give way).	11	22.0	7	14.0	11	22.0	21	42.0	24	48.0	19	38.0	4	8.0	3	6.0	19.3	0.000**
I found myself in situations that made me so anxious when I deal with COVID- 19 case.	4	8.0	7	14.0	10	20.0	29	58.0	20	40.0	11	22.0	11	22.0	8	16.0	17.0	0.000**
I had a feeling of faintness.	4	8.0	0	0.0	21	42.0	25	50.0	21	42.0	18	36.0	11	22.0	0	0.0	16.1	0.000**
I perspired noticeably (e.g., hands sweaty) in the absence of high temperatures or physical exertion.	4	8.0	11	22.0	15	30.0	20	40.0	24	48.0	12	24.0	10	20.0	4	8.0	20.4	0.000**
I felt scared without any good reason.	4	8.0	15	30.0	11	22.0	20	40.0	15	30.0	22	44.0	7	14.0	6	12.0	18.9	0.000**
I had difficulty in swallowing.	4	8.0	4	8.0	14	28.0	28	56.0	15	30.0	18	36.0	10	20.0	7	14.0	19.5	0.000**
I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).	8	16.0	10	20.0	10	20.0	22	44.0	26	52.0	18	36.0	3	6.0	3	6.0	15.4	0.000**
I felt I was close to	8	16.0	7	14.0	13	26.0	22	44.0	22	44.0	17	34.0	7	14.0	4	8.0	14.1	0.000**
I feared that I would be "thrown" by some trivial but unfamiliar task.	0	0.0	14	28.0	22	44.0	14	28.0	17	34.0	25	50.0	4	8.0	4	8.0	18.2	0.000**
I felt terrified	11	22.0	7	14.0	9	18.0	23	46.0	23	46.0	13	26.0	6	12.0	8	16.0	16.4	0.000**
I was worried about situations in which I might panic and make a fool of myself	7	14.0	7	14.0	10	20.0	26	52.0	23	46.0	12	24.0	11	22.0	4	8.0	15.6	0.000**
I experienced trembling (e.g., in the hands)	4	8.0	3	6.0	14	28.0	29	58.0	21	42.0	15	30.0	7	14.0	7	14.0	19.5	0.000**

(**) highly statistically significant at p<0.001.

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Table (4): Comparison between nurses' levels of stress at pre and post implementation of psycho educational intervention program.

Stress (n=50)	Pre intervention								Post intervention								X ²	p-value
	Never		Sometime		Often		Almost Always		Never		Sometime		Often		Almost Always			
	No	%	N.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
I found myself getting upset by quite trivial things.	8	16.0	18	36.0	7	14.0	17	34.0	31	62.0	10	20.0	6	12.0	3	6.0	14.0	0.001*
I tended to over-react to situations.	7	14.0	14	28.0	0	0.0	29	58.0	29	58.0	11	22.0	3	6.0	7	14.0	15.4	0.001*
Feeling of anxious when I deal with COVID- 19 case.	11	22.0	3	6.0	14	28.0	22	44.0	33	66.0	6	12.0	7	14.0	4	8.0	16.3	0.001*
I found myself getting upset rather easily.	4	8.0	7	14.0	6	12.0	33	66.0	18	36.0	18	36.0	11	22.0	3	6.0	18.1	0.000*
I felt that I was using a lot of nervous energy.	3	6.0	21	42.0	3	6.0	23	46.0	20	40.0	15	30.0	12	24.0	3	6.0	17.7	0.000*
I found myself getting impatient when I was delayed in any way (eg, lifts, traffic lights, being kept waiting).	4	8.0	14	28.0	14	28.0	18	36.0	17	34.0	22	44.0	7	14.0	4	8.0	16.6	0.000*
I felt that I was rather touchy.	4	8.0	15	30.0	7	14.0	24	48.0	26	52.0	18	36.0	3	6.0	3	6.0	18.5	0.000*
I found it hard to wind down.	7	14.0	4	8.0	13	26.0	26	52.0	18	36.0	21	42.0	7	14.0	3	4.0	18.2	0.000*
I found that I was very irritable.	4	8.0	16	32.0	7	14.0	23	46.0	20	40.0	19	38.0	7	14.0	4	8.0	17.5	0.000*
I found it hard to calm down after something upset me.	8	16.0	7	14.0	16	32.0	19	38.0	23	46.0	16	32.0	7	14.0	4	8.0	16.8	0.000*
I found it difficult to tolerate interruptions to what I was doing	0	0.0	17	34.0	18	36.0	15	30.0	16	32.0	23	46.0	7	14.0	4	8.0	16.3	0.001*
I was in a state of nervous tension	11	22.0	3	6.0	12	24.0	24	48.0	31	62.0	7	14.0	4	8.0	8	16.0	16.2	0.001*
I was intolerant of anything that kept me from getting on with what I was doing	10	20.0	7	14.0	6	12.0	27	54.0	23	46.0	16	32.0	7	14.0	4	8.0	18.1	0.000*
I found myself getting agitated	4	8.0	3	6.0	14	28.0	29	58.0	29	58.0	7	14.0	8	16.0	6	12.0	17.5	0.000*

(**) highly statistically significant at p<0.001.

Table (5): Correlation between total nurses' depression, anxiety and stress at pre implementation of psycho educational intervention program and their challenges facing them in dealing with Covid-19 patients.

DASS Subscale	Total challenges	
	R	P
Total depression	0.517	0.000**
Total anxiety	0.531	0.000**
Total stress	0.502	0.000**

r= correlation coefficient test. **highly significant at $p < 0.01$.

Table (6): Correlation between total nurses' depression, anxiety and stress at pre and post implementation of psycho educational intervention program.

Study Variables (n=50)		Total depression		Total anxiety	
		Pre	Post	Pre	Post
Total anxiety	r	0.550	0.509		
	p	0.000**	0.000**		
Total stress	r	0.572	0.525	0.511	0.591
	p	0.000**	0.000**	0.000**	0.000**

r= correlation coefficient test. **highly significant at $p < 0.01$

Discussion

Health care workers can play an important role in supporting and helping the patients to rehabilitate. In particular, COVID-19 disease has great effects on nurses and leads to some challenges for this vital part of the society. These problems include an increasing need for medical staff; increasing costs for personal protective equipment (PPE), diagnostic tests, beds and ventilators, as well as rising mortality and psychological disorders. The current study s aimed to evaluate the effect of psycho educational intervention program on psychological problems among nurses caring of patients with COVID-19. (Britton et al., 2019). Regarding distribution of the studied nurses according to their socio-demographic data the study findings showed that less than half of the studied nurses aged between 28-<38.

Regarding sex, more than three quarters of them are female. Also, half of them are married. Moreover, less than half of them work as a nurse. Moreover, more than half of them live in urban areas and do not have enough income. Less than half of the studied nurses have bachelor degree of nursing. Also, less than one-third of them have graduated from health technical institution.

The study finding was consistent with **El-Azzab., & El-Nady., (2021)** study entitled "Effectiveness of Psycho-Educational Program to Alleviate Depression, Anxiety, Stress, Pessimism and Provide Optimism for COVID-19 Isolation Nurses" and revealed that, less than three quarters of the studied nurses have high level of total challenges facing them in dealing with Covid-19 patients. While, less than one quarter of them had low level. On the other

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hand, the study finding was dissimilar to “**Abdelhafiz., (2020)**. they revealed at their study about “Knowledge, perceptions, and attitude of Egyptians towards the novel coronavirus disease (COVID-19)” that, more than half of the studied nurses have moderate level of total challenges facing them in dealing with Covid-19 patients, While, less than half of them have high level.

Regarding comparison between nurses’ levels of depression pre and post implementation of psycho educational intervention program, the current study findings clarified that there was a marked improvement in nurses’ depression levels post implementation of psycho educational intervention program with a highly statistically significant difference. As evidence, more than half of the studied nurses always feel sad, depressed and couldn't seem to get any enjoyment out of the things they do pre intervention phase, while changes to the minority post intervention. From researcher opinion this might be due long work hours, inappropriate work schedule, and separation from family contribute to psychological health problems among nurses.

The study finding became in accordance with **Britton et al., (2019)** study about “Relationships among optimism, pessimism, and posttraumatic growth in the US and Japan: focusing on varying patterns of perceived stressfulness” and demonstrated that there was marked improvement in nurses’ depression levels post implementation of psycho educational intervention program with a highly statistically significant difference.

In the same line **Kuheji., & Buhaid., (2020)** study about “Nursing human factor during COVID-19 pandemic” and illustrated that more than three fifths of the studied nurses feel sad, depressed and couldn't seem to get any enjoyment out of the things they do pre

intervention phase, while changes to the minority post intervention.

As regard, Comparison between nurses’ levels of anxiety at pre and post implementation of psycho educational intervention program, the current study findings showed the nurses’ levels of anxiety pre and post implementation of psycho educational intervention program. It displayed that, there was marked improvement in nurses’ anxiety levels post implementation of psycho educational intervention program with a highly statistically significant difference. As evidence, more than half of the studied nurses always found themselves in situations that make them so anxious when they deal with COVID- 19 patients and had trembling (e.g., in the hands) pre intervention phase, while change to the minority post intervention. From researcher opinion this might be due to the negative effects of fatigue, poor rest and sleep, and staff shortage on psychological health problems among healthcare providers especially who work 24 hours shifts.

The study finding was similar to **Mlumenstyk., (2020)** study about “Why Coronavirus looks like a 'Black Swan' moment for higher Ed” and revealed that more than two thirds of the studied nurses exposed to anxious when they deal with COVID- 19 patients and have trembling. The study finding was inconsistent with “**Bordalo et al., (2020)** study entitled “Older people are less pessimistic about the health risks of Covid-19” that displayed, only one quarter of the studied nurses were anxious in situations when dealing with COVID- 19 patients

Regarding comparison between nurses’ levels of stress at pre and post implementation of psycho educational intervention program, the current findings revealed that, there was marked improvement in nurses’ stress levels post implementation of psycho educational intervention program with a highly statistically

significant difference. As evidence, more than half of the studied nurses always tend to over-react to situations and find themselves getting agitated pre intervention phase, while change to the minority post intervention.

The study finding was supported by a study conducted by “**Qrslan et al., (2020)** entitled “Coronavirus stress, optimism-pessimism, psychological inflexibility, and psychological health: Psychometric properties of the coronavirus stress measure” which reported that more than two thirds of the studied sample almost tend to over-react to situations and find themselves getting agitated pre intervention phase, while change to the minority post intervention. The study finding was in disagreement with **Bhuiyan et al., (2020)** study about “COVID-19- related suicides in Bangladesh due to lockdown and economic factors: Case study evidence from media reports” and demonstrated that less than one third of the studied sample have high stress level. From researcher opinion optimism might play a protective role to mitigate the impact of stress on individuals’ psychological health and is an important aspect of implementing meaning – centered intervention services.

Regarding correlation between total nurses’ depression, anxiety and stress at pre implementation of psycho educational intervention program and their challenges facing them in dealing with Covid-19 patients, the present findings showed that, there was highly significant statistical positive correlation between nurses’ depression, anxiety and stress pre implementation of psycho educational intervention program and challenges facing them in dealing with Covid-19 patients. From researcher opinion this might be due to challenge that facing nurses in the work setting was vital for nurses to provide safe care for the patient and made nurses frequently in stress, anxiety and depression.

The study finding was consistent with **Ahramonline., (2020)** study about “Egypt sets

up hotlines for psychological support during coronavirus Shutdown-Politics-Egypt “which revealed that there was highly significant positive correlation between nurses’ depression, anxiety and stress and their challenges facing them in dealing with Covid-19 patients.

In the same line **Elkholy et al., (2020)** conducted their study about “Mental health of frontline healthcare workers exposed to COVID-19 in Egypt” which displayed that there was significant relation between nurses’ depression, anxiety and stress their challenges facing them in dealing with Covid-19 patients.

Concerning correlation between total nurses’ depression, anxiety and stress at pre and post implementation of psycho educational intervention program, the current study findings revealed that, there was highly significant statistical positive correlation between nurses’ depression, anxiety and stress pre implementation of psycho educational intervention program. Also, there was highly significant statistical positive correlation between nurses’ depression, anxiety and stress post implementation of psycho educational intervention program. From researcher opinion this might be due the fact that new learned behaviors by nursing staff increased awareness of different coping strategies lead to decrease the psychological problems.

The study finding supported by **Abdelhafiz., (2020)** study entitled “Knowledge, perceptions, and attitude of Egyptians towards the novel coronavirus disease (COVID-19)” and revealed that there was significant positive correlation between nurses’ depression, anxiety and stress.

The study finding was congruent with **Adams., & Walls., (2020)** study about “Supporting the health care workforce during the COVID-19 global epidemic” and illustrated that there is significant positive correlation between nurses’ depression, anxiety and stress pre implementation of psycho educational intervention program. Also, there was significant positive correlation between nurses’ depression, anxiety and stress

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post implementation of psycho educational intervention program.

Conclusion

The psycho educational program had a positive effect on reducing the psychological problems (Depression, Anxiety, and Stress) among nurses caring for patients with Covid-19. There was a significant improvement in levels of depression, anxiety and stress post implementation of psycho educational program comparing to pre implementation. Also, there was highly Statistical significant positive correlation between nurses' levels of depression, anxiety and stress pre and post implementation of psycho educational intervention program.

Recommendations

- + Nursing staff should be prepared to challenge any pandemic in the future to reduce the levels of depression, anxiety, stress, pessimism, and provide optimism and hope for nurses.
- + Paying attention to psychological health of nurses during disasters.
- + Strict monitoring of psychological/mental health among nurses should be carried out periodically.
- + Provide psychological counseling, support and group meeting sessions for distressed nurses.
- + Effective mental health protection strategies to prevent burnout and depression should be developed and implemented for nurses to fulfill their responsibilities in tackling crisis.
- + Provision of mental health counseling should be available in all hospitals.
- + Develop and implement more national programs for occupational health & safety to prevent violence in the workplace, improve psychological wellbeing and protect from psychological & biological hazards during crisis.

Recommendations for Future research:

- + A web-based psycho-educational approach to improve psychological distress among nurses during crises.
- + Psychological nursing intervention based on Pygmalion effect to alleviate negative emotions of nurses during crises.
- + It is recommended to conduct more research on how to improve nurses' Psychological health during COVID-19 outbreak.

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تأثير برنامج التدخل التعليمي النفسي على المشكلات النفسية لدى التمريض القائمين على رعاية مرضى

كوفيد-19

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كان لكوفيد-19 تأثيرا بالغا على التمريض مما عرضهم لمشكلات نفسية عديدة كالقلق والتوتر والاكتئاب. لذلك هدفت الدراسة الى تقييم تأثير برنامج التدخل التعليمي النفسي على المشكلات النفسية لدى التمريض القائمين على رعاية مرضى كوفيد-19. وأجريت هذه الدراسة بقسم الحجر الصحي بمستشفى بنها التعليمي. وقد تم اخذ عينة غرضية مكونة من 50 ممرض/ة يعملون في قسم الحجر الصحي. وكشفت النتائج ان أكثر من ثلثي التمريض الخاضعين للدراسة واجهوا تحديات أثناء رعاية مرضى كوفيد-19 و كان هناك ارتباط إيجابي ذو دلالة إحصائية عالية بين الاكتئاب والقلق والتوتر قبل وبعد تطبيق برنامج التدخل التعليمي النفسي والتحديات التي تواجههم أثناء رعاية مرضى كوفيد-19. وكان للبرنامج أثر إيجابي في الحد من المشكلات النفسية (الاكتئاب والقلق والتوتر) لدى التمريض القائمين على رعاية مرضى كوفيد-19. وأوصت الدراسة بأن هناك حاجة لوضع وتنفيذ استراتيجيات فعالة للحفاظ على الصحة النفسية للتمريض للحد من الإرهاق والاكتئاب والقلق والتوتر حتى يمكنهم القيام بمسؤولياتهم في معالجة الأزمات.