

Disaster Management Educational Intervention: A Key to Reduce Internship Nursing Students' COVID 19 Fear

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Abstract

Background: COVID-19 as a disaster is attacking the world as we are in a war that produced a larger number of deaths and patients. Health care providers including internship nursing students are considered our soldiers in that war, so they shouldn't be afraid when facing any disaster. **Purpose:** This study aimed to evaluate the effectiveness of disaster management educational intervention on internship nursing students' COVID - 19 Fear. **Methods:** Quasi-Experimental pre-test and post-test designs were conducted using one group. A convenience sample (N = 110) of internship nursing students who trained at Menoufia University hospitals and Shebin Elkom teaching hospital. Three instruments were applied, which were a Self-administered questionnaire to assess nursing intern students' knowledge, Self-reported questionnaire to assess intern students' practices regarding disaster management, and COVID-19 Fear scale to assess internship nursing students' fear. **Results:** This study revealed that internship nursing students' COVID-19 fear at the post- and follow-up intervention was reduced. Also, there was a highly significant difference in the internship nursing students' COVID-19 fear level between pre- and post-intervention and between pre-intervention and follow-up intervention at $p \leq 0.001$. **Conclusions:** The effectiveness of disaster management educational intervention had been achieved in reducing internship nursing students' COVID-19 fear. So, intern students should be trained and equipped to deal with disaster management. **Recommendation:** The undergraduate and postgraduate nursing curriculum should include the discipline of disaster management and continuous, and recurrent disaster management training programs are conducted during undergraduate or graduate education to reduce COVID-19 fear.

Keywords: covid-19 fear, disaster management, nursing interns, knowledge, practice.

Introduction

A disaster is a situation or an event that exceeding a local capacity, necessitating a request for external assistance at the national or international level. (**International Federation of Red Cross, 2020**). Disasters are classified by many researchers into two parts: the natural disaster and a human made/a technological disaster (**Biswas & Choudhuri, 2012**). On another view, Shaluf, 2007, classified it into three

sections: (natural, a man-made and a hybrid) disasters, (**Biswas & Choudhuri, 2012**). According to Shaluf, hybrid disasters are an outcome of both human mistakes and natural forces, (**Al-Dahash et al., 2015**). Disasters in Egypt have been and hold on to be liable to a great number of natural and human-made disasters. (**Abulnour, 2013**).

The COVID-19 pandemic has been widely referred to as a disaster. Dealing with the pandemic involves understanding, prioritizing, and managing

many realities and scenarios in the short, medium, and long terms, from health to economic and social issues (**Lavell, & Lavell, 2020**). The year of 2020 has become the year of discover COVID-19. This was to be a year of strengthening global actions to call for a more utilization of the health-emergency disaster risk management structure to complement a current control of COVID-19 (**Djalante et al., 2020**).

Coronavirus 2019 (abbreviated “COVID-19”) is a critical respiratory disease that is because of novel coronavirus and was first discovered in December 2019 in Wuhan, China. The disease is extremely infectious, and it is identified by fever, dry cough, exhaustion, myalgia, and dyspnea. The intense stage is characterized by acute respiratory distress symptoms, septic shock, difficult-to-tackle metabolic acidosis, hemorrhage and coagulation dysfunction (**Chen, Zhou, et al., 2020**). The rapid spread of COVID-19 poses a serious fight to human health and is impacting severely on people health, global communications, and economic systems all over the world. While the spread of the COVID-19 has had far-reaching consequences, the closure of universities has led to the emergence of innovative methods of providing education that ensure the continued education of students. (**Sandhu & Wolf, 2020**).

The emergence of the COVID-19 and its effects have led to a fear, worries, and anxiety among individuals worldwide (**Ahorsu, et al., 2020**). Moreover, due to a relatively high mortality, individuals naturally began worrying about the COVID-19. Indeed, the fear of contacting individuals who are possibly infected by the COVID-19 have been reported. Unfortunately, a fear may expand the damage to the disease itself. (**Huang et**

al., 2020) (**Lin 2020**). The fear of COVID-19, a social distancing, and increased media attention, along with a lack of information and knowledge about the pandemic, has created and exacerbated feelings of an insecurity, a depression, and anxiety (**Vindegard & Benros, 2020**).

The disaster management intervention is an effective way of preparing the nursing intern students for a proper disaster response and reducing the undesirable effects of disasters. Disaster management was defined as the arrangement and management of resources and duties for working with all humanitarian parts of a contingency, in particular preparedness, response and recovery to reduce the effect of disasters. (**International Federation of Red Cross and Red Crescent Societies, 2020**). Disaster management cycle begins with Prevention, which the aim is to decrease the effects of disaster such structure warning codes, risk assessment, and people education. Then, preparedness which concentrate on planning how to reply to a disaster like project, emergency actions and training (**Erdelj et al., 2017**).

Regarding disaster management related concepts; a disaster protection is actions intended to supply constant protection from disasters. Disaster preparedness, it is the key way of decreasing the effect of disasters. Which are prepared to diminish wastage of life and harm for symbol by taking of public and assets from dangerous stations and by simplify timely and efficacious saving, comfort and rehabilitation (**World Confederation for Physical Therapy, 2016**). Styles from society-based disaster risk handling can be used for COVID hazard estimation. Community-based disaster preparedness and management are pivotal in decreasing disaster

mortality and losses (United Nation, 2020).

In Egypt, **Abulnour (2013)** stated that disaster management helps the appropriation of work in critical and disturbing disaster situations. In addition, **Al-Dahash et al. (2015)** reported that effective management of disasters focuses on efficacious disaster answer management.

Improved awareness and consciousness about disasters can be life-saving, and local and national education programs are required to ensure this. The education of health staff is particularly important in regions where disasters are experienced severely and intensely. Thus, health staff who are active and professional in their fields can prevent many mistakes and incorrect health care practices (**Ozputat & Kabasakal, 2018**).

Internship nursing students are prepared to be professionals' nurses through internship year. An internship year is a remarkable duration for nursing students that helps them to do and play roles as professional nurses, to improve their clinical capabilities by combining theory with practice and enhancing their assessment, problem-solving, and communication skills. Furthermore, the internship program enables nursing students to manage the workload of having many patients requiring full patient care and enhance their clinical skills, (**Althaqafi et al., 2019**).

Justification of the study:

The fear of COVID-19 influences the intern students desire to quit nursing because of the current reality of a risky environment. Not only COVID19, but also there many disasters that happened and may happen all over the world.

Nurses are the frontline healthcare professionals when dealing with these disasters, they shouldn't be afraid. Based on literatures and clinical experiences, it is found that nursing students and recent graduates have high levels of stress and fear, besides low level of knowledge regarding COVID-19. However, in Egypt, to date, no studies have been conducted examining the nursing students' COVID-19 fear related to disaster management.

So, the purpose of this research was to evaluate effectiveness of disaster management educational intervention for reducing Internship Nursing Students' COVID 19 Fear. This purpose should be fulfilled through the following objectives:

1: Assess internship nursing students' knowledge and practice regarding their disaster management.

2: Assess internship nursing students' COVID-19 fear.

3: Evaluate effectiveness of disaster management educational intervention for reducing Internship Nursing Students' COVID-19 Fear

Research Hypothesis:

- There will be improvement of internship nursing students' knowledge and practice toward their disaster management post-intervention.

- The mean scores of internship nursing students' COVID-19 fear will be lower after disaster management educational intervention than pre-intervention.

- There will be significance difference in internship in nursing

students' COVID-19 fear level between pre- intervention and post- intervention.

- There will be significance difference in internship nursing students' COVID-19 fear level pre- intervention and follow up – intervention.

Operational definitions of study variables:

Disaster Management Educational Intervention is operationally defined as the obtained nurses' students' knowledge regarding their disaster management score, measured by a knowledge-based questionnaire developed by **Shabbir et al. (2017)**. Also, Disaster Management Intervention is defined as the obtained nurses' practice regarding their disaster management score measured by practices questionnaire which developed by **Shabbir et al. (2017)** and modified by **Moabi, (2009)**.

Nursing Students' COVID-19 Fear is operationally defined as the obtained nurses' COVID-19 Fear score measured by Psychometric properties of the Fear of COVID-19 Scale (**Ahorsu et al., 2020**)

Methods

Research Design

Quasi-Experimental pre-test and post-test design were conducted using one group.

Setting and Sample

The present research was implemented using a convenience sample (110) of all internship nursing students who enrolled in the internship year 2019/2020 at the clinically trained units in Menoufia Governorate Hospitals, Egypt (Menoufia University Hospital and Shebin Elkom Teaching Hospital) and

they participated in this study. The study subjects were elective and nameless. The students were selected from all trained units and department.

Instruments

Instrument one: this instrument was composed of three sections. **The first section** included four items of demographic characteristics, including age, gender, place of residence, and whether study participant attended disaster management workshop.

The second section was Self-administered questionnaire to assess knowledge, it developed by **Shabbir et al. (2017)** to assess knowledge on disaster management. Knowledge based questionnaire include 6 questions covered about the disaster management. This section included questions to determine whether respondents understood what a disaster is, what a disaster plan is, where to find the plan, whether staff members understood their role during a drill, and what disaster preparedness actually is. Each question received one point for a correct answer and zero for a wrong one or doesn't know. Total scores were represented as percentages. If the total score was less than 60%, it was considered poor knowledge, 60% or more was considered good knowledge.

The third section Self-reported questionnaire to assess practices regarding disaster management as they were modified from **Moabi, (2009)**. The practices questionnaire included 10 questions. The practices questionnaire included the questions about disasters drill done at the hospital, what type of drill is done, ongoing training, how often, disasters plan update, and how often developed. The questionnaire included both closed and open-ended questions. Each questions' correct answer was

granted one point, and zero for the wrong one or doesn't know. Total scores were represented as percentages. If the total score was less than 60%, it was considered poor practice, 60% or more was considered good practice.

Instrument two: The Fear of COVID-19 Scale was used to examine nurses' apprehension about COVID-19 (Ahorsu et al., 2020). The Fear of COVID-19 Scale consist of 7-items unidimensional scale was answered by nurses using a 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree). The composite score ranged from 7 to 35, with a higher score indicating greater fear of COVID-19. Previous research reported excellent predictive reliability ($\alpha = 0.86$) of the scale.

▪ **Validity of instruments:**

The study instruments (Knowledge-based questionnaire, Practices questionnaire, and COVID-19 Fear Scale) were tested for validity (face & content) through the distribution of the instruments to a panel of experts consisted of two professors and three assistant professors from nursing administration specialty. The tools were considered valid from the experts' perspective.

▪ **Reliability of instruments:**

Reliability was applied by the researcher for testing the internal consistency of the instruments, these instruments were tested for reliability to estimate the consistency of measurement. Reliability performed using Alpha Coefficient test (Chronbach alpha). Internal consistency of the first instrument (Knowledge-based questionnaire) with Cronbach alpha is ($\alpha = 0.76$), Internal consistency of the second instrument (Practices questionnaire) with

Chronbach alpha coefficient is ($\alpha = 0.81$), and Internal consistency of the third instrument; COVID-19 Fear Scale is ($\alpha = 0.88$)

Field of work

Official approval was obtained from the Dean of Faculty of Nursing forwarded to the director of Menoufia University Hospital and Shebin Elkom Teaching Hospital. The purpose of the study was explained to each student and oral informed consent to participate in the study was gained from them.

Pilot study

Was conducted on twelve intern students who represent 10% of the total sample in two study hospitals (six students in each hospital), this sample was excluded from the study. The results of the pilot study were incorporated into the study questionnaires. The pilot study helped to evaluate the feasibility and clarity of the instruments.

Data Collection procedure

Internship nursing students were informed to complete the research questionnaire via the application website on Google which send to all Intern students through clinical what's up and Facebook group, student email, and another method of internet communication. The researchers told the internship nursing students that all information gathered will be used only for the aim of the research. Voluntary participation in the study was assured to all participants as well. The data collection period of the research was 6 months from the first 2/2020 to the end of 7/2020.

Disaster management educational intervention passed into four phases; Assessment phase, planning phase, implementation phase, and evaluation phase:

Assessment phase:

This phase aimed to assess internship nursing students' knowledge and practice towards their disaster management. Also, to assess intern students' COVID 19 fear before disaster management educational intervention (pre-test intervention) through need assessment technique (questionnaires) have been used in this study:

- 1- Self-administered questionnaire to assess knowledge on disaster management
- 2- Self-reported questionnaire to assess practices regarding disaster management
- 3- The Fear of COVID-19 Scale.

Planning phase

The aim of disaster management educational intervention for internship nursing students was to reduce their Fear of COVID-19. Based on the results of the knowledge and practice questionnaires among internship nursing students and their level of agreement regarding disaster management and the findings of intern students' COVID-19 Fear, the disaster management educational intervention was implemented. Study questionnaires were administered at three different times; the first time was administrated before the intervention, the second time was done immediately after the intervention to evaluate the effectiveness of the educational intervention, and the third time was done administrated three months after the intervention (follow up). **The**

contents of the disaster management educational intervention included the following:

- Introduction (nature and scope of disaster and disaster management)
- Definition of disaster and components of disaster
- Features of disaster and types of disasters
- General effects of disasters
- The consequence of disaster on human and environment
- Examples of disaster that happened all over the world
- Examples of disaster that happened in Egypt
- Concept of disaster management and phases of disaster management cycle
- Role of nurses in disaster management
- COVID 19 background and COVID 19 fear

Implementation phase

The educational intervention was applied via electronic learning like Microsoft teams and Zoom. The total number of internship nursing students was 110. So, it was divided into five groups to be effective and each group included 22 intern students. The total duration (14 hours theory) for each group, it was divided into seven sessions with two hours for each session. The educational intervention implemented in 7 sessions for each group and each session was conducted weakly. The intervention lasted for three months, from the first of February to the end of April 2020. Teaching methods used in the intervention were; lecture, group discussion, brainstorming, and scenario-based situations are very important with effective practices. Teaching aids were: videos, PowerPoint, and soft handouts.

The educational intervention contents conducted in 7 sessions for each group as the following:

The first session: Greeting the intern's students then provide a soft hand out then show the intervention objectives and fill pretest (electronic study questionnaires).

The second session: give theoretical and practical information related to the nature and scope of disaster and disaster management and carry out group discussion with intern students.

The third session: give theoretical and practical information related to the definition of disaster and components of disaster by demonstrating COVID 19 videos.

The fourth session: give theoretical and practical information related to features of disaster and types of disasters and phases of disaster management cycle and show scenario-based situations on types of disasters.

The fifth session: give theoretical and practical information related to the general effects of disasters and carry out brainstorming to solve problems associated with COVID 19 disaster.

The six sessions: give theoretical and practical information related to the consequences of the disaster on humans and the environment and demonstrate examples of disasters that happened in Egypt and all over the world

The seven sessions: give theoretical and practical information related to role of nurses in disaster management and COVID 19 background and COVID 19 fear. Also, fill posttest

(electronic study questionnaires). At the end of each session summary.

Evaluation phase

- To assess internship nursing students' knowledge of their disaster management before and after the intervention.

- To assess internship nursing students' practice towards their disaster management before and after the intervention.

- To evaluate internship nursing students' COVID-19 Fear at the end of the three months post-intervention (follow up), using the same tool as in the pre-and immediate post-intervention tests.

Data Analysis

Data were reviewed, coded, entered, analyzed, and tabulated using Statistical Package of Social Sciences (SPSS) version 25. Descriptive statistics (frequency, percentage, mean and standard deviation) were used appropriately according to the type of variables. Different variables are calculated and graphically portrayed in tables and graphs. Data were analyzed using paired sample T-test for comparison between two means and the level of significance was set as P value at $p \leq 0.001$.

Results

Table (1): revealed that the majority of studied internship nursing students (87.3%) were females. Nearly all internship nursing students (90%) were of equal age (23) years with a mean of $(22.9 \pm .30137)$ Years. Regarding residence, the majority of intern students (82.7) were rural. Moreover, the majority of studied intern

students (80.9%) did not attend any disaster management workshop.

Table (2): demonstrated that internship nursing students' knowledge and practice level about disaster management was increased after the intervention. As noticed in the table, the higher mean of knowledge and practice was at post-disaster management educational intervention among intern students. While the lower mean of knowledge and practice was at pre-intervention.

Table (3): showed that there was a highly significant difference between Pre-intervention and Post-intervention regarding intern students' knowledge and practice toward their disaster management. Also, there was a highly significant difference between Pre-intervention and follow-up-intervention regarding intern students'

knowledge and practice toward their disaster management.

Table (4): indicated that the higher mean scores of intern students' COVID-19 Fear were (30.07) at pre-disaster management intervention. While the lower mean score of intern students' COVID-19 Fear was (15.75) at post-intervention and the mean scores of intern students' COVID-19 Fear at follow up intervention was (16.16).

Table (5): revealed a highly statistically significant difference between the mean scores of intern students' COVID-19 Fear in the Pre and Post-disaster management educational intervention, also, there was a highly significant difference between the mean scores of intern students' COVID-19 Fear at pre and Follow-up of disaster management intervention at $p \leq 0.001$.

Table (1): Socio-demographic Characteristics of Internship Nursing Students (N=110).

Socio demographic characteristics	N0.	%
Age (Years)		
22 years	11	10
23 years	99	90
Mean \pm SD	22.9 \pm .30137 Years	
Residence:		
Rural	91	82.7
Urban	19	17.3
Gender:		
Male	14	12.7
Female	96	87.3
Attending disaster management workshop:		
Yes	21	17.3
No	89	80.9
Total	110	100

Table (2): Mean Scores of Students' Knowledge and Practice toward their Disaster Management in the Pre-test, Post-test, and Follow-up of Intervention.

Disaster management	Pre-intervention (N=110)	Post-intervention (N=110)	Follow up- intervention (N=110)
Knowledge			
Minimum	1.00	3.000	2.000
Maximum	5.00	6.000	6.000
Mean	3.06	4.77	4.13
Std. Deviation	1.06897	.863735	1.129076
Practice			
Minimum	1.00	4.00	4.00
Maximum	7.00	10.00	10.00
Mean	4.80	7.49	6.94
Std. Deviation	1.41292	1.61839	1.54348

Table (3): Comparison between Mean Scores of Students' Knowledge and Practice toward their Disaster Management in the Pre-test, Post-test, and Follow-up of Intervention (N=110).

Intervention	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference		t-test	df	Sig. (2-tailed)
				Lower	Upper			
Knowledge								
Pre-intervention knowledge mean – post-intervention knowledge mean	1.71	1.37	.130	1.45	1.97	13.01	109	.000**
Pre-intervention knowledge mean – follow up knowledge mean	1.07	1.64	.155	.76	1.39	6.88	109	.000**
Practice								
Pre-intervention practice mean – Post-intervention practice mean	2.69	2.43	.231	2.23	3.155	11.63	109	.000**
Pre-intervention practice mean – follow up practice mean	2.15	2.41	.229	1.69	2.59	9.36	109	.000**

****Highly statistically significant at p≤ 0.001**

Table (4): Mean Scores of internship nursing students' COVID-19 Fear in the Pre-test, Post-test, and Follow-up of Intervention (N=110).

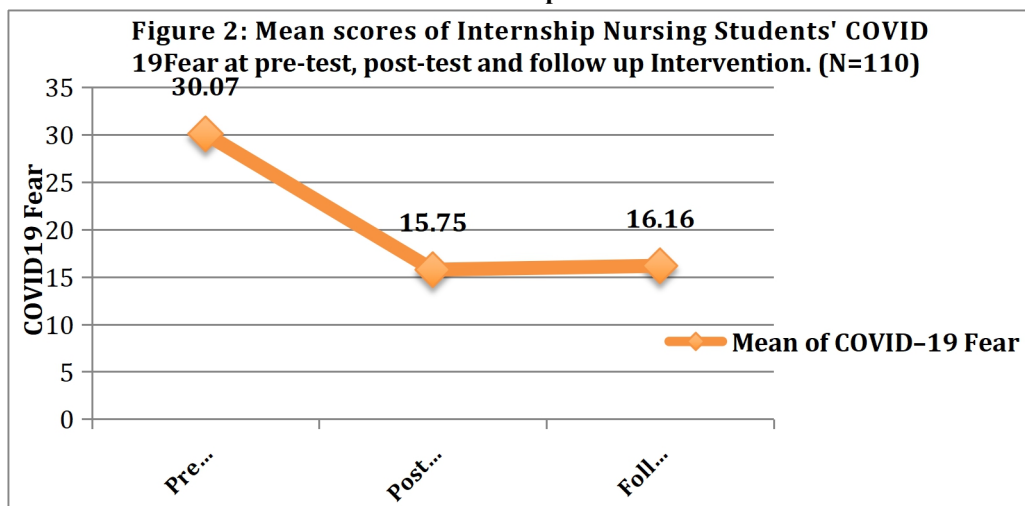
COVID-19 Fear Scale	Pre-intervention (N=110)	Post-intervention (N=110)	Follow up-intervention (N=110)
Minimum	21.00	7.00	10.00
Maximum	34.00	21.00	27.00
Mean	30.07	15.75	16.16
Std. Deviation	2.53312	5.85793	4.92052
Std. Error	.24152	.55853	.46915
t-test	124.513	28.207	34.453
Df	109	109	109

Table (5): Comparison between Mean Scores of internship nursing students' COVID-19 Fear in the Pre-test, Post-test, and Follow-up of Intervention (N=110).

Intervention	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference		t-test	df	Sig. (2-tailed)
				Lower	Upper			
Pre-intervention fear level – Post-intervention fear level	1.43	6.71	.640	13.04	15.58	22.36	109	.000**
Pre-intervention fear level – follow up fear level	1.39	5.53	.528	12.86	14.95	26.34	109	.000**

**Highly statistically significant at $p \leq 0.001$

Figure (1): demonstrates that the lower mean score of intern students' COVID 19 Fear level was at the post and follow up intervention. While the higher mean score of intern students' COVID 19 Fear level was at pre-intervention.



Discussion

Disasters are considered a national health matter for humanity, and it has been noticed that one of the means to combat them is to be ready before they strike. Disasters can take a pivotal role in the improvement of several aspects of the healthcare sector. Everyone in the Healthcare profession must be well trained in disaster management. Students of the healthcare profession are the country's hope healthcare professionals. Healthcare profession students' knowledge, attitude, and ability to practice should be evaluated and improved if needed (Gillani et al., 2020).

The current study aimed to evaluate the effectiveness of disaster management educational intervention on internship nursing students' COVID-19 Fear. The results revealed that the majority of participants were the same age, indicating that this is a graduation year. More internship nursing students were females, it might be explained by the fact that our college is considered recent in having male students.

As regards, the place of residence, the majority of internship nursing students in this study were from rural areas due to the increase in rural areas in Menoufia Governorate. Moreover, the majority of studied internship nursing students did not attend any disaster management workshop, it may be due to disaster management topics didn't found in hospitals workshops.

Regarding internship nursing students' knowledge and practice toward disaster management before educational interventions. The study findings showed that the low mean score of internship nursing students' knowledge

toward disaster management was before disaster management educational intervention. It might be explained by the fact that the subject of disaster management is a new trend for others, and it wasn't found in the nursing curriculum which had, so and they had less knowledge about it.

This study result is consistent with a study done by **Taha, (2020)** who reported less knowledge in some areas of disaster preparedness and a lack of adequate training and education, which affected the subjects' confidence in themselves when it came to some specific large situation. While this study finding was inconsistent with **Mariappan & Philip (2020)** who has studied the knowledge and attitude regarding disaster preparedness and management among nursing students. It revealed that among a sample of nursing students, a high percentage of subjects had moderately adequate knowledge.

Furthermore, a study was done by **Shabbir et al. (2017)** unsupported the present study findings. It revealed that the overall knowledge of the study participants was good regarding disaster management and emergency preparedness, and responded positively regarding the knowledge questions.

According to the present study findings, the low mean score of internship nursing students' practice regarding disaster management was before disaster management educational intervention. This result may be due to that the majority of study subject didn't attend any workshop about disaster management. This finding was agreement with **Shabbir et al. (2017)** who revealed that their study participants reported that the overall poor practices toward their disaster management was high percentage.

Also, the present study results are agreed with **Peoples et al. (2016)** who reported that the participants were not ready to respond in a disaster setting.

Regarding internship nursing students' knowledge and practice toward disaster management after educational interventions. The current study found a high mean score of intern students' disaster management knowledge and practice at the post and follow-up disaster management intervention. In the same line, the high percentage of good knowledge and good practice was at post period of disaster management educational program. **Shabbir et al. (2017).**

Furthermore, there is a highly significant improvement in intern students' knowledge of disaster management after the educational intervention. Moreover, there is a highly statistically significant improvement in intern students' practice toward disaster management after disaster management educational intervention. Nursing students' knowledge and practice regarding disaster management were improved as they had learned the basic concept of disaster management. Moreover, they had known how to deal with disasters and apply steps of disaster management.

The result of the current study is supported with **Hassan & El Demerdash, (2019)** study which indicated that more than two-thirds of staff nurses had a good level of knowledge post-program with a statistically significant improvement on nursing staff levels about disaster management pre than post-program, while, two-thirds of staff nurses had a high level of perceived skills post-program with a statistically significant improvement in nursing staff skills

dealing with disaster management pre than post-program. In addition, the present study finding is compatible with **Sattar et al. (2018)** study which determines the effect of an educational intervention about disaster preparedness on an intern- nurse students' knowledge, and their results revealed that there was the improvement in knowledge of the study subjects post educational intervention and showed that there was a significant difference between the mean knowledge pre-test score and the post-test score between nurses regarding disaster management.

Furthermore, this study finding is supported by **Schmidt et al. (2011)** who done study to investigate nursing students' perceptions of personal and program preparedness for disasters at Islands. Findings showed that nursing students are generally ready for disasters post program. In the same line, the study of **Koca, 2020** who reported increasing the disaster preparedness perceptions among nursing students after training program on disaster preparedness perceptions.

Regarding internship nursing students' COVID 19 Fear at pre, post, and follow up disaster management educational intervention. COVID-19 Fear considered global among nurses. Fear of COVID-19 is associated with nurse's work-related distress and may affect their intention to leave their jobs and even the nursing profession. **(De Los Santos & Labrague L., 2020).** Regarding COVID-19 fear, this study's findings showed that internship nursing students had a high mean score of COVID-19 fear at the pre-disaster management intervention. This result may be due to internship nursing students deal with situations with a lack of knowledge and experience in the assessment phase. A large number of nurses, all over the

world, fear being infected and transmitted this infection to their families. Lastly, the effect of social media, TV, and the internet increases the state of fear, dread, and panic effect of COVID-19.

This study finding was supported by **Medina et al. (2021)** who revealed that nursing students and recent graduates have high levels of fear regarding COVID-19 with low levels of knowledge. Besides, it reported that education and training are required on knowledge and fear regarding COVID-19 in the population studied. In addition, the present study finding was consistent with **De Los Santos & Labrague, (2020)** study which revealed that community nurses share the same experience of COVID-19 fear and are accompanied by increased fear of COVID-19. At the same line, **Pakpour & Griffiths, (2020)** highlighted that fear, as an undesired mental state induced by the feeling of danger, has been noted in pandemic situations; particularly in COVID-19. In contrast, **Winter et al. (2020)** reported that participants of the study who rated themselves as more conservative tended to report lower in the Fear of COVID-19 Scale.

Based on implementing disaster management educational intervention, the study findings showed that internship nursing students' COVID-19 fear at post and follow up intervention was reduced. Moreover, this study result reported a highly significant difference in internship nursing students' COVID 19 fear level between pre- intervention and post-intervention at $p \leq 0.001$ and between pre-intervention and follow up intervention at $p \leq 0.001$. By this result, the study hypothesis was accepted; as the internship nursing students had a low level of COVID 19 Fear scale after implementing

disaster management educational intervention.

To date, no studies have been conducted examining the effectiveness of disaster management educational intervention on intern students' COVID-19 Fear. So that, the research findings of **Rodríguez-Hidalgo et al., (2020)** showed that University Undergraduate Students need preferential attention as regards measures or strategies to alleviate and prevent COVID-19 fear. It proposed some general measures for reducing fear of COVID-19 and suggest that specific programs be designed to control and overcome fear among undergraduates. There are no afraid when caring for COVID-19 patients. They had known that disasters happened and may occur all over the world.

At the same line, the study of **Labrague & de Los Santos, (2021)** supported the current study results. The study reported that nonattendance of COVID-19 training was linked with increased fear of coronavirus, so it is essential that hospitals develop COVID-19 training plans to improve the competencies of nurses to effectively care for coronavirus patients. The finding of the study highlights the vital role of evidence-based education during the pandemic.

Also, **Grimes et al., (2020)** study revealed that the disaster management training given to nursing students is extremely important since managing post-disaster events as quickly as possible is critical to decreasing COVID fear. Moreover, **Kiliç & Şimşek (2019)** reported that post-disaster management training given to nursing students about psychological support response in case of disasters, students reported that they would manage post-disaster

psychological problems more easily. Besides, Hasan and Bao, (2020) concluded that Perception of e-Learning had a significant positive impact on intern student's COVID-19 fear and psychological distress.

No information was found in the literature regarding how much of a percentage change in COVID fear occurred following disaster management intervention. However, the results obtained in this study are adequate to show that the content of the disaster management intervention was feasible and effective. Based on implementing disaster management educational intervention, internship nursing students' knowledge and practice regarding disaster management were improved with increasing their competence and self-confidence to deal with various disasters and COVID-19. Moreover, they are no afraid when caring for COVID-19 patients.

Conclusion

Regarding of the present study findings, there is a highly significant improvement in intern students' knowledge and practice toward disaster management after educational intervention. Also, the study findings showed that internship nursing students' COVID-19 fear at post and follow up intervention was reduced. Moreover, this study result reported a highly significant difference in internship nursing students' COVID 19 fear level between pre-intervention and post- intervention at $p \leq 0.001$ and between pre- intervention and follow up intervention at $p \leq 0.001$. Based on this result, the study hypothesizes was accepted; as the internship nursing students had a low level of COVID 19 Fear scale after intervention.

Recommendation:

- The undergraduate and postgraduate nursing curriculum should include the discipline of disaster management.
- Identify the best educational strategies for intern students when faced with disasters.
- Developing policies for disaster management and pay more attention to solve the problems of disaster management.
- Continuous and recurrent disaster management training programs be conducted during undergraduate or graduate education to reduce COVID fear and other psychological problems

Implications for Practice

Disasters have been increasing throughout time. One significant section of disaster preparedness is found in the healthcare systems. Nurses by their competency and intellectual abilities have a significant role to play in terms of emergency or disaster preparedness. In-service training programs and workshops about the management of disasters, including COVID-19 should be conducted continuously and provided on regular basis for all nurses' levels. Moreover, theoretical and practical courses that outline disaster management must be confirmed in the undergraduate as well as post-graduate courses by using various educational strategies.

Limitations

The most important limitation of this study is that the research data were only from one nursing college. Therefore, selecting samples from different nursing

colleges recommended for future studies to generalize the findings.

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Conflict of Interest

The authors declare no conflict of interest.

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