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Effectiveness of an educational program on nurses' practice toward physical therapy for patients with COVID-19

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Abstract---This study aims to evaluate the effectiveness of an interventional program on nursing staffs' practice toward physical therapy for patients with COVID-19. A pre-experimental (one-pretest-posttest) design was used to conduct this study. A non-probability (purposive) sampling was used to select (60 nurses) working in ICU. To measure the effectiveness of the interventional program, the researcher used a knowledge form that included (22) questions patient-oriented with COVID-19. The validity of the questionnaire and the interventional program was verified by presenting it to (12) experts. The reliability was determined using the test-retest approach for the knowledge questionnaire. Data analysis was done using the Statistical Package of Social Sciences (SPSS) version 25. The study findings statistical mean of the overall nursing staff practices in physical therapy was (1.005), p. value (.320) before implementation of the interventional program, while it becomes (12.483), P. value (0.000) High significant after the interventional program has been applied. When comparing the results of the study group before and after the implementation of the program, the results were statistically significant with a percentage of (9.834) P. value (0.000).

Keywords---physical therapy, COVID-19, nursing, educational program.

Introduction

Prior to the initial phase of the crisis in March 2020, preparations were made to prepare the SGMC physical therapy staff to provide care when acute therapy is

required. The first step was to educate personnel on healthy breathing techniques. All employees will undergo treatment training. The next stage will be to form a working group comprised of a respiratory expert, a physical therapist with a specialty in rehabilitation and the director of physical therapy services (Levi et al.,2020).

People may be suffering from economic, social, physical, and mental health consequences. Concerns about household employment stability and business viability (particularly for private businesses) could be among them Weddings and travel plans have been canceled as a result of the practitioners' actions and a loss of self-identity. (For example, male coworkers shaving their heads beards to verify that the mask fits properly for personal safety)) Grief, anxiety, and/or despair may result from these circumstances Being unable to hug is one of the more heartbreaking things Because of social distance, or because of preferences for in the event of a critical sickness, medical treatment is provided to those individuals, we are accountable to (Haines & Berney, 2020).

About 5% of SARS-Cov-2 cases had severe and intensive care signs, while 20% of those hospitalized had severe and intensive care indications. In the hospital, over 75% of COVID-19 patients require extra oxygen. Infected patients SARS-Cov2 provides improved strategies for treating acute hypoxic breathing insufficiency.

COVID-19 instances differ greatly by age in the United States, with 0.3 deaths per thousand patients aged 5-17 years and 304.9 deaths per thousand patients aged 85 and more. A case in point Patients who make it to the ICU will have a 40% chance of dying. By July 1, 2020, up to ten million cases of COVID-19 could have been detected (Wiersinga et al.,2020).

Given that the majority of COVID-19 patients who require ICU care have respiratory involvement, we want to see if pulmonary rehabilitation will help (PR) lower mortality and improve outcomes. The American in 2013 European Respiratory Society / (ERS) Thoracoscopic Society (ATS) PR is defined by the (ERS) Statement as "a complete approach to public relations intervention based on a comprehensive examination of the patient. Such as Exercise Training Following that, patient-tailored therapy Education, and other activities include, but are not limited to and behavior modification, all to improve the People with disabilities who have a variety of physical and psychological issues chronic obstructive pulmonary disease, and to encourage long-term to adhere(Siddiq et al.,2020).

According to these results, Iran, Pakistan, and Iraq have the highest mortality rate in the middle east Mortality rate (W.H.O, 2021). According to the Iraqi Ministry of Health, the number of people in the intensive care unit is 84. On the 10th of December month of 2021, these percentages were calculated. According to the AL-Muthanna Health Department, the total number of infected patients in the Al-Muthanna Governorate reached 20,168 On the 10th of December month of 2021, the number of people in isolation wards is 61, and the number of home isolation cases is 4797. There were 290 deaths, the number of people who took the vaccine was 7924369 (Ministry of Health and Environment,2021).

Method

To achieve the aims of the study, a quasi-experimental design was conducted on nurses' knowledge concerning physical therapy for patients with coronavirus at ALshahid Youssef Hospital for Communicable Diseases in Al-Muthanna City. A pre and post-test was conducted on both the study group and control one. Before data collection, official permission was obtained from the relevant authorities. The sample selection was concerned with ethical conduct for scientific analysis; as no information about the nurses' names was gathered. All of the nurses in this study were well informed about their mission. Both nurses were told that the results of the questionnaire would be utilized solely for research purposes. Informing all nurses that they have the right to refuse to participate.

Sample of the study, (10) nurses for the pilot study were excluded from the study due to the use of a purposeful (non-probability) sample. The remainder (50) were for the study's implementation, including (30) males and (20) females from both the morning and evening shifts who worked in the hospital during the study period, met the study criteria, and agreed to participate. The study group was exposed to an educational program, while the control group was assigned to a control group. The following criteria used for selecting the research sample: a) Nurses who agree to take part in the research. b) The study focused on nurses who had been working since the beginning of the epidemic until the study began. c) Nurses, both male and female. d) Nurses with different level of education (Nursing College, Nursing Institute, Secondary Nursing School). e) Nurses with a preliminary exam score of less than 60%. The reliability test of the questionnaire was used to determine the accuracy of the questionnaire, was calculated by using Cranach's Alpha, the result was (0.813).

From January 12th to January 23rd, 2022, all nurses in the study and control groups took a knowledge exam to measure their knowledge before commencing the educational program. From the 24th of January until the 11th of February 2022, the program was implemented in the medical department of AL-Shahid Youssef Hospital for Communicable Disease. Only the research group of (25) nurses was told about the program, and they were summoned to the same classroom sessions at 1:30 p.m. to take part in the instructional program. The curriculum was divided into four lectures, each of them which was created and scheduled to last roughly 45 minutes per day.

The data for the research group was obtained from nurses two weeks after the training ended. Data was gathered from both the study and control groups from the 25th to the 4th of March. The data was acquired using a constructive knowledge questionnaire, which was completed by self-reporting closed-ended structured questions. The right knowledge answer received a score of (2), while the erroneous answer received a score of (1). The knowledge exam for nurses was conducted throughout the morning and evening shifts. Each nurse was given around (25-35) minutes to complete the test. The current study's data were analyzed with the Statistical Package for Social Sciences (SPSS) version 24

Result

Table (1): (Study and Control Groups) in Pretest and Comparing between the Knowledge of the Study Group and Control Group before Applying for the Educational Program

Variables	Classification	Significance				Significance
		Study F	%	control F	%	
the practical aspect of nurses working in isolation wards about physiotherapy for patients infected with the Coronavirus	Poor	15	60.0	18	72.0	T-test =1.005 df =48 p. value=.320 NS
	Moderate	10	40.0	7	28.0	
	Total	25	100.0	25	100.0	

Table (2): (Study and Control Groups) in Posttest and Comparing between the Knowledge of the Study and Control Groups after Applying for the Educational Program

Variables	Classification	Groups				Sig.
		Study F	%	Control F	%	
the practical aspect of nurses working in isolation wards about physiotherapy for patients infected with the Coronavirus	Poor	1	4.0	18	72.0	HS
	Moderate	4	16.0	7	28.0	
	High	20	80.0	0	0	
	Total	25	100.	25	100	
			0			
		T-test= 12.483		df=48		P. value=0.000

Table (3): Comparing between Pre and Post the Educational Programs for the Study Group

Variables	Classification	Study				Sig
		Post F	%	Pre F	%	
the practical aspect of nurses working in isolation wards about physiotherapy for patients infected with the Coronavirus	Poor	1	4.0	15	60.0	HS
	Moderate	4	16.0	10	40.0	
	High	20	80.0	0	0	
	Total	25	100.	25	100.0	
			0			
		T-test= 9.834		df=24		P. value=0.000

Discussion

In the table (1) the nurses' knowledge about the physical therapy of patients infected with the Corona pandemic virus, were questions that were chosen before the application of the program, as the result showed that all the answers to the two areas in the knowledge are statistically non-significant. The total knowledge is non-significant and the majority of sample subjects are poor. Table (2) shows that the study found the groups for the practical side High-significant, the control percentage was (80.)

It had a low knowledge rate in all fields. Table (2) shows the presence of statistically significant changes between the administration of the study group before and after the administration of the educational program High-significant. The results did not agree with the results found by (Eggmann et al.,2021). Which showed good results for the research participants about physical therapy had significant study does not agree with (Alshahrani et al.,2022) application of manual methods in physical therapy was found (8.5%) and it was poor. The overall practical aspect is highly significant, and the majority of participants in the sample are good. The results did not agree with the results found by (Haghighi et al.,2020) found (67.72%) good practices aspects. This result agrees with the (Nweke et al.,2021) that found participants in physical therapy (74.6%) $p\text{-value} \leq 0.05$.

The researcher believes that the cooperation of nurses and their desire to increase knowledge of the Corona pandemic or physical therapy, as well as the opinions of experts and the supervisor, were clearly shown through the results obtained by the researcher, which are good ratios, and this gives me an indication that the more courses and information given to nurses helps in making nurses skilled and knowledge

Conclusion and Recommendations

Providing a guidebook on physical therapy methods and explaining the best methods and distributed to nurses, as well as making guiding signs in all rooms for patients so that the benefit of the nurses as well as patients. The researcher recommended repeating this study, including all the mentioned points and Methods used in physical therapy for patients with the Coronavirus in Muthanna Governorate and Iraq, as there are no such studies. the researcher recommends that nurses be involved in courses inside the country or abroad to ensure that nurses receive the latest updates, whether in knowledge or new treatment methods. Provide a brochure or guide for nurses working in the isolation unit that includes information about the Coronavirus and physical therapy so that each nurse carries it in his pocket to review it daily

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