

## Covid-19 and continuing nursing education a mini review

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### ABSTRACT

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**Introduction:** The COVID-19 pandemic has challenged the resilience of health systems to a significant extent at a global level, highlighting many times inherent and acquired weaknesses, such as understaffing, insufficient up-to-date knowledge for crisis management.

**Purpose:** The purpose of this study is to descriptively review the continuing education of nurses for COVID-19.

**Materials and Methods:** A narrative mini review of the published literature over the last 15-years in Greek and English was carried out via Medline, Scopus, and Google Scholar databases. The study includes articles delving into continuing nursing education as well as nursing care for patients with COVID-19.

**Results:** Nurses, in the context of their continuing education regarding COVID-19, are to be able, and knowing the pathophysiology and clinical manifestations of the disease, to diagnose the active and potential problems of patients. Therefore, they can solve them by applying appropriate interventions. Continuing nursing education could help mitigate this global upheaval and the impact on patients, health staff and the health system in general. **Conclusions:** Ongoing nursing education programs regarding COVID-19 help nurses develop appropriate up-to-date scientific skills, enabling them to provide more effective health care.

**Keywords:** continuing nursing education, continuing professional development, COVID-19, lifelong learning, coronavirus, nursing care

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## **INTRODUCTION**

The COVID-19 pandemic has challenged the resilience of health systems to a significant extent at a global level, highlighting many times inherent and acquired weaknesses, such as understaffing, insufficient up-to-date knowledge for crisis management. Nurses consist of an integral part, if not the backbone of the health system. No health system can function effectively if it is understaffed or unqualified staffed as regards nurses [1].

In the era of evidence-based clinical practice, the continuing education of nurses can be a guarantee for the exercise of high-quality nursing work, which includes interventions and actions that are well-documented and scientific [2].

Essentially, there are opportunities to improve the quality of the health care services provided through continuing education. Thus, the workload could be reduced while job satisfaction could be increased. Moreover, burnout, occupational errors as well as accidents may be reduced; as a result, better working environment and better outcomes for patients would be a daily routine [3].

Managing COVID-19 patients requires high-level nursing care to improve patient outcomes, combined with high demands on workload and human resources. The continuing education of nurses seems to be the best guarantee for the provision of safe and high-quality nursing care to patients with COVID-19 with the best possible management of existing human nursing resources [3].

Nurses, in the context of their continuing education regarding COVID-19, are to be able, knowing the pathophysiology and clinical manifestations of the disease, to diagnose the active and potential problems of patients. Therefore, they can solve them by applying appropriate interventions [4].

**The purpose** of this study was to descriptively review the continuing education of nurses for COVID-19.

## **MATERIALS & METHODS**

A narrative review of the published literature in Greek and English was carried out via Medline, Scopus, and Google Scholar databases using the following index words: "continuing nursing education", "continuing professional development", "COVID-19", "lifelong learning", "coronavirus", "nursing care", "coronavirus", "continuing nursing education", "continuing professional development", "lifelong learning" and "nursing care". The study includes articles delving into continuing nursing education as well as nursing care for patients with COVID-19.

## **CONTINUING NURSING EDUCATION**

Continuing education allows nurses to achieve professional development and progress so that they can adequately respond to the growing needs of patients and health care systems in general [5].

The concept of continuing nursing education is recorded in the International Code of Nursing Ethics of the International Council of Nurses, given that it is stated that "nurses bear a personal responsibility for the practice of the nursing profession and the preservation of their knowledge and competence through continuous learning" [6].

In fact, a reference is made in the Greek Code of Nursing Ethics to the concept of continuing nursing education, stating "Nurses must provide their services in accordance with the data of nursing science. Additionally, they must be informed so as to improve his skills in the context of continuing education" [7].

Objectives such as the creation of a climate of professionalism and cooperation amongst nurses and other members of the therapeutic team can be achieved through continuing nursing education. Furthermore, the emergence of leaders and trainers who can inspire and guide young nurses by instilling vision and respect for the person, life and function they perform, the achievement of immediate results in patient care, the assessment of the knowledge and skills of the trainee nurses after the completion of the program and their reassessment in a reasonable time, the orientation to evidence-based clinical practice and the sensitization of nurses to other forms and learning possibilities, as well as to nursing research may occur [8-9].

It is vital nurses seek their continuing education to have the corresponding stimulus that will motivate them towards this direction. Through the literature, the motivation of nurses to participate in the processes of continuing education has been grouped into five categories: a) professional improvement and development, b) professional services, c) learning and interaction with colleagues, d) personal benefit and professional safety, e) professional commitment [3,10].

Continuing nursing education is also a necessity in modern times for nurses to be able to respond adequately to their particularly demanding and multifaceted role. The growing challenges of the health sector, the explosion of biomedical knowledge, the technological revolution in the field of health, the reforms in the field of health, the aging of the population, the chronicity of diseases that a few years ago were considered incurable, but also the requirements for the provision of a high level of health care by its recipients themselves justify the necessity of continuing nursing education. Indeed,

the nursing care provided is up-to-date and evidence-based nursing care [11,12].

There are two main types of continuing nursing education: a) informal, and b) formal. The informal one refers to self-directed forms of continuing education, including the study of books, the elaboration of papers and publications, web applications, the electronic search for information, interactive learning, cooperation through committees and working groups [13].

On the other hand, there is also the official form of continuing training of nurses with the main advantage of providing certificates of knowledge, which seem more attractive to the recipients of education. In the official version of continuing education, which includes seminars, conferences, workshops, postgraduate programs, the training procedures are more directed and often have a mandatory character and necessary for the service and professional development of nurses [8,14]

## **SARS-COV-2 INFECTION**

Coronaviruses belong to the family of coronaviruses (coronaviridae), which includes various types of viruses. It is an RNA virus whose genome consists of a long RNA chain that is embedded as helical ribonucleoprotein in the elytron. The name of the coronaviruses comes from their morphology, based on which on the multiform elytron 80-220nm are deposited on normal, relatively long distances pins with bulges like a bat, resembling a crown [15].

The symptomatology they cause differs depending on the type of organism that the coronaviruses affect. Coronaviruses also affect humans with the caused infection showing sometimes another degree of severity of symptoms, ranging from asymptomatic to symptomatic with the appearance of fever, cough, respiratory distress, and gastrointestinal symptoms. Especially in the cases of elderly patients, patients with underlying diseases, people who have not been vaccinated or have not proceeded to booster doses or immunocompromised patients, coronavirus infection can cause severe pneumonia and even lead to death [16].

Essentially, coronaviruses, in terms of infection of people and the resulting infection, were treated by the international medical community as simple, non-lethal viruses until 2002 [17].

Since then, the general perception about the morbidity of coronaviruses in humans has changed dramatically, with significant morbidity and mortality, such as the current pandemic of the new coronavirus SARS-COV-2, which causes the COVID-19 disease, and appeared in December 2019 in the city of Wuhan, China, and from there it spread rapidly throughout the world causing a series of sanitary, social, and professional variations and reversals [15].

The symptomatology of the disease ranges from the complete absence of symptoms (asymptomatic disease) to severe disease leading to the development of significant multi-organ complications, and even death. The most common symptoms include fatigue, malaise, fever, cough, and sore throat, loss of taste and/or smell, as well as gastrointestinal upset such as nausea, vomiting and diarrhea. In severe disease, desaturation is observed, accompanied by respiratory distress and shortness of breath [17].

## **CONTINUING NURSING EDUCATION AND COVID-19**

As it is already known, COVID-19 sometimes causes various types of symptoms to sufferers, with the result that the nursing management of patients' needs a nursing care plan, which must be personalized. Nurses in the context of their continuing education on COVID-19 must be able, knowing the pathophysiology and clinical manifestations of the disease, to diagnose the active and potential problems of patients, so that by applying the appropriate interventions they can solve them [18].

Continuing nursing education could help mitigate this global upheaval and the impact on patients, health staff and the health system in general. The increased demands for high-quality care in many patients with the aim of improving their outcomes is a modern reality in the context of managing patients with COVID-19 and a basic condition for the provision of high-quality nursing care is the implementation of nursing interventions based on scientific evidence, because of participation in continuing education programs. The adequacy of the nursing professional role for the management of the pandemic and the protection of public health presupposes autonomy and skills that only through continuing education can be consolidated and ultimately implemented for the benefit of patients and the health system in general [19].

Many continuing education programs for nurses on the management of patients with COVID-19 have been developed and implemented by various bodies with the aim of training staff, protecting them, but also creating the foundations for providing effective and high-quality care to these patients. These programs focus on the implementation and removal of protective personal equipment, but also on the nursing management of patients with COVID-19 through the scientific method of the nursing process [18].

Through the continuing education programs, special emphasis is placed on the implementation and disposal of the personal protective equipment of nurses in charge of caring for patients with COVID-19. Personal protective

equipment must be applied before contact with the patient suffering from COVID-19 and before entering the hospital ward. The steps followed regarding the application and removal of personal protective equipment [20].

In the context of continuing training of nurses on the use of personal protective equipment when caring for patients suspected or confirmed with COVID-19, it is necessary to highlight the following [21]:

- The removal of all personal belongings (watch, rings, jewelry, mobile phone, etc.) is imperative before the application of any personal protective equipment
- The use of a cap as personal protective equipment for COVID-19 is optional, unless at the same time interventions are made where its use is required (e.g., placement of a Central Venous Catheter). People with a strong volume and / or a large length of hair usually use it.
- The removal of personal protective equipment should be done in a safe place and at >2m from the patient (or in the vestibule, if any). In any case, the high respiratory protection mask is removed outside the patient's hospital ward. All personal protective equipment is disposed of in the infectious litter. If the glasses are to be used again, they must be disposed of in a special container and the manufacturer's instructions for cleaning, disinfecting and/ or sterilizing them must be followed.
- The use of additional personal protective equipment without being recommended by the competent bodies increases the chances of infection during its removal.
- There may be slight variations in the way of removing personal protective equipment, if the infected equipment is not touched with the bare hand, that after the removal of any kind of hand hygiene protection follows, that the mask is removed last and that the mucous membranes of the eyes, nose and oral cavity are not touched with hands that have not immediately preceded hand hygiene.
- Work shoes should be plastic, without holes in the upper surface.

## CONCLUSIONS

From pre-existing literature, unrelated to COVID-19, we could conclude that ongoing nursing education programs regarding COVID-19 help nurses develop appropriate up-to-date scientific skills, enabling them to provide more effective health care. Moreover, it seems reasonable, in the context of the pandemic and the shortness of time, that the nurses themselves consider their

participation in these programs not only constructive, but also necessary. Once again, weaknesses of the health system, such as the lack of time, staff, but also human factors such as fatigue due to the excessively increased workload involved in the care of patients with COVID-19, are sure to emerge as the main deterrents to the participation of nurses in continuing education programs on COVID-19.

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## Conflicts of interest

The authors have declared no conflict of interest.

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