

Brief Summary on Nursing Studies regarding COVID-19

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Abstract

The coronavirus disease 2019 (COVID-19) pandemic continuously influences on the health and well-being of people and communities worldwide. The purpose of this study was to explore the published research articles in the fields of nursing and health during the COVID-19 pandemic. The research design is an exploratory study. Samples are the abstracts of the articles from a literature database, PubMed, that were published from January 1st, 2020 to April 15th, 2021. We used a MeSH term, 'nursing' and "COVID-19" to retrieve articles that are related to COVID-19. Five hundred and fifty-five articles were retrieved. Two hundred and sixteen articles were excluded as they were not met the inclusion criteria. The total number of articles used in this study was three hundred and thirty-nine. The average number of articles published during the data collection period was 21.9. Seven topics were discovered from the abstracts of the articles: COVID-19 management and guidance; Perinatal COVID-19 and breastfeeding; Nurse; Health service and support; Patient care; Research; and Education and experience. This study revealed some interesting topics from the articles related to COVID-19 and provided some sense of research areas that may be interesting and allow us to develop important research questions about nursing science and nursing practice.

Keywords: The coronavirus disease 2019, COVID-19, Text mining, Topic Analysis

1. INTRODUCTION

The coronavirus disease 2019 (COVID-19) first occurred in patients with pneumonia in Wuhan, China. COVID-19 is caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). World Health Organization (WHO) declared it a 'Pandemic' in March 2020 [1]. It has infected more than 145 million people globally [2] and all countries are facing severe socioeconomic consequences due to the COVID-19 pandemic. It has caused a significant increase in hospitalizations for pneumonia with multiorgan disease [3]. The pandemic continuously influences on the health and well-being of people and communities worldwide.

Nurses are one of the major providers in various care settings. They identify health problems of their patients, plan nursing interventions, and apply the care plans to improve better patient outcomes. Nursing research provides nurses with an evolving evidence from which to practice. Nursing research is defined as "systematic inquiry designed to develop trustworthy evidence about issues of importance to the nursing profession, including nursing practice, education, administration, and informatics [4]. Individuals within the nursing profession can contribute various skills and experiences to the nursing science in the field of nursing research.

An abstract is a summary of an article and enables us to have an idea about the study presented in the article.

The purposes of this study were to analyze abstracts of the published articles that are related to COVID-19 and discover topics from them in order to understand the themes of research in the fields of nursing and health during the COVID-19 pandemic.

2. METHODS

This research is an exploratory study by using the abstracts of articles published on PubMed. For the purpose of this study, articles were electronically searched from the PubMed database. In order to retrieve all published articles that are relevant to nursing and COVID-19, we used a MeSH term, ‘nursing’ and “COVID-19” to query. Publication dates were from January 1st, 2020 to April 15th. The number of published articles retrieved was five hundred and fifty-five, in total. Among them, the articles that either its abstract is unavailable or not written in English were filtered out. Figure 1 graphically illustrates the flow of collecting articles

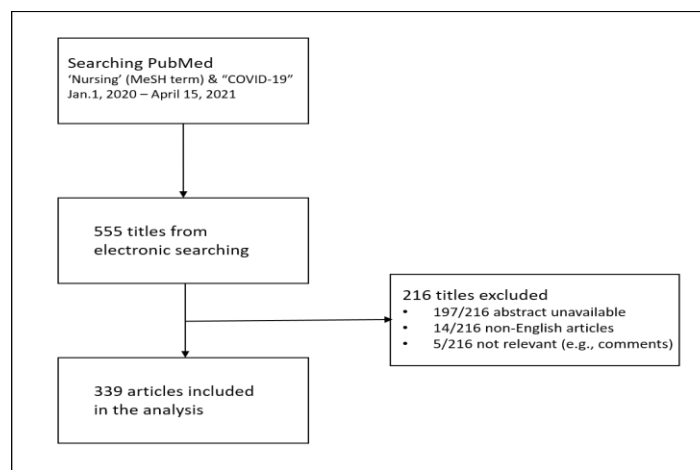


Figure 1. The Flowchart of Searching Articles for Sample

The number of publications and kinds of journals were summarized using descriptive statistics. Topic analysis was used to discover topics from the abstracts of the published articles [5, 6]. In addition, a network visualization was used to identify significant co-occurrences between the terms [7]. The R software program, version 3.5.2, (R Foundation for Statistical Computing, Vienna, Austria), was used for data analysis.

3. RESULTS

Three hundred and thirty-nine articles, in total, were identified and included in the analysis. The average number of articles published during the period was 21.9. The first article published in February, 2020 and the number of publications has gradually increased until September, 2020 which has the largest number (41 articles) of articles published (Figure 2). The number of articles in April, 2021 are counted those published until April 15.

The three hundred and ninety-nine articles were published in one hundred and seventy-two kinds of journals. The journal that has the most articles published was Clinical Journal of Oncology Nursing. Table 1 shows the numbers of articles by journal. The rest 114 journals had one article on COVID-19 published respectively. The abstracts of the three hundred and ninety-nine articles were separated to 2,658 sentences which consisted of the corpus. For example, the fiftieth sentence of the whole corpus was "SUMMARY: Evolving knowledge on the epidemiology of perinatal COVID-19 has informed newborn guidance." Additionally, the corpus was cleaned and processed for topic analysis. English stop words (e. g., “the”, “a”) were removed [5]. As a result, 1170 unique terms were detected. The optimal number of topics was decided as seven [8-10].

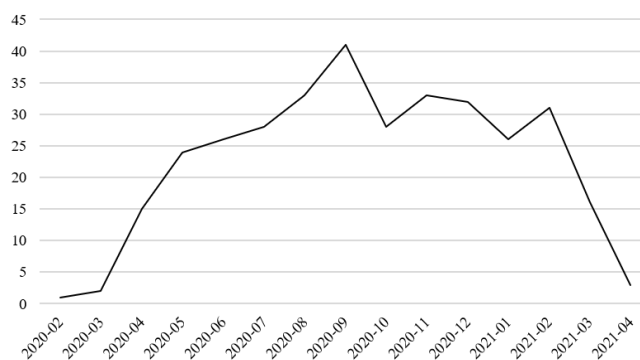


Figure 2. Numbers of Publications by Month

* Note: The number of articles in April, 2021 are counted those published until April 15.

Table 1. Numbers of Publications by Journal

Journal	Counts	Journal	Counts
Clin J Oncol Nurs	16	J Psychosoc Nurs Ment Health Serv	3
Br J Community Nurs	11	Am J Perinatol	3
J Nurs Educ	10	Workplace Health Saf	2
NASN Sch Nurse	10	Semin Perinatol	2
Rev Bras Enferm	10	Nurs Adm Q	2
Br J Nurs	8	Early Hum Dev	2
Nurs Sci Q	7	J Gerontol Nurs	2
Int Breastfeed J	7	J Pediatr Nurs	2
Breastfeed Med	6	Int J Environ Res Public Health	2
Matern Child Nutr	5	Clin Infect Dis	2
Oncol Nurs Forum	5	MCN Am J Matern Child Nurs	2
J Emerg Nurs	5	Curr Opin Pediatr	2
J Nurs Adm	5	Women Birth	2
AORN J	5	J Nurs Manag	2
J Psychiatr Ment Health Nurs	5	Rev Gaucha Enferm	2
Midwifery	5	Public Health Nurs	2
Nurs Outlook	4	J Am Med Dir Assoc	2
Palliat Med	4	Aust Health Rev	2
Crit Care Nurse	4	Am J Nurs	2
J Hosp Palliat Nurs	4	Palliat Support Care	2
J Contin Educ Nurs	4	Ital J Pediatr	2
Int Nurs Rev	4	J Am Assoc Nurse Pract	2
Intensive Crit Care Nurs	3	Am J Crit Care	2
J Pain Symptom Manage	3	Nurse Educ Today	2
Indian Pediatr	3	Pediatrics	2
Nurse Educ Pract	3	Int J Gynaecol Obstet	2
BJOG	3	Nurse Educ	2
Support Care Cancer	3	BMJ Glob Health	2
Pflege	3	Perspect Psychiatr Care	2

* The rest 114 journals had one article on COVID-19 published respectively.

4. DISCUSSION

In this study, the abstracts of the published articles related to COVID-19 during the pandemic have been explored. The number of articles identified from PubMed was three hundred and thirty-nine in total, which were published in one hundred and seventy-two journals. The first article was published in February, 2020 and the number of publications increased until September then fluctuated ever since. Seven topics were emerged from the corpus of the abstracts. The seven topics were COVID-19 management and guidance, Perinatal COVID-19 and breastfeeding, Nurse, Health service and support, Patient care, Research, and Education and experience.

In terms of the first topic, 'COVID-19 management and guidance,' SARS-CoV-2 infection has a wide spectrum of symptoms including symptoms of upper respiratory tract infection. In addition, it appears to be asymptomatic in some cases [11, 12]. Therefore, management and guidance regarding this infectious disease was one of the subjects that were described and reported in the articles [13, 14]. The second topic was 'Perinatal COVID-19 and breastfeeding.' Maternal and newborn care is one of the areas published often during the COVID-19 pandemic. Care for pregnant women with suspected COVID-19 and breastfeeding challenges and guidelines were obviously dominant among the articles [15-19]. The topics, 'Nurse' and 'Patient care' were not surprising as they have been research focus areas in the field of nursing and also included in the metaparadigm of nursing. As a health profession and provider, global challenges and nursing implications were reflected in many articles [20-27]. The topic, 'Health service and support' includes various health services, such as community-based health services, collaborations among health systems that enable patients to continue treatment during the pandemic, and support the vulnerable populations with health conditions in the situation of isolated community during the COVID-19 outbreak [28-31]. 'Education and experience' topic relates to nursing education and training. Currently, we are experiencing an unprecedented global crisis; therefore, challenges and opportunities have been explored and try to figure out learning and teaching methods for nursing education, such as blended learning and distance learning [32, 33]. The last topic was 'Research.' A variety of research studies have been conducted including examination of nurses' perceptions and mental distress, nurses' knowledge regarding COVID-19 during the outbreak, SARS-CoV-2 seroprevalence in healthcare professionals and their patients, and care resources in various clinical settings [34-39].

The findings of this study can provide an overview on published research with respect to COVID-19 during the pandemic. This analysis revealed the seven most frequent topics from the abstracts. We can have better understanding on what have been recurrently studied and what need to be further addressed and examined. For instance, articles regarding women, babies, and children appear to be more than that of the elderly or gerontological concerns.

There are a couple of limitations. Only PubMed was used in retrieving articles. If other databases, e.g., CINAHL, would have been used for search, more articles may be retrieved. Therefore, there is the potential for under-representation of published articles. Since PubMed is one of the most widely used research databases worldwide and covers articles that are indexed in other databases, I used it in this study. Next, the articles that are written other than English were not included in the analysis for reasons regarding data cleaning and preparation for topic analysis. In order to perform more comprehensive analysis for sophisticated research trends, further research is needed.

5. CONCLUSION

The objective of this study was to explore abstracts of published articles in the fields of nursing and health during the crisis of COVID-19 pandemic. The topics discovered from the abstracts were COVID-19 management and guidance; Perinatal COVID-19 and breastfeeding; Nurse; Health service and support; Patient care; Research; and Education and experience. Among the research topics, perinatal care and breastfeeding were noticeable. The results of this study revealed some interesting topics from the articles about COVID-19. The findings of this study may provide some sense of research areas that may be interesting and allow us to develop important research questions about COVID-19 for nursing science and nursing practice.

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