

A Systematic Review of the Delay in Cancer Diagnosis During the Covid-19 Pandemic

Azar Jafari-Koulaee

Tarbiat Modares University, Iran

Masoumeh Bagheri Nesami

Mazandaran University of Medical Sciences, Iran & World Federation of Acupuncture-Moxibustion Societies (Wfas), Beijing, China

Introduction: COVID-19 pandemic has many unpredictable challenges that have affected the health care system. Delay in cancer diagnosis has been reported as one of these important challenges because patients have delayed or suspended their referrals to medical centers for fear of contracting the coronavirus, leading to delayed follow-up and subsequent delay in cancer diagnosis. It can cause disease progression, increase mortality and decrease patient survival. Therefore, considering the importance of this issue, this study was conducted with the aim of reviewing the delay in cancer diagnosis during the COVID-19 pandemic. **Methods:** This study is a systematic review that was conducted in 2021. Databases such as Web of Science, ProQuest, Springer, Science Direct, Medline via PubMed, Scopus, SID, Magiran, Google scholar were searched for related studies. Keywords such as COVID-19, Coronavirus, Cancer, Neoplasms, Delay, Diagnosis were used to search using mesh term and Boolean operators. Inclusion criteria included observational or descriptive study, access to the full text of articles and publication in English and Persian language. Screening of the obtained studies was performed in terms of titles, abstracts and full texts. Then the quality of the articles was evaluated and the qualified studies were included in the review process. A checklist was designed to extract the data and finally, after extracting the data, the findings were summarized and analyzed. **Results:** Out of 287 identified studies, finally 10 studies were included in the review process. The studies were conducted in countries such as Spain, Italy, Israel, Korea and New Zealand. The minimum and maximum sample sizes in studies were 1 and 8766. Most of the participants in the study were male and had an average age of 2 to 69 years, among which the elderly accounted for a relatively large percentage. In the studies, causes of delayed cancer diagnosis were included fear of exposing the patient to COVID-19, physician's refusal to examine, physician's focus on a possible COVID-19 diagnosis, cancellation of non-urgent examinations, reduction screening tests and economic problems. The results showed that the diagnosis of cancer during the COVID-19 pandemic decreased from 10% to 73% compared to the pre-pandemic period, and the number of new cases was lower than expected. The highest percentage of delayed cancer diagnosis in studies were related to skin, head and neck, breast, prostate and colorectal cancers. Also, according to the results, the cancer was diagnosed at a more advanced stage with a longer delay than in the period before the COVID-19 pandemic. **Conclusion:** Considering the negative impact of COVID-19 pandemic on cancer diagnosis and its adverse consequences, it seems necessary to plan and adopt appropriate measures for effective awareness and information about cancer warning signs as well as attracting more participation and cooperation of people to perform the screening tests and timely referral to health care centers in case of any abnormal symptoms, especially in vulnerable communities.

Keywords: *COVID-19, Coronavirus, Cancer, Delay, Diagnosis*