

## Impact of COVID-19-Related Fear and Anxiety on Job Attributes: A Systematic Review

### Abstract

The coronavirus disease 2019 (COVID-19) pandemic has had different effects on different occupations. The present study was designed to systematically review the available evidence to investigate the pandemic on occupational effects. The academic databases of *Scopus*, *PubMed Central*, *ProQuest*, *Science Direct*, and *ISI Web of Knowledge* were searched systematically between December 2019 and February 2021. COVID-19-related fear, concern, worry, anxiety, and stress in combination with job-related MeSH terms were used to search the databases. The methodological quality of included papers was assessed using the Newcastle Ottawa Scale checklist. To synthesize data, a qualitative synthesis of findings was performed due to the small number of included studies ( $n = 4$ ) and the heterogeneity of the assessed outcomes. Four studies were included in the final analysis. All four studies were cross-sectional, collected the data online, and comprised 1654 participants from four different countries. Fear of COVID-19 was associated with increased future career anxiety, perceived job insecurity, organizational and professional turnover intentions, and decreased job satisfaction. COVID-19 Anxiety Syndrome was associated with scores on the Work and Social Adjustment Scale. As so few studies have been conducted, there are no conclusive findings. More studies using valid and reliable measures to assess fear/anxiety related to COVID-19 and its' association with job attributes are needed. It is also recommended that these associations are examined in variety of different jobs.

**Keywords:** Anxiety, COVID-19, fear, job attributes, systematic review

### Introduction

Since the advent of the coronavirus disease 2019 (COVID-19) in December 2019, extensive research has been conducted to identify, treat, and prevent this new emergent disease.<sup>[1]</sup> Globally, there have been over 143.13 million confirmed cases of COVID-19, including over 3.04 million deaths, reported to the World Health Organization up to April 20, 2021.<sup>[2]</sup> The increase in the COVID-19 infection and mortality rate worldwide, especially in countries with higher confirmed deaths, have been caused by fear of COVID-19.<sup>[3]</sup> Fear of COVID-19 is widespread and experienced within different populations. In an Iranian study, 717 people of the general population reported a mean fear score of 3.9 (out of 5) on the Fear of COVID-19 Scale (FCV-19S).<sup>[4]</sup> The mean score of fear with the FCV-19S was 3.1 among 855 people in Bangladesh.<sup>[5]</sup>

The COVID-19 pandemic has had different effects on different occupations. Moreover, COVID-19 transmission routes include inhalation of respiratory droplets via coughing and sneezing, as well as contact with mucous membranes of the mouth, nose, and eyes. Furthermore, high COVID-19 transmission capability can be spread via aerosols formed during medical procedures.<sup>[6]</sup> Healthcare providers are exposed to the disease due to close contact with infected patients and this occupational group are more likely to be infected.<sup>[7]</sup> In addition, the outbreak of COVID-19 has also created challenges for healthcare providers including increased patient load and burden of the disease. Adhering to COVID-19 protocols can affect their psychological well-being and job performance.<sup>[8]</sup> Healthcare staff may risk their lives to perform their duties which can also lead to the intense fear of unknowingly infecting others.<sup>[9]</sup>

This healthcare group often witnesses the suffering and death of patients, which can

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**How to cite this article:** Rajabimajd N, Alimoradi Z, Griffiths MD. Impact of COVID-19-related fear and anxiety on job attributes: A systematic review. *Asian J Soc Health Behav* 2021;4:51-5.

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**Received:** 04 March, 2021.  
**Revised:** 29 April, 2021.  
**Accepted:** 04 May, 2021.  
**Published:** 28 May, 2021.

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**Website:**  
[www.healthandbehavior.com](http://www.healthandbehavior.com)

**DOI:** 10.4103/shb.shb\_24\_21

### Quick Response Code:



also lead to a negative impact on their mental health.<sup>[10]</sup> COVID-19-related uncontrolled anxiety and/or fear may also lead to long-term effects on healthcare job performance and job satisfaction, leading to frequent work absence and eventual financial loss.<sup>[11]</sup> Some systematic reviews have been conducted to assess the impact of COVID-19 on the mental health of care providers. They have shown a high prevalence of anxiety and depression among nurses on the frontline compared to other healthcare workers as well as those among the general population.<sup>[12,13]</sup>

In addition to the aforementioned effects of the COVID-19 pandemic among medical professionals, many other occupations have been affected by the pandemic. Despite the implementation of extensive measures to inhibit the spread of the virus (e.g., spatial distancing, quarantining, traveling restrictions, etc.), COVID-19 has led to a decline in the labor force in many economic sectors,<sup>[14]</sup> money loss,<sup>[15,16]</sup> perceived job insecurity, and increased psychological distress.<sup>[17-20]</sup> Over the past year, there have also been fears concerning job loss and loss of job security.<sup>[21]</sup> In general, COVID-19 has a negative impact on individuals' incomes and has caused a lot of financial losses.<sup>[22]</sup> A study by Gasparro *et al.* found that fear of COVID-19 was associated with job insecurity and depressive symptoms among Italian dentists.<sup>[16]</sup>

Although recent systematic review studies have attempted to summarize the results of contemporary studies concerning the psychological effects of the COVID-19 pandemic in the medical profession,<sup>[12,13]</sup> no systematic study has been carried out evaluating the evidence regarding the impact of COVID-19-related fear and anxiety on job attributes. Therefore, the present study was designed to systematically review the available empirical evidence to investigate the pandemic's effects on occupational attributes.

## Methods

The present systematic review is part of a larger project assessing the measurement properties of the FCV-19S and its relationship with psychological distress. The project was registered (ID number CRD42020188890) in the International Prospective Register of Systematic Reviews (PROSPERO) website.<sup>[23]</sup> The study's findings are reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.<sup>[24]</sup>

*Scopus*, *PubMed Central*, *ProQuest*, *Science Direct*, and *ISI Web of Knowledge* were searched systematically between December 2019 and February 2021. COVID-19-related fear, concern, worry, anxiety, and stress in combination with job-related MeSH terms were used to customize search syntax for the aforementioned academic databases. The relevant search terms were extracted from PubMed Medical Subject Headings and published studies.

The titles and abstracts of all retrieved papers were screened based on eligibility criteria. All peer-reviewed

observational studies were considered eligible if relevant data regarding the influence of fear of COVID-19 on occupational attributes were reported (Job Satisfaction, Work Satisfaction, Employment Termination, Employment Insecurity, Employment Status, Occupational Status, Occupational Stresses, Job Stress, Work-related Stress, Workplace Stress, Professional Stress, Job-related Stress). Fear/anxiety of COVID-19 and job attributes needed to be assessed utilizing valid and reliable scales. No limitation was exerted regarding participants' characteristics. After screening for potentially eligible papers, their full texts were downloaded and reviewed for final selection. The methodological quality of the included articles was assessed using the Newcastle Ottawa Scale (NOS) checklist. The NOS checklist assesses the methodological quality of papers in three domains of selection and comparability with seven items for cross-sectional studies. Studies yielding <5 points are classified as having a high risk of bias.<sup>[25]</sup> No studies in the present review were excluded based on poor methodological quality. Study selection, quality assessment, and data extraction were carried out by two independent reviewers and data extracted included the first author's name, publication date, title of the study, research area as country, occupation of participants, sample size, study design, job-related outcomes and their measures, NOS score (i.e., methodological quality), and main findings of the study. Disagreements were resolved via discussion between research team members. To synthesize the data, a qualitative synthesis of findings was performed due to the small number of included studies and the heterogeneity of the assessed outcomes.

## Results

### Screening and selection process

The initial search in five databases of *Scopus* (4016), *Web of Science* (385), *PubMed* (184), *Science Direct* (132), and *ProQuest* (4817) identified 9534 papers. After removing 1875 duplicates, 7659 papers were screened based on the title and abstract. Finally, 58 papers deemed eligible and their full texts were reviewed. During this process, four papers met the eligibility criteria. Figure 1 shows the search process based on the PRISMA flowchart.<sup>[26]</sup>

### Study description

Four studies were included in the final analysis. All four studies were cross-sectional, collected the data online, and comprised 1654 participants from four different countries (i.e., Bangladesh, Italy, UK, and the Philippines). None of the studies were conducted during national lockdown periods in the respective countries. The sample size varied between 232 and 765 participants. Approximately 47% of the total number of participants were female. The FCV-19S was used to assess COVID-19-related fear in three studies and the COVID-19 Anxiety Syndrome Scale was used to assess COVID-19-related anxiety in the other study. All of the

included studies were rated as high quality. Table 1 provides the summary characteristics of all four included studies.

### Outcome measures

Association between fear of COVID-19 and (i) future career anxiety,<sup>[27]</sup> (ii) perceived job insecurity,<sup>[16]</sup> (iii) work and social adjustment,<sup>[28]</sup> and (iv) job stress and

professional turnover intentions<sup>[9]</sup> were assessed. Given that these outcomes were studied in separate studies, a qualitative synthesis is used to report the findings. Included studies showed moderate association of fear of COVID-19 future career anxiety with Pearson correlation coefficient of 0.37<sup>[27]</sup> and perceived job insecurity with Pearson correlation coefficient of 0.44.<sup>[16]</sup> Also an increased level

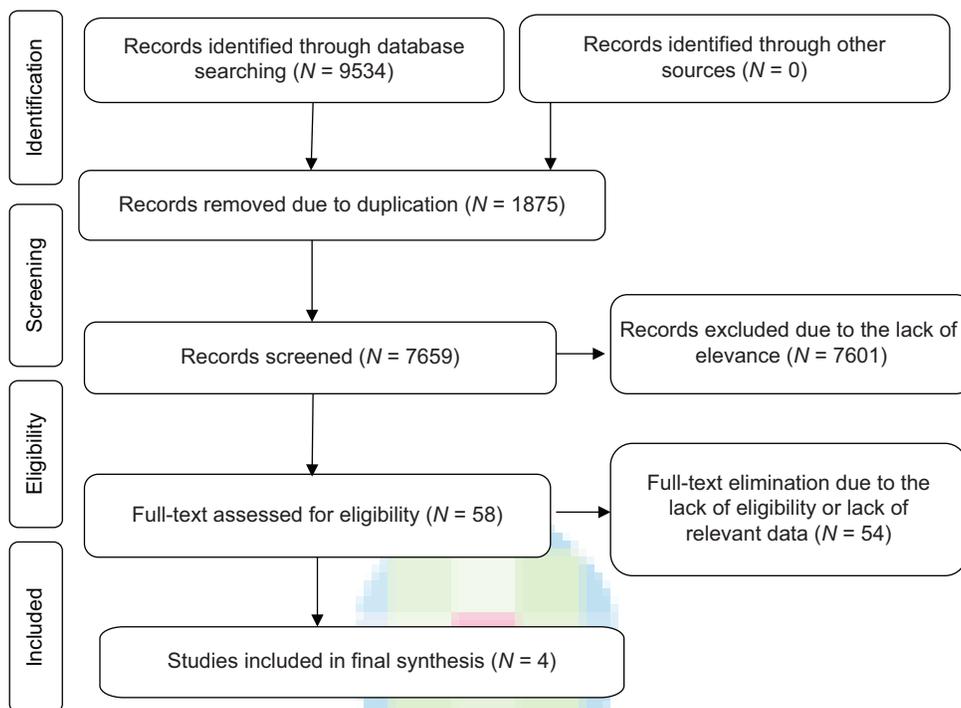


Figure 1: Preferred reporting items for systematic reviews and meta-analyses Flowchart of selected studies

Table 1: Summarized characteristics of included studies

Author	Data collection	Country	Participant group	Sample size	Female (%)	Age (years)	NOS	Measures	Main finding
Mahmud <i>et al.</i> <sup>[27]</sup>	Last week of April 2020	Bangladesh	Students facing the job market within the next 6-12 months	232	45.3	18-25	8	Fear of COVID-19 Scale, future career anxiety	Fear of COVID had Pearson correlation coefficient of 0.37 with future career anxiety
Gasparro <i>et al.</i> <sup>[16]</sup>	17 April to 3 May 2020	Italy	Dentists	735	32.7	44.8	5	Fear of COVID-19, perceived job insecurity	Fear of COVID had Pearson correlation coefficient of 0.44 with perceived Job insecurity
Nikčević and Spada <sup>[28]</sup> - Study 2	-	UK	General population	426	36	38.6	6	COVID-19 Anxiety syndrome scale, work and Social Adjustment Scale	COVID-19 anxiety syndrome had Pearson correlation coefficient of 0.79 with work and Social Adjustment Scale
Labrague and de Los Santos <sup>[9]</sup>	March to May 2020	Philippines	Frontline nurses	261	74	30.95	8	Fear of COVID-19, Job Stress Scale, professional turnover intentions	An increased level of fear of COVID-19 was associated with decreased job satisfaction, increased psychological distress, and increased organizational and professional turnover intentions

NOS: NewcastleOttawa Scale, COVID-19: Coronavirus disease 2019

of fear of COVID-19 was associated with decreased job satisfaction and increased organizational and professional turnover intentions.<sup>[9]</sup> COVID-19 Anxiety Syndrome was assessed in one paper and showed moderate-to-high Pearson correlation coefficient of 0.79 with the Work and Social Adjustment Scale (which assess functional impairment attributable to an identified problem).<sup>[28]</sup>

## Discussion

The emergence of COVID-19 in December 2019 and its rapid spread throughout the world has been totally unprecedented.<sup>[29,30]</sup> The increasing burden of disease and the specific death rate of COVID-19 throughout the world has caused widespread fear, and is a major threat to the current labor force and future workforce.<sup>[4]</sup> Imposing restrictions to reduce the transmission of COVID-19 led to a reduction in the labor force in many economic sectors. Consequently, fear of losing jobs, worries about continuing to work, job insecurity, the negative impact on individuals' incomes, and large financial losses have occurred.<sup>[21,31]</sup>

The aim of the present systematic review was to assess the effect of COVID-19-related fear and anxiety related in relation to job attributes. The empirical evidence reviewed showed that increased level of COVID-19-related fear was associated with higher future career anxiety<sup>[27]</sup> and perceived job insecurity<sup>[16]</sup> as well as decreased job satisfaction and increased organizational and professional turnover intentions.<sup>[9]</sup> Furthermore, COVID-19 Anxiety Syndrome was associated with scores on the Work and Social Adjustment Scale.<sup>[28]</sup>

During the COVID-19 pandemic, a high prevalence of anxiety and depression among some occupations such as the healthcare professions have been reported.<sup>[12,13]</sup> Anxiety and/or uncontrolled fear of COVID-19 may lead to long-term effects on healthcare providers' job performance and job satisfaction, leading to frequent absences and increased job turnover.<sup>[11]</sup>

Since the initial outbreak of COVID-19, a large number of studies have been published that have examined the effects of the pandemic on mental health among nurses and other healthcare workers. For example, Labrague and Janet's study examined how the fear of COVID-19 affected the outcomes of front-line nurses. The results showed that the role of job and attendance in COVID-19 training predicted fear of COVID-19. Findings also showed that increasing levels of fear of COVID-19 were associated with decreased job satisfaction, increased psychological distress, and increased organizational and professional turnover intentions. Front-line nurses who reported nonparticipation in COVID-19 training, and part-time nurses reported a high fear of COVID-19.<sup>[9]</sup> Gasparro *et al.*'s study of dentists found that both perceived job insecurity and fear of COVID-19 were positively associated with depressive symptoms. The same study also reported

that perceived job insecurity had a significant association with depressive symptoms among individuals with low fear of COVID-19.<sup>[16]</sup> The study by Mahmud *et al.* also found that fear of COVID-19 was significantly and positively associated with future job anxiety and depression. This means that due to the prevalence of fear of COVID-19, individuals appear to become depressed and anxious about their future careers, which is likely to a long-term negative impact on the human psyche.<sup>[27]</sup> The study by Nikčević and Spada showed that functional impairment attributable to an identified problem based on the Work and Social Adjustment Scale had a positive and significant relationship with COVID-19 anxiety.<sup>[28]</sup>

## Conclusion

To the best of the authors' knowledge, only a few aforementioned studies have examined the relationship between fear/anxiety and job attributes. Given so few studies have been conducted, no conclusive findings are available. More studies using valid and reliable measures to assess the fear/anxiety related to COVID-19 and its' association with job attributes are needed. It is also recommended that future studies examine these associations in variety of different jobs.

## Financial support and sponsorship

The Vice-chancellor (Research) of Qazvin University of Medical Sciences has provided financial support to this project.

## Conflicts of interest

There are no conflicts of interest.

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