

" Systemic Review of Medical Scientific Databases on COVID 19 Preventive Measures to Improve the Quality of Healthcare Services in Hospitals "

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Abstract:

Objective: The Corona virus epidemic seeks public health and medical care. As healthcare workers fight the effects of Corona virus, we need to create safety atmosphere in hospitals, in this review article We have to ask: 'What are the current reports on health hazards in the workplace in relation to Corona virus ?' And 'What does the current study report on the effectiveness of preventive suggestions made? "

Methods: As a reflection of the initial healthcare workers investigation, on 26 April 2020, we conducted a review of literature in three databases (Pub Med, Web Science and PsycInfo) on Corona virus bad effects on health and safety measures in workplaces.

Results: Twenty seven studies recorded the increased opportunity of catching the infection, eleven studies counted the available ways to prevent the infection. The studies recorded that COVID- 19 has a direct impact on healthcare worker's physical and mental health. Four studies recorded the chances of having skin injuries, and on headache only one study showed that headache happens because of the usage of personal protective equipment.

Conclusions: because of the very wide spread of COVID-19 infection , hospitals and any healthcare places must be safe for medical staff and patients. Information from medical staff can provide a very important data on the wide spread of infection and how it can affects the medical staff health.

Keywords:

- COVID 19, preventive measures, hospital management, quality of health care service.

Introduction:

The Problems that we have been facing because of COVID-19 pandemic are uncountable. After 'lockdowns', a lot of cities are searching for the safest way to go back to normal life and work.

Workplaces with a lot of people increase the risk for infections. Therefore, the medical care and infection control measures are very important to make the workplaces safe ¹.

Healthcare workers are in danger because of the increased opportunity to catch the infection of Corona virus and other infections and diseases. In the beginning of the pandemic, 3200 healthcare workers in China were reported as infected, and about 22% in Italy of healthcare workers ².

In light of the risks of healthcare workers, we ask 'What has been reported about occupational health risks in relation to corona virus ?' As well as 'What does this study report on the effectiveness of the prescribed prevention measures?'. We also ask and discuss' What can we suggest from good research and integrate COVID-19 research into ongoing and future workplaces.

Aim of work :

The COVID-19 pandemic has a bad impact on public health and medical care on front lines we find the healthcare workers fighting the bad effects of COVID-19, we have to make work environment as safe as possible for the medical staff .We ask how does COVID- 19 has impacted on the healthcare workers ? , how dangerous this disease? 'What do modern researches and studies record on preventative suggestions? '

Methodology :

We carried out a literature search using three databases (Pub Med, Web Science and PsycInfo). At Pub Med we use the following search terms: ((Workforce Or Occupational

Medicine) AND (COVID-19 OR acute respiratory syndrome coronavirus 2 OR ISARS-CoV-2).

This search term was changed for more details.

- **Inclusion and exclusion criteria :**

We show researches and studies according to (PRISMA) statement in figure (1). We have reported articles describing Corona virus-related psychological health and physical health outcomes in healthcare workers or studies that explored how to prevent the risk of Corona virus. Studies that focus on other activities, do not disclose specific information, focus on coronaviruses other than SARS-CoV-2 or diagnostics, only treatment modalities are not included. We have also published articles examining the features of the virus or transmission.

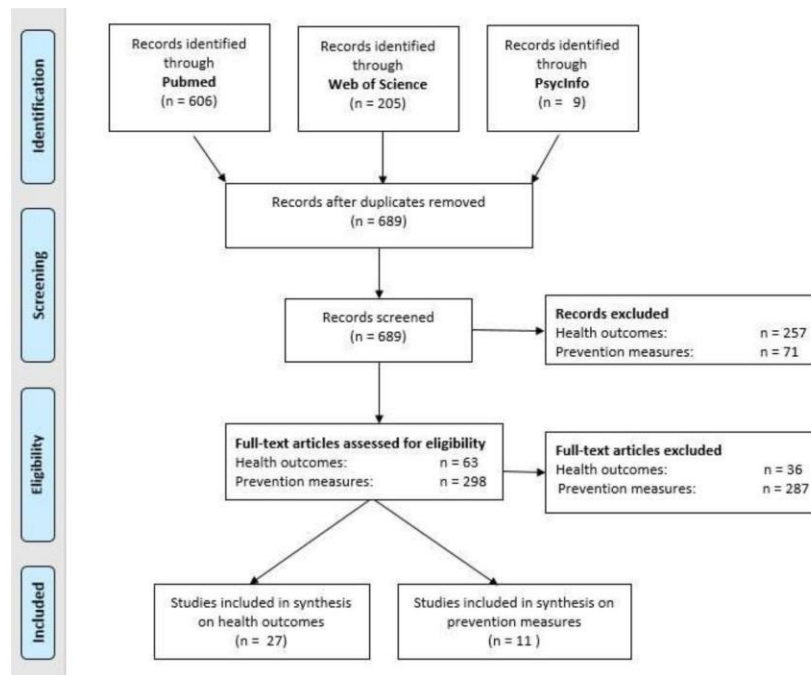


Figure 1

- **Quality appraisal :**

We have carefully evaluated all the actual courses that explain the review criteria. To assess the quality of quantitative studies, we have used the Cross-Sectional Studies (AXIS) Appraisal Tool, (CASP) checklist, (JBI) Appraisal Checklist for case reports and GRADE of environmental studies. Eligible subjects were assessed through the CASP checklist.

- **Results :**

Our review search found 822 articles; after releasing duplicates, 690 were tested for title and abstract JM and JVG reviews in figure 1

- **Health risks at healthcare workplaces :**

Of twenty seven of included studies, six recorded the danger of catching the infection [3-8](#), sixteen on psychological mental health [9-24](#), four on the injures of the skin because of personal protective equipment [25-28](#) and one on headaches [29](#).

- **Infection :**

Six studies reported the spread of Corona virus infection and corona virus related illness and death among Healthcare workers [3-8](#) .

According to the author on this study as of February 24, 5.5% of infected people in China (3390 out of 77,263) patients with Corona virus were Healthcare workers [8](#).

Two studies provided details on the level of hospitalization [3 6](#). For example, at a long-term care facility in the USA, the author noted that 7% of staff nurses with the disease were hospitalized. [6](#) Specifically, in a series of cases this study recorded more cases of serious illness among Healthcare workers younger than the others who were hospitalized due to Corona virus [4](#) . Most of the reasons of healthcare workers infection is because of they did not have the right training on the correctly usage of infection control measures [4 6](#).

A study also represent a very important idea that the more hours Healthcare workers spend in hospital the more risk they get the infection of COVID -19 [7](#) .

- **Mental health :**

Sixteen studies showed the mental health problems [9-24](#) , four on personal protective equipment related skin injuries [25-28](#) and one reported on headaches associated with repeated usage of personal protective equipment use [29](#)

A lot of researches talked about how COVID-19 have a huge impact on mental health [10 12-14 16 17 21 23 24](#) .

Depression and stress affects the medical staff that have been working in the high risk department other than who are working in the less risk department [10 11 13 14 16 17 19 23 24](#) .

A lot of reasons cause depression and anxiety for healthcare workers such as lack of protective equipment and lack of knowledge of infection control measures and over working [9 15 17 19](#).

A study discussed extraordinary occupational groups in the course of the pandemic and found out that healthcare workers have been much more likely to expand sleep issues than different people while no distinction in occurrence of anxiety or tension and depression to be diagnosed [12](#).

In contrast, the author in this study reported greater stress and anxiety in the non-medical staff compared to medical staff. [20](#). In addition, a similar outcome guideline was obtained by this study showing that non-hospital nurses without contact with patients had significantly higher rates of trauma than the hospital first line nurses. [15](#).

In addition, an article had a look at how the emotions and feeling of the medical staff changes by time [19](#).

In this study they have realized that leading nurses face a high level of poverty and anxiety at the beginning of the epidemic, but they can turn their negative emotions into feelings of superior professionalism and commitment. They also expressed their gratitude for the support of their job partners.

The authors describe that community support has improved healthcare workers performance and highlight an effect that may reduce anxiety [22](#). Plus an author diagnosed that being only child should have increase the impact for the improvement of pressure [18](#).

- **Health effects through prevention measures :**

In this study, the author examined an increase in Personal protective equipment related headaches between the medical staff from various high-risk areas of Singapore's tertiary health center [29](#) .

This study revealed that 82% of the 160 respondents had headache while wearing eye goggles or N95 respiratory masks. The chance of developing personal protective equipment related headaches increased for those with existing headaches and for the medical staff using personal protective equipment for more than 5 hours a day [29](#) .

This study showed a positive association between bad skin rashes and time to wear personal protective equipment (> 5 hours) [28](#) Excessive skin irritation is reported to be 73.5%. [28](#).

In addition, this study has identified serious side effects of the skin associated with eye protection goggles and respiratory masks [25](#) . the author found that 98% of the health care workers suffered from some type of skin injury due to improved hygiene and infection control methods. [27](#). Using N95 masks for more than 5 hours increase the risk of facial skin damage. Also they found that washing hands more than ten times during the day increase skin diseases [26](#).

- **Effectiveness of enacted preventive measures**

Nine searches on how important the prevention measures to reduce the infection rate [30-38](#), all of which had been case reviews or case collection. The research located operative techniques [34 37](#) in addition to preferred care and diagnostics [30-33](#) .

In a single examine five nurses who worked with an affected person not concerning safety have become infected at the same time as there has been no transmission for workforce participants who use personal protective equipment (after the affected person's showed

infection) ³⁷. In this study the author recommended that surgical mask can be as powerful as N95 mask, however similarly research had been had to affirm this ³³.

In this study they defined how rigorous checking out for COVID-19 and how important to isolate infected healthcare workers ,further to consequent use the N95 mask and take too much care of the hand washing may want to prevent corona virus wide spread . While keeping the medical and scientific services, the virus will stop inside three weeks ³⁸.

In terms of working with mental health support, in high-level discussions in a major hospital in china, communication with their job partners, family members or psychologists is very important and useful for the healthcare workers ⁹ observing healthcare workers hospital in China receiving psychological support has indicated that they will appreciate rest regions and provide adequate protection and access to the skills needed to control patients' negative feelings ³⁹.

- **Quality assessment**

A lot of researches on the danger of corona virus infection and on the perfect measures to control the spread of infection were moderate to low in quality because of the lack of study and incorrect use of infection control measure.

Discussion:

For the meantime, and possibly within the close future we are able to face great difficult situations because of corona virus. Healthcare workers in the critical departments are in specific danger. In instances while a lot of precautions kept in mind for healthcare workers , our assessment asks , ‘What is suggested concerning life threatening at places of work(hospitals) regarding COVID-19?’ and ‘What is the effectiveness of preventative guidelines and measures ?’ We know that we did not have enough time to study that new disease, lack of information and researches into the outcomes of methods to make the healthcare workers safe.

- **Safety at healthcare workplaces :**

In hospitals and medical centers we facing a huge dangers because of COVID-19 virus transmission. In the most of researches that have been made on this disease, that is crucial to take into consideration , as we recognize that the way of infection vary over the direction of the corona virus and we have to be aware of the exact time and during happens between healthcare workers and patients ⁴⁰. Another factor we should not forget is corona virus spread among healthcare workers from hospitals and in the public places , making the content

methods more complex ⁴¹ , working for a lot of hours and causes stress and anxiety among healthcare workers society ^{42 43} . Our results related to corona virus associated psychological health have been constant with current evaluate and meta-evaluation on the superiority of insomnia and hysteria ⁴⁴ .

- **Effectiveness of enacted preventive measures :**

Because we don't know how much that COVID-19 will last in the world, infection control and prevention measures is a must in our world now .Indeed, the dynamic pandemic necessitate precautionary measures to be aware of unexpectedly suggestions changes ⁴⁵ . because of the danger of this virus we have to think of a ways to save as much as possible of people`s life ⁴⁶

To exemplify, over the past months all of us skilled the lack of infection control measures, mainly for personal protective equipment ⁴⁷ or scientific and lap tests ⁴⁸.

- **Cost-Benefit ratio :**

While discussing medical care and infection control measures in hospitals, bad consequences need to be taken into consideration. As explained before, the personal protective equipment use may have poor effect on health .specially, the wrong usage of PPE can be a risk ⁴⁹ as a consequence of a bad experience of safety because of unawareness that may have a bad effect on employees' movements and the protecting impact of instigated measures.

- **Acceptance and appropriate use :**

It's so miss leading to expect the efficiency of personal protective equipment examined below laboratory situations to be same to the work conditions because the PPE's efficiency depend on the usage of the workers.

For instance, in a Chinese clinic using personal protective measures became investigated, revealing that one hundred percent of the team of workers wore mask, with rate of 74.80% simplest, however the price of washing hands of the workers become restricted to 40.80% ⁵⁰. Reasons for healthcare workers willingness and capacity to comply with hints concerning respiratory infections have been investigated in this overview ⁵¹.

In 2019, this study mentioned that simplest 19% of theatre team of workers used face masks in line with the CDC preferred ⁵²

Overall not using preventive measures correctly cause very bad consequences that affect the medical stuff and the patients.

Conclusion:

COVID-19 have a very high risk on healthcare workers' psychological and physical health. We still don't have enough evaluations and evidences on COVID-19. After showing so far the literature on COVID-19 compliance, epidemiology recommendations based on the results of the approach to combating cost-effective measures should be considered when developing further and future research.

Recommendation


What we can understand from this article that we still have a lot of time to understand COVID-19 disease we still in the very beginning and that our literature shows a very short time only, we don't have a lot of evidence but we should have the necessary protection of healthcare workers in hospitals

Indeed, this review has a lot of results, highlights and challenges that we are facing from COVID-19. We should put in consideration how dangerous this disease and how to use the preventive methods correctly and how the hand hygiene and wearing the personal protective equipment correctly are so important to limit the wide spread of the corona virus.


Strengths and limitations of this study :

The technical details of decision-making and timely implementation were tested in the first phase of the corona virus epidemic We have made suggestions for further epidemiological searches that can assist in expertise and limiting the epidemic.

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