

**ANALYSIS OF HEALTH AND SAFETY
MECHANISMS OF SANITARY WORKERS
DURING COVID-19: A CASE STUDY OF
PUBLIC SECTOR HOSPITALS IN
ISLAMABAD**

BY

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**NATIONAL UNIVERSITY OF MODERN LANGUAGES
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THESIS AND DEFENSE APPROVAL FORM

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ABSTRACT

Title: ANALYSIS OF HEALTH AND SAFETY MECHANISMS OF SANITARY WORKERS DURING COVID-19: A CASE STUDY OF PUBLIC SECTOR HOSPITALS IN ISLAMABAD

In the hospitals most sanitary workers are less concerned with their health and safety. This study goal is to study health and safety challenges faced by sanitary workers in public sector hospitals of Islamabad. A random sampling technique was used for selecting 200 respondents for the study. Well-structured questionnaires, interviews, and field observations were used for data collection, which were afterward analyzed using the Statistical Package for the Social Sciences V20. The study showed that all the respondents faced safety, health, and discrimination in working and health related challenges.

About 96.4% experienced waist and back pains. About 71.4% were not provided with personal protective equipment (PPEs) for their work during COVID-19. None of the effects of the job dissatisfaction were found in the sanitary workers performance. Sanitary workers are unsung heroes who have risked their lives for the betterment of public during COVID-19. They are aimed at keeping the environment clean plus preventing the transmission of diseases. They are the key people answerable for tidiness of the country.

My study focuses on health and safety challenges of sanitary workers during COVID-19 in public sector hospitals of Islamabad. In the times of pandemic their health is at stake and no one is bothered about their health issues. There is a need to make sanitary workers aware of the health problems they are facing and the hospitals need to make sure they are in good health. Sanitary workers must be provided with personal protective equipment and insisted to use it properly. Regular medical check-up, vaccination and follow up are very important for them.

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LIST OF ABBREVIATIONS

- ANOVA Analysis of Variance
- DV Dependent Variable
- IV Independent Variable
- KMO Kaiser-Meyer-Olkin
- KPK Khyber Pakhtunkhwa
- NGO Non-Governmental Organisation
- Sig Significance
- UK United Kingdom
- WHO World Health Organization
- PPE Personal Protective Equipment
- ILO International Labour Organization
- CDC Center for Disease Control and Prevention
- HCWs Health Care Workers
- UN United Nations
- UNDP United Nations Development Programme
- USA United States of America
- WB World Bank
- TNUSSP Tamil Nadu Urban Sanitation and Support Programme

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DEDICATION

This thesis is dedicated to my late Nana and my late Nani for their love and encouragement.

Their prayers meant a lot for me.

1. INTRODUCTION

1.1. Introduction

Pandemics are concerning and they bring chaos in the country economy. Likewise COVID-19 is a global pandemic that has shaken the countries economically and socially. World health organization (WHO) has declared corona virus as sixth public emergency worldwide. (Shakoor et al., 2021) In Pakistan, the first case of corona virus emerged in March 2020. Soon after this it was declared as a public emergency in Pakistan. (Rahim et al., 2020) Due to its extreme expanding nature, health care institutions are a major concern for patients. While dealing with the patients, employees and essential workers of health care institutions were at stake. Doctors, paramedical staff, nurses, sanitary workers etc all were affected by the virus. Within a few months, the mortality and morbidity rates was getting higher. For prevention and spread of virus, the government imposed lockdown on the country. (Majeed et al., 2021)

With the emergence of patients into hospitals, the infected waste discharged was increasing. Only sanitary workers around the globe were left to deal with dangerous and dirty waste during the times of corona virus. Sanitary workers are the backbone of waste management in the hospitals. (Neidel et al., 2021) They are the ones risking their lives by garbage collection, maintaining sewers and public toilets. If a sanitary worker gets infected during his work, it will cause burden for his family, else he can also spread disease and infections to his family and others workers. (Dasgupta, 2021) Sanitary workers of Pakistan are extremely vulnerable to catching the corona virus and other contagious infections whether they are working in public hospitals or private hospitals settings. Their health is at stake at every hour. Their health standards should be improved, safety and security mechanisms for their health should be elevated. (Abbas et al., 2021)

Sanitary workers of Pakistan are faceless corona warriors and their health and safety is at stake during the pandemic. Hospitals should be providing them with masks, gloves, protective equipment, and sanitizers. They should also be trained to perform better in times of pandemic. They should also follow safety hygiene practices and hand hygiene. (Patwary et al., 2021)

In this study, I am going to study health and safety mechanisms of sanitary workers working in public sector hospitals of Islamabad based on

- Legal mechanisms which relate to national and international level relating to sanitary workers.
- Teaching or learning practical skills or type of behavior for betterment and improving health standards of sanitary workers
- Distinctions or prejudices faced by sanitary workers in their professional life in the hospital setting

1.2. Background of the study

In Pakistan, sanitary workers are the real heroes performing their duties in public sector hospitals of while risking their lives. Considering their critical role, sanitary workers face occupational hazards while collecting toxic corona waste in the public hospitals. Their livelihoods are at stake most of the time. (Svitlana, 2021) They also face extreme financial insecurity as they are not paid their daily wages. Many cases of nonpayment of wages by the hospitals have been heard in Islamabad, Lahore, Karachi and other cities of Pakistan but no difference has been observed for the social betterment of sanitary workers. (Lakhdar et al., 2021) They are the most vulnerable during the pandemic, facing social stigma and discrimination despite the hard work they do in the corona virus crisis of Pakistan. Sanitary workers are major service providers in context of maintaining hygiene and infection control health is at stake yet no action has been ever made for their health in the hospitals of Pakistan. (Drupp et al., 2020)

1.3. Pakistan context

The COVID-19 virus has affected the world. The increase in number of patients in the hospitals and dealing with new kind of variants in corona virus has affected us all. The number of patients is increasing in the public and private hospitals in Pakistan. Public hospitals are more accessible to people due to less charges and abundance of facilities so corona patients in Pakistan reach more to public sector hospitals. (Naveel & Chunda, 2022) In my study my focus area is Islamabad which is hub for corona patients in the pandemic. The relationship between sanitary workers and patients is provoking in which the sanitary workers have to compromise their dignity and personal wellbeing [to do the job]. (Kumar & Shetty, 2021) Sanitary workers are an

integral part of society, performing a vital role but they are not paid for overtime or leave and we have no medical checkups or testing, with or without the pandemic. While constantly dealing with hazardous medical and nonmedical waste of the hospital their health and safety is at stake. They are also on verge of facing mental health concerns, occupational injuries sanitary workers of public sector hospitals of Pakistan rarely receive or uses any protective equipment despite the risks of infection or accidents. (Mallapaty, 2020)

As a researcher, we frequently need to find substantial, dependable data concerning the elements of a populace gathering or subgroup, a social work issue, or social peculiarity. They could likewise look for data about how explicit issues or assets are appropriated among the populaces experienced in proficient practice. Or on the other hand, social specialists may be keen on learning about the way that specific individuals experience an occasion or peculiarity. Observational writing assets might give replies to large numbers of these kinds of social work questions. Furthermore, assets containing information with respect to social pointers may likewise demonstrate supportive. Social pointers are the "raw numbers" measurements that depict the social, monetary, and mental variables that affect the prosperity of a local area or other populace group.

At this point, it is most likely clear to you that writing in light of "proof" that isn't created in an efficient, level headed, straightforward way isn't experimental writing. On one hand, non-experimental kinds of expert writing might have incredible importance to social specialists. For instance, social work researchers might create articles that are obviously recognized as portraying another intercession or program without evaluative proof, investigating a strategy or practice, or offering a speculative, untested hypothesis about a peculiarity.

1.4. Research gap

Immortality rate of sanitary workers during COVID-19 is unknown in Pakistan. (Asif, 2021) Due to prolonged and exhausting work hours during corona, sanitary workers are prone to illness and are replaced by other sanitary workers which creates burden and absenteeism on other sanitary workers. Lack of awareness pushes sanitary workers to serious health concerns.

Sanitary workers face social exclusion in terms of participation in decision making, freedom of speech, and dignity for human rights. (Beall, 2006) An uncounted number of sanitary workers around the globe work in perilous and trashing conditions that abuse their respect and basic freedoms. (Sakthivel. et al, 2019) There is no media briefing in the print or electronic media about the working conditions, low pay scales or worse living conditions of sanitary workers. (Ittefaq et al., 2021)

1.5. Statement of the problem

Corona virus has hit the world hard with hundreds and thousands of patients entering and leaving hospitals daily. With the discharge of patients from hospitals, the waste of patients is left behind which is for the sanitary workers to collect and dispose well for the prevention of virus. In Pakistan, in COVID-19 pandemic, sanitary workers of the hospitals are faceless corona warriors working effortlessly for cleanliness and maintenance of hospitals. Due to the chaotic nature of their work especially in times of the pandemic, efficient regulatory framework of hospitals need to be implemented for their health safety. Education and training for protection from health hazards should be made a priority for their health safety. Public should be aware of the danger and extreme notoriety of their work, so discrimination and prejudice should be shifted away from them as they are the ones risking their health and lives for betterment of public in the pandemic in Pakistan. My study focuses on health and safety mechanism of sanitary workers of public sector hospitals of Islamabad during the COVID-19 and I want to study these issues based on my research objectives RO1, RO2, RO3

1.6. Research Questions

- What are the challenges impacting health protection measures on the health and safety of sanitary workers during COVID-19?
- How discrimination and prejudice affects the health protective behavior of sanitary workers?
- What is the impact of education and training in health protection of sanitary workers?
-

1.7. Research Objectives

Main objective

To investigate the health and safety mechanisms of sanitary workers during COVID-19 in public sector hospitals of Islamabad.

Deriving objectives

- To examine the challenges of health protection measures of hospitals on health and safety mechanisms of sanitary workers during COVID-19.
- To analyze the effect of discrimination and prejudice on health protective behavior in sanitary workers
- To interpret the role of education and training in health protection of sanitary workers.

1.8. Significance of the study

My study is on the challenges and health protection of sanitary workers especially during the pandemic in Pakistan. Thus it a new topic in the context of Pakistan that no one has researched. It's a unique topic that will reveal new dimensions. The motivation behind the study is to explore about sanitary workers and the challenges they face in protection of their health in a developing country like Pakistan.

1.9. Rationale of the study

This study will help in reshaping and formulating the rules and regulations regarding health and safety of sanitary workers to ensure health protection. Policies will be changed following the management of the hospitals. Work hours, staff timing, rest hours, immunization, health education needs to be taken seriously for the health-protective behavior of the sanitary workers. The management and leadership styles of the hospitals need to be looked upon. Necessary facilities should be given to the sanitary workers. My research findings can be used as

secondary data for future research. The study will help future researchers to know about sanitary worker's awareness level and knowledge and what they need to improve in the future.

1.10. Scope of the study

This research focuses on the health and safety mechanisms of sanitary workers in COVID-19 in Pakistan in public sector hospitals of Islamabad. Its scope will be limited to public sector hospitals of Islamabad and health and safety of sanitary workers. Domains covered will be regulatory assistance of hospitals, education and training of sanitary workers, discrimination and prejudice faced by sanitary workers during the pandemic.

1.11. Organization of study

This thesis is divided into six chapters. In chapter 1, Introduction I will give the background of the study where I discussed the health and safety mechanisms of sanitary workers of public sector hospitals in context of Pakistan and the challenges they face. Next I explained the problem statement, stated the research objectives and research questions followed by the significance and scope of the study. In chapter 2, Literature Review is conducted, and I explained the concept of how COVID-19 impacted the health and safety of sanitary workers, their occupational injuries, mental health issues, their training and discrimination and prejudice. In chapter 3, conceptual framework and research design is discussed. Chapter 4, the quantitative and qualitative data is analyzed in detail. In chapter 5, the findings of the study are discussed followed by chapter 6, which is about conclusion and recommendations based on the findings of the study.

1.12. Summary Of The Chapter

Health and safety of the sanitary workers play a significant role in protection of them from the occupational injuries, mental health issues. The discrimination they face daily only on the basis of their profession is alarming. They are deprived of the basic necessities and even their daily wages are not paid to them on time. On the other hand female sanitary workers face difficulties by balancing their houses and professional life by taking care of the discharge waste by the patients. There are no such defined regulatory framework for the sanitary workers. In the

end education and training of the sanitary workers is need to protect their health. At last the thesis, outline is presented.

2. LITERATURE REVIEW

2.1. Introduction

Pandemics are becoming a global concern and they trigger extreme finance based, social based and political based emergencies in a country. After the first emergence of coronavirus in 2019 in Wuhan, China, Coronavirus has spread to 200 countries including Pakistan so fast that it was declared a global pandemic across the globe by World Health Organization. (Roudgar, 2021) In order to curb the disease, countries took preventive measures across the globe such as lockdowns and restrictive measures. Business were compelled to close before six pm by the government. Use of masks and sanitizers was made compulsory by the governments. Entrance without masks was not permitted at any public or private places. (Usman. et al, 2020) in this chaotic situation sanitary workers were the only fighters working day and night for the betterment of people.

2.1.1. Background Of Corona Virus In Pakistan

Corona virus started in 2019 in china in the province of Hubei, and then it started to spread globally and internationally. After a month later, the corona virus was declared as a health emergency by the World Health Organization and was declared a pandemic by March 2020 in china and across the globe as the conditions got worse by the time passing. Initially if the passenger flights have been stopped, may be the spread of disease had been controlled. By the in and out passenger flights across the globe the COVID-19 disease increased rapidly. ((Sri, 2020) There have been more than 6.5 million cases from over 213 nations, with more than 3.8 lakh deaths and numbers still rising. (Sharma et al., 2020)

Ecological administrations laborers are an imperative piece of the more extensive general wellbeing labor force as they decidedly influence the wellbeing and prosperity of staff and patients through their work. Subsequently, due thought and appreciation ought to be given to this populace. Because of conceivably expanded staff turnover during the pandemic, contamination control preparing ought to be given (and repeated) for these staff individuals. They ought to likewise be instructed and get updates on expected wellsprings of nosocomial and fomite transmission. What's more, across emergency clinic frameworks, cost-slicing to emergency clinic natural administrations has been related with an expanded gamble of nosocomial diseases for

these representatives. As referenced over, most of the contaminations were remembered to have been obtained locally, recommending potential social imbalances which should be tended to. (Wypych-Ślusarska & Kraus, 2022) For laborers who have been contaminated and are getting back to work, psychoneuroimmunity counteraction measures (for example great ventilation in the working environment and accessibility of PPE) may likewise assist with conceivable mental side effects and work with a smooth re-visitation of work. (Chadha & Mishra, 2022)

Aside from these actual necessities and issues, the subjective examinations likewise demonstrated that ecological administrations laborers experienced more prominent mental pressure working during the pandemic because of expanded requests, feeling of dread toward disease of the infection and staff deficiencies. Wellbeing frameworks can consider extra measures to help these specialists, who are on occasion overlooked and oppressed. They ought to be qualified for paid debilitated pass on advantages to remain at home if feeling unwell. Their work and stories could be raised and perceived, and innovation and advancement ought to be considered to supplement their work and facilitate their weight. (Khan, 2022)

All in all, ecological administrations laborers had expanded work pressure and uplifted chance of Coronavirus during the pandemic contrasted and other medical services staff. There is a lack of studies zeroing in explicitly on these representatives, and tending to the effect of the Coronavirus pandemic on their lived encounters. Further exploration is expected to research strategy and procedural changes to help this under-perceived bunch in the more prominent medical services labor force. (Blake, Fecowycz, Starbuck, & Jones, 2022)

Its carriers to Pakistan were on 26 February 2020 with the two persons travelling from abroad to Pakistan. One was the student of Karachi who had just returned from Iran and the second was a female from Islamabad. By June 17, 2020 each district of Pakistan had one patient confirmed of corona virus. Pakistan is the 10th largest country having the corona cases and Sindh is the province with largest COVID-19 cases. (Hameed, 2021)

2.1.2. Role Of Sanitary Workers During Corona Virus

In order to deal with this pandemic doctors, nurses, medical staff and sanitary workers work effortlessly day and night to overcome this pandemic. Sanitary workers were also adversely affected by the virus. An important service of cleaning the hospital waste is performed by sanitary workers who risk their lives. ‘Sanitation work’ includes emptying toilets (waste from human excreta); as well as cleaning of toilets. (Verguet. et al, 2017).

Due to the rise in corona cases, the number of patients are increasing in the hospitals. When the patients leave, their virus-infected waste behind like masks, syringes, medicines, etc. which is left open for the sanitary workers to pick. For sanitary workers and recyclers, the virus can be caught by contacting or taking care of by an individual with COVID-19 as leaving their waste. (Sharma, 2017) (Acharya, 2019)

India began its immunization crusade on January 16, 2021, for the counteraction of the spread of the Covid. The primary immunization portion was regulated to a sanitary worker in New Delhi. India accomplished aggregate immunization portions of 1 billion in everybody till October 21, 2021. It has been the brought together endeavors of the public authority organizations, immunization producers, medical services laborers, and emotional well-being experts and inoculated residents that have prompted this amazing accomplishment. This verifiable milestone makes India the second country after China to accomplish the objective of one billion. The involvement with leading mass vaccination programs in India at a public scale alongside the cooperation of people in general as well as the private and willful areas supported accomplishing these numbers (Bagcchi, 2021). The speed with which immunizations were created has been astounding. Antibodies have created in China, India, and Russia and are being appropriated across the world.

Coronavirus immunization in India had noticed different psychological wellness issues in overall public like aversion, feeling of dread toward secondary effects, issues of access and shame and deception.

2.1.3. Role Of Nurses In COVID-19 In Pakistan

Nurses have critical roles and obligations at some stage in the Wuhan virus. They will remain at the front line of patient care in hospitals and actively worried with evaluation and monitoring inside the network. Nurses should make certain that all patients accumulate customized, notable offerings irrespective of their infectious condition. (H. Haider, 2020) they will even engage in planning for predicted COVID-19–related outbreaks, which boom the call for nursing and healthcare offerings that might overload systems. Moreover, nurses have to work at edge with doctors. A worldwide pandemic wishes strong nursing workforce engagement in scientific control, consciousness and understanding exchange, and public safety. (Fawaz et al., 2020) Due to the absence of vaccine, a panic created among people. Sanitary workers and health care workers are working at the front line and are involved to dirty and dehumanizing work that makes them vulnerable to disease. Due to the nature of their work, they are considered as ‘faceless corona warriors’ but in general they are not considered as essential workers. (Salve et.al, 2020)

Female sanitary workers are more vulnerable because they are illiterate, poor, have low financial status and are underrepresented. Governments should protect sanitary workers by provision of PPE, ensuring to pay them adequate pay checks and health insurance. (M J, 2017)

This paper experimentally investigates the effect of Coronavirus pandemic and its going with lockdown on young adult young ladies' and ladies' admittance to sterile cushions in India. We have utilized the Public Wellbeing Mission's Wellbeing The executives Data Framework (NHM-HMIS) information for the review, which gives information on cushions' dissemination on a region level. The experimental methodology utilized in the review takes advantage of the variety of locale into red, orange, and green zones as declared by the Indian Government. To comprehend what lockdown seriousness means for admittance to clean cushions, we involved a distinction in-contrast (DID) exact technique to concentrate on sterile cushions' entrance in red and orange zones contrasted with green zones. (Banerjee, 2020)

We track down obvious proof of the effect of lockdown power on the arrangement of clean cushions, with areas with the strictest lockdown limitations experiencing the most. Our review features how clean cushions dispersion was neglected during the pandemic, leaving ladies

helpless against dealing with their feminine requirements. In this manner, there is a prerequisite for solid strategy in the need to keep sterile cushions as a feature of the fundamental merchandise to guarantee the necessities of the young ladies and ladies are met even amidst a pandemic, vital to a comprehensive reaction. (McCabe & Jameson, 2022)

2.2. Health Care Workers, Nurses And Sanitary Workers During COVID-19 Around The Globe

During an outbreak, doctors and nurses are required to work for long period of time under critical pressure with frequently insufficient equipment, while tolerating the close connection with sick patients. Health care workers similar to every other person, are weak and prone to disease. When they see their own fellow doctors contracting COVID-19 they become nervous and hesitant to work. (Greenberg.et al, 2020) A report by WHO Africa it was reported that 10000 health care workers were infected by corona virus by July 2020. (Edet .et al, 2020)

On March 22, 2020, Dr Osama Riaz was the main specialist who passed on of COVID-19 in Gilgit while treating Corona positive patients during his obligations. On fifth April, 2020 a not insignificant rundown of 11 specialists was recorded Corona positive at Dera Ghazi Khan District of Punjab. So far 766 medical personnel's have been contaminated by this infectious sickness including 440 specialists, 111 attendants and 215 paramedical and supporting staff in Pakistan. (Haq.et al, 2020) As indicated by disease counteraction and control discussions, numerous intentions lie behind the infections of HCWs by COVID-19. These incorporate flexibly of individual defensive gear (PPEs) and delayed introduction of health care protocols (HCPs) with enormous number of COVID-19 positive cases in medical care settings. (Rabbani.et al, 2020)

In developing nations like Pakistan, Biomedical waste administration is as yet considered as one of the general wellbeing challenge to control risky diseases. Explicit information and mindfulness on appropriate removal of medical waste is needed among the doctors, nurses, specialists, attendants, paramedical staff and other care staff. For contamination control of virus, biomedical waste should be handled carefully to avoid virus spread. (Sharma, 2017)

Several studies show that work air exposure to pollution can lead to respiratory disease in sanitary workers such as Bronchitis, lung cancer, and several other respiratory diseases. Studies

have also found out that there has been a trend of passive smoking in sanitary staff especially female sanitary workers who work indoors where no legal or informal legislation is implemented. (Fahim.et al, 2012)

Pakistan needed "standard operating procedure," and government needed to deliver testing kits from China and Japan. Lockdown and SOPs the quickly broadening number of situations made a weight on the medical services framework. Medical professionals propose that governments should work dependably to guarantee better security gave to overcome the pandemic so Pakistan can fabricate ability to battle the pandemic. (Khalid.et al, 2020)

Symptoms of anxiety, stress, phobia, depression, and other psychological problems are very common in health care workers and sanitary workers during the pandemic. The fear of catching the coronavirus affects them psychologically. (Que et al., 2020) The pandemic has affected us all and the most vulnerable and prone to the disease at these times are sanitary workers, who are fulfilling their job and risking their lives. Attitude and awareness on usage of safety measures during work in COVID-19 are not considered quite well by the sanitary workers. ("WHO," 2019)

2.2.1. Provision Of Faulty PPE To Sanitary Workers In Pakistan During COVID-19

The protective equipment given in COVID-19 is uncomfortable and of poor quality (Siddiqui, 2020). During the pandemic, frequent hand washing with soap was considered as a benefited acct to stay from the virus. (Shahin et al., 2022) Sanitary workers are at high risk for work-related injuries. They do a safe collection of garbage, storing, treating and reusing, recycling, and disposing of. They also manage drainage, collecting and managing industrial waste, and managing hazardous wastes that includes biomedical waste, radioactive waste, and other hazardous materials. (Das, 2022)

A study conducted in India in the cities of Shimla, Solan, and Mandi in Himachal Pradesh, pinpointed that sanitary workers were the only ones corresponding to municipal solid, and they were not provided with gloves, suits, sanitizers, or masks during the pandemic. (Parikh & Rawtani, 2022) In a study by Rajan on heavy workload faced by sanitary workers it has been concluded that sanitary workers face five different types of work-related hazards such as

physical work related risks, chemical risks, medical risks, environmental risks, and risks of accidents that includes the inappropriate work-related environment. (KASIMAYAN et al., 2021)

As indicated by capabilities and administrations gave, public spots could be delegated residing administration places, outside places, and bound places.. Residing administration places give day to day necessities to the overall population. In these spots, the outer layer of articles every now and again reached, (for example, administration work area, lift button, handrail, entryway handle, shopping basket) could be handily contaminated by SARS-CoV-2 and become the media of contact transmission. The regular correspondence among clients and sales rep in various situations, for example, paying, choosing stocks, and looking for help would likewise build the contamination hazard of Coronavirus by drop transmission (RotheSchunk et al., 2020). The return air framework favors air transmission of SARS-CoV-2 through focal cooling (LuGu et al., 2020), particularly when affirmed or thought cases talk, breathe, hack, or sniffle out in the open spots without PPE.

2.3. Waste Management In COVID-19 In The Public Sector Hospitals

Violence against medical staff and nurses has increased during the pandemic. The reasons lead to increased patient burden, absence of necessities, lacking number of prepared staff while waiting for long hours, insufficient number of trained staff, rising pandemic, stigmatization, fear of isolation and infectious waste are produced in every hospital like up to 25 percent. (Kalu Tololu, 2019) Infectious waste relating to biological waste, laboratory waste, sharp materials, disposable tools. Hospital waste in generated in tons daily and there is no proper waste of disposal. (Thakur et al., 2018) The information, disposition, and practices of clinic staff with respect to medical clinic squander was low in sanitary workers and paramedics. There is a gap between the awareness level and attitude of handling waste among higher level and lower level medical professionals. (Faris et al., 2018)

Pakistan is the 6th most crowded country on the planet with greatest urbanization and populace development rates in South Asia. Information and investigations in regards to medical waste. Clinical waste from the clinic came out as 2.63 Kg/patient-day of which 6.8% comprised of sharps and the leftover comprised of perilous irresistible things. Gynecology and pediatrics wards had the biggest and the littlest waste recorded.. More than 1.06 Ton of general waste was

likewise produced at the emergency clinic. Waste segregation of hospitals, stockpiling, transportation and removal rehearses at the clinic had genuine deficiencies. (Degavi et al., 2021) A survey was conducted in Karachi on safe disposal of solid waste which resulted in that sanitary workers need to be trained in dealing with solid hospital waste properly. (Tefera et al., 2019) Due to being exposed to hospital waste, sanitary workers are highly exposed to hepatitis B and hepatitis C and their concerning hospitals do not provide them with proper treatment. (Gysel et al., 2015)(Kohnert, 2021)

It was suggested that the emergency clinic staff should be prepared to deal with emergency hospital waste so the trash should not make threats and dangers to human wellbeing. (Ali et al., 2017) In a study conducted in Sudan, it was noted that the knowledge, attitude and practices of sanitary workers in hospital were well aware of the potential hazards of waste. (Mehta, 2019)

In a study conducted at Combined Military Hospital, Rawalpindi and to make suggestions for the improvement of their wellbeing status. An absolute number of 93 specialists are utilized in sterile and housekeeping exercises. Among them are 66 male and 10 female clean specialists and 17 Ayas [female housekeepers]. A cross sectional investigation of all the previously mentioned laborers was directed. This review uncovered that 46% of laborers were unskilled and 49% had gone to grade school. None of the sanitary workers got any preparation in treatment of hospital waste. (Waleed et al., 2020) They were not regularly investigated for distinguishing proof of their medical issues. They were not furnished with defensive gear and were never immunized against hepatitis B. albeit some type of isolation of perilous and non-dangerous waste was found in CMH, Rawalpindi, 48% of them revealed of supporting at least one wounds at work. As often as possible revealed wounds were cuts [47%], pricks [34%], falls [15%] and consumes [4%]. 26% of them announced of contracting skin infections from waste, while 12% got ENT problems, 9% gastrointestinal issues, 6% respiratory illnesses and 8% hepatitis. It is closed from this review that sterile laborers of CMH, Rawalpindi are ignorant of the dangers and risks related with treatment of medical waste. They are presented to organic, physical and harmful substances regularly. Be that as it may, they did not have the necessary information, abilities and insurances to protect their wellbeing. (Waleed et al., 2020)

2.4. Health Issues And Vulnerability Of Sanitary Workers During The Pandemic

Most sanitary workers are less cautious with their safety while handling waste during COVID-19. They may work at the expense of their safety, health, and even lives. (Kuffour, R.2020) Mostly environment is not safe in COVID-19 and their exposure is too harmful gases and dust, machine-related injury by the use of heavy machines, physical and mental stress from continuous workload, prolonged working shifts, separation, and processing of recyclable materials, poor ventilation, insufficient lightning, unsafe work organization, and exposure to sharp instruments. (Gray & Collie, 2017) Health care workers incorporate sanitary staff, whose principal duty is the assortment, transportation, and carrying hazardous waste, accidents related to sharp objects and needle-related injuries and contact with patients' blood is very common, especially in the low physical environment. (Rapisarda et al., 2019) which results in Hepatitis B and Hepatitis C among sanitary staff. (Valeeva .et al, 2020)

COVID-19 is subjective in terms of spread as it cares not about wealth or poor status of human beings. Lockdown has made the lives of poor strata miserable and extremely chaotic. (Patil & Kamble, 2017) Sanitation workers demand their Personal Protection Equipment (PPEs), pay checks, food, insurance policy, access to shelter, and transport services they are provided by the fluorescent orange suits to be recognized as sanitary workers from a far gaze. Their bad luck also comes with their caste system. (Keppens, 2017)

Sanitary workers protect people from sicknesses inclusive of diarrhoea, ascariasis, cholera, hepatitis, poliomyelitis, schistosomiasis and trachoma with their effective services. Sanitary services are given via the sanitary workers for the betterment of human health.

They also deal with many challenges together with

(i) Issues related to their health and protection: cuts, accidents, musculoskeletal issues, respiratory problems, gastro intestinal problems and infectious sicknesses like gastroenteritis, diarrhea, cryptosporidiosis, giardiasis, hepatitis A, hepatitis B, leptospirosis, salmonellosis, typhoid fever and tetanus.

(ii) Poorly implemented or no rules or regulations for sanitary workers. Also provision of cheap protective equipment.

(iii) Lack of trust in economic system, low financial status or social problems; social stigma like intergenerational discrimination. (Izadi, 2018)

2.5. Health at Stake of the Sanitary Workers

Sanitary workers don't consider their own health important and dietary needs due to lack of recognition as a frontline warrior and a essential worker. The need to complement the information of employees concerning health issues, safety from health problems and promotion of health. The management of hospitals needs to guarantee that sterile specialists have passed the preparation prior to working in the field and ought to be provided with right rules. Sterile Workers ought to really improve an adequate number of offices in the working area. Sterile laborers ought to be given PPE and prepared for its legitimate use. Standard clinical examination, inoculation and consistence are fundamental for safeguard sanitary workers. (Kuffour, 2020)

Sanitary workers collect trash and recycle materials from the localities, sort them out and dump the waste in land fill. Sanitary workers job is seen as entry level employees but they can get to higher levels. Their job description is of collecting waste, operating waste, operate a truck, deposit trash, lift heavy objects. (Drupp et al., 2020)

2.5.1. Hospital Waste Handling By The Sanitary Workers During COVID-19

They should also have the knowledge of environmental safety and different types of wastes. in a study by Rajan on heavy workload faced by sanitary workers it has been concluded that sanitary workers face five different types of work related hazards such as physical risks, chemical risks, biological risks, ergonomic risks, and risks of accidents that includes inappropriate work related environment. (Ullah et al., 2022)

Most sanitary workers are less cautious with their safety while handling waste. They may work at the expense of their security, wellbeing, and even lives. (Izadi, 2018) Most of the time the environment is not safe. Toxic gases dust, machine related injury by the use of heavy machines, physical and mental stress from continuous work load, prolonged working shifts,

separation, and processing of recyclable materials, poor ventilation, insufficient lightning, , and exposure to sharp objects and injuries.

Accidents related to sharp objects and needle related injuries and contact with patients' blood is very common, especially in the low physical environment. (Rapisarda et al., 2019) Health care workers incorporate sanitary staff, whose principal duty is the assortment, transportation, and carrying hazardous waste, which results in Hepatitis B and Hepatitis C among sanitary staff. (Valeeva.et al, 2020)

Sewage extraction for sanitary workers is dangerous as it exposes to harmful gases. Studies have find that tuberculosis was common in sanitary workers who mostly had sewage extraction work. (Arora.et al, 2019) Disposing sharp items like needles and broken glass bottles of medicines can cause wounds and injuries to sanitary workers. (Olga E.Harta, 2020)(Mulay et al., 2019)

The working conditions of the sanitary workers is pathetic. They have to handle waste without masks, gloves and boot. Due to unhygienic practice of waste they are vulnerable to disease. They face health issues like skin infections, eye problems, and respiratory problems. The health ailments reported by them include skin disease, eye problems, respiratory infections, abdominal disorders, jaundice etc. (Rayen, & Nisee, 2017)

In COVID-19, sanitary workers are working effortlessly to keep the environment clean. Sanitary workers are presented to different unsafe toxins and poisonous gases produced from the waste which causes respiratory illnesses and skin infirmities. (Berg, 2021) Sanitary workers face hypertension because they are prone to stress related activities daily. (Bhatnagar, 2021). Sanitary workers are susceptible to lead unhealthy lifestyle like irregularities of meals and rest pattern, low power physical activity, alcohol consumption and tobacco intake. (Krishnamoorthy et al., 2020)

2.5.2. At Site Accidents Of Sanitary Workers In The Hospitals

In a study done in Ethiopia on occupational hazards of sanitary workers during COVID-19. It was stated that sanitation workers conditions have been unchanged for centuries. Beside the social barbarities that sanitary workers are vulnerable to dangerous gases, for instance, methane and hydrogen sulfide. They also face cardiovascular degeneration, musculoskeletal

issues like osteoarthritic changes and intervertebral plate herniation, diseases like hepatitis, leptospirosis, and helicobacter skin issues and respiratory issues. (Degavi et al., 2021)

Sanitation workers offer basic public service yet consistently to the detriment of their pride, security, prosperity, and lifestyle. Indisputably, sanitary workers are feeble and weak labor force. Also are they incredibly imperceptible, unquantified and isolated, and face great challenges. Sanitation workers are presented to work related and environmental challenges conceivably bringing to them illnesses, injury, and even death. (Rajan, 2021)

2.5.3. Medical Workers Mental Health Issues In The Corona

Medical workers also face mental health issues. In an online survey from 19 February to 6 May; a total of 2,182 Chinese subjects participated. The study purposed on was to find out mental health problems in medical workers. Results found out medical workers as first-line warriors treating patients with COVID-19. Consistently, they face high risk of COVID-19 and are prone to long working hours for the betterment of their patients. In a word, mostly they face restlessness, anxiety, depression and insomnia. (Zhang et al., 2020)

In India, during the pandemic it was found out that health care workers suffer from physical and mental exhaustion, fear of losing patience and fear of infecting their family and self-isolation which in turn can also affect their performance to work in a chaotic situation. (Dev. et al, 2020)

2.6. Occupational Injuries And Risks Among The Sanitary Workers

Occupational injuries are physical injuries that are caused due to the cause of work. International labor organization (ILO) reports every year 270 million accidents occur due to occupational injuries and 2.3 million workers die due to the accidents in the world. In developing countries, Labour intensive manual work causes more injuries. (Eskezia. et al, 2016)

According to WHO international report health care waste is further divided into different types of wastes:

- Irresistible waste that is tainted from blood or other body liquids. It incorporates squander from post-mortem examinations or test swabs from patients. (Pandey, 2016)

- Neurotic waste that involves human tissue, organs or natural liquids. (Pandey, 2016)
- Sharps squander that incorporates needles, needles, dispensable surgical tools and edges.
- Substance squander that incorporates solvents utilized for research center arrangements, sanitizers, cleaning synthetics and mercury from broken thermometers or lapsed batteries. (Chaudhuri et al., 2017)
- Drug squander that incorporates terminated, unused and debased medications and antibodies
- Cytotoxic waste that incorporates squander containing substances with profoundly mutagenic malignant growth causing substances (Gysel et al., 2015)
- Radioactive waste that incorporates radioactive materials
- Non Hazardous waste that represents no specific natural, compound, radioactive or actual peril. (Adu et al., 2020)

The major sources of health-care waste are hospitals and other health facilities laboratories, research centers, mortuary, autopsy centers, animal research and testing laboratories, blood banks.

First world countries produce 0.5 kg of annual waste per bed per year while developing countries generate average 0.2 kg of waste. While hospital waste is not segregated into hazardous or nonhazardous waste which increase the risk of contamination with those who are dealing with the waste. (Gysel et al., 2015)

Injuries from the hospital can also be caused due to needle stick injuries, exposure to medical drugs, in particular, antibiotics and carcinogenic drugs such as mercury or dioxins. During incarceration of medical waste, toxins in the air pollute the air and its difficult for sanitary workers to breathe. (Ali et al., 2017)

Globally, an estimated 16 million injections are manufactured and not all needles or syringes are disposed of safely, creating a risk of injury and infection and opportunities for reuse. A person who experiences one needle stick injury from a needle used on an infected source patient has risks of 30%, 1.8%, and 0.3% respectively of becoming infected with HBV, HCV and

HIV. In case of sanitary workers they are more vulnerable and prone to needle stick injuries and infections. (Basarkar, 2009) Garbage collection is a hefty work that requires effort, time and hard work. Sanitary workers in Japan exposure to garbage can result in respiratory problems caused by dust, and other gastrointestinal problems such as nausea and diarrhea. (Krystosik et al., 2020)

In developing nations, the key utilization of PPE may incorporate broadened wear and reuse of certain PPE like outfits, particularly in generally safe emergency clinic divisions. With the Covid-19 pandemic, there is likewise the potential for alarm among HWs that may result in the nonsensical utilization of PPE. An equilibrium should be struck between HWs security and key utilization of accessible assets. At last, HWs ought to be prepared on legitimate methods of wearing and taking off PPE. (Mhango.et al, 2020)

Gas leakage in sewerage is also a common issue faced by sanitary workers. Poor sanitary workers are exposed to harmful gases, toxins, methane and other harmful stuff that can kill them in an instant. Instead of human intervention in these places machine intervention should be introduced. (Jeyabharathi .et al, 2021)

2.7. Leptospirosis In Sanitary Workers

Leptospirosis is the most widely recognized arising zoonotic infection internationally and it is required to turn out to be more conspicuous overall in light of environmental change and the becoming metropolitan population. (DiMarco, 2021)

Leptospira are regularly connected with rodents, including the species that are as often as possible found in metropolitan areas. Leptospirosis is perceived as a peril for specific occupations with an expanded danger of introduction to contaminated creatures, for example, farming specialists, sewage laborers, military staff, veterinarians and animal handlers. (Jeffree et al., 2020)

Four cities of India, Ladwa, Kurukshetra, Indri and Radwar Haryana were selected to conduct the research. The cities were selected by means of a simple random sample. . All sanitary workers from each city who are willing to take part in the research are accepted as participants. A total of 300 participants took part in this study. Prior consent was obtained to conduct the survey - approval letters were issued for all community services. All participants were informed about the study and its objectives prior to the interview. Written or oral consent

was obtained from all participants prior to the interview. You are not given false hopes or promises to provide information. The results showed that 74.70% of the participants were men, which indicates that more men or women avoided participating in this study. (Kumar & Shetty, 2021)

In a study conducted in Ghana, Africa on sanitary workers, 37 percent sanitary workers shared their knowledge on occupational injuries and disease. Some other challenges they mentioned were. Involved inadequate working tools/equipment, lack of determination and incentives, coverage to hazardous waste, and physical/verbal approaches the abuse whether physical or verbal at workplace is dehumanizing. (Kuffour, 2020)

Physical verbal abuse at work can be commenting biased terms or sexually harassing sanitary workers. In a study conducted in Tamil Nādu, India it was noted that sanitary workers were well aware of the occupational injuries related to their profession but due to non-availability of the protective equipment they are exposed to diseases and infections. Formal training programs for the sanitary workers should be placed by the hospitals or government as they are our true heroes. They should also be aware of the hygiene practices. (Lakshmi, et al, 2019)

2.8. Health Concerns Of Female Sanitary Workers

Your family roles and responsibilities intersect with the declining priority female sanitary staff place on their own health. The lack of agency at work, endemic and invisible mental well-being issues, and a lack of consideration of personal well-being due to the centrality given to the needs of family. (Kisana & Shah, 2021)

Female sanitary workers who are occupied with physical work face the issue of excessive sweat in summers. They need to deal with household chores and hefty manual work at their workplace which is past their physical limit. (Kisana & Shah, 2021)

Skin infections are very common in sanitary workers. Harsh winters, increased temperature, less hand washing, wet work, and long working hours are major factors in skin infections in medical and non-medical staff. (Yan .et al , 2015)

2.8.1. Menstruation Problems In Female Sanitary Workers

One major concern of women sanitation worker is menstruation in which they are not provided with washing services or infrastructure. In India 80 percent of sanitary workers are women. A 36 year old female sanitation worker Ranjani in Tiruchirappalli works from 6 am to 6pm daily except Sunday. The only time left for her to change sanitary napkin is her lunch break, also there is none availability of toilets available. Ranjani says her thighs have been bruised due to long walking distances during her periods. The only treatment she follows is the application of oil or talcum powder. After she reaches home she baths in hot water and add oil on it to prevent rashes. Due to corona outbreak doctor visits them three times a week, female sanitary workers have talked about their issues and only treatment given to them by doctors is to apply some iodized water. (S. Senthilir. Et al, 2020)

Right after Women sanitary staff have periods plus suffer from regular infections, rashes plus bruises on their own thighs as a result of numerous hours of strolling as well as the inaccessibility in order to toilets. Interviews carried out from the Tamil Nadu Urban Sanitation plus Support Programme (TNUSSP),.It was found out that every month female sanitation worker face bruises and infection and suffered from hip cramps, hip and leg pain every month but they continued to work. Women sanitation workers face hesitation to talk about their issues to their superiors. The reason for that is that how can they talk about these issues to men and what can they explain to them. (S. Senthilir.et al, 2020)

In a study in Thanjavur town, India it was revealed that sixty percent of female sanitary workers are poor and sixty eight percent of sanitary workers are illiterate. In addition to demographic factor, socio economic factor and psychological factor also contribute to health concerns in female sanitary workers. (Rajan, 2016)

Safety and wellbeing of sanitary workers is at stake especially in Bangladesh, Pakistan, India, and Nepal in lockdown. They have been marginalized and discriminated due to their nature of work. They also face exclusion based on their work, ethnicity and religion. COVID-19 exaggerated the occupational and health hazards with having no formal guidelines or support. There is no recognition of their work, social protection or health protection for them. (Water Aid, 2019)

The wellbeing of HCWs giving consideration to COVID-19 patients is increasing, and no measure is invented to control the different variants of COVID-19. This means that physical and psychological health effects of COVID-19 pandemic on medical care workers are alarming. (Shaukat, et al, 2020)

2.9. Discrimination And Prejudice Towards Sanitary Workers

Sanitary work includes removing garbage, slime, picking up and disposing dead animals, controlling mosquitos, drain drainage, and sweeping. Sanitary workers play a valuable role in keeping people safe. Prejudice and discriminatory behavior in the workplace and society show that society needs to develop and mature on terms of humanity and dignity. Encouraging and appreciating the less in terms of knowledge, human rights, individual power and job opportunities helps in improving country's growth. Safety mechanisms for the sanitary workers with regular medical camps, preventing manual scavenging and creating awareness will improve the quality of life for the sanitary workers. NGOS and civil society can also help in creating awareness for the sanitary workers. (Vodanovich & Rupp, 2022)

Sanitary workers are hired as contract workers, so contractors try to get the job done with minimum staff and wages to get more benefits. Second, this work, coupled with the stigma of sweeping and cleaning, is associated with certain caste groups that are considered sacred in society. Through this job, they can be easily identified so they avoid taking this job, so they try another profession. They will return to this job if they cannot find another job or may not be accepted in another profession because of their vulnerable status. (Burdmann, 2015)

Marginalization of sanitary workers is done in the media and society. An in-depth interview of thirty Christian sanitary workers was conducted in Pakistan. This research discovered that sanitary workers believed they do now not have any voice to solve their problems. Being less knowledgeable, the respondents inside observation appear to recognize the influence of their representation in the society. Therefore, they anticipate traditional media to focus on their true problems (i.e joblessness, health-related problems, and social disparity in society), could make their existence a lot less difficult. (Sakthivel et al., 2019)

Hygienic personnel offer their utmost services at typically the expense of his or her pride, security, wellbeing, and way of life. That they are most defenseless and weak staff. They are

truly imperceptible, unquantified along with isolated, and experience extensive challenges which will come in view of this significant shortfall of declaration. Disinfection workers ability word related and biological perils conceivably causing wellbeing afflictions, mischief, and even destruction. (Mahase, 2021) Throughout Pakistan belonging to be able to religious minority, very poor or Dalit signifies untouchable. Mostly hygienic personnel are non-Muslim.

2.10. Economic Disparity towards Sanitary Workers

The polarity being developed directions of urbanization, industrialization and monetary change, and the related ecological wellbeing challenges, between the industrialized countries and the creating scene, which leads to balance between sanitation sand environments. Sanitary workers are those who are providing sanitation services to the masses. (Konteh, 2009)

Sanitary workers are the most neglected and vulnerable section of the society. Due to their occupation or line of work, their hazards are termed in as occupational health and safety. They are termed in as informal economy as for the reason they are also not recognized for the hard and difficult work they do. Also they are not blessed with the basic labor rights. (Ngamsang & Yuttitham, 2019)

Recently Irfan Masih, a thirty year old sanitation worker died after the doctor would not treat him at a little government emergency clinic in Umerkot, Pakistan. Irfan Masih was a sanitation worker who had been brought to the medical clinic in the wake of falling oblivious while cleaning his town's local sewer. Supposedly, the specialists working would not treat him since he was soaked in sewer slime and thus "messy". Irfan's mom disclosed to media sources in Pakistan that the doctors were fasting for the Islamic blessed month of Ramazan and they accepted that in any event, contacting, not to mention treating, the withering man would break their diets. So they let him die. There is a lot to be said about the stunning degrees of bias and cold-heartedness that permitted this awful demonstration to happen. However, what is a lot of more regrettable is that as to the disinfection framework of practically the entirety of Pakistan, this bias is fundamental. (Safieh Shah, 2019)

2.11. Role Of Non Profit Organizations Towards Sanitary Workers In Pakistan

NGOs should help bring issues to light about the significance of work related wellbeing perils inside our general public. Society should meet up and advocate for our present nearby governments to embrace essential work related wellbeing and security measures, just as overhaul our common framework. Is it not absurd that a passing as preventable as Irfan Masih's, which emerged out of a combination of bias yet additionally the disappointment of frameworks and absence of general wellbeing mindfulness? We as Pakistani Muslims need to check ourselves and care for the sanitary workers.

Manual scavenging isn't an appealing profession decision however for some in Pakistan it is as yet the main choice. Like India, manual rummaging in Pakistan is additionally limited to specific stations — fundamentally Christians. Public ad plainly looks for individuals from the Christian people group for such positions.

2.12. Safety Mechanisms For The Sanitary Workers Working In The Hospitals

Unfortunately, sanitary workers are faced with discrimination and caste system in our country. Sanitary workers are seen as dirty due to their direct contact with sewage. Sanitary workers are not used to using sanitizers, chloroxyleneol and goggles. In fact some of them heard the terms for the first time. They were using gloves and masks. Grievances for not providing sufficient financial support to sanitary workers. They need physical protection at the workplace and respect for sanitation workers as human beings should be made a worth. (Griffin, 2020) life of sanitary workers is challenging and full of intergenerational discrimination. Need for improvement for knowledge of prevention and promotion of health problems for the sanitary workers is essential. The employer must check on the condition of work of the sanitary workers and regular vaccination should be provided. (P & K, 2020)

Hand washing, and glove use are the principle recommendations of the World Health Organization (WHO) and the Center for Disease Control and Prevention (CDC) just as standard

measures for the insurance of health care workers. In Wuhan virus, medical staff needs to conform to hygienic practices and use of gloves should be increased. Consequently, HCWs are inclined to different skin conditions related with hand washing and utilization of liquor based hand sanitizers and gloves. With this investigation, we meant to portray the unfriendly skin responses happening after hand cleanliness in the HCWs in our emergency clinic to decide the conceivable. (Alzyood.et al, 2020)

2.13. Education And Training Of Sanitary Workers

Hygiene education of sanitary workers is important as a milestone for wellness and wellbeing. Participatory learning methods, traditional media, real life examples, face to face education and hygiene education can be many ways of disseminating health protective behavior. (GFDPR, 2019)

Poor healthcare infrastructure and implementation deficiencies also causes havoc. Lack of training and knowledge in the sanitary workers can also cause a denial and dilemma. Insufficient national-level strategy for planning and executing the policies, laws and regulations can cause burden for the economy and the poor sanitation workers. Lack of health care worker wellbeing support can cause psychological issues and stress. Sanitary workers are always at risk of getting corona virus and face daily work load. (Rajan, 2019)

2.14. Socio-Economic Conditions Of Sanitary Workers During COVID-19

In COVID-19, provision of medical camps, and creating awareness of health protection will ameliorate the life quality for the sanitary workers. NGOs and civil society can also help in creation of the awareness for the sanitary workers. (Valeeva.et al 2020) The management of hospitals must check on the condition of work of the sanitary workers and regular vaccination should be provided. (P & K, 2020)

Low monetary status, societal issues; and social disgrace like discrimination and prejudice leads the sanitary workers to fury and lamentation. They lack focus on their wellbeing and nourishment because of lack of awareness. Its demanded to upgrade the knowledge of sanitary workers in medical issues, safety for medical problems and advancement of their wellbeing. Their occupation should focus more on rules and regulations. They should be

equipped with protective equipment. Regular medical checkup, vaccination and follow up are vital to ensure the clean specialists. (Wynter Blyth, 1897)

2.15. Health Challenges Of Sanitary Workers In India in COVID-19

In India between 2018 and 2017 one sanitation worker died every five days. Its also true that without sanitary workers we cannot live a healthy and clean life. (Burt.et al, 2021)It is assessed that there is around 5 million in India are utilized as sanitary workers. Among them two millions are working under harsh conditions. Regardless of fast development in urbanization and innovation the working state of these sanitary workers have to stay unaltered since independence. (Singh & Ladusingh, 2017) Another unavoidable concern should be perceived while we learn about sanitary workers is that it is additionally profoundly established in Indian Caste framework which doles out obligations of clearing, cleaning latrines, Manual searching to people from least sub ranks of Dalit people group. The harshest truths are that even today, the deep rooted framework stays to be the critical determinant of the destiny of these sanitary workers. (Praveen et al, 2020)

In India we have estimated 5 million sterilization laborers as per the most recent data. Another examination in 2008 says that there are 1.2 million of sanitary workers are utilized over the nation. It is likewise a matter of worry that there is no official information accessible with respect to the quantity of sanitary workers in the nation. Accordingly, they experience the ill effects of skin illnesses, respiratory and gastrointestinal issues, eye and ear contaminations and unintentional wounds. (Anitha et al., 2021)

2.16. Health Challenges Of Sanitary Workers In China in COVID-19

Sanitary workers are in many cases denied appropriate work agreements and social protection benefits, as well as they are denied any social benefits. (Sangkham, 2020) Sanitary workers are answerable for cleaning up the climate. In developing nations, for example, China, with restricted assets the greater part of the cleaning cycle in metropolitan regions stays manual. (Vanapalli et al., 2021) With inappropriate arrangement of waste materials at the source, a wide range of trash are being arranged in the city. Sanitation workers are presented to earth, infective creatures, and other perilous and sharp items, including skin, hair, respiratory, gastrointestinal, and urogenital, just as muscular problems. (Anitha et al., 2021)

2.17. Health Challenges Of Sanitary Workers In Nigeria in COVID-19

In IBADAN, Nigeria — in late July, the World Health Organization reported that more than 10,000 sanitary workers in Africa had tested positive for COVID-19. This raised worries about the capacity of nations like Nigeria — which just has 0.4 specialists per 1,000 individuals regardless — to effectively control a pandemic that has overpowered stunningly better resourced wellbeing frameworks. As the weight expanded on a small bunch of key wellbeing offices the nation over, so too did the danger of contamination for the wellbeing experts working there. They may seem like superheroes, however specialists, attendants, birthing assistants, and network wellbeing laborers need uphold as well. (Adepoju, 2020)

In Ibadan, perhaps the greatest city, the crisis branch of the nation's driving training clinic is a center point of movement. Before the pandemic, University College Hospital, which has 850 bed spaces, had an inhabitation rate cresting at 60%. However, since the pandemic hit, crisis patients are in some cases left hanging tight hours for a bed.

2.18. Summary Of The Chapter

With the outbreak of the pandemic doctors, nurses, and sanitary workers all of the prominent hospital staff has been affected in Pakistan. Sanitary workers are the real heroes who were taking care of the patients and ensuring that the environment of the hospital is safe but their own health was at stake. They are exposed to toxins, health hazards, occupational injuries and mental health issues. The situation of sanitary workers is not changing and is the same across the world. They are deprived of their rights even their payments are due by the hospitals.

As seen in India, China and Nigeria the situation is almost the same for sanitary workers. Sanitary workers also face discrimination and prejudice by the society even though they are performing a heroic job. In the end educating the sanitary workers about the health hazards and

making it sure to train them with different health situations is important for the health and safety of sanitary workers.

3. CONCEPTUAL FRAMEWORK AND METHODOLOGY

3.1. Theoretical Narration Of Study

There are different theories to support the study which include

3.1.1. Theory Of Social Exclusion

Theory of social exclusion was given by France in the mid-1970s by Red Lenoir. Theory of social exclusion refers to denial of basic resources, goods and services. It also refers to inability to participate in activities which are available to majority of the citizens whether economic, cultural or socially. (M. Smith, 2005)

In Pakistan, the theory of social exclusion lies within being out of touch with decision-makers and the resulting powerlessness. Sanitary workers face social exclusion in terms of participation and decision making. By improving opportunities and availability of resources, freedom of speech and human rights conditions of sanitary workers can become better. They are the most vulnerable which has been provided least, and in COVID-19, they have made their lives prone to risks for the betterment of the public. (Picker, 2017)

They are deprived of their wages, they are discriminated culturally on basis of their profession, and they are considered a minority because most of the people joining this profession are Hindu converted as Christians. Due to poor education or non-availability of knowledge they are deprived of better jobs. Due to low income levels they remain stuck in the cycle of poverty. Alas they are socially excluded from the other people. (Francis, 2002)

A considerable lot of the ways to deal with destitution investigated in different segments inside social exclusion consolidate inside parts of social prohibition. The meaning of 'generally speaking destitution' embraced by the Unified Countries discusses 'social segregation and prohibition' and of 'absence of cooperation in dynamic common, social and social life'. In any case, neediness stresses material as well as friendly hardship, while social prohibition fronts an individual or an ability to gather to partake in friendly, financial, political and social life and their associations with others. And keeping in mind that destitution significantly affects some, however not all, of these parts of social prohibition, there are other significant causal elements of

social avoidance like age, handicap, nationality, orientation and business status. (Sheppard, 2021)

Social exclusion a complex and multi-faceted cycle. It includes the need or refusal of assets, freedoms, labor and products, and the failure to partake in the typical connections and exercises, accessible to most of individuals in a general public, whether in monetary, social, social or political fields. It influences both the personal satisfaction of people and the value and union of society in general. (Sheppard, 2021)

3.1.2. Social consideration and social prohibition

Individuals have a major need to be acknowledged by others. The intergroup feelings hypothesis characterizes the job of feelings in connections between gatherings. Feelings can be good and pessimistic that portray the experience in light of seen power. For example, social rejection has a huge mental effect since it communicates the subjectivity of the singular's involvement in potential outcomes, for example, uneasiness and discouragement. (Millar, n.d)

The inclination felt during the experience of social rejection is serious areas of strength for extremely extraordinary, it addresses a genuine aggravation described by detachment and burst from the gathering , by friendly prohibition we mean being kept out, or rather barred, left alone or confined from others. The experience of social prohibition is additionally called social agony. At the point when individuals express the feelings and the close to home state they feel, when they are rejected, the words frequently utilized allude to wounds, broken hearts, and bursts. (Bailey, 2017)

Torment is a complex emotional encounter including numerous viewpoints: the actual sensation related with a sensation, the pessimistic or unsavory abstract inclination. The expectation of torment spurs a create some distance from risky or harmful upgrades, and the memory of an aggravation experienced in the past can be a strong and propelling power for the quick experience of torment. ("What social exclusion means," 2003)

3.1.3. Health Belief Model

This model was given by social psychologists Hochbaum, Rosenstock in the 1950s who were working in the American public health service. The model explained the failure of not participating in programs to prevent and detect disease. (Youssef, 2021)

The HBM contains several constructs that are hypothesized to anticipate why people take part in prevention, screening, and controlling health conditions.

- Personal characteristics, such as age, sexual category, and ethnicity improve individual perceptions, such as perceived susceptibility, severity, self-efficacy, and benefits & limitations.
- Perceived susceptibility and severity of a health condition collectively, have been described as "perceived risk. inch
- Perceived benefits lessen perceived risk with regards to a health habits. Perceived barriers slow down health behaviors. Rewards minus barriers support health behavior change.
- Self-Efficacy influences recognized threat (perceived susceptibility and severity) and perceived benefits without perceived barriers, which support initiation of health behavior change.
- Cues in the environment trigger action and make up to personal perceptions, such as perceived benefits, and perceived susceptibility.

This model explains health-related behavior in regards to health services. The model indicates the promotion of health and disease prevention. It indicates self-administered changes in health behavior. Key features that influence health behavior are a stimulus that can trigger health-protective behavior in health protection based on people's beliefs and actions in coordination with health protection and self-efficacy. Health concern of sanitary workers is a result of not taking preventive actions. Perceived exposure refers to sanitary workers being exposed to dangerous working environments. Perceived threat refers to the negative outcomes to which sanitary workers are exposed due to not taking their health seriously. Barriers to being protected refer to the cost and extent to which sanitary workers are subjected. The benefits of

being protected refer to the positive outcomes that are linked with the protection of health by sanitary workers. Task self-efficacy is an individual's confidence to achieve something.

3.2. Relevance with the Study

Social exclusion theory relates because sanitary workers face discrimination and prejudice at the hands of the system and society just because of the notoriety of their job. Sanitary workers are excluded from the society in terms of participation, decision making, Due to poor education or non-availability of knowledge they are deprived of better jobs. Due to low income levels they are stuck in extreme poverty and are deprived of the basic sources.

The observation RO3 is derived from the social exclusion theory. It defines that sanitary workers are discriminated and prejudiced from the society just on basis of their strata and choice of profession.

The health belief model relates with the study inn understanding the health benefits and staying away from the disease. Health belief is a psychological model which helps in interpreting the behavior related to disease prevention and physical wellbeing.

The RO1 and RO2 were derived from the health belief model for the overall health benefit and disease prevention of the sanitary workers.

They might sum up existing proof, yet during the time spent summing up (like your educator's talks), data is changed, altered, decreased, dense, and generally controlled in such a way that you may not see the whole, objective story. These are called optional sources, rather than the first, essential wellspring of proof. In depending exclusively on auxiliary sources, you penance your own basic examination and pondering the first work — you are "purchasing" another person's understanding and assessment on the first work, as opposed to fostering your own translation and assessment.

Examiners normally participate in a survey of existing writing as they foster their own exploration studies. The audit illuminates them about where information holes exist, techniques

recently utilized by different researchers, restrictions of earlier work, and past researchers' proposals for coordinating future examination. These writing surveys are not viewed as exact proof sources themselves, in spite of the fact that they might be founded on experimental proof sources. One explanation is that the creators of a writing survey could conceivably have participated in a systematic search cycle, distinguishing a full, rich, multi-sided pool of proof reports.

There is, nonetheless, a sort of survey that applies efficient techniques and is, in this way, viewed as more emphatically established in proof: the precise audit.

A methodical reviews a sort of writing report where laid out techniques have been deliberately applied, dispassionately, in finding and blending a collection of writing. The orderly survey report is portrayed by a lot of straightforwardness about the techniques utilized and the choices made in the survey cycle, and are replicable. Subsequently, it meets the models for experimental writing: orderly perception and system, objectivity, and straightforwardness/reproducibility. We will work significantly more with orderly surveys in the subsequent course, since they are significant apparatuses for grasping mediations. They are fairly more uncommon, yet not unbelievable, in assisting us with grasping different populaces, social work issues, and social peculiarities.

3.3. Research Paradigm

Research Paradigm is a framework on which studies is based on. It gives a sample of ideals and understandings from which the theories and practices of your studies undertaking perform.

A research paradigm consists of ontology, epistemology, and study's methodology.

- Ontology answers the query: "What is fact?"
- Epistemology is the have a look at of knowledge.
- Research Methodology answers the query: "How can we pass approximately coming across the answer or fact?"

Research philosophy combined with research method incorporates a studies paradigm.

Research paradigms are critical due to the fact they shape the philosophical basis of a research mission. Research paradigms have an impact on how exclusive colleges of getting to know (along with the sciences as opposed to the arts) adopt their studies. Once a studies philosophy has been decided, the proper method may be selected.

My study has adopted epistemology paradigm to look at the health and safety issues of sanitary workers during COVID-19 virus deeply.

As it a new phenomenon so little to none was known at that time but now a lot of research has come forward related to my study.

3.4. Research Design

A mixed method research design for gathering, investigating, and "blending" both quantitative and subjective exploration and techniques in a single review to get an exploration issue.

Reasons for using mixed method research

- Test results of first stage
- Make sense of revelations of first stage
- Give a more detailed explanation
- quantitative or subjective alone
- Gathering both quantitative and qualitative information
- Quantitative information
- Detailed written information

My study uses mixed method where the researcher depends on the viewpoint of members ; asks wide, generic questions; by gathering information from the respondents and breaking down into themes and changes them into a single agenda.

3.5. Conceptual Framework

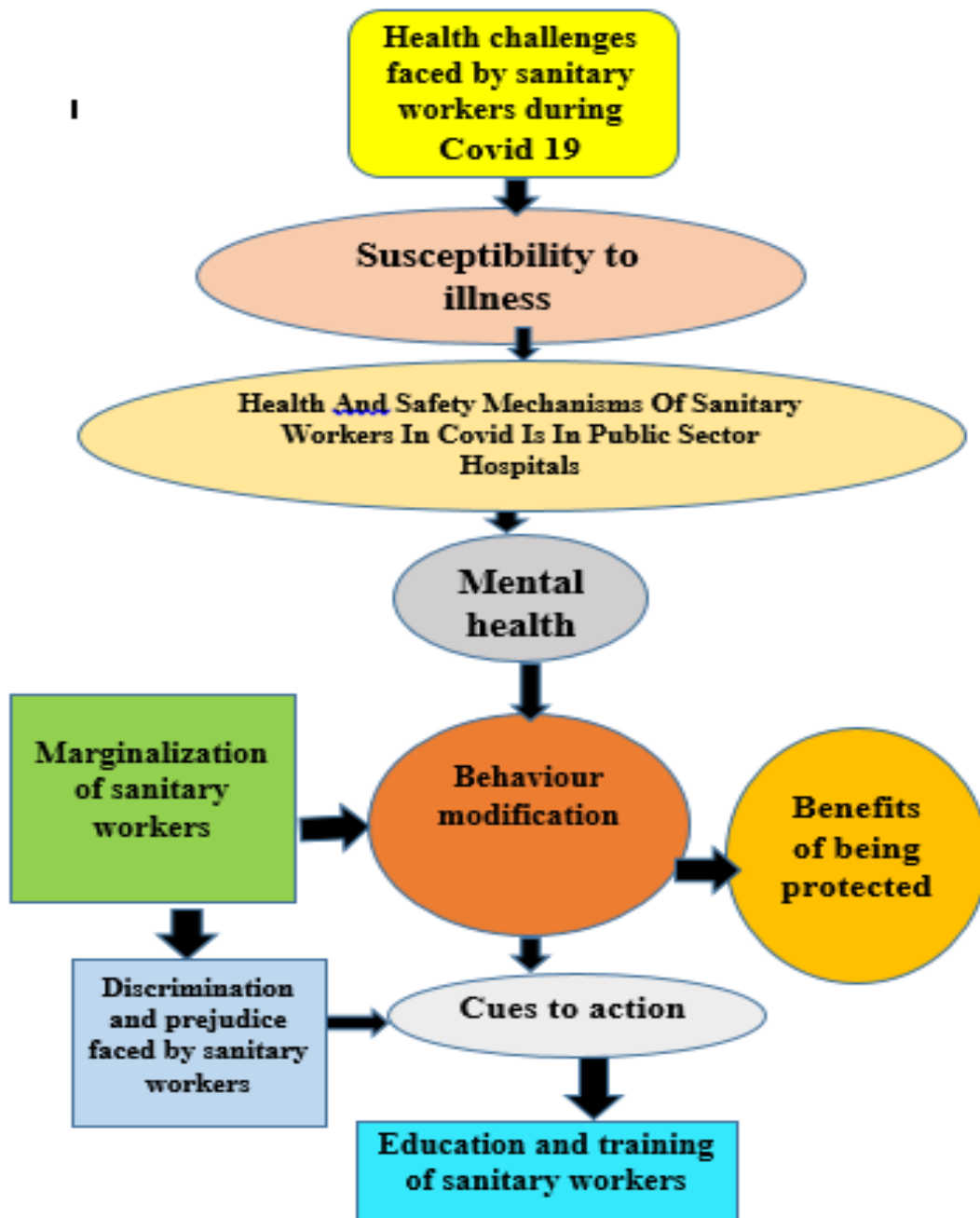


Figure 3.1.3-1: Conceptual Framework.

This figure below identifies the overall conceptual framework with underlining the conceptual themes based on identification of concepts and theories.

In the figure, the health challenges of sanitary workers of the hospitals in COVID-19 have increased which exposes them to susceptibility of catching the virus and illness. For their

protection they have to cue to action (adopt for the decision for health protection). When their behavior is modified, they will get the benefits of being protected.

With the help of education and training, sanitary workers will be aware of the importance of health protection. They are marginalized in the society based on the nature of their job and face discrimination and prejudice.

Defining variables:

The study consists of dependent variable that is health and safety mechanisms of sanitary workers during COVID-19. There are three independent variables which are the challenges faced by sanitary workers in the hospitals during corona, Education and training for the sanitary workers and Discrimination and prejudice in health protection of sanitary workers.

Hypothesis:

H1: Health challenges faced by sanitary workers has an impact on health and safety mechanisms of sanitary workers during COVID-19.

To make and support excellent medical care, hospitals depend on strong regulations from an assortment of results-driven, health related policies and procedures. These arrangements give a structure to workers by illustrating the standards for daily activities and helps the hospital management to meet the numerous health, safety and legal prerequisites. The health of patients is considered important to maximum extent, but sanitary workers health is overlooked. Management of the hospitals should incorporate health protective policies for the sanitary workers so that their health should not be marginalized.

H2: Discrimination and prejudice affects the health protective behavior in sanitary workers during the pandemic.

Sanitary workers are prejudiced on basis of low social strata and nature of their blue-collar jobs. Their health is staked to maximum extent. They are essential workers having labor rights and all privileges as a human being. They should be given equal opportunities to health protection.

H3: Education and training modifies the health protective behavior in sanitary workers during the pandemic.

Education changes the way sanitary workers look upon their health. After education and training, they consider their health important and are aware of the benefits of being protected from the hazards.

3.6. Framework of the Study

The way of conducting the research using appropriate questions and analyzing its issues and interpreting it is called a research design. My research has from adopted a descriptive research design. A sample of fifteen sanitary workers has been taken public sector hospitals in Islamabad. Face to face interview will be conducted. The questionnaire consists of open-ended questions and survey guide relating to the sanitary workers knowledge about the health effects associated with their work. The hospitals are listed below,

- Capital International Hospital, Islamabad.
- Federal government services hospital, Islamabad.
- PIMS hospital, Islamabad
- Islamabad Medical Complex (IMC), Islamabad
- OPD, the Children Hospital, PIMS, Islamabad
- Family health hospital

In my case study the data will be collected, by using both the methods qualitative and quantitative and then interpreting the data.

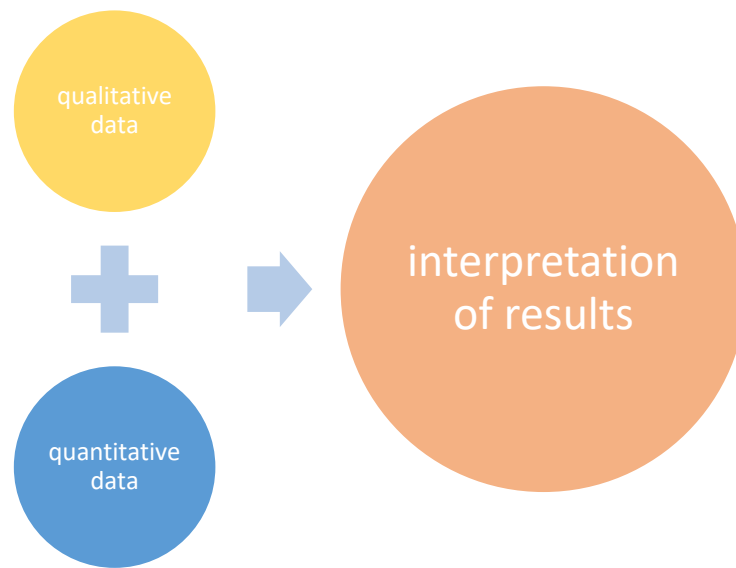


Figure 3.1.3-1: Research approach and strategy.

3.7. Research Approach and Strategy

My study is using a mixed-method technique. It is non experimental plus case study research. The significance of picking a worldview for an examination project comes from the way that it lays out the establishment for the review's exploration and its systems.

A worldview explores how information is perceived and investigated, and it expressly frames the goal, inspiration, and anticipated results of the exploration. The legitimate execution of an examination worldview in research furnishes scientists with a make way to look at the subject of interest.

Subsequently, it gives an intelligent and purposeful construction for doing it, other than working on the nature of your work and your capability.



My examination is based on a philosophical system known as an exploration worldview. It gives a system of suppositions and cognizance's whereupon the speculations and strategies for your examination study may be based. Metaphysics, epistemology, and exploration strategies make up an examination worldview.

The idea of ontology: attempts to respond to the inquiry, "What is reality?" Does your examination envelop a solitary reality? Ontological inquiries include: "Does God exist???" There are two potential solutions to this inquiry: "Indeed, God exists," or "No, God doesn't exist." (Woodward, 2021)

Information is concentrated on in epistemology: Basically, it addresses the inquiry, "How might we know reality?" Epistemology envelops the legitimacy, boundaries, and techniques for securing information. For example, epistemological inquiries might incorporate, "Is it conceivable to know whether God exists?"(Goldman, 2010)

The examination philosophy expects to address the inquiry: "How would we find the response?" This incorporates the most common way of gathering and investigating information. Your procedure ought to make sense of how you led your exploration to show that your discoveries are substantial. (Grundmann, 2020)

The expression "axiology" alludes to the ethical worries that should be thought about while fostering a review proposition. It is the philosophical system for arriving at functional or moral resolutions (Finnis, 1980). It involves laying out, surveying, and appreciating thoughts of suitable and improper way of behaving concerning the examination. It considers the worth we will allocate to the different parts of our review, the members, the information, and the crowd to which we will introduce the exploration discoveries. Basically, it answers the accompanying inquiry: What does morals or moral conduct involve? Consider your regard for the human upsides of each and every individual who will be engaged with or partake in your review attempt while answering this inquiry. The accompanying requests help in this point of view. ("Why axiology?," 1993)

Epistemology and metaphysics together make up research theory. An exploration worldview is comprised of examination system and examination reasoning.

Positivists hold that there is only one reality that can be estimated and understood. They're, consequently, probably going to put together their exploration with respect to quantitative methods. Positivism commonly puts out a speculation that might be upheld or discredited by factual information investigation. Rather than zeroing in on the reason for a connection between two factors, positivism likes to look at on the off chance that one exists. (Pino, 2020)

Constructivists hold that there are various real factors as opposed to a solitary reality or truth. They commit their chance to unraveling and examining the meaning of an activity. Constructivists every now and again utilize subjective examination methods that underscore presenting different perspectives, for example, contextual analyses and meetings. The objective of constructivism is to make sense of "why." For example, as opposed to just deciding the connection between two factors, for what reason do 25% of organization representatives reliably show up after the expected time to work? (e.g., season of landing in work and accessibility of neighboring stopping). ("Constructivists online: Reimagining progressive practice," 2019)

As per pragmatics, the truth is constantly being reevaluated and rethought considering spic and span, eccentrically happening conditions. Thus, the review second guess itself decides the way of thinking they use. In a solitary exploration try, pragmatics much of the time blends positivist and constructivist ideas, utilizing subjective and quantitative methods to look at different parts of an examination subject. As indicated by them, the best examination methods most actually address the exploration subject. (Athanasiadou, 2022)

3.8. Justification of Case Study Research

Case study research gives a real-life experience of dealing with the problem. Case study helps in turning observations into facts, its inexpensive and accessible to the readers. My study relies upon face-to-face in depth interviews with sanitary workers during COVID-19 rather than data-based. The study is exploring unsolved and unheard challenges of the sanitary workers.

3.9. Framework Of Methodology

My case study depends on triangulation method by gathering the data from qualitative and quantitative sources.

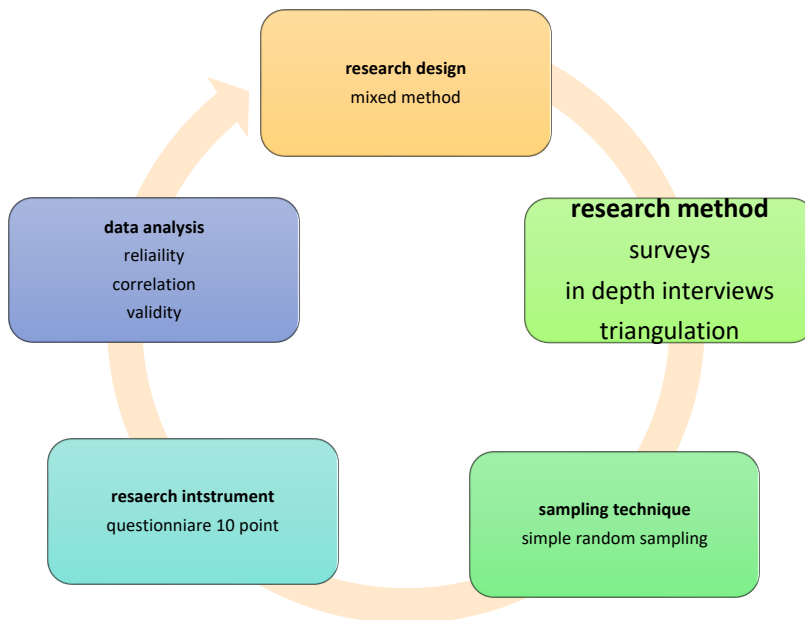


Figure 3.1.3-1: Framework of Methodology.

3.10. Qualitative Approach

The first and third objective of the study was studied using the qualitative technique that included the health challenges faced by the sanitary workers during COVID-19 and discrimination and prejudice faced by the sanitary workers. As the phenomena of COVID-19 is new, so that objectives needed to study in detail.

3.10.1. Data Collection

Data collection was done from sanitary workers, doctors and nurses using an interview guide as interview helps to better understand in detail the responses of the subjects. The interview guide has open ended questions to have better understanding of the responses.

3.10.2. Population

The population of the study is the sanitary workers of public sector hospitals working in Islamabad during COVID-19. Along with a few doctors and nurses.

3.10.3. Sampling Technique And Sample

Data will be collected using a simple random sampling technique. Population is sanitary, of hospital, doctors and nurses of public sector hospitals of Islamabad and sample will be any random ten people from the categories of public sector hospitals. The primary source of data will be collected directly from random ten sanitary workers by an unstructured questionnaire and a survey. The interview will be conducted and recorded in Urdu and then translated into English.

3.10.4. Data Analysis

Data will be analyzed using thematic analysis. The interview will be conducted and recorded in Urdu and then translated into English. The general themes will be deduced from the data and conceptual constructs will be formed.

Thematic analysis is a subjective information examination strategy that includes perusing an informational index, (for example, records from top to bottom meetings or center gatherings), and distinguishing designs in significance across the information to determine subjects. Thematic

examination includes a functioning course of reflexivity, where a scientist's emotional encounter assumes a focal part in significance making from information.

Thematic analysis was generally utilized in the area of brain science as well as different fields that utilization subjective exploration strategies. Virginia Braun and Victoria Clarke frame their way to deal with topical examination in their 2006 paper Involving topical examination in brain science. Thematic analysis in brain research can likewise be utilized in an assortment of other sociology fields.

Uses of thematic analysis

- You need to distinguish designs in information
- You are new to subjective examination
- You need to include research members in the examination cycle
- What are the benefits and burdens of topical investigation?
- Peruse our portrayal of topical examination benefits and burdens.

Pros of thematic analysis

Topical examination is an adaptable way to deal with subjective investigation that empowers scientists to create new experiences and ideas got from information. One of many advantages of topical investigation is that fledgling specialists who are simply figuring out how to examine subjective information will track down topical examination an open methodology. ("Comparing thematic data," 2012)

Cons of thematic analysis

Thematic analysis is a particularly adaptable methodology, it really intends that there are various ways of interpreting importance from the informational collection. It can feel threatening

to decipher what information is or alternately isn't critical to underline. Moreover, since topical examination centers on searching for designs across interviews, peculiarities that happen in just a single individual record can be ignored. Moreover, a limit of topical investigation is that you don't utilize existing hypothetical structures, which could restrict the interpretive force of your examination. (Peterson, 2017)

1. Make your underlying codes

Now that you knew about the information, practice thematic analysis coding, and make a bunch of starting codes that address the implications and examples you found in the information. Make a codebook to monitor the codes. Peruse your information once more, and distinguish intriguing selections and apply the fitting codes to them. Passages that address a similar significance ought to have a similar code applied. (Emmons & King, 1992)

2. Order codes with supporting information

Presently, gather every one of the passages related with a specific code. On the off chance that you're utilizing pen and paper, cut out the portions and gather them by code.

3. Bunch codes into topics

Since you have a bunch of beginning codes, sort the codes into likely topics. Subjects in subjective exploration are a strong method for seeing patterns and examples in your information. Perceive how different codes can be consolidated, and check whether there are topics that can be made into sub-subjects. (Terry & Hayfield, 2021)

4. Audit and reconsider subjects

Since you have your underlying arrangement of topics, survey and modify your subjects. Guarantee that each subject has an adequate number of information to help them and is unmistakable. Consider combining subjects that are comparable, and eliminating subjects that need more information to back them up. Start figuring out how your subjects can meet up into a story. (Terry & Hayfield, 2021)

5. Compose your story

Composing the account is the last move toward recount the narrative of your information. You ought to have completely thought out subjects, and presently it's your opportunity to convey to your peruses about the legitimacy or your examination. Ensure that your story recounts your information, and pick striking statements from your information that assist with sponsorship up your focuses. Your account ought to go past portraying your information and ought to incorporate your own interpretive investigation and argue for the cases you present. (Terry & Hayfield, 2021)

With thematic analysis, you recognize designs, make codes, and organize codes into subjects. You additionally emphasize on subjects by combining, re-orchestrating, and yet again naming codes. This cycle is smoothed out and more proficient while utilizing topical investigation programming. Use code detail pages to see all information associated with each code. Home code and consolidation code to coordinate your code tree. Rename your codes to keep your investigation adaptable.

3.11. Quantitative Approach

In this approach data will be collected by using a simple random approach. Randomly any fifteen sanitary workers, doctors, nurse will be chosen.

3.12. Data Collection

Data collection will be done using a seen point based Likert survey. Responses will be then entered into the statistical software SPSS and results will be transcribed.

3.12.1. Population

The population of the study is the sanitary workers of public sector hospitals working in Islamabad during COVID-19. Along with a few doctors and nurses.

3.12.2. Sampling technique and sample

Data will be collected using a simple random sampling technique.

3.12.3. Data Analysis

For quantitative research purpose, surveys will be conducted and descriptive statistics will be used. SPSS Software will be used for quantitative analysis. For reliability, Cronbach alpha will be used. Reliability reveals to you how reliably a strategy estimates something. For validity, face validity will be used. Which refers to how accurately a method measures and if something claims to measure the same it is valid.

3.13. Summary Of The Chapter

In the following chapter, I have explained the theoretical and conceptual framework of the study has been explained. Health belief model and theory of social exclusion and how they affect the life of sanitary workers was used for the acquisition of the qualitative data. The model for the health challenges of sanitary workers for the quantitative data was developed. All of this is supported by the literature review and independent variables. The framework has also been elaborated for the data collection and data analysis of the quantitative and qualitative approach.

4. DATA COLLECTION AND FINDINGS

4.1. Quantitative Data

Quantitative information was gathered by utilizing a poll which was conveyed among the respondents. By help of basic arbitrary inspecting journalists were chosen.

The poll comprised of two sections where the initial segment was connected with socioeconomics though the subsequent part involved the scale. Altogether, there were 27 things on the scale which estimated free factor, subordinate variable and a mediator. Prior to directing the investigation the unwavering quality and legitimacy of the examination instrument was estimated. The attributes of the example and expressive measurements, dependability and legitimacy tests followed by the Regression and Hierarchical Moderation Regression is completely examined in this section of review.

4.2. Sample Characteristics And Descriptive Statistics

The sample characteristics obtained from the demographic data from the questionnaire, frequencies and statistics of all items of descriptive statistics is reported below.

Table 4-1: Gender statistics

What Is Your Gender?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	112	51.6	56	56
	Female	88	40.6	44	100
	Total	200	92.2	100	100

Table 4-1 shows that there were 56 percent males and 44 percent females involved in the study.

Table 4-2: Age statistics

What Is Your Age?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Twenty	77	35.5	38.5	38.5
	Thirty	59	27.2	29.5	68
	Forty	31	14.3	15.5	83.5
	Fifty	33	15.2	16.5	100
	Total	200	92.2	100	

The Table 4-2 shows that there are four age groups from twenty to thirty to forty to fifty. Majority of the respondents belonged to twenties age group that is 77 percent, fifty nine percent respondents belong to age group thirty, 33 percent belonged to age group fifty and 31 percent belonged to age group forty. Forty percent was marked as the least.

Statement 1. Training Given to The Hospital Sanitary Worker During COVID-19

Table 4-3: Training Given to The Hospital Sanitary Worker During COVID-19

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Strongly agree	24	11.1	12	12
	Moderately Agree	12	5.5	6	18
	Somewhat Agree	24	11.1	12	30
	Agree	17	7.8	8.5	38.5
	Neutral	23	10.6	11.5	50
	Null	18	8.3	9	59
	Disagree	33	15.2	16.5	75.5
	Moderately Disagree	10	4.6	5	80.5
	Somewhat Disagree	8	3.7	4	84.5
	Strongly Disagree	30	13.8	15	99.5
	Total	200	92.2	100	

The Table 4-3 shows that 38.5% of the sanitary workers were given the training in the hospitals to cope up with the corona virus, 40% of the sanitary workers disagreed that they were given any training, and 25 % of the sanitary workers were having null responses.

Statement 2. Access To/Availability Of Protective Equipment Like Mask, Gloves, Sanitizers

Table 4-4: Access To/Availability Of Protective Equipment Like Mask, Gloves, Sanitizers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	66	30.4	33.2	33.2
	Moderately Agree	15	6.9	7.5	40.7
	Somewhat Agree	11	5.1	5.5	46.2
	Agree	23	10.6	11.6	57.8
	Neutral	12	5.5	6	63.8
	Null	12	5.5	6	69.8
	Disagree	15	6.9	7.5	77.4
	Moderately Disagree	7	3.2	3.5	80.9
	Somewhat Disagree	12	5.5	6	86.9
	Strongly Disagree	26	12	13.1	100
	Total	199	91.7	100	

Table 4-4 shows that 60% of the hospital sanitary workers were given the Access to/availability of protective equipment like mask, gloves, sanitizers, 30% of the sanitary workers disagreed on Access to/availability of protective equipment like mask, gloves, sanitizers and there were 12% null responses recorded for the statement.

Statement 3. Availability Of Medical Checkups During The Pandemic

Table 4-5: Availability of medical checkups during the pandemic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	54	24.9	27	27
	Moderately Agree	17	7.8	8.5	35.5
	Somewhat Agree	16	7.4	8	43.5
	Agree	14	6.5	7	50.5
	Neutral	21	9.7	10.5	61
	Null	12	5.5	6	67
	Disagree	16	7.4	8	75
	Moderately Disagree	7	3.2	3.5	78.5
	Somewhat Disagree	14	6.5	7	85.5
	Strongly Disagree	29	13.4	14.5	100
	Total	200	92.2	100	

Table 4-5 shows that 50 percent of the sanitary workers agreed to Availability of medical checkups during the pandemic, 33 percent of the sanitary workers disagreed to Availability of medical checkups during the pandemic, and 16.5 percent of the sanitary workers were neutral.

Statement 4. Stress, Depression, Anxiety During COVID-19

Table 4-6: Stress, Depression, Anxiety During COVID-19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	37	17.1	18.7	18.7
	Moderately Agree	41	18.9	20.7	39.4
	Somewhat Agree	25	11.5	12.6	52
	Agree	18	8.3	9.1	61.1
	Neutral	6	2.8	3	64.1
	Null	8	3.7	4	68.2
	Disagree	26	12	13.1	81.3
	Moderately Disagree	6	2.8	3	84.3
	Somewhat Disagree	7	3.2	3.5	87.9
	Strongly Disagree	24	11.1	12.1	100
Total	198	91.2	100		

Table 4-6 shows that 61 % of the sanitary workers faced stress, depression, anxiety during COVID-19, 32% of sanitary workers disagreed to faced stress, depression, anxiety during Covid and 12 % of the sanitary workers were neutral and 17% were having null responses .

Statement 5. Occupational Injuries While Handling Waste

Table 4-7: Occupational Injuries While Handling Waste

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	39	18	19.8	19.8
	Moderately Agree	21	9.7	10.7	30.5
	Somewhat Agree	17	7.8	8.6	39.1
	Agree	35	16.1	17.8	56.9
	Neutral	9	4.1	4.6	61.4
	Null	14	6.5	7.1	68.5
	Disagree	19	8.8	9.6	78.2
	Moderately Disagree	4	1.8	2	80.2
	Somewhat Disagree	26	12	13.2	93.4
	Strongly Disagree	13	6	6.6	100
	Total	197	90.8	100	

The Table 4-7 shows that 57% of the sanitary workers agreed on having Occupational injuries while handling waste, 31.4% of the sanitary workers disagreed on Occupational injuries while handling waste and 12 % of the sanitary workers were having null responses.

Statement 6. Knowledge Of Infectious Diseases

Table 4-8: Knowledge of Infectious Diseases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	53	24.4	26.8	26.8
	Moderately Agree	25	11.5	12.6	39.4
	Somewhat Agree	9	4.1	4.5	43.9
	Agree	17	7.8	8.6	52.5
	Neutral	13	6	6.6	59.1
	Null	13	6	6.6	65.7
	Disagree	12	5.5	6.1	71.7
	Moderately Disagree	11	5.1	5.6	77.3
	Somewhat Disagree	18	8.3	9.1	86.4
	Strongly Disagree	27	12.4	13.6	100
	Total	198	91.2	100	

Table 4-8 shows that 56% of the sanitary workers had knowledge of infectious diseases, 35% of the sanitary workers disagreed on having knowledge of infectious diseases, 4% were having zero responses and 13.2% were null with the statement.

Statement 7. Provision Of Essential Stuff as Female Sanitary Worker

Table 4-9: Provision of Essential Stuff as Female Sanitary Worker

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	36	16.6	18.1	18.1
	Moderately Agree	10	4.6	5	23.1
	Somewhat Agree	12	5.5	6	29.1
	Agree	14	6.5	7	36.2
	Neutral	15	6.9	7.5	43.7
	Null	19	8.8	9.5	53.3
	Disagree	24	11.1	12.1	65.3
	Moderately Disagree	23	10.6	11.6	76.9
	Somewhat Disagree	18	8.3	9	85.9
	Strongly Disagree	28	12.9	14.1	100
	Total	199	91.7	100	

Table 4-9 shows that 36% of the female sanitary workers agreed to provision of essential stuff as female sanitary worker, 47% of the female sanitary workers disagreed on Provision of essential stuff as female sanitary worker by the hospitals in COVID-19, 17% of the sanitary workers were having null responses on provision of essential stuff as female sanitary worker.

Statement 8. Discrimination As Female Sanitary Worker in Terms of Funds Or Compensation

Table 4-10: Discrimination As Female Sanitary Worker In Terms of Funds or Compensation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	24	11.1	12.1	12.1
	Moderately Agree	7	3.2	3.5	15.7
	Somewhat Agree	17	7.8	8.6	24.2
	Agree	25	11.5	12.6	36.9
	Neutral	10	4.6	5.1	41.9
	Null	12	5.5	6.1	48
	Disagree	24	11.1	12.1	60.1
	Moderately Disagree	14	6.5	7.1	67.2
	Somewhat Disagree	22	10.1	11.1	78.3
	Strongly Disagree	43	19.8	21.7	100
Total	198	91.2	100		

Table 4-10 shows that 47% of the sanitary workers faced discrimination as female sanitary worker in terms of funds or compensation, 52% of the female sanitary workers Discrimination as female sanitary worker in terms of funds or compensate ion, 6% were neutral and 12% were null with the responses.

Statement 9. Family Roles and Workload as A Female

Table 4-11: Family Roles and Workload as A Female

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	41	18.9	20.9	20.9
	Moderately Disagree	27	12.4	13.8	34.7
	Somewhat Agree	25	11.5	12.8	47.4
	Agree	27	12.4	13.8	61.2
	Neutral	13	6	6.6	67.9
	Null	7	3.2	3.6	71.4
	Disagree	8	3.7	4.1	75.5
	Moderately Disagree	9	4.1	4.6	80.1
	Somewhat Disagree	14	6.5	7.1	87.2
	Strongly Disagree	25	11.5	12.8	100
	Total	196	90.3	100	

Table 4-11 shows that 62% of the sanitary workers agreed on family roles and work load as a female, 29% of the sanitary workers disagreed on family roles and work load as a female affecting them and 10% of the sanitary workers were neutral about family roles and work load as a female affecting them in COVID-19.

Statement 10. Services Offered After Retirement

Table 4-12: Services Offered After Retirement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	29	13.4	15.2	15.2
	Moderately Agree	5	2.3	2.6	17.8
	Somewhat Agree	11	5.1	5.8	23.6
	Agree	15	6.9	7.9	31.4
	Neutral	9	4.1	4.7	36.1
	Null	6	2.8	3.1	39.3
	Disagree	37	17.1	19.4	58.6
	Moderately Disagree	14	6.5	7.3	66
	Somewhat Disagree	20	9.2	10.5	76.4
	Strongly Disagree	45	20.7	23.6	100
	Total	191	88	100	

Table 4-12 shows that 32% of the sanitary workers agreed on having services offered after retirement, 61% of the sanitary workers disagreed on having services offered after retirement and 8% were neutral and not sure whether they would be getting services offered after retirement.

Statement 11. Welfare services offered to your family and children

Table 4-13: Welfare services offered to your family and children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	36	16.6	18.5	18.5
	Moderately Agree	11	5.1	5.6	24.1
	Somewhat Agree	5	2.3	2.6	26.7
	Agree	10	4.6	5.1	31.8
	Neutral	9	4.1	4.6	36.4
	Null	18	8.3	9.2	45.6
	Disagree	28	12.9	14.4	60
	Moderately Disagree	17	7.8	8.7	68.7
	Somewhat Disagree	21	9.7	10.8	79.5
	Strongly Disagree	40	18.4	20.5	100
	Total	195	89.9	100	

Table 4-13 shows 32% of the sanitary workers agreed on welfare services offered to the family and children by the public hospitals, 55% of the sanitary workers disagreed on having welfare services offered to the family and children by the hospitals, and 14% of the respondents were having null responses.

Statement 12. Compensation and Paychecks during COVID-19

Table 4-14: Compensation and Paychecks during COVID-19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	36	16.6	18.4	18.4
	Moderately Agree	22	10.1	11.2	29.6
	Somewhat Agree	17	7.8	8.7	38.3
	Agree	12	5.5	6.1	44.4
	Neutral	12	5.5	6.1	50.5
	Null	7	3.2	3.6	54.1
	Disagree	14	6.5	7.1	61.2
	Moderately Disagree	20	9.2	10.2	71.4
	Somewhat Disagree	15	6.9	7.7	79.1
	Strongly Disagree	41	18.9	20.9	100
	Total	196	90.3	100	

Table 4-14 shows that 45% of the sanitary workers compensation and paychecks during COVID-19, 46% of the sanitary workers disagreed on Compensation and paychecks during COVID-19. Ten percent null or neutral responses were recorded.

4.3. Normality Of Data

Every one of the qualities are tried for greatest, least, mean, standard deviation, skewness and kurtosis. The spellbinding insights show the ordinariness of the information. For the skewness and kurtosis, min, and max, mean, and standard deviation every one of the aspects were tried. The elucidating measurements is introduced in the table underneath all the survey related things are recorded. A ten-point Likert scale is utilized for development of the survey. All elucidating measurements subtleties are displayed in the table underneath. The informational collection displays the fitting worth mean and the scope of least and greatest shows the ordinariness of information. All little upsides of standard deviation are mirroring the closeness with the mean and scattering of information is less and the qualities are near the mean. The skewness and kurtosis values are inside the satisfactory scope of +/- 3 (Hopkins and Weeks, 1990)

Table 4-15: Normality Of Data (Sanitary Workers)

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Training Given To The Hospital Sanitary Worker During COVID-19	200	1	77	5.855	5.82871	9.19	0.17	112.034	0.34
Access To/Availability Of Protective Equipment Like Mask, Gloves, Sanitizers	199	1	10	4.4322	3.31116	0.468	0.17	-1.236	0.34
Availability Of Medical Checkups During The Pandemic	200	1	10	4.765	3.30369	0.328	0.17	-1.329	0.34
Stress, Depression, Anxiety During COVID-19	198	1	10	4.4293	3.09946	0.587	0.17	-1.063	0.34
Knowledge Of Infectious Diseases	198	1	10	4.7727	3.3711	0.309	0.17	-1.436	0.34
Occupational Injuries While Handling Waste	197	1	10	4.7208	3.0031	0.345	0.17	-1.196	0.35
Provision Of Essential Stuff As Female Sanitary Worker	199	1	10	5.6834	3.13425	-0.207	0.17	-1.291	0.34
Discrimination As Female Sanitary Worker In Terms Of Funds Or Compensation	198	1	10	6.1566	3.13499	-0.257	0.17	-1.296	0.34
Family Roles And Work Load As A Female	196	1	10	4.5357	3.16451	0.571	0.17	-1.088	0.35
Services Offered After Retirement	191	1	10	6.356	3.19687	-0.47	0.18	-1.146	0.35
Welfare Services Offered To Your Family And Children	195	1	10	6.0872	3.28502	-0.394	0.17	-1.268	0.35
Compensation And Paychecks During COVID-19	196	1	10	5.5306	3.43945	0	0.17	-1.585	0.35
Valid N (Listwise)	168								

Table 4-16: Normality of Data (Doctors and Nurses)

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Is There A Lot Of Stigmatization And Misunderstanding Related To COVID-19 In Patients?	15	1	7	2.9333	1.66762	0.974	0.58	1.07	1.12
Did visited the discussions related to COVID-19?	15	1	7	4.2667	2.21897	-0.071	0.58	-1.419	1.12
Are You Regularly Taking Checkups On Your Health During These Crucial Times?	15	1	7	2.8	2.21037	1.07	0.58	-0.636	1.12
Did You Inclined Towards Negative Emotions Such As Stress, Depression, Anxiety In COVID-19?	15	1	7	3.6667	1.79947	0.069	0.58	-0.76	1.12
Did You Spend Less Time With Your Family In Risk Of Exposing Them To The Virus?	15	1	7	3.6667	2.12692	0.196	0.58	-1.293	1.12
Did You Practice Social And Physical Distancing In COVID-19 While Screening Before Assessing The Patients?	15	1	7	2.9333	1.70992	1.009	0.58	0.81	1.12
Was the PPE adequate enough to protect you from the corona virus?	15	1	7	4.6	2.1314	-0.619	0.58	-1.425	1.12
Did The Hospital Provided You With Transportation For +Ve Cases Or Suspected Cases To Designated Hospitals/Isolation Shelters/Camps?	15	1	2	1.5333	0.5164	-0.149	0.58	-2.308	1.12
Did You Faced Physical Strain Or Memory Loss During COVID-19?	1	1	2	1.5333	0.5164	-0.149	0.58	-2.308	1.12
Did you felt Sadness, Anger, Or Frustration Because Friends Or Loved Ones Have Unfounded Fears Of Contracting The Disease From Contact With You Because Of Your Work?	15	1	2	1.5333	0.5164	-0.149	0.58	-2.308	1.12
Would be consider receiving psychological support if needed in any case?	15	1	2	1.4667	0.5164	0.149	0.58	-2.308	1.12
Was formal training a part of your duty in case of using PPE in the corona virus?	15	1	7	2.5333	2.03072	1.509	0.58	0.852	1.12
Did you had extreme worries and phobias regarding the health of yours and your loved ones?	15	1	2	1.4667	0.5164	0.149	0.58	-2.308	1.12
Are You Sleeping More, Less, Or The Same As Usual?	15	1	2	1.5333	0.5164	-0.149	0.58	-2.308	1.12
Does general practice requires to provide medical certificates for the patients Who Are Terminated From Hospital?	15	1	7	4.2	2.21037	0.029	0.58	-1.387	1.12
Valid N (Listwise)	15								

4.4. Cronbach alpha

For measuring the reliability of data, Cronbach alpha is applied. The rules for measuring Cronbach alpha are:

- If the Cronbach alpha is greater than and equal to 0.9 , then it is excellent
- If 0.9 is greater than alpha and equal to 0.8 , then it is good
- If alpha is greater than 0.8 and less than equal to 0.7, it is acceptable.
- If alpha is greater than 0.7 and less than and equal to 0.6, then it is questionable.
- If alpha is greater than 0.6 and less than 0.5 it is poor
- If alpha is greater than 0.5, it is unacceptable.

Table 4-17: Cronbach alpha

N	%
168	77.4
49	22.6
217	100

Table 4-18: Reliability Statistics

Cronbach's Alpha	No. of Items
0.936	12

In Table 4-18 over the worth of alpha is 0.936 which portrays brilliant unwavering quality of the instrument. It shows that each of the 53 things in the instrument have great inside consistency.

4.5. Validity Analysis

For the legitimacy test, logical component investigation was utilized. Estimating the legitimacy of the questionnaire is utilized.

4.6. KMO And Bartlett's Test

KMO and Bartlett test represents Chef Meyer Olkin and it's utilized for tracking down the force of fractional relationship. KMO esteem closer to 0. One are satisfactory and less than 0.

5 are bothersome. The Bartlett trial of sphericity is used to check the invalid speculation that the relationship lattice is a character framework. A personality relationship network is your factors are not related and not ideal for factor investigation. The significant measurable test (typically under 0. 05) shows that the relationship network isn't a personality lattice (dismissal of the invalid speculation).

Table 4-19: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.875
Bartlett's Test of Sphericity	Approx. Chi-Square	7560.844
	df	1120
	Sig.	.000

In the table below the KMO and Bartlett test value is 0.531 which identifies that the correlation matrix is acceptable.

4.7. Eigen Values

Eigen values present the total amount of variance by a principal component. They can be positive and negative. Eigenvalues greater than zero are a good sign. variances cannot be negative but if eigen values come negative it implies that the model is ill fitted.

The total variance which can be explained by given principal component constituting the eigen values. Explanation of variance is positive, and they might show up as positive or negative in theory.

- It is considered very good when the value is usually more than 0.
- The negative eigenvalues indicate model is not well conditioned as variance cannot be negative.
- The values close to zero denote multicollinearity of items as the first component takes all the variance.

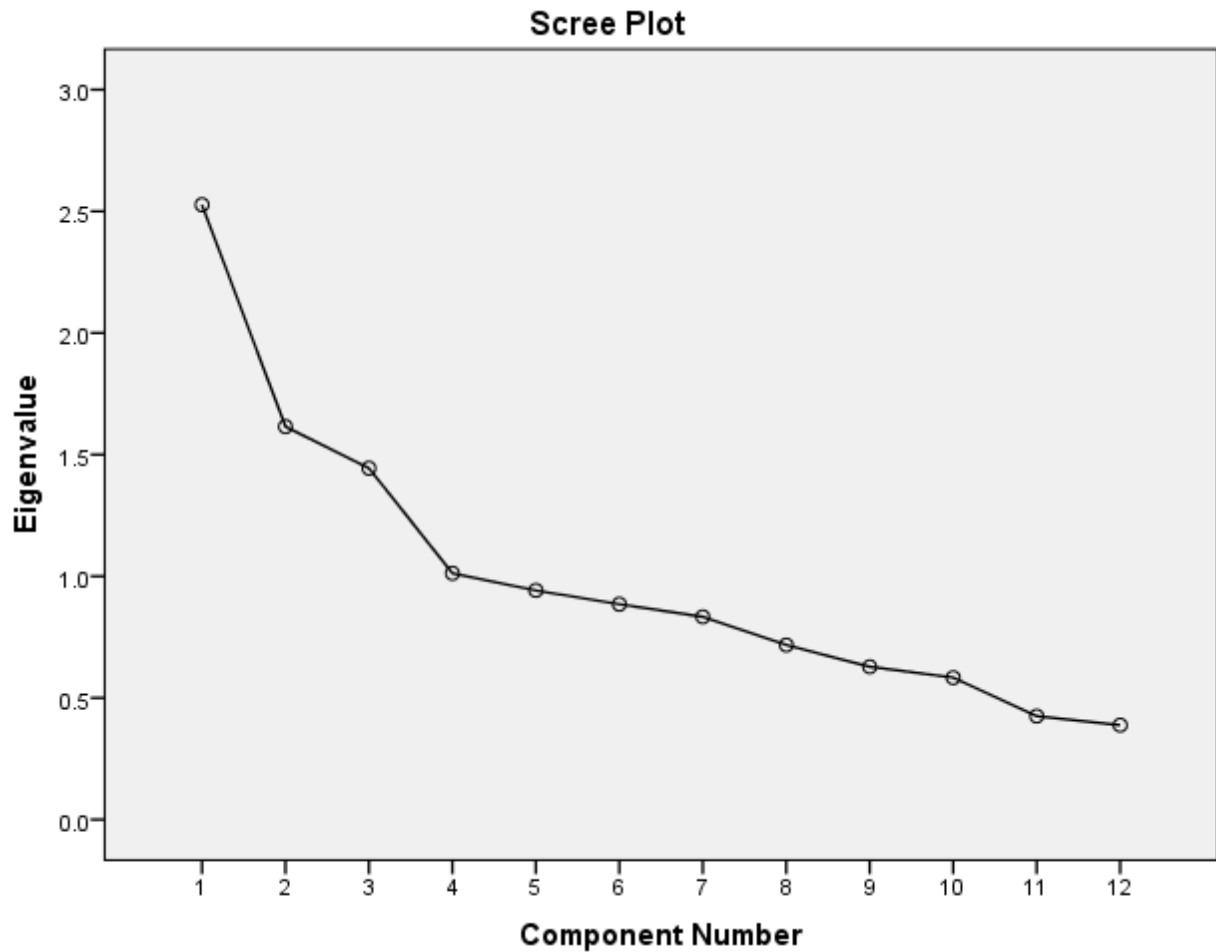
Table 4-20: Eigen Values

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.527	21.057	21.057	2.53	21.057	21.057
2	1.615	13.46	34.517	1.62	13.46	34.517
3	1.444	12.034	46.551	1.44	12.034	46.551
4	1.012	8.434	56.333	1.01	8.434	56.333
5	0.942	7.846	62.832	0.94	7.846	62.832
6	0.885	7.374	70.205	0.89	7.374	70.205
7	0.833	6.945	77.15	0.83	6.945	77.15
8	0.718	5.98	83.13	0.72	5.98	83.13
9	0.628	5.233	88.364	0.63	5.233	88.364
10	0.583	4.861	93.224	0.58	4.861	93.224
11	0.425	3.542	96.767	0.43	3.542	96.767
12	0.388	3.233	100	0.39	3.233	100
Extraction Method: Principal Component Analysis.						

The above table explains variance. It elaborates how many categories of factor are possible which is represented through the Eigen values. The Eigen value should be greater than 1 which shows the possible factors that can be obtained. The Eigen values are greater than 1 and there are ten possible categories for the factors. Furthermore, the cumulative % of Extraction Sums of Squared Loadings explains the total variance and it shall be greater than 50%. In the table above it is 56.333%. This means that the ten factors together account for 56.333% of the total variance.

A scree plot is a graphical tool used in selection of relevant components to be considered in a factor analysis.

It was proposed by Raymond Catell in 1966, now it has become a widely used tool in component and factor analysis. As the scree plot has an elbow it refers to as the data is equally distributed among all the factors. The slope is higher in the start because of the variability of components and lower in the end due to small amount of variability in the factors.



In time series examination, time is a critical variable of the information. Times series investigation assists us with concentrating on our reality and figure out how we progress inside it.

Time series investigation is a particular approach to breaking down a succession of information focuses gathered over a time frame. In time series examination, experts record data of interest at predictable stretches over a set timeframe as opposed to simply recording the information focuses discontinuously or haphazardly. Nonetheless, this sort of investigation isn't just the demonstration of gathering information over the long run.

What separates time series information from different information is that the investigation can show how factors change over the long run. At the end of the day, time is a critical variable since it shows how the information changes throughout the span of the data of interest as well as the eventual outcomes. It gives an extra wellspring of data and a set request of conditions between the information.

Time series investigation commonly requires countless information focuses to guarantee consistency and dependability. A broad informational collection guarantees you have a delegate test size and that examination can slice through uproarious information. It additionally guarantees that any patterns or examples found are not anomalies and can represent occasional fluctuation. Also, time series information can be utilized for anticipating — foreseeing future information in light of authentic information.

Time series examination assists associations with grasping the fundamental reasons for patterns or foundational designs after some time. Utilizing information perceptions, business clients can see occasional patterns and dig further into why these patterns happen. With current examination stages, these representations can go a long ways past line charts.

At the point when associations examine information over reliable spans, they can likewise utilize time series gauging to foresee the probability of future occasions. Time series estimating is essential for prescient examination. It can show probably changes in the information, similar to irregularity or cyclic way of behaving, which gives a superior comprehension of information factors and helps gauge better.

Time series investigation is utilized for non-fixed information — things that are continually fluctuating after some time or are impacted by time. Ventures like money, retail, and financial matters every now and again use time series examination since cash and deals are continuously evolving. Securities exchange examination is an amazing illustration of time series investigation

in real life, particularly with robotized exchanging calculations. Similarly, time series examination is great for gauging weather conditions changes, assisting meteorologists with anticipating all that from the upcoming climate projection to future long stretches of environmental change.

Models of time series investigation include:

- Characterization: Distinguishes and doles out classifications to the information.
- Bend fitting: Plots the information along a bend to concentrate on the connections of factors inside the information.
- Graphic examination: Distinguishes designs in time series information, similar to patterns, cycles, or occasional variety.
- Explanative examination: Endeavors to figure out the information and the connections inside it, as well as circumstances and logical results.
- Exploratory examination: Features the primary qualities of the time series information, as a rule in a visual organization.
- Guaging: Predicts future information. This type depends on verifiable patterns. It involves the verifiable information as a model for future information, foreseeing situations that could occur along future plot focuses.
- Mediation examination: Studies how an occasion can change the information.
- Division: Divides the information into sections to show the basic properties of the source data.

A Scene exercise manual appearance how classes can be added to a period series investigation.

- Information grouping

Further, time series information can be grouped into two principal classifications:

Stock time series information implies estimating credits at one point in time, similar to a static preview of the data as it was.

Stream time series information implies estimating the movement of the qualities over a specific period, which is by and large piece of the complete entire and makes up a part of the outcomes.

- Information varieties

In time series information, varieties can happen irregularly all through the information:

Useful examination can select the examples and connections inside the information to distinguish prominent occasions.

Pattern examination implies deciding steady development in a specific heading. There are two sorts of patterns: deterministic, where we can track down the hidden reason, and stochastic, which is irregular and unexplainable.

Occasional variety portrays occasions that happen at explicit and customary stretches throughout a year. Sequential reliance happens when information focuses near one another in time will more often than not be connected.

Time series examination and anticipating models should characterize the sorts of information applicable to responding to the business question. Whenever experts have picked the applicable information they need to break down, they pick what kinds of investigation and procedures are the best fit.

- Significant Contemplations for Time Series Investigation

While time series information is information gathered over the long haul, there are various kinds of information that portray how and when that time information was recorded. For instance:

Time series information is information that is recorded over steady time frames.

Cross-sectional information comprises of a few factors recorded simultaneously.

Pooled information is a mix of both time series information and cross-sectional information.

Time Series Examination Models and Methods

Similarly as there are many sorts and models, there are likewise various strategies to concentrate on information. Here are the three generally normal.

Time series investigation is definitely not another review, regardless of innovation making it simpler to get to. A large number of the suggested texts showing the subject's basic hypotheses and practices have been around for quite a long time. What's more, the actual technique is significantly more seasoned than that. We have been involving time series investigation for millennia, as far as possible back to the old investigations of planetary development and route.

Times series examination and R

The open-source programming language and climate R can finish normal time series examination capabilities, for example, plotting, with only a couple of keystrokes. More intricate capabilities include tracking down occasional qualities or inconsistencies. Time series examination in Python is likewise well known for tracking down patterns and gauging.

Table 4-21: Pattern Matrix

Pattern Matrix ^a	Factor			
	1	2	3	4
Services offered after retirement	0.514			0.118
Occupational injuries while handling waste	-0.512	0.279		
Provision of essential stuff as female sanitary worker	0.462			
Training given to the hospital sanitary worker during COVID-19	0.416		-0.107	0.17
Stress, depression, anxiety during COVID-19	0.167	0.737	-0.137	-0.11
Family roles and work load as a female	-0.142	0.52	0.163	0.138
knowledge of infectious diseases		0.454	-0.133	
Discrimination as female sanitary worker in terms of funds or compensation	-0.175	0.352	0.134	
Compensation and paychecks during COVID-19	-0.26		0.649	0.128
Availability of medical checkups during the pandemic	0.348	0.107	0.632	-0.151
Access to/availability of protective equipment like mask, gloves,	0.21	-0.115	0.356	
Welfare services offered to your family and children	0.118		0.107	0.963
Extraction Method: Maximum Likelihood.				
Rotation Method: Promax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

Exploratory Factor Analysis was finished utilizing Maximum Likelihood utilizing Promax with Kaiser Normalization. The element loadings above 4.0 are taken for the things barring the lower ones. The examination yielded 10 elements making sense of a sum of 27 % of the change of the whole reliant variable (wellbeing and security of clean specialists). The elements 1 to 12 were named as wellbeing challenges (HC)), schooling and training (ET), separation and prejudice (DP).

4.8. Multiple Linear Regression

Table 4-22: Multiple Linear Regression: model summary

Case Processing Summary			
		N	%
Cases	Valid	193	88.9
	Excluded ^a	24	11.1
	Total	217	100

[a] Listwise deletion based on all variables in the procedure.

Predictors: (Constant), Occupational injuries while handling waste, Training given to the hospital sanitary worker during COVID-19, Discrimination as female sanitary worker in terms of funds or compensation

This alludes to clarification of various factors, among autonomous and subordinate variable. In initial step the connection among free and subordinate variable is coordinated, then the mediator is broken down.

Numerous straight relapses is utilized for portrayal of information and factors.

The positive and negative connection between them factors are recognized by $r=0.525$, which demonstrates that it is areas of strength for a connection.

The extent of variety in the reliant variable (wellbeing and security) brought about by autonomous factors is estimated by R-Square. In the model above, R-Square makes sense of 28% of variety.

With the variety in free factors (wellbeing difficulties, separation and prejudice and schooling and preparing) has caused extent of difference in the reliant variable (wellbeing and security) made sense of by changed R square. 27% change is made sense of in the model.\

Table 4.8.1. Multiple Linear Regression: ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.798	3	.599	2.468	.063 ^b
	Residual	46.387	191	.243		
	Total	48.185	194			

Typically the important difference amongst the means is analyzed out by ANOVA to see typically the goodness of fit in.

The model can be important if Sig < .05 having 99%, you can find most important if Sig < .1) these kinds of values reflect if model may be acknowledged or not. Typically the values greater as compared to 1 show unimportant without having clear romantic relationship found. The previous column of previously mentioned table represents typically the goodness of in shape as the price is less as compared to 0.01. Consequently, it is deduced that the unit is fit.

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.411	.096		2.960	.001
	Training given to the hospital sanitary worker during COVID-19	-.007	.006	-.084	3.830	.000
	Discrimination as female sanitary worker in terms of funds or compensation	-.009	.012	-.056	4.440	.473
	Occupational injuries while handling waste	.028	.012	.167	2.283	.006
a. Dependent Variable: what is your gender?						

Table 4.8.2) Coefficients

The variable of the model is contributed by the impression of beta coefficients. The higher the worth, it demonstrates the unit change in the autonomous variable. The effect of every variable is reflected in the T and Sig values. The high T worth and little P values reflects incredible effect of free factor on the reliant variable.

The table above shows that free factor orientation has a T esteem which recommends that autonomous variable orientation has T esteem 3.830 for the b coefficient with solid sign ($p < 0.01$). The b coefficient related with preparing (- 0.0007, $p < 0.001$) was positive reflecting positive relationship with the reliant variable. In this way, the increment of 1 unit in subordinate variable (wellbeing challenges) then, at that point, autonomous variable (training) goes up by - 0.084

The autonomous variable segregation T measurement 4.440 for the b coefficient gave solid proof ($p < 0.01$). The b coefficient related with segregation ($- 0.009$, $p < 0.01$) was demonstrating a positive relationship with preparing. Along these lines, in the event that we would increment preparing (subordinate variable) by 1 on normal than autonomous variable (separation) goes up by $- 0.0009$.

For word related wounds (autonomous variable) T measurement $- 0.719$ for the b coefficient and inconsequential proof ($p > 0.01$) which demonstrates that the variable doesn't altogether anticipate the result. Moreover, the negative beta coefficient shows that for each 1-unit expansion in the training (subordinate variable), the word related wounds (free factor) will diminish by the worth 0.028 .

The free factor consideration T measurement is 2.960 . The b coefficient related with consideration ($- 0.084$, $p > 0.05$) was showing a positive relationship however irrelevant which implies that it doesn't foresee the result.

The reliant variable (training) is colossally influenced by the word related injuries ($b = -0.056$) and separation ($b = 0.167$).

After determining the relationship between independent and dependent variable, a moderator was included which was Behaviour modification.

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.680 ^a	.036	.021	3.28017	.036	2.350	3	190	.074

Table 4.9. Hierarchical Moderation Regression

a. Predictors: (Constant), knowledge of infectious diseases, Occupational injuries while handling waste, Training given to the hospital sanitary worker during covid 19

With the expansion of arbitrator to the situation, the worth of R demonstrates that the reliant variable and autonomous factors are decidedly related their connection is fortified.

Thus, the straight relationship has become areas of strength for exceptionally. Subsequent to adding the mediator in the model, R square lets us know that 36% of the variety was made sense of. Changed R square estimates the extent of fluctuation, in the reliant variable (wellbeing and security system) was made sense of in the differences by autonomous factors (wellbeing difficulties, schooling and preparing, segregation and bias) and the expansion of arbitrator (changing on a surface level).

In this model the changed r square shows that very nearly 36% of the difference was made sense of. It shows that arbitrator makes sense of that bigger fluctuation in the wellbeing and security and every single free factor (wellbeing difficulties, schooling and preparing, segregation and bias)

The 36% change in the straight relationship is vital for demonstrate.

Table 4.9. Hierarchical Moderation Regression. ANOVA

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.860	3	25.287	2.350	.000^b
	Residual	2044.310	190	10.760		
	Total	2120.170	193			
a. Dependent Variable: Access to/availability of protective equipment like mask, gloves, sanitizers						
b. Predictors: (Constant), knowledge of infectious diseases, Occupational injuries while handling waste, Training given to the hospital sanitary worker during covid 19						

The huge distinction between the means is tried through Analysis of Variance (ANOVA) by making sense of the decency of fit. The Model 1 is fit as made sense of above. The impact of arbitrator change in behavior patterns doesn't adjust the wellness of the model as the outcomes are huge at 0.000. The last section of above table addresses the decency of fit as the worth is under 0.01. Subsequently, it is concluded that the model is fit.

Table 4.9. Hierarchical Moderation Regression. Coefficients

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.171	.590		1.070	.000
	Training given to the hospital sanitary worker during covid 19	.096	.040	.171	2.376	.018
	Occupational injuries while handling waste	-.071	.079	-.065	-.900	.369
	knowledge of infectious diseases	.013	.070	.013	.185	.853
a. Dependent Variable: Access to/availability of protective equipment like mask, gloves, sanitizers						

Every variable commitment in the model is contributed by the beta coefficient. The mediator changes the relationship of the multitude of free factors with the reliant factors. The above table shows that autonomous variable admittance to accessibility of defensive gear has T measurement esteem 2.73 for the b coefficient gave areas of strength for exceptionally ($p < 0.05$) that the inclines related with admittance to accessibility of defensive hardware was not equivalent to nothing ($b \neq 0$) as behaviour change directs the relationship. The b coefficient related with admittance to defensive gear (0.165, $p < 0.05$) was positive demonstrating an immediate relationship with wellbeing challenges. Accordingly, in the event that we would increment subordinate variable (wellbeing challenges) by 1 on normal than autonomous variable trainings) goes up by 0.165.

For the autonomous variable separation, T measurement 1.264 for the b coefficient gave proof ($p > 0.05$) that it becomes inconsequential after the arbitrator is added to the model.

For preparing (autonomous variable) T measurement - 1.768 for the b coefficient and irrelevant proof ($p > 0.05$) which shows that the variable doesn't altogether anticipate the result after the mediator change in behavior patterns is added to the Model. Besides, the negative beta coefficient demonstrates that for each 1-unit expansion in the preparation (subordinate variable), the word related harms (autonomous variable) will diminish by the worth 0.122.

The autonomous variable consideration T measurement is 1.390. The b coefficient related with incorporation (0.062, $p > 0.05$) was showing a positive relationship however immaterial which implies that it doesn't foresee the result as the impact of mediator Behavior change is inspected.

Among all autonomous factors the best impact of the mediator (behaviour change) on the reliant variable (preparing) was made sense of by responsiveness ($b=0.165$).

4.9. Qualitative Data

4.9.1. Thematic Analysis

Thematic analysis is the process to identify, analyze and report same themes and patterns in qualitative data. It also helps in analyzing data and different themes. The method of thematic analysis of coding, searching and refining data, and to report findings are applicable to several other qualitative methods.

Step One. Familiarizing With Your Data

Step Two. Creation of Initial Unique Codes

Step Three. Searching For Themes

Step Four. Identifying and Naming Styles

Step Five. Creating the Report

Step Six. Writing the Themes

Step 1. Familiarizing with your data

The source of data should be familiarized, whether it be interviews, focus groups, recorded information, field notes, journal entries, photographs. In case of audio data, that needs to be transcribed first. In my study the interview data was recorded first and then the data was transcribed from Urdu to English.

Step 2. Creation of initial unique codes

Coding helps in organizing the data. A well-defined code should not overlap with the other themes. Once the code are applied they will be applied over all the theme. Then by labeling data with relevant codes. Coding can be done manually or with the help of computers, coding extracts a large amount of information.

Step 3. Searching for themes

The third step count for searching themes from the coded data. The process of theme identification is fundamentally challenging. Themes are created by the researchers by analyzing, combing, comparing, and even making graphs how code relate to each other. In inductive analysis, the themes are derived from code data and deductive analysis theoretical frameworks will develop themes. In creation and organization of themes, thematic maps are useful for visual concepts and visually. Themes should be individually meaning ful so that they can make sense altogether.

Step 4. Identifying and naming styles

Data within each theme should have coherence and should be correlated. At this point data can beaded, sorted, combined, divided or even discarded. Throughout the research, memos and notes should be kept so in case to change or add a opinion. The thematic map should clearly demonstrate how themes interrelate and how they represent the question or construct of interest.

Step 5. Creating the report

This is the final step to write up the analysis. The final step is to present the findings as a continuation of the ongoing analysis. The final account should bear a clear, concise and to the point data explanation.

Step 1 : Familiarizing Yourself With The Data

The study is based upon the health and safety issues of sanitary workers during COVID-19. After interviewing the sanitary worker, doctors, nurses and other hospital staff it was analyzed that sanitary workers face extreme challenges, causalities, disease and are all the time open to the threats in the pandemic , when they are exposing themselves to threats just for the sake of the patients.

Data information: every interview was conducted for 20 mins with every respondent that were sanitary workers, doctors and nurses.

Respondent demographics: average age of the respondent's sanitary workers and doctors was in 20s. The interviews lasted from September 2020 to December 2020.

Step 2 : Generating Initial Codes

After the data has been familiarized, step two is to gather the initial codes and arrange them in a meaningful order. The big data is converted into small meaningful data. The data representation is done and it can be further moved to the extract the exact data and delete meaningless data, which is no longer needed for the coding. There are two methods of data extraction, one is data driven or the other is theory driven. My study divides between theory driven and data driven.

4.9.2. Coding Process

The interview data is arranged accordingly to the modules. The responses are then given a thorough reading to find the relevant data and is changed through coding. Then, at that point, codes are changed to be connected with the exploration questions. Everything the cycle is done physically and afterward different into ms word.

As a matter of some importance, the information related with interview is coordinated by the sections inside the meeting routine aide. The responses are then go through and yet again read to find the connected information to the specific module and the specific exploration question in addition to is deciphered inside the kind of coding. Following this, the codes are normally contrasted and modified with make every one of them more related to the examination questions. The entire system is finished physically in addition to then composed in to word design. The specific introductory codes for every one of your modules are given underneath:

Module 1: Health Challenges Of Sanitary Workers During COVID-19

Codes:

They didn't disappear and kept on working in more than three-quarter of the unwell wellbeing episodes, due to tension about losing their employment.

Liquor utilization and self-medicine were the vital methodologies of alleviation from their side effect.

As the hazardous nature of the work by sanitary workers, they are more vulnerable to different diseases.

Sanitary workers also face extreme physical stress and body pains. Mostly skin and eye problems are common in sanitary workers due to wet work and frequent hand washing. This is due to lack of safety equipment and dress. If it is highway or main road sweepers case, without these protective equipment's and dress even cost their life due to heavy vehicle with high-speed. Sanitary workers do face issue like depression and anxiety, but they try to suppress their mental issues by being busy, exhausted and drained in work.

Sanitary workers want their job to become permanent.

No proper PPE was provided to them during the times of pandemic. All the sanitary workers were issued one soap, yet they was scanned off for virus and advised not to shake hands with the patients. They do complain of physical strain and wish that their children never ever come in this occupation. Most difficult part of their job is to deal with the hazardous waste like syringes, glass, leakages with diseases, yellow waste and needles. Their basic tasks are washing, cleaning, tidying washrooms, taking patients to washrooms and changing their clothes, picking up waste and changing shoppers of the dustbins.

The duty starts at 6:30 am and the days on which they have to skip breakfast are equally exhausting.

They wish that after such hard work at least their children must be offered some services like free education or health. Despite working really hard and putting blood and sweat in their job, their efforts are not really acknowledged and recognized.

Sanitary workers salary and pay is very less, ranging from Rupees 12000-13000, and in this reign of inflation, they struggle really hard to make both ends meet. For making their ends meet, they have to work multiple jobs.

Another sanitary workers works as a part time painter to make his living. Vacations are not allowed, as if a sanitary worker takes a vacation, the person is terminated.

One of the sanitary workers wishes her daughter to become a doctor, but she fears that her wish will be unfulfilled due to her financial status. Due to low finances, the sanitary workers cannot admit their kids to school.

Sanitary workers join this profession to support their family, but after all this time there is just oblivion, gloom, misery, pessimism and obscure future for them in this profession.

Nurses come at second number in the meaning of true suffering during the corona pandemic. Protective equipment is provided to them but as compared to comparative inflation and their tireless efforts, the pay of the nurses is very less.

During the pandemic, corona protection kit was provided to nurses and doctors for two years. The corona kit is unbearable, because wearing it fully during summers is exhausting on body. Nurses experience intense sweating, acne and allergy due to it.

If a patient dies, the relatives create havoc in the ward. In terms of long term services, pension is offered to them. The nurses do not complain of any mental stress.

They do complain about physical stress, as due to constantly working for 6-12 hours and immense workload, they experience tiredness, lethargy and backache problems.

Female nurses have more workload, as before marriage they used to distribute workload at their parents' home.

They were provided training for corona virus treatment. They are also required to counsel their patient, and their duty demands extreme patience, as smaller children tease them and cannot live without their parents at the hospital.

Module 2: Discrimination And Prejudice Towards Sanitary Workers

Codes

The frontline warriors also known as doctors deserve appreciation and respect, as they fought courageously and vehemently against an invisible enemy, corona.

They were not provided with PPE, training and proper equipment and they sacrificed their own time, family time and life to treat patients. They are not offered any services and facilities are provided to them, like pension, free health and free education for children.

Sanitary workers get their job on contract and no health services are offered to them. Sanitary workers complain about their workload to be extremely exhausting, as the work is discriminatory and not equally divided between male and female sanitary workers.

Female sanitary workers are particularly unhappy about one fact in which their privacy is not respected. They are asked to accompany male and female patients to the washroom. During the time of Corona, sanitary workers were exposed to the most hazardous conditions.

They were only provided with gloves, but no mask was provided to them. Sanitary workers complained about being called “lubber” and “lazy” by their supervisors. The behavior of supervisors to them is really rude, degrading and demeaning and they give snide and mean comments about them, which results in deduction in their salary.

Supervisors don't respect them and play blame game with them and also threaten to terminate them, although no services can be terminated without any cause.

People also treat them as dirty and smelly although they take bath every day after going to their houses. Although, it's a government job but they are hired on contractual basis, no services and incentives are offered to them.

Module 3: Education And Training Of Sanitary Workers

Codes

Introduce training sessions to mitigate risks among sanitary workers

Discuss the importance of cleanliness and wearing clean uniform to work.

Explain why ill sanitary workers should not be working as they can spread the disease.

Teach sanitary workers how to handle injuries and waste in the hospitals.

Provide clean toilets, as well as, hand washing facilities for the sanitary workers.

Give the sanitary with washing supplies and individual protective equipment (PPE).

Progress detailed SOPs to make certain proper setup of practices.

Guarantee that all hygienic know where just about all equipment and products are located and once they are in order to be used.

Motivate communication for the particular sanitary to recognize and reduce dangers.

Hand washing need to occur after making use of the restroom, before beginning or returning in order to work, and prior to and after consuming or smoking in order to reduce the possibility of contamination.

Folks who are sick or who have got symptoms such as nausea, vomiting, or even diarrhea can ruin others. Open or even infected wounds, montage, or bleeding reduces also can transfer harmful pathogens to create.

Providing clean, available, and well-stocked bathroom facilities including lavatories and hand cleaning stations is essential to workers' health practices.

Good conversation encourages to record risks including accidents and illnesses.

Teaching should stress associated with communication and right now there should be a method developed so understand how to communicate their worries with their manager.

When hygienic find safety dangers, they need to report the particular risks and figure out how to reduce the dangers they have determined.

Encouraging workers to report injuries and illnesses and paying attention to the health of sanitary workers.

Preserving records of just about all workout sessions, disease and injury credit reporting, and other foods safety practices for example toilet and palm washing facility supervising and cleaning.

Step 3: Searching for themes

Module 1: Health Challenges Of Sanitary Workers During COVID-19

Codes:

They didn't disappear and kept on working in more than three-quarter of the unwell wellbeing episodes, due to tension about **losing their employment.**

Liquor utilization and self-medicine were the vital methodologies of alleviation from their side effect.

As the hazardous nature of the work by sanitary workers, they are more **vulnerable to different diseases.**

Sanitary workers also face extreme **physical stress and body pains.** Mostly **skin and eye problems** are common in sanitary workers due to wet work and frequent hand washing. This is due to **lack of safety equipment and dress.** If it is highway or main road sweepers case, without these protective equipments and dress even cost their life due to heavy vehicle with high speed. Sanitary workers do face issue like **depression and anxiety,** but they try to suppress their mental issues by being busy, **exhausted and drained in work.**

No proper PPE was provided to them during the times of pandemic. All the sanitary workers were issued one soap, yet they was scanned off for virus and advised not to shake hands with the patients. They do complain of physical strain and wish that their children never ever come in this occupation. Most difficult part of their job is to **deal with the**

hazardous waste like syringes, glass, leakages with diseases, yellow waste and needles. Their basic tasks are washing, cleaning, tidying washrooms, taking patients to washrooms and changing their clothes, picking up waste and changing shoppers of the dustbins.

The duty starts at 6:30 am and the days on which they have to skip breakfast are equally exhausting.

Another sanitary workers works as a part time painter to make his living. Vacations are not allowed, as **if a sanitary worker takes a vacation, the person is terminated.**

Due to **low finances,** the sanitary workers cannot admit their kids to school.

Sanitary workers join this profession to support their family, but after all this time there is just oblivion, gloom, misery, pessimism and obscure future for them in this profession.

Nurses come at second number in the meaning of true suffering during the corona pandemic. Protective equipment is provided to them but as compared to comparative inflation and their tireless efforts, the pay of the nurses is very less.

During the pandemic, corona protection kit was provided to nurses and doctors for two years. The corona kit is unbearable, because wearing it fully during summers is exhausting on body. **Nurses experience intense sweating, acne and allergy due to it.**

If a patient dies, the relatives create havoc in the ward. In terms of long term services, pension is offered to them. The nurses do not complain of any mental stress.

They do complain about physical stress, as due to constantly working for 6-12 hours and **immense workload, they experience tiredness, lethargy and backache problems.**

Female nurses have more workload, as before marriage they used to distribute workload at their parents' home.

They were **provided training for corona virus treatment.** They are also required to counsel their patient, and their duty demands extreme patience, as smaller children tease then and cannot live without their parents at the hospital.

Module 2: Discrimination And Prejudice Towards Sanitary Workers

Codes

The warriors also known as sanitary workers deserve appreciation and respect, as they fought courageously and vehemently against an invisible enemy, corona.

They were **not provided with PPE, training and proper equipment and they sacrificed their own time, family time and life to treat patients.** They are not offered any services and facilities are provided to them, like pension, free health and free education for children.

Sanitary workers get their **job on contract and no health services** are offered to them. Sanitary workers complain about their workload to be **extremely exhausting,** as the work is **discriminatory and not equally divided** between male and female sanitary workers.

Female sanitary workers are particularly unhappy about one fact in which their **privacy is not respected.** They are asked to accompany male and female patients to the washroom. During the time of Corona, sanitary workers were exposed to the most **hazardous conditions.**

They were only provided with gloves, but no mask was provided to them. Sanitary workers complained about being called **“lubber” and “lazy”** by their supervisors. The behavior of supervisors to them is really rude, degrading and demeaning and they give snide and mean comments about them, which results in deduction in their salary.

Supervisors don't respect them and **play blame game** with them and also **threaten to terminate** them, although no services can be terminated without any cause.

People also treat them as **dirty and smelly** although they take bath every day after going to their houses. Although, it's a government job but they are hired on **contractual basis,** no services and incentives are offered to them.

Module 3: Education And Training Of Sanitary Workers

Codes

Introduce **training sessions** to mitigate risks among sanitary workers

Discuss the **importance of cleanliness and wearing clean uniform to work.**

Explain why ill sanitary workers should not be working as they can spread the disease.

Teach sanitary workers how to **handle injuries and waste in the hospitals.**

Provide **clean toilets**, as well as, hand washing facilities for the sanitary workers.

Give the sanitary with **washing supplies and individual protective equipment (PPE).**

Progress **detailed SOPs** to make certain proper setup of practices.

Guarantee that all hygienic know where just about all equipment and products are located and once they are in order to be used.

Motivate communication for the particular sanitary to recognize and reduce dangers.

Hand washing need to occur after making use of the restroom, before beginning or returning in order to work, and prior to and after consuming or smoking in order to reduce the possibility of contamination.

Folks who are sick or who have got symptoms such as nausea, vomiting, or even diarrhea can ruin others. Open or even infected wounds, montage, or bleeding reduces also can transfer harmful pathogens to create.

Providing **clean, available, and well-stocked bathroom facilities** including lavatories and hand cleaning stations is essential to workers' health practices.

Good conversation **encourages to record risks** including accidents and illnesses.

Teaching should stress associated with **communication** and right now there should be a method developed so understand how to communicate their worries with their manager.

When hygienic find safety dangers, they need to report the particular risks and figure out how to reduce the dangers they have determined.

Encouraging workers to report injuries and illnesses and paying attention to the health of sanitary workers.

Preserving records of just about all workout sessions, disease and injury credit reporting

and other foods safety practices for example toilet and palm washing facility supervising and cleaning.

Step 4 : Reviewing the Themes

Action four starts wherever the recognized designs are changed into styles after reviewing all of them and refining all of them. Here, each computer code is examined in order to find the commonalities together and collating them into individual theme and subthemes. In this way is utilized in order to organize each of the unique codes into themes in addition to subthemes.

Following this, styles and subthemes normally are organized in view of the referenced exploration questions. The specific setting of the entire information is conveyed into thought to keep an eye on the pertinence related with subjects. At the specific completion of this sort of step, you can find evident sign on the subjects and their marriage with each unique.

RQ1: What are the health challenges faced by sanitary workers of the hospitals during COVID-19?

The RQ1 has three major themes which are further divided into major vulnerability, lack of health safety measures and mental stressors. The sub themes of the themes are below

Theme 1: Vulnerability	Theme 2: Lack Of Health Safety Measures	Theme 3:Mental Stressor's
Subtheme 1; Exposed To Disease	Sub Theme 1: Decrease In Productivity, Increase In Turnover	Sub Theme 1:Depression
Sub Theme 2: Exposed To Toxins		Sub Theme 2: Fear Of Losing The Job
		Sub Theme 3:Anxiety And

<p>Sub Theme 3: Occupational Hazards And Injuries</p> <p>Sub Theme 4: Physical Health At Stake.</p>	<p>Sub Theme 2: Cost Of Poor Health And Safety</p>	<p>Stress Due To Low Economical Status</p>
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Table 4.10.1. Themes 1

RQ2: What is the impact of education and training in health protection of sanitary workers?

The RQ2 has three major themes which are further divided into major. The sub themes of the themes are below

<p>Theme 1: Encourage Communication</p> <p>Sub Theme 1: Identify Risks And Report To Supervisors</p> <p>Sub Theme 2: Supportive And Negotiator Supervisors</p>	<p>Theme 2: Implementation Of Training Programs</p> <p>Sub Theme 1: Risk Management</p> <p>Sub Theme 2: Keeping Record Of All Training</p> <p>Sub Theme 3: Safety Measures</p>	<p>Theme 3:Hygiene Practices</p> <p>Sub Theme 1: Cleaning And Maintenance</p> <p>Sub Theme 2: Hand Washing Practices</p>
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Table 4.10.2. Themes 2

RQ3: How discrimination and prejudice affects the health protective behavior of sanitary workers?

The RQ3 has three major themes which are further divided into major. The sub themes of the themes are below

<p>Theme 1; Dehumanizing Treatment</p> <p>Sub Theme 1: Marginalization</p>	<p>Theme 2: Job Security</p> <p>Sub Theme 1: Minimum Wages</p> <p>Sub Theme 2: Exploitation</p>	<p>Theme 3: Minorities</p>
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Table 4.10.3. Themes

Step 5 : Reviewing Themes

Table 4.11. Health challenges of sanitary workers

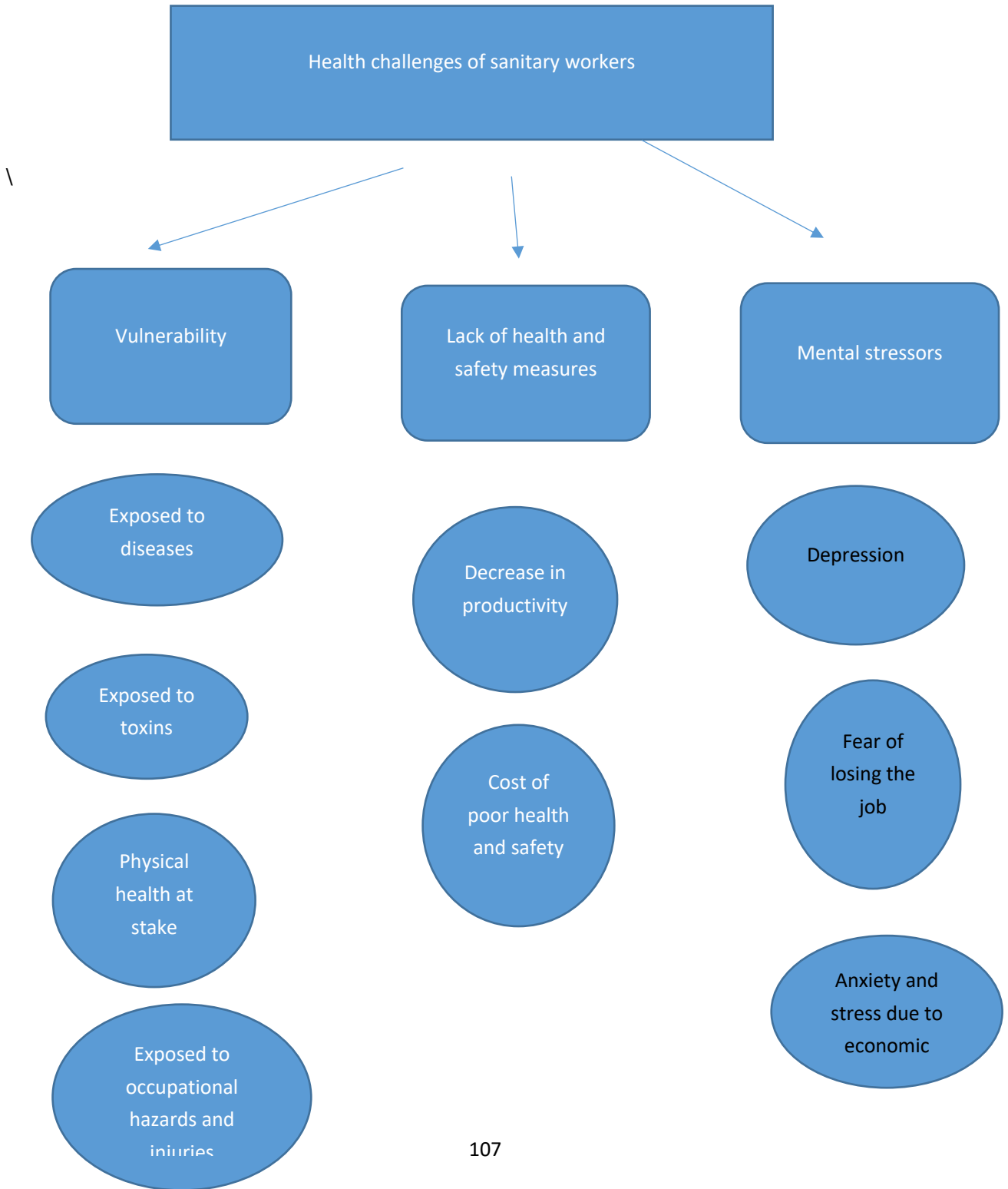


Table 4.11.1. Education And Training In Health Protection Of Sanitary Workers

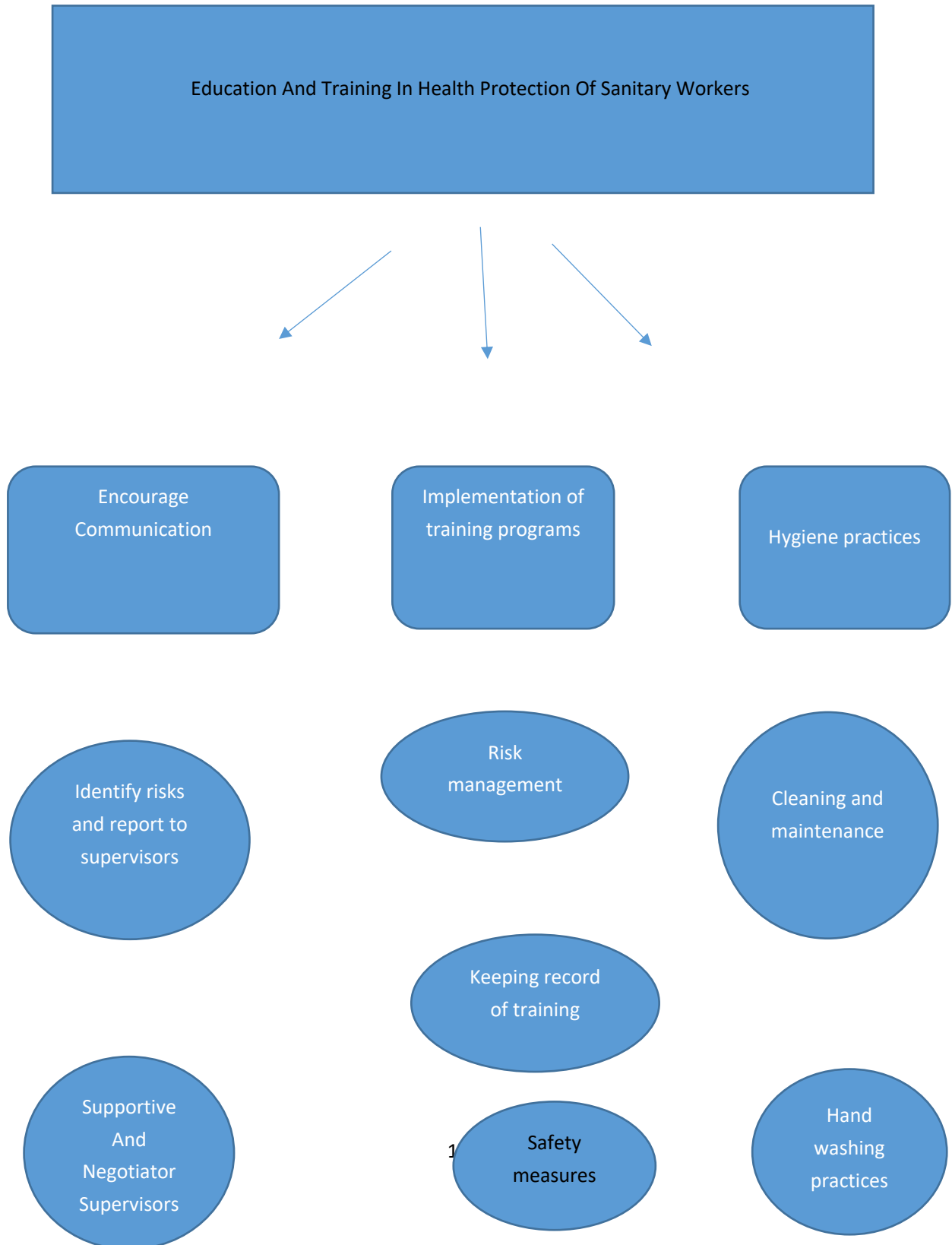
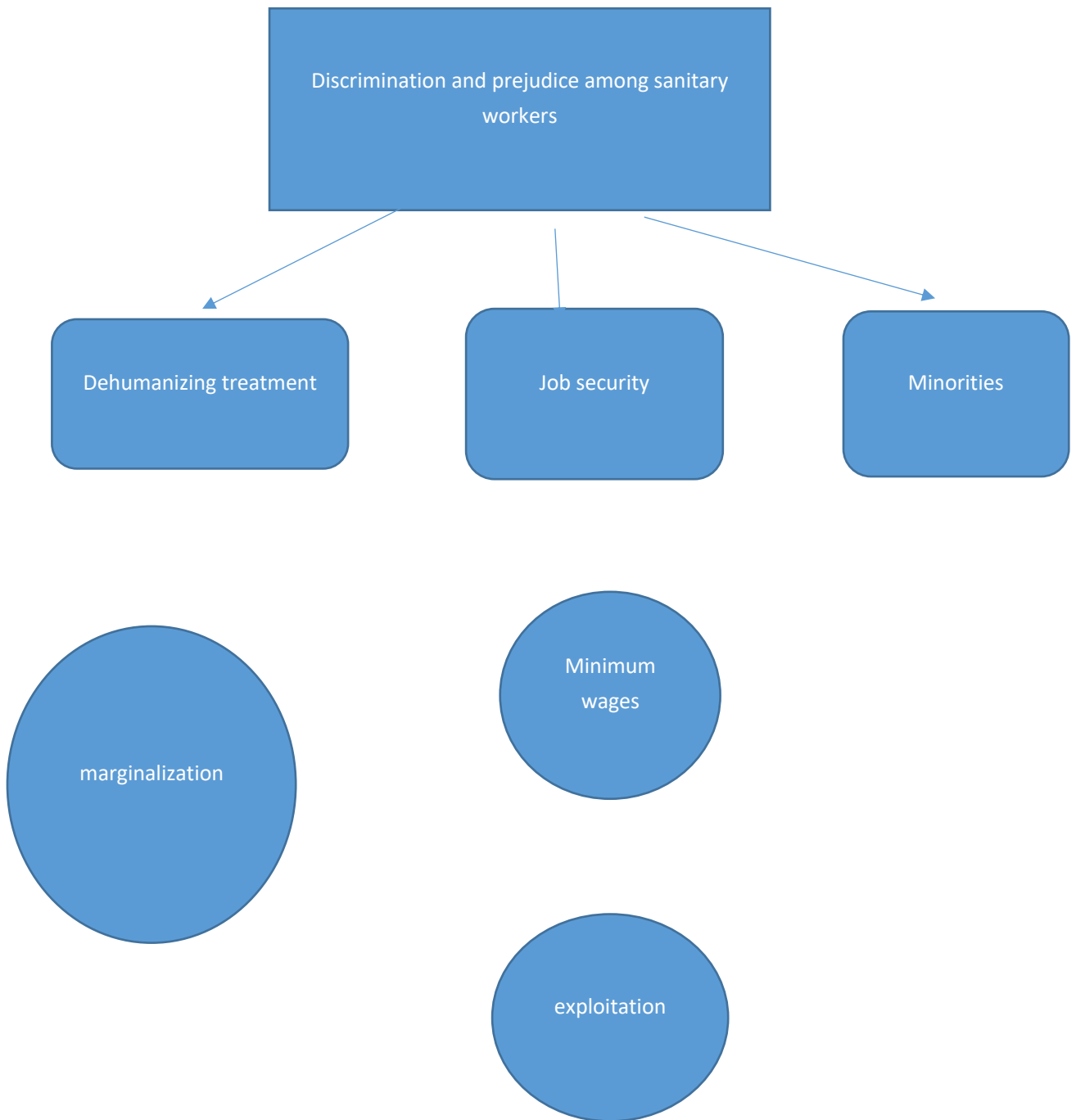


Table 4.11.1. Discrimination And Prejudice Of Sanitary Workers



Step 6: Writing The Themes

HEALTH CHALLENGES FACED BY THE SANITARY WORKERS

Majority of the sanitary workers belong to the age group of 25-45 years.

97% of respondents are married (100 female and 100 male).

2% of respondents are unmarried (8 Male and 3 female) and 1% are widows (3 female)

Theme 1: Vulnerability

The sanitation workers are more prone to get different diseases due their nature and place of work.

Different diseases have been reported by the respondents Skin infections and eye problems are majorly face by the sanitary workers. Skin infections- 30 percent, Eye burns- 35 percent, Wounds / Bruise – 7 percent , Respiratory Tract Infections – 20 percent and others diseases – 15 percent were reported. All these are due to lack of safety equipment's.

Their timings are from 05.30 am to 10.30 am and 02.30pm to 05.30 pm in winter season whereas 05.00 am to 10.00am and 03.00 pm to 05.00 pm in summer. No Sanitary worker is allotted on a permanent basis. They were predominantly contractual Workers. Most of them had been working for 2–10 years. They felt that there is no job security as they are working on the mercy of contractor / Sanitary inspector and have fear of remove from work any time by contractor.

They are paid Rs.11, 300/pm and their take home amount is Rs. 9,488/- after deductions. This amount is not sufficient to meet their needs as they have to travel daily two times to allotted wards. Men are mostly spending their earning on Alcohol and smoking. In general the incomes are spending on education of children, family running expenses. Treatment for diseases and travel to the allotted divisions from home. Sanitary workers have not considered their health serious because of the fear of losing the job.

As the hazardous nature of the work by sanitary workers, they are more vulnerable to different diseases. Mostly skin and eye problems were reported in the baseline study. This is due to lack of safety equipment and dress.

“We get a lot of cuts and injuries so the only thing we can do is wash the wound with warm water and then next day we come to work. We don’t have the choice to sit at home. If we are not working how will we and our children survive? Some one of us has to work, we are poor and uneducated. Although our husbands are not working and spending their time sleeping at home. We have to move the engines of our houses” stated a 28 year old sanitary worker Farzana Bibi In the interview.

- **Subtheme 1; Exposed To Disease And Toxins**

Hygienic personnel face, health concerns by way of virtue in their profession. These problems consist of experience of harmful gases as well as methane and hydrogen sulfide, cardiovascular deterioration, musculoskeletal disorders like osteoarthritic changes and intervertebral disc herniation, infections like hepatitis, leptospirosis and helicobacter, pores and skin area problems, respiration gizmo troubles and improved pulmonary function variables. This may be avoided via clinical, as well as legislative measures. Even though the measures will assist in shielding against exposures, the analysis will help at the beginning of detection of the consequences of these exposures. An effective occupational health training will help hygienic personnel to prevent the occupational traumas.

- **Sub Theme 2: Physical Health At Stake**

Sanitary workers deal with different kinds of wastes daily in the hospitals. It includes medical and non-medical wastes. Medical wastes includes medicines, syringes, blood bags, chemical waste and radioactive waste whereas non-medical waste includes masks, gloves, protective equipment, soiled and urinated bed sheets. They also face toxic fumes, chlorine sprays, dengue sprays which are extremely dangerous for their respiratory system. *“Government has no concerns about us, they do not consider us humans and treat. “says 30 year old Irfan Massih.*

The frontline warriors deserve appreciation and respect, as they fought courageously and vehemently against an invisible enemy, corona.

“We were not provided with PPE, training and proper equipment and we sacrificed our own time, family time and life to treat patients. Even no services and facilities are provided to us, like pension, free health and free education for children. “says Rizwana Bibi

- **Sub Theme 3: Occupational Hazards And Injuries**

The current situation of these sanitary workers of the hospitals have remained without a doubt has not changed over the years. Apart from the social disparities that sanitary workers face, they have health issues related to their occupation. These fitness dangers include publicity to dangerous gases such as methane and hydrogen sulfide, cardiovascular degeneration, musculoskeletal issues like osteoarthritic adjustments and intervertebral disc herniation, infections like hepatitis, leptospirosis and helicobacter, skin troubles, breathing system problems and adjusted pulmonary characteristic parameters. This may be partially finished via development of a effective occupational fitness carrier for this staff. Also, regular training programs must be conducted to implement education concerning safer strategies and use of PPE in sanitary workers.

Theme 2: Lack Of Health Safety Measures

The World Health Organization (WHO) Guidelines on Sanitation and Health, which advocate safe sanitation systems and practices so as to promote health, offer a selected recommendation regarding sanitation workers: *“Sanitation employees have to be covered from occupational publicity via adequate health and protection measures”*. This recognizes the high occupational dangers that sanitation workers face whilst dealing with fecal sludge and wastewater and at the same time as working in confined areas, that could cause their exposure to numerous diseases as well as to risky gases and chemicals, cuts, abrasions and different injuries.

It isn't simply their exertions rights that aren't reputable, but additionally their dignity, because they regularly face stigma and discrimination. Sanitation employees continue to be invisible to many and there are constrained efforts to apprehend their demanding situations or to broaden and record accurate practices, approaches, policies, requirements and regulations in an effort to help improve their running situations.

This female sanitary worker rukhsana quoted her story in which her father who was a cardiac patient was provided no free treatment from the hospital. She complained about physical stress and strain after working for 12 exhausting hours and faced mental stress. She interacted with patients but luckily no one got corona. She also experience a lot of mood swings of doctors, and supervisors and criticism.

- **Sub theme 1: Decrease in Productivity, Increase in Turnover**

When productivity goes down, it affects the morale of the team. Hospital supervisors do not take sanitary workers seriously. It also results in turnover as sanitary workers do not feel themselves as important or valued by the hospital which causes separation from the hospitals.

- **Sub theme 2: Cost of Poor Health and Safety**

Millions of working days are misplaced because of work-related infection and injury.

Thousands of sanitary workers die from occupational illnesses.

Around a million sanitary workers self-file laid low with a needle-related contamination such as hepatitis B and C.

Several hundred thousand sanitary workers are injured in the hospitals while picking waste.

Hospitals can incur compensation fees – along with uninsured losses and lack of reputation.

Theme 3: Mental Stressor's

- **Sub Theme 1: Depression**

Sanitary workers face depression related to emotional difficulties including depression, anxiety and PTSD symptoms amongst healthcare people. Sanitary workers were in particular exposed to COVID-19 crisis. This study aimed to investigate the outcomes of publicity to COVID-19 sanitary disaster on affective signs (anxiety, submit-worrying pressure, and burnout) among sanitary workers.

“We do face mental health issues and depression but we suppress it only for the sake of our job. If we express our mental health concerns we will not be working longer.”

- **Sub theme 2: Fear Of Losing The Job**

Fear of loss of job circulate or exchange regarding the continuity or safety. Sanitary workers constantly fear approximately losing their jobs pronounced poorer physical health and extra signs and symptoms of despair than other people been laid off.

“I do fear job loss, so I avoid any chaos at job in case I or my colleagues are terminated we don't have any other job to do.”

- **Sub theme 3: Anxiety And Stress Due To Low Economical Status**

Being unemployed will possibly purpose an character to fall to lower stages of SES, causing heightened stages of stress because of the war to make ends meet, which in flip ought to create even greater tension. The dating between SES and tension is bidirectional, with everything influencing the other.

“It's very difficult to survive in this period of inflation on just ten to fifteen thousand rupees, we have to take out our daily expenses, our travelling expenses and our children school fees. It's very difficult for us to survive”.

EDUCATION AND TRAINING OF THE SANITARY WORKERS

Theme 1: Encourage Communication

One of the maximum neglected methods to encourage your group is through communication. Through powerful verbal exchange your sanitary workers sense more empowered. It also offers them a feel of belonging, camaraderie and duty in them.

- **Sub theme 1: Identify Risks And Report To Supervisors**

Sanitary workers should know how to handle injuries and see if there is any blood contamination. If in case of any contamination or injury the wound should be sanitized well and cleaned. If any risks are identified at the worksite it should be immediately reported to the hospital supervisor, in case the risks are too high at work, sanitary workers should be given leave and should return when the dangers are removed.

- **Sub theme 2: Supportive And Negotiator Supervisors**

Supporting supervision is a facilitative approach to supervision that helps bring about mentorship, combined problem-solving and communication among supervisors and employees. In current years, supportive supervision has been implemented to enhance recurring program tracking and examination.

Theme 2: Implementation Of Training Programs

The assessment method (organizational, mission & individual) will become aware of any gaps in your present day education tasks and employee ability units. These gaps ought to be analyzed, prioritized, and turned into the corporation's education objectives. The ultimate purpose is to bridge the space among contemporary and desired overall performance/knowledge through the improvement of a training software that has commercial enterprise dreams at its center. At the employee stage, the schooling have to fit the diagnosed regions in which improvement is needed. This can be comprehensively diagnosed through 360 feedback and critiques.

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- **Sub theme 1: Risk Management**

The schooling desires assessment approach (organizational, challenge & character) will become aware of any gaps to your contemporary education tasks and worker capability units. These gaps need to be analyzed, prioritized, and was the organization's education targets. The remaining reason is to bridge the gap among cutting-edge and favored universal performance/knowledge via the improvement of a schooling software program that has commercial employer goals at its center. At the employee level, the education ought to suit the identified regions wherein improvement is needed.

- **Sub theme 2: KEEPING RECORD OF ALL TRAINING**

Keeping record of the sanitary workers training is important for their health and safety. By this way a check and balance will be kept on them to ensure their safety.

- **Sub theme 3: Safety Measures**

This gives the primary pointers on non-public protective system and its use. It is aimed at employees in the place of environmental sanitation, and covers individual hygiene precautions and how to correctly cope with equipment and equipment. It also includes symptoms on high-quality practices for the safety of sanitary workers' fitness, guidelines for the disposal of dangerous factors for the community, and a guide for preparing for hazards and disinfection.

Theme 3: Hygiene Practices

- Bathing every day before and after work.
- Usage of soap while washing hands after going to the toilet.
- Brushing Your Teeth Twice A Day.
- Covering Your Mouth And Nose With A Tissue (Or Your Sleeve) When Sneezing Or Coughing.

By this sanitary workers will be kept safe to a maximum extent.

- **Sub theme 1: Cleaning And Maintenance**

Cleaning and maintenance is an important part of sanitary workers job. It is also an essential part of healthy living as peace of mind can be achieved.

- **Sub theme 2: Hand Washing Practices**

Hand washing practices should be made compulsory for the sanitary workers because it prevents them from diseases. By hand washing 90 percent of the germs and toxins are washed away.

DISCRIMINATION AND PREJUDICE TOWARDS SANITARY WORKERS

Theme 1; Dehumanizing Treatment

Because of low percentage of the corona shot and powerful treatment for COVID-19 has established public stress and confused private hospitals. Together with doctors, hygienic staff also are working at the frontlines inside the struggle against the sickness using keeping hospitals clean. Sterilization staff are involved in drudgery, dangerous, dirty and dehumanizing work that makes them inclined for growing the ailments because of the exposure of diverse hazardous materials and poisonous gas which is often emitted from the solid waste materials of the private hospitals throughout the corona computer virus. The sanitary staff operating on a contractual basis are excluded from the Labour guidelines and welfare programs that are gambling a important role in stopping the pandemic. Ladies sanitation staff are actually greater vulnerable because maximum of them are non-literate, poor in financial management and under-represented inside the sterilization worker's union. The particular local and county governments have to shield and protect sanitation staff by using offering them with good enough shielding device, make certain payment of paying ok wages and offer these medical health insurance coverage.

- **Sub theme 1: Marginalization**

Examples of marginalized populations include, however aren't restricted to, corporations excluded due to race, gender identity, sexual orientation, age, physical capability, language,

and/or immigration fame. Marginalization happens due to unequal power relationships among social groups. Unfortunately sanitary workers face all the below written stigma daily in their lives with or without corona.

Theme 2: Job Security

The work itself involves mopping the flooring in authorities owned buildings along with hospitals, or cleansing clogged manholes and drains. Even in their darkest hour sanitary workers are not promised job permanency.

One such employee is Joseph Gill, who has been doing it for 18 years now and is presently a hepatitis affected person. *“My father used to brush as properly before passing away due to allergies. I paintings every day regardless of my contamination to make ends meet,”* Joseph lamented. *Taking days off isn't a luxurious that sanitary workers can have the funds for. Peter Christ, every other employee, said he slightly makes Rs 17,500 a month and cannot even dream of a day off. Apart from the low pay, a few sense that there may be no respect for their work that is pretty demeaning. “We are considered 0.33-elegance residents,”* stated Jacob Chaudhry, who mops the flooring at a government hospital. *Jacob, whilst requested about why he felt so, despondently stated: “Every yr., the officials come to the health facility to reduce the Christmas cake however they keep their distance from us. They do no longer even consume the cake; they just take photos and go away.”*

- **Sub theme 1: Minimum wages**

Sanitary workers from 6am early in the morning irrespective of the climate. If they get ill, they cannot even get a Panadol without cost. If they take a depart, their profits is deducted. *“in case you take three or 4 vacations because of contamination, marriage or demise, no matter 10 to fifteen years of employment the job is terminated.”* Says a male sanitary worker.

“Apart from the shortage of job safety, the protection dangers are not appropriately addressed either”

This lack of any safety precautions puts workers vulnerable to growing lifelong illnesses like tuberculosis, bronchial asthma, and different respiration and pores and skin illnesses in keeping with fitness professionals.

On the other hand the wages are too low. It's very hard for them to meet their ends in this extreme inflation period. Sanitary workers are hired on basis of contracts and they are on daily wages.

“We get 500 rupees daily, from which we have to deduct our daily transport expenses for travelling. We also have to send our children to schools and prepare food for them but in this low income and inflation everything is getting worse for us. “

At least hospital administrations should work on increasing their wages and make their job permanent.

- **Sub theme 2: Exploitation**

Sanitary workers are exploited in many ways such as

. Workers being constantly moved between jobs.

Employees which might be forced to paintings lengthy hours or double shifts.

Daily threatening of workers, both verbally and bodily.

Regular violations of theirs simple human rights and employees' rights. In the interview a sanitary worker revealed

“Sanitary workers complained about being called “lubber” and “lazy” by their supervisors. The behavior of supervisors to them is really rude, degrading and demeaning and they give snide and mean comments about them, which results in deduction in their salary. Supervisors don't respect them and play blame game with them and also threaten to terminate them, although no services can be terminated without any cause. People also treat them as dirty and smelly although they take bath every day after going to their houses. Although, it's a government job but they are hired on contractual basis, no services and incentives are offered to them. Sanitary workers do face issue like depression and anxiety, but they try to suppress their

mental issues by being busy, exhausted and drained in work. Sanitary workers want their job to become permanent.”

Theme 3: Minorities

A small group, a culturally, ethnically, or racially native group that coexists with however is subordinate to a larger dominant institution. Since the term can be used within the social savoir, this subordinacy is the leader determining feature of a minority organization. Because such, minority popularity does now not necessarily correlate to population.

In the same way, people choosing the profession of sanitary workers are a minority, a Christian minority, who are in low economic status and have no choice but to go for low jobs.

Concluding Remarks

While there's a need for immediate measures inside the COVID-19 context in addition to lengthy-term structural measures, the pandemic additionally presents an opportunity for stronger actions and extended responsibility of stakeholders in any respect stages.

Take a look at additionally offers diverse dimensions of the additional vulnerabilities faced by casual sanitary workers, in addition to female sanitation people. This highlights the need for inclusive and equitable support for such marginalized population, which should form a critical component of any policy, programmatic and research projects undertaken for sanitary workers. Though great findings associated with caste-associate vulnerabilities and demanding situations did now not emerge from this observe, those too are critical considerations.

5. CONCLUSION

The health challenges of sanitary workers have grown over time and they are continuously neglected even in the times of corona virus, where they have been our real heroes by cleaning the trash from the environment and keeping the vicinity clean. (Gaventa & Barret, 2012). There are several factors that affect the health challenges of sanitary workers during COVID-19. Combined method was utilized in which the interviews had been conducted along with the surveys.

Interviews were conducted from the sanitary workers, doctors, nurses and physiotherapists to dig deeper into the health challenges of sanitary workers during corona. The particular survey results support the factors determined in the selection interviews.

As per the regression results, education and training of sanitary workers have a good direct relationship together with the participation of people. It is also found out that health challenges has an positive effect on sanitary workers health during COVID-19.

The second factor education and training also has direct positive and significant relationship with the health challenges of sanitary workers during COVID-19. It is one of the leading factors in health protection of sanitary workers. The health of the sanitary workers can be enhanced by the proper training on health benefits and educating them on positive outcomes of health protection. Empowering women is also a difficult task, especially women sanitary workers when they have to look after their houses, children, spouses and job. It seems a bit tough. The sanitation workers suffered posture based discomfort.. The incessant twisting and standing with the personnel resulted inside waist and backside aches. The body parts mostly afflicted have been the waist and even back (57%), and then upper limbs (46%) and the neck and throat among the list of least endured ones. The third factor is the discrimination and prejudice faced by sanitary workers in their health and overall as performing their job. Sanitary work includes removing garbage, slime, picking up and disposing dead animals, controlling mosquitos, drain drainage, and sweeping. Sanitary workers play a valuable role in keeping people safe. Prejudice and discriminatory behavior in the workplace and society show that society needs to develop and mature on terms of

humanity and dignity. Encouraging and appreciating the less in terms of knowledge, human rights, individual power and job opportunities helps in improving country's growth.

Qualitative Data

The findings of the qualitative data are discussed in detail in the previous chapter under the heading "Step-6: Write Up". The major themes are identified. The issues and challenges can be categorized in broader themes.

Causalities are faced in the health challenges are vulnerability, exposed to disease and toxins, physical health at stake, occupational hazards and injuries, lack of health safety measures, decrease in productivity, increase in turnover, cost of poor health and safety, mental stressor's, depression, fear of losing the job, anxiety and stress due to low economic status.

The challenges faced in education and training of sanitary workers include Encourage Communication, Identify risks and report to supervisors, Supportive And Negotiator Supervisors, implementation of training programs , risk management, Keeping record of training, safety measures, Hygiene practices, Cleaning and maintenance, Hand washing practices.

The challenges faced by Discrimination and prejudice among sanitary workers include Dehumanizing treatment, marginalization, job security, minimum wages, exploitation and minorities. The conclusion was that sanitary workers issues are not resolved it is just a dream that their issues be solved or advocated. Similarly, the discrimination faced by the sanitary workers is crucial and has to be ended.

PPE are the major source of protection from corona virus for the sanitary workers. Sanitary workers who are using PPE are considered more safe in front of diseases and injuries. Female sanitary workers are effectively worried because of the deficiency of PPE and preparing and insufficient admittance to capable instruction to be had for females because of orientation imbalances even in the hospital settings. The percentage of sanitary workers who have been trained in the covid crisis is not even a percentage in the hospitals. In accordance to supervision

sanitary workers face occupational hazards and safety precautions which isn't always notably related to occupational health hazard preventing practice. The proper utilization of PPE via sanitary workers is not seen. (Patil, Kamble, 2017)

Involvement of different NGOs and welfare organizations should take part in equal distribution of PPE, gloves and masks to the hospitals if they are facing any shortage of personnel equipment. Conflicts on the place of job, tobacco biting, liquor utilization, and smoking were the guideline psychosocial issues identified among sanitary workers. Most sanitary workers stated that dissatisfaction they faced was because of prejudice and discrimination from family colleagues and friends based on their sanitary work job.

The particular observed outcomes surely state that hygienic staff want to apprehend the hazards which conclusion effect from vulnerability which is added through inability to process perils. Dangers might be observable due to this of inability to execute plans and conventions and rules totally or to a satisfactory recognition or degree. Hence, improvement of measures is crucial to manage overseeing of dangers inside the authoritative center through perseveringly taking a gander at the convention and guidelines to dispense with the perils utilizing the utilization of bio-logical waste control strategies.

Advocating Practice among sanitary workers can be effective chance prevention behaviors via enhancements to attain this management and managerial program must be made since well as *seite an seite* affect for all the particular stakeholders for making appropriate choices with regards to the security of sanitary staff. This may be completed extensively by way of enforcing strict provision of PPE coverage on sanitary employees by the hospitals whilst at work during the organization along with increased stipend, compensation and funds.

These results build on existing evidence of literature review suggest that most sanitary workers such as joint pain, insomnia, diabetes, hypertension, cardiovascular and respiratory disease with reference to study of Rajan D. in regards to the literature review the findings show that sanitary workers face back pain, fatigue and hypertension in corona due to extreme work load. It was also found out that sanitary workers were facing stress but in low terms because of the fact that they were having no other job options so they use to hid their stress and it was affecting their family life, health and social life.

A behavior modification mechanism should be created for sanitary workers in COVID-19, in which it should be emphasized that hand washing is important. Sanitizers and disinfectants Usage should be increased foreseeing the risk of prophylaxis. The work stress needs to be shifted By simply increasing the cleanliness workforce, regularizing career, and doing apart with ghost Employments. A proper device for waste coping with and management have to be set up using The municipalities intended for handling and getting rid of hazardous spend. (Desu .et al 2020)

Sanitary workers are at high risk for lethal and non-deadly work-related mishaps. This is more increased in during COVID-19. (Debassu Ezekias, 2016) The importance of sanitary workers plays an important role in our daily life. Risking their lives they provide us with a better and clean environment. They certainly a safe series of garbage, safe-keeping, treatment, and disposal/re-use/recycling. They also deal with drainage, collection and management of business waste products, and management of unsafe wastes (including clinic wastes, and chemical/radioactive, and other dangerous substances). (Drupp.et al, 2020) An uncounted number of sanitary workers around the globe work in perilous and trashing conditions that abuse their respect and essential basic freedoms. (Sakthivel.et al, 2019)

COVID-19 is poor for the human being race however the unexpected lockdown is harmful for poor family members. Sanitation staff nowadays need personal safety equipment, maximum income, food, insurance, lodging, and transportation such as other health employees. But unfortunately, mostly sanitary workers are failed by the governments and their institutions. (Daniel Mmereki, 2020) When sanitation workers demand their PPE maximum pay, food, insurance, hotel, and transportation they are provided by the fluorescent orange jackets so that they can be identified as sanitary workers from a distance. Their bad luck also comes with their caste system. (Keppens, 2017) The findings also show that COVID-19 workload faced by sanitary workers it has been concluded that sanitary workers face five different types of work related hazards such as physical hazards, chemical risks, neurological risks, ergonomic hazards, and risks of accidents that includes inappropriate work related environment. (D, 2018)

During the pandemics, the demand for health care workers has increased and also the pressure for performing effectively in the times. HCW nervousness levels rise which in response results to illness or death. Therefore, mostly HCWs are hesitant to work. HCW also are affected by developing loss of trust by their networks. (Schwartz.et al, 2020) Symptoms of anxiety, stress, phobia, depression, and other psychological problems are very common in healthcare workers during the pandemic. The fear of catching the coronavirus affects them psychologically (Que et al., 2020)

Most sanitary workers are less cautious with their safety while handling waste. They may work at the expense of their security, wellbeing, and even lives. (Kuffour, .2020) Most of the time the environment is not safe. These kinds of health hazards incorporate experience of harmful smells and dirt, physical risk during the application of machinery, physical, emotional strain from tedious and heavy operate, long working several hours, separation, and control of recyclable elements, poor ventilation, too little lightning, unsafe operate organization, and coverage to sharp l instruments. (Gray and Collie, 2017)

Occurrence of sharp plus needle-stick injuries plus mucocutaneous blood publicity among healthcare staff is very typical, especially in the low physical environment. (Rapisarda et al., 2019) Health care workers incorporate sanitary staff, whose principal duty is the assortment, transportation, and carrying hazardous waste, which results in Hepatitis B and Hepatitis C among sanitary staff. (Valeeva. Et al. 2020 Sewage extraction for sanitary workers is dangerous as it exposes to harmful gases. Studies have find that tuberculosis was common in sanitary workers who mostly had sewage extraction work. (Arora. et al 2019) Disposing sharp items like needles and broken glass bottles of medicines can cause wounds and injuries to sanitary workers. (Olga E.Harta, 2020) Passive tobacco smoking is common in sanitary workers. Tobacco causes lung diseases, for example, cellular breakdown in the lungs, asthma, constant obstructive pneumonic illnesses, coronary heart disease, and stroke.

In a study conducted in India by Chandrapur Municipal Corporation it was concluded that sanitary workers were facing health concerns like musculoskeletal disorders, exposure to harmful gases, respiratory problems related to cough, shortness of breath, phlegm. They also suffered from headache, dermatological problems, gastric issues and work related stress. Skin problems, getting malaria and typhoid by working in the dumpsters. They were also facing hearing loss due to working with heavy machinery. (Patil and Kamble, 2017)

The family roles and obligations intersect with the declining priority female sanitary staff place on their own health. The lack of agency at work, endemic and invisible mental well-being issues, and a lack of consideration of Female sanitary workers health concerns. (Kisana. Et al, 2021) Working in hot workplaces makes considerable overflow heat inside the body. However, sweat level increases by high air dampness. Female sanitary workers who are occupied with physical work face the issue of excessive sweat in summers. Female sanitary workers need to deal with household chores and hefty manual work at their workplace which is past their physical limit.

Discrimination and stigmatization of the sanitary workers in the workplace and society show that people need more development on the grounds of humanity and respect. Giving safety measures for sanitation workers, doing regular medical campment, prevention of handbook scavenging, creating understanding about government systems will be better their quality of life.

Individuals can be fitted to provide psychological help to the sanitary workers.(Valeeva. Et al, 2020) Grievances for not providing sufficient financial support to sanitary workers have long been raised but demanding physical protection at the workplace and respect for sanitation workers as human beings should be made a worth. (Griffin, 2020) life of sanitary workers is challenging and full of intergenerational discrimination. Improvement and promotion of health problems for the sanitary workers are needed. The employer must check on the working conditions of the sanitary workers and regular vaccination should be provided. (P & K, 2020)

6. RECOMMENDATIONS

The aim of this research study was to analyse health and safety mechanisms of sanitary workers of public sector hospitals in Islamabad in COVID-19 and what challenges they face daily in covid crisis in hospitals and to assess the factors affecting the health of sanitary workers. As per the findings of the study, the issues and challenges of the sanitary workers have been identified by the help of RQ1, RQ2, RQ3 and by mixed method research.

The issues faced by the societal contemporaries create such as minimal money, lack regarding capacity, not enough organizing and co-ordination. Typically the challenges faced will be vulnerability to diseases, dehumanizing and prejudicial treatment due to having low strata job, lack of health and safety measures. The other challenges are occupational injuries, mental health at stake, low economic status, poor health and safety costs of sanitary workers.

The significance of the study is of health and safety challenges to the sanitary workers in covid crisis where in hospitals their health is at stake at every second of their life. From newborn to the deceased they have to face and deal every abnormality in their profession. The sanitary workers along with the higher representatives of medical field of the hospitals have been incorporated in the study which are the doctors, physiotherapists, nurses, ward boys and hospital attendants.

This has filled the research gap by investigating the issues and challenges faced by the sanitary workers of public sector hospitals of Islamabad in Pakistan. Furthermore, this study has added to the literature on health challenges of sanitary workers which has been explored.

Measures to improve occupational health and protection

- Regular provision of adequate and user-friendly PPE based on premium quality of hygiene standards be provided to the sanitary workers. (Chadha & Mishra, 2022)
- Different relevant government authorities must ensure that their contractor clauses encompass provisioning of PPEs to sanitary workers with penal clauses.
- Provision of hand washing with soap and water and provision of disinfectants and sanitizer's to the sanitary workers be made must.

- Adequate arrangements for secure managing and disposal of waste. (RADA, 2022)
- Training on COVID-19 prevention with special attention on work-related dangers, PPE use and disposal/reuse. The training based on health and safety of sanitary workers need to be hands-on, with visible aids and small reference guidebooks to receive to all sanitary workers. (Svitlana, 2021)
- Regular medical examination and recurring checking for signs and symptoms of any diseases should be checked in sanitary workers.
- Separate facilities for quarantine/isolation of sanitary workers with signs. (Mallapaty, 2020)
- Counselling guide for sanitary employees and their households on a periodic basis.
- Provisions for paid leave, financial reimbursement, and remedy assist for COVID-19 infected and non-infected sanitary workers. ("COVID-19: A burden or relief for environment," 2022)
- Considering the high risks faced by sanitary workers working at hospitals and quarantine centers, they have to be supported with all safety measures and provisions at par.

Social and financial safety measures

- . Life and medical health insurance for all sanitary workers- irrespective of the nature of employment. (Tolera, 2023)
- Special help for casual workers, inclusive of preparing neighborhood databases and making sure social and economic protection. Local civil society firms to be delivered in for supporting those tasks.
- Rewards for officials taking proactive initiatives. (Drupp et al., 2020)
- Long-term measures for safety, equity and livelihoods for the sanitary workers.
- Research and development on user-pleasant PPE for specific classes of sanitation workers.
- Introduction/ revision of specifications and requirements of PPE. (Tolera, 2023)

Sensitization and livelihood

- Formalization of work arrangements, with version contracts having go with the flow-down clauses and running strategies (SOPs).
- Mandatory coverage of all sanitation employees beneath various social and economic safety schemes and advantages. (Khansari, 2020)
- Strengthening institutional arrangements for community-based totally tasks to guide livelihood and upward financial mobility of the families of sanitation workers.
- Skill enhancement of sanitation workers, and provisions for monetary assistance for alternative livelihoods. (Majeed et al., 2021)
- Sensitization of officials and public in general on elements of caste and gender-based discrimination of sanitation people should be ended. (Hameed, 2021)

Policy measurement and fund allocation

Policy measures will take on a change in outlook from prevalently applied designing based and supply-driven way to deal with request driven neighborhood local area based sterilization the executive's arrangements. That is, a shift towards local area level strengthening and obligation regarding their own disinfection the executives. This will include a mix of base up navigation and topdown specialized help inside a considerably more comprehensive theoretical and underlying structure. The government offices giving disinfection administrations will work as multi-disciplinary specialized specialist co-ops and facilitators instead of unrepresentative elements. Large numbers of the approach issues thus are planned to work according to this new viewpoint. (Zakar et al., 2020)

The Punjab government should contribute in expected monetary assets from its own financial plan. The common and neighborhood state run administrations will make yearly monetary assignments in their improvement plan. A unique exertion will be made to distribute separate financial plan for sterilization yearly.

The rules for venture will incorporate existing inclusion, local area wellbeing and neediness markers, the size of benefactor/government support yielded the past and the outcomes thereof and underestimated and avoided networks. (Beall, 2004)

Following are the recommendations given based totally on findings of this research:

Hours of work need to be regulated through decreasing twelve hour work shift to eight hour work shift. Before leaving their position sanitary workers need to be inform their hospital supervisors so that necessary accommodation should be made on their behalf.

Hospital supervisors need to be educated to maintain a well timely routine shift for evening and morning and how does work shift affects the health of the sanitary workers. They should also be aware of the workload sanitary workers are facing of daily basis and their mental health.

Sanitary workers should be given proper rest and relaxation in the free time and how to manage stress. Housekeeping has not been studied in this research. Also this research has not studied work load or job satisfaction of the sanitary workers during corona crisis. Proper SOPs should be designed for the sanitary workers.

Water should be provided to the sanitary workers placed in the locations that are easy accessible. No eating, drinking, chewing or smoking in the hazardous radioactive areas, in case of injuries or wounds they should avoid handling the waste.

Separate toilets should be provided for men and women with good maintained hygiene. Women sanitary workers should be provided with sanitary pads in days of menstruation. They should be given loose fitted clothing which should reduce the effect of heat stress and discomfort.

REFERENCES

- Acharya, S. S. (2019). Health, safety and well-being of sanitation workers—realities of historical exclusion and livelihoods. *Health, Safety and Well-Being of Workers in the Informal Sector in India*, 199-214. doi:10.1007/978-981-13-8421-9_16
- Ali, M., Ashraf, U., Chaudhry, N., & Geng, Y. (2017). Unsafe waste management practices and hepatitis C among hospital sanitary staff in Pakistan. *Journal of Hospital Infection*, 96(1), 95-96. <https://doi.org/10.1016/j.jhin.2017.03.017>
- Ali, M., Ashraf, U., Chaudhry, N., & Geng, Y. (2017). Unsafe waste management practices and hepatitis C among hospital sanitary staff in Pakistan. *Journal of Hospital Infection*, 96(1), 95-96. <https://doi.org/10.1016/j.jhin.2017.03.017>
- 4 how to think about solo data collection. (2021). *Doing Global Fieldwork*, 98-130. <https://doi.org/10.7312/dris19528-009>
- Analysing subjectivity in qualitative research. (2012). *Qualitative Data Analysis Using a Dialogical Approach*, 21-42. <https://doi.org/10.4135/9781446268391.n2>
- Athanasiadou, A. (2022). The pragmatics of answers. *Pragmatics. Quarterly Publication of the International Pragmatics Association (IPrA)*, 561-574. <https://doi.org/10.1075/prag.4.4.03ath>
- Bailey, N. (2017). Employment, poverty and social exclusion. *Poverty and Social Exclusion in the UK: Vol. 2*. <https://doi.org/10.1332/policypress/9781447334224.003.0007>
- Bilgin, Y. (2017). Qualitative method versus quantitative method in marketing research: An application example at oba restaurant. *Qualitative versus Quantitative Research*. <https://doi.org/10.5772/67848>

- Beall, J. (2004). Social policy and urban development. *Social Policy for Development*, 114-141. doi:10.4135/9781446219973.n4
- Case study research in feminism. (2010). *Encyclopedia of Case Study Research*. <https://doi.org/10.4135/9781412957397.n37>
- Case study research in psychology. (2010). *Encyclopedia of Case Study Research*. <https://doi.org/10.4135/9781412957397.n40>
- Comparing thematic data. (2012). *Applied Thematic Analysis*, 161-186. <https://doi.org/10.4135/9781483384436.n7>
- Constructivists online: Reimagining progressive practice. (2019). *Occasional Paper Series*, 2015(34). <https://doi.org/10.58295/2375-3668.1319>
- Emmons, R. A., & King, L. A. (1992). Thematic analysis, experience sampling, and personal goals. *Motivation and Personality*, 73-86. <https://doi.org/10.1017/cbo9780511527937.005>
- Goldman, A. I. (2010). Why social epistemology is real epistemology. *Social Epistemology*, 1-28. <https://doi.org/10.1093/acprof:oso/9780199577477.003.0001>
- Grundmann, T. (2020). Conceptual construction in epistemology. *Ethno-Epistemology*, 227-247. <https://doi.org/10.4324/9781003037774-12>
- How to use triangulation and mixed methods in qualitative research: Practical issues. (2018). *Doing Triangulation and Mixed Methods*, 113-128. <https://doi.org/10.4135/9781529716634.n8>
- The investigative interview method. (2014). *Investigative Interviewing*, 114-155. <https://doi.org/10.1201/b17194-10>

- Jabon, D. (2006). Quantitative reasoning: An interdisciplinary, technology infused approach. *Current Practices in Quantitative Literacy*, 111-118. <https://doi.org/10.5948/upo9780883859780.018>
- Mackiewicz, J. (2018). A mixed-method approach. *Writing Center Talk over Time*, 37-60. <https://doi.org/10.4324/9780429469237-3>
- Millar, J. (n.d.). Social exclusion and social policy research: Defining exclusion. *Multidisciplinary Handbook of Social Exclusion Research*, 1-15. <https://doi.org/10.1002/9780470773178.ch1>
- N Showkat, M Praveen. (2017). In-depth interview questions for suppliers. <https://doi.org/10.18356/e1c86029-en>
- Peterson, B. L. (2017). Thematic analysis/Interpretive thematic analysis. *The International Encyclopedia of Communication Research Methods*, 1-9. <https://doi.org/10.1002/9781118901731.iecrm0249>
- Pino, G. (2020). Normativity for positivists. *Contemporary Perspectives on Legal Obligation*, 82-97. <https://doi.org/10.4324/9780429293412-6>
- Planing, P. (2014). Quantitative research approach. *Innovation Acceptance*, 141-247. https://doi.org/10.1007/978-3-658-05005-4_6
- Preliminary Quantitative Inputs to core qualitative research projects. (2014). *Integrating Qualitative and Quantitative Methods: A Pragmatic Approach*, 123-152. <https://doi.org/10.4135/9781544304533.n7>
- Reporting case study research. (2010). *Encyclopedia of Case Study Research*. <https://doi.org/10.4135/9781412957397.n296>

- Sheppard, M. (2021). undefined. *Social Work and Social Exclusion*, 27-37. <https://doi.org/10.4324/9781315242859-3>
- Sheppard, M. (2021). Social work, science and technical instrumentalism. *Social Work and Social Exclusion*, 173-195. <https://doi.org/10.4324/9781315242859-11>
- Singer, D., & Menzie, W. D. (2010). The future of quantitative resource assessments. *Quantitative Mineral Resource Assessments*. <https://doi.org/10.1093/oso/9780195399592.003.0014>
- Terry, G., & Hayfield, N. (2021). Conceptual foundations of thematic analysis. *Essentials of thematic analysis*, 3-14. <https://doi.org/10.1037/0000238-001>
- Toda, M., & Yoshida, K. (2018). undefined. *Japanese Journal of Neurosurgery*, 27(11), 818-827. <https://doi.org/10.7887/jcns.27.818>
- Utari, D. (2022). Indonesia mixed contraception method skewness background 1997-2012: A mixed method study. *F1000Research*, 11, 1266. <https://doi.org/10.12688/f1000research.121725.1>
- Vanclay, F. (1991). Book Review: 'In-depth interviewing: Researching people' by victor Minichiello, Rosalie Aroni, Eric Timewell and loris Alexander.. *Rural Society*, 1(1), 14-16. <https://doi.org/10.1080/10371656.1991.11655575>
- What social exclusion means. (2003). *Tackling Social Exclusion*, 17-17. <https://doi.org/10.4324/9780203167427-6>
- Why axiology? (1993). *Axiology: Science of Value*, 3-9. https://doi.org/10.1163/9789004463615_004
- Woodward, R. (2021). The questions of ontology. *The Language of Ontology*, 119-134. <https://doi.org/10.1093/oso/9780192895332.003.0008>

Arora, S., Bhaukhandi, K. D., & Mishra, P. K. (2020). Coronavirus lockdown helped the environment to bounce back. *Science of the Total Environment*, 742, 140573. <https://doi.org/10.1016/j.scitotenv.2020.140573>

Arora, V., Chandra, K., & Chandra, M. (2019). Occupational tuberculosis in sewage workers: A neglected domain. *Indian Journal of Tuberculosis*, 66(1), 3-5. doi:10.1016/j.ijtb.2018.09.001

Basarkar, S. (2009). Management of specialized waste. *Hospital Waste Management: A Guide for Self Assessment and Review*, 110-110. https://doi.org/10.5005/jp/books/10361_13

Beall, J. (2006). Dealing with dirt and the disorder of development: Managing rubbish in urban Pakistan. *Oxford Development Studies*, 34(1), 81-97. Doi: 10.1080/13600810500496087

Burdmann, E. A. (2015). Leptospirosis. *Oxford Medicine Online*. <https://doi.org/10.1093/med/9780199592548.003.0191>

Chaudhuri, A., Chattopadhyay, S., & H. S., S. (2017). Rationality in handling biomedical waste: a study on the sanitary workers from a tertiary care hospital in West Bengal. *International Journal Of Community Medicine And Public Health*, 4(7), 2327. <https://doi.org/10.18203/2394-6040.ijcmph20172522>

Chaudhuri, A., Chattopadhyay, S., & H. S., S. (2017). Rationality in handling biomedical waste: A study on the sanitary workers from a tertiary care hospital in West

Bengal. *International Journal Of Community Medicine And Public Health*, 4(7), 2327. <https://doi.org/10.18203/2394-6040.ijcmph20172522>

Coronavirus disease 2019 (COVID-19) – Symptoms. (2020, July 6). Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

D, R. (2017). Negative Impacts of Long Working Hours: A Comparative Study among Nurses. *MOJ Applied Bionics and Biomechanics*, 1(2). <https://doi.org/10.15406/mojabb.2017.01.00010>

D, R. (2018). Negative impacts of heavy workload: A comparative study among sanitary workers. *Sociology International Journal*, 2(6). doi:10.15406/sij.2018.02.00086

D, R. (2018). Negative impacts of heavy workload: a comparative study among sanitary workers. *Sociology International Journal*, 2(6). <https://doi.org/10.15406/sij.2018.02.00086>

Dale, P. (2018). Poverty and mental health: The work of the female sanitary inspectors in Bradford (C. 1901–1912). *Palgrave Communications*, 4(1). <https://doi.org/10.1057/s41599-018-0128-2>

Das, S. (2022). Impact of COVID-19 on industries. *COVID-19 in the Environment*, 191-200. <https://doi.org/10.1016/b978-0-323-90272-4.00004-x>

Dasgupta, B. (2021). Corona pandemic, sudden visibility of migrant workers, and the Indian economy. *India's Migrant Workers and the Pandemic*, 115-137. <https://doi.org/10.4324/9781003246121-7>

Degavi, G., Dereso, C. W., Shinde, S., Adola, S. G., & Kasimayan, P. (2021). Prevention of occupational hazards among sanitary workers: Knowledge, attitude, and practice survey in

Bulehora, west Guji zone, Oromia, Ethiopia. *Risk Management and Healthcare Policy*, 14, 2245-2252. <https://doi.org/10.2147/rmhp.s308323>

Desu, R. M., Saginela, S. K., & Ram, G. (2020). Facilitating sustainable waste management strategies within the hospital—an explorative study. *Solid Waste Policies and Strategies: Issues, Challenges and Case Studies*, 57-72. Doi: 10.1007/978-981-15-1543-9_6

DiMarco, D. E. (2021). Leptospirosis. *Schlossberg's Clinical Infectious Disease*, 1073-1076. <https://doi.org/10.1093/med/9780190888367.003.0164>

Drupp, M., Bos, B., & Meya, J. (2020). Experiments on risk framing and moral appeal in the context of the coronavirus spread. *AEA Randomized Controlled Trials*. doi:10.1257/rct.5573-1.0

Drupp, M., Bos, B., & Meya, J. (2020). Experiments on risk framing and moral appeal in the context of the coronavirus spread. *AEA Randomized Controlled Trials*. <https://doi.org/10.1257/rct.5573>

ERSOY, A. (2020). The frontline of the COVID-19 pandemic: Healthcare workers. *Turkish Journal of Internal Medicine*, 2(2), 31-32. doi:10.46310/tjim.726917

Faris, A. M., Germossa, G. N., & Beyene, D. T. (2018). Knowledge, attitude and practice on prevention and control of tuberculosis among Bilida Kebele residents, mana Woreda, Jimma zone, Oromia Region, south west Ethiopia. *Health Science Journal*, 12(5). <https://doi.org/10.21767/1791-809x.1000589>

Francis, P. (2002). Social capital, civil society and social exclusion. *Development Theory and Practice*, 71-91. https://doi.org/10.1057/978-1-137-24345-4_5

Given, C., Given, B., Champion, V. L., Kozachick, S., & DeVoss, D. (2003). Evidence-based cancer care and prevention: Behavioral interventions.

Gong, Y., Yu, J., Zhang, X. and Liang, Y., 2013. Occupational Safety and Health Status of Sanitation Workers in Urban Areas: A Pilot Study From Wuhan, China. *International Journal of Occupational Safety and Ergonomics*, [online] 19(3), pp.435-442. Available at: <<https://www.tandfonline.com/doi/pdf/10.1080/10803548.2013.11076991>> [Accessed 9 July 2021].

Gray, S. E., & Collie, A. (2017). The nature and burden of occupational injury among first responder occupations: A retrospective cohort study in Australian workers. *Injury*, 48(11), 2470-2477. doi:10.1016/j.injury.2017.09.019

Green, E. C., & Murphy, E. (2014). Health belief model. *The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society*, 766-769. doi:10.1002/9781118410868.wbehibs410

Griffin, S. (2020). COVID-19: Guidance is still lacking on how ethnic minorities can protect themselves better, say MPs. *BMJ*, m4860. doi:10.1136/bmj.m4860

Gysel, P. G., Uma, R., & Rajashree, P. (2015). Knowledge on biomedical waste management among the sanitary health workers in Indira Gandhi government General Hospital and post graduate institute, Pondicherry. *The Journal of Nursing Trendz*, 6(3), 3. <https://doi.org/10.5958/2249-3190.2015.00001.2>

Gysel, P. G., Uma, R., & Rajashree, P. (2015). Knowledge on biomedical waste management among the sanitary health workers in Indira Gandhi government General Hospital and post graduate institute, Pondicherry. *The Journal of Nursing Trendz*, 6(3), 3. <https://doi.org/10.5958/2249-3190.2015.00001.2>

- Gysel, P. G., Uma, R., & Rajashree, P. (2015). Knowledge on biomedical waste management among the sanitary health workers in Indira Gandhi government General Hospital and post graduate institute, Pondicherry. *The Journal of Nursing Trends*, 6(3), 3. <https://doi.org/10.5958/2249-3190.2015.00001.2>
- H. Haider, A. (2020). Coping experiences of Pakistani nurses against corona stressor; a qualitative study. *International Journal of Advanced Nursing Studies*, 9(1), 37. <https://doi.org/10.14419/ijans.v9i1.30834>
- Hameed, F. (2021). Corona virus: An Islamic perspective. *Pakistan Social Sciences Review*, 5(I), 16-22. [https://doi.org/10.35484/pssr.2021\(5-i\)02](https://doi.org/10.35484/pssr.2021(5-i)02)
- Hart, O. E., & Halden, R. U. (2020). Computational analysis of SARS-Cov-2/COVID-19 surveillance by wastewater-based epidemiology locally and globally: Feasibility, economy, opportunities and challenges. *Science of the Total Environment*, 730, 138875. <https://doi.org/10.1016/j.scitotenv.2020.138875>
- Health, safety and dignity of sanitation workers. (2019). doi: 10.1596/32640
- Hopkins, K. D., & Weeks, D. L. (1990). Tests for normality and measures of skewness and kurtosis: Their place in research reporting. *Educational and Psychological Measurement*, 50(4), 717-729. doi:10.1177/0013164490504001
- Hossain, D. I. (2020). Pandemic COVID-19 and biomedical waste handling: A review study. *Journal of Medical Science And clinical Research*, 08(05). doi:10.18535/jmscr/v8i5.88
- I, C. (2011). Chapter-07 environmental sanitation. *Textbook for Health Workers and ANM Volume 1 and 2*, 184-201. https://doi.org/10.5005/jp/books/11291_7

IISD's SDG Knowledge Hub. (n.d.). On world toilet day, UN highlights plight of sanitation workers | News | SDG knowledge hub | IISD. Retrieved from <https://sdg.iisd.org/news/on-world-toilet-day-un-highlights-plight-of-sanitation-workers/>

Interventions for smoking cessation in health settings in low and middle-income countries: A systematic review and meta-analysis study. (2019). *Respirology*, 24(S2), 94-94. doi:10.1111/resp.13699_270

Izadi, N. (2018). Occupational health hazards among health care workers. *Public Health Open Access*, 2(1). <https://doi.org/10.23880/phoa-16000120>

Kalu Tololu, A. (2017). Knowledge, attitude and practice of mothers towards female genital mutilation in south west Shoa zone, Oromia Region, Ethiopia. *MOJ Public Health*, 6(2). <https://doi.org/10.15406/mojph.2017.06.00162>

KASIMAYAN, P., KASIRAJAN, A. K., RAJAN, D. R., SUBBIAH, S., & BALASUNDARAM, H. (2021). Knowledge and practice on prevention of intestinal parasitic infection among mothers of under-five children in Bulehora town, Bule Hora, Oromia Region, Southern Ethiopia. <https://doi.org/10.21203/rs.3.rs-743842/v1>

Keppens, M. (2017). The Aryans and the ancient system of caste. *Western Foundations of the Caste System*, 221-251. Doi:10.1007/978-3-319-38761-1_7

Kisana, R., & Shah, N. (2021). 'No one understands what we go through': Self-identification of health risks by women sanitation workers in Pune, India during the COVID-19 pandemic. *Gender & Development*, 29(1), 35-54. doi:10.1080/13552074.2021.1885217

- Kohnert, D. (2021). The socio-economic impact of Brexit on India, Pakistan and Sri Lanka in times of Corona. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3888450>
- Kuffour, R. (2020). Occupational health and safety challenges facing sanitary workers in sekyere central district in Ghana. *Journal of Environmental and Occupational Health*, 10(2), 17. doi:10.5455/jeoh.20190306031559
- Kuffour, R. (2020). Occupational health and safety challenges facing sanitary workers in sekyere central district in Ghana. *Journal of Environmental and Occupational Health*, 10(2), 17. <https://doi.org/10.5455/jeoh.20190306031559>
- Kumar, K., & Shetty, D. R. (2021). Safai Karamchari (Sanitary workers)/Scavenger community and risk of coronavirus (COVID-19) pandemic in India. *Contemporary Voice of Dalit*, 2455328X2110445. <https://doi.org/10.1177/2455328x211044570>
- Lakhtir, M. P., Peerwani, G., Azam, S. I., Nathwani, A. A., Iqbal, R., & Asad, N. (2021). Burden and factors associated with perceived stress among the general population in Pakistan during the corona-virus disease 2019. <https://doi.org/10.21203/rs.3.rs-628154/v1>
- M J, A. (2017). Postural difference in expiratory rate among female sanitary workers and its relationship with blood pressure and anthropometric indices. *Biomedical Journal of Scientific & Technical Research*, 1(2). <https://doi.org/10.26717/bjstr.2017.01.000182>
- M. Smith, D. (2005). Poverty and social exclusion: Theory and policy. *On the margins of inclusion Changing labour markets and social exclusion in London*, 38-62. <https://doi.org/10.1332/policypress/9781861346018.003.0003>

Mahase, E. (2021). Sanitation workers: COVID-19's forgotten frontline. *BMJ*, n2875. <https://doi.org/10.1136/bmj.n2875>

Majeed, M. M., Saleem, Z., Sarwar, H., Ramzan, Z., Iqbal, S. N., & Naeem, M. M. (2021). The psychology of coronavirus fear: Are dentists of Pakistan suffering from corona-phobia? *Journal of the Pakistan Dental Association*, 30(1), 1-6. <https://doi.org/10.25301/jpda.301.1>

Mallapaty, S. (2020). What's the risk that animals will spread the coronavirus? *Nature*. <https://doi.org/10.1038/d41586-020-01574-4>

Mohsin, S. (2016). Hepatitis B Virus/Hepatitis D Virus (HBV/HDV) Co-Infection in Pakistan. *Open Forum Infectious Diseases*, 3(Suppl_1). doi:10.1093/ofid/ofw172.292

Nagesh, S., & Chakraborty, S. (2020). Saving the frontline health workforce amidst the COVID-19 crisis: Challenges and recommendations. *Journal of Global Health*, 10(1). doi:10.7189/jogh.10.010345

Naveel, T., & Chunda, R. (2022). The reported side effects of corona virus vaccination among oral health care workers. *Pakistan Journal of Medical and Health Sciences*, 16(3), 546-552. <https://doi.org/10.53350/pjmhs22163546>

Neidel, T., Heins, J., Herrmann, K., Martignoni, A., Zinsmeister, T., Dettmar, R., Pukelsheim, M., Brunner, J. O., & Heller, A. R. (2021). Coordination of hospitals in the corona pandemic. <https://doi.org/10.21203/rs.3.rs-498417/v1>

- P, G., & K, K. (2020). Threatening health impacts and challenging life of sanitary workers. *Journal of Evolution of Medical and Dental Sciences*, 9(41), 3055-3061. doi:10.14260/jemds/2020/669
- Pakistan: Sanitation workers' protection in the wake of COVID-19. (2020, October 8). Retrieved from <https://www.ids.ac.uk/opinions/pakistan-sanitation-workers-protection-in-the-wake-of-covid-19/>
- Pandey, S. (2016). Nosocomial infections through hospital waste. *International Journal of Waste Resources*, 06(01). <https://doi.org/10.4172/2252-5211.1000200>
- Parikh, G., & Rawtani, D. (2022). Environmental impact of COVID-19. *COVID-19 in the Environment*, 203-216. <https://doi.org/10.1016/b978-0-323-90272-4.00001-4>
- Patil, P. V., & Kamble, R. K. (2017). Occupational health hazards in sanitary workers of Chandrapur city, central India. *International Journal of Environment*, 6(3), 15-24. doi:10.3126/ije.v6i3.18095
- Picker, G. (2017). Social inclusion/Exclusion. *The Wiley-Blackwell Encyclopedia of Social Theory*, 1-3. <https://doi.org/10.1002/9781118430873.est0532>
- Que, J., Shi, L., Deng, J., Liu, J., Zhang, L., Wu, S., ... Lu, L. (2020). Psychological impact of the COVID-19 pandemic on healthcare workers: A cross-sectional study in China. *General Psychiatry*, 33(3), e100259. Doi: 10.1136/gpsych-2020-100259
- Rahim, F., Amin, S., Bahadur, S., Noor, M., Mahmood, A., & Gul, H. (2020). ABO / Rh-D blood types and susceptibility to corona virus disease-19 in Peshawar, Pakistan. *Pakistan Journal of Medical Sciences*, 37(1). <https://doi.org/10.12669/pjms.37.1.3655>

- Rajan, D. (2015). Awareness about occupational hazards: A comparative study. *Pranjana: The Journal of Management Awareness*, 18(1), 1. doi:10.5958/0974-0945.2015.00001.1
- Rajan, D. (2019). Leadership-Related Factors Causing Heavy Workload: An Empirical Study among Sanitary Workers. *Training & Development Journal*, 10(1), 1–27. <https://doi.org/10.5958/2231-069x.2019.00002.7>
- Rajan, D. (2021). Awareness about impacts of heavy workload on health: An empirical study among sanitary workers. *Eurasian Journal of Higher Education*, 2(5), 24-53. <https://doi.org/10.31039/ejohe.2021.5.61>
- Rapisarda, V., Loreto, C., Vitale, E., Matera, S., Ragusa, R., Coco, G., ... Ledda, C. (2019). Incidence of sharp and needle-stick injuries and mucocutaneous blood exposure among healthcare workers. *Future Microbiology*, 14(9s), 27-31. Doi:10.2217/fmb-2018-0239
- Rayan, L. P., & Nisee, T. J. (2017). A study on the working conditions of sanitary workers in Tirunelveli Corporation. *International Journal of Trend in Scientific Research and Development*, Volume-2(Issue-1), 945-952. Doi:10.31142/ijtsrd7093
- Roudgar, I. (2021). Corona pandemic. corona-virus as global pandemic. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3841797>
- Safety health. (2019, January 30). SWANA calls for renewed focus on safety amid ‘unacceptable’ surge in sanitation worker deaths. Retrieved from <https://www.safetyandhealthmagazine.com/articles/18011-swana-calls-for-renewed-focus-on-safety-amid-unacceptable-surge-in-sanitation-worker-deaths>

Sakthivel, P., Nirmal kumar, M., & Benjamin, A. (2019). Rights of sanitation workers in India. *The Right to Sanitation in India*, 346-379. doi:10.1093/oso/9780199489855.003.0013

Sakthivel, P., Nirmalkumar, M., & Benjamin, A. (2019). Rights of sanitation workers in India. *The Right to Sanitation in India*, 346-379. <https://doi.org/10.1093/oso/9780199489855.003.0013>

Sanitation worker. (2008, September 18). Retrieved from https://en.wikipedia.org/wiki/Sanitation_worker

Schwartz, J., King, C., & Yen, M. (2020). Protecting healthcare workers during the coronavirus disease 2019 (COVID-19) outbreak: Lessons from Taiwan's severe acute respiratory syndrome response. *Clinical Infectious Diseases*, 71(15), 858-860. doi:10.1093/cid/ciaa255

Shahin, M., Abdullah, M., Muley, D., & Dias, C. (2022). Case studies on COVID-19 and environment. *COVID-19 in the Environment*, 231-248. <https://doi.org/10.1016/b978-0-323-90272-4.00006-3>

Shakoor, A., Sana, A., Hassan, H., Ahmed, F., Sajjad, S., Arshad, M., & Tariq, A. (2021). Knowledge, attitude and practices towards corona (COVID-19) among general population in Pakistan. *Pakistan Journal of Medical and Health Sciences*, 15(12), 3567-3570. <https://doi.org/10.53350/pjmhs2115123567>

Sharma, N. (2017). Study to assess the knowledge, attitude and practices of biomedical waste management among healthcare personnel at a tertiary care hospital in Haryana. *Journal of Advanced Research in Medical Science & Technology*, 1(1&2), 34-39. doi:10.24321/2394.6539.201703

- Siddiqui, A. A. (2020). The role of personal protective equipment (PPE) in prevention of COVID-19 novel corona virus and fatalities occur due to non-availability of the PPE. *American Journal of Biomedical Science & Research*, 9(6), 490-499. <https://doi.org/10.34297/ajbsr.2020.09.001458>
- Singh, M., & Ladusingh, L. (2017). Factors associated with chronic bronchitis among municipal sanitary workers in Varanasi, India. *Asian Journal of Epidemiology*, 10(3), 101-107. <https://doi.org/10.3923/aje.2017.101.107>
- Sri, K. B. (2020). World under the pandemic situation: Novel corona virus paralyzing world's activities. *COVID-19 Pandemic update 2020*, 128-133. <https://doi.org/10.26524/royal.37.10>
- Svitlana, K. (2021). Responsibility for violations of quarantine and sanitary rules and standards for preventing the spread of coronavirus infection (COVID-19) by law. *Law. Human. Environment*, 12(1). <https://doi.org/10.31548/law2021.01.016>
- Sweeney, J. (2021). COVID-19 therapies are in short supply as hospitals face COVID-19 surge. *Pharmacy Today*, 27(11), 46. <https://doi.org/10.1016/j.ptdy.2021.11.020>
- Tefera, E. G., Abdisa, F. W., & Erena, M. M. (2019). Assessment of knowledge, attitude and practice of skilled assistance seeking for maternal healthcare services and associated factors among women in west shoa zone, Oromia, Region, Ethiopia, 2017. <https://doi.org/10.21203/rs.2.15907/v1>
- Thakur, P., Ganguly, R., & Dhulia, A. (2018). Occupational health hazard exposure among municipal solid waste workers in Himachal Pradesh, India. *Waste Management*, 78, 483-489. [doi:10.1016/j.wasman.2018.06.020](https://doi.org/10.1016/j.wasman.2018.06.020)

Thakur, P., Ganguly, R., & Dhulia, A. (2018). Occupational health hazard exposure among municipal solid waste workers in Himachal Pradesh, India. *Waste Management*, 78, 483-489. <https://doi.org/10.1016/j.wasman.2018.06.020>

The News. (2020, July 2). Pakistan has lost 42 doctors among 58 healthcare providers to COVID-19. Retrieved from <https://www.thenews.com.pk/print/680655-pakistan-has-lost-42-doctors-among-58-healthcare-providers-to-covid-19>

Ullah, H., Mustafa, G., Ashraf, M., Ali, N., Shabbir, M., Nasrallah, Y. S., & Hussain, S. (2022). Level of awareness regarding COVID-19 among laborers, maintenance and sanitary workers. *Pakistan Journal of Medical and Health Sciences*, 16(2), 1107-1111. <https://doi.org/10.53350/pjmhs221621107>

Usman, M., Ali, Y., Riaz, A., Riaz, A., & Zubair, A. (2020). Economic perspective of coronavirus (COVID -19). *Journal of Public Affairs*. doi:10.1002/pa.2252

Valeeva, E., Akhmetshina, V., Karamova, L., Krasovskiy, V., & Gazizova, N. (2020). Occupational health risk among healthcare workers of the Bashkortostan infectious diseases service. *Sanitary vrač (Sanitary Inspector)*, (5), 32-39. doi:10.33920/med-08-2005-03

Venugopal, V., Rekha, S., Manikandan, K., Latha, P. K., Vennila, V., Ganesan, N., ... Chinnadurai, S. J. (2016). Heat stress and inadequate sanitary facilities at workplaces – an occupational health concern for women? *Global Health Action*, 9(1), 31945. doi:10.3402/gha.v9.31945

Verguet, S., & Jamison, D. T. (2017). *Health policy analysis: Applications of extended cost-effectiveness analysis methodology in disease control priorities*, third edition. Disease

Control Priorities, Third Edition (Volume 9): Improving Health and Reducing Poverty, 157-166. doi:10.1596/978-1-4648-0

Vodanovich, S. J., & Rupp, D. E. (2022). Disability discrimination. *Employment Discrimination*, 237-265. <https://doi.org/10.1093/oso/9780190085421.003.0009>

Waleed, R. M., Sehar, I., Iftikhar, W., & Khan, H. S. (2020). Hematologic parameters in coronavirus infection (COVID-19) and their clinical implications. *Discoveries*, 8(4), e117. <https://doi.org/10.15190/d.2020.14>

Workplace Health & Safety, 2020. Worker Health Surveillance in Occupational and Environmental Health. 69(3), pp.143-145.

Wynter Blyth, A. (1897). The education, status, and emoluments of sanitary inspectors. *Journal of the Sanitary Institute*, 18(2), 189-199. <https://doi.org/10.1177/146642409701800202>

Youssef, D. (2021). undefined. <https://doi.org/10.21203/rs.3.rs-960319/v1>

Banerjee, P. (2020). How lockdown has changed the world and your life. *COVID-19 Pandemic update 2020*, 296-303. <https://doi.org/10.26524/royal.37.31>

Blake, H., Fecowycz, A., Starbuck, H., & Jones, W. (2022). COVID-19 vaccine education (Cove) for health and care workers to facilitate global promotion of the COVID-19 vaccines. *International Journal of Environmental Research and Public Health*, 19(2), 653. <https://doi.org/10.3390/ijerph19020653>

Chadha, S. K., & Mishra, S. (2022). Healthcare workers as the frontline warriors in COVID-19. *Frontline Workers and Women as Warriors in the Covid-19 Pandemic*, 23-32. <https://doi.org/10.4324/9781003324515-4>

- COVID-19: A burden or relief for environment. (2022). *COVID-19 in the Environment*, 295-296. <https://doi.org/10.1016/b978-0-323-90272-4.00072-5>
- Drupp, M., Bos, B., & Meya, J. (2020). Experiments on risk framing and moral appeal in the context of the coronavirus spread. *AEA Randomized Controlled Trials*. <https://doi.org/10.1257/rct.5573-1.1>
- Hameed, F. (2021). Corona virus: An Islamic perspective. *Pakistan Social Sciences Review*, 5(I), 16-22. [https://doi.org/10.35484/pssr.2021\(5-i\)02](https://doi.org/10.35484/pssr.2021(5-i)02)
- How to conserve PPE and protect health care workers from COVID-19. (2020). *Forefront Group*. <https://doi.org/10.1377/forefront.20200422.52809>
- Khan, Z. (2022). Psychological trauma in frontline workers during COVID-19. *Frontline Workers and Women as Warriors in the Covid-19 Pandemic*, 133-147. <https://doi.org/10.4324/9781003324515-15>
- Khansari, N. (2020). Corona virus disease 19, the large-scale corona virus pandemic. *Vaccines & Vaccination Open Access*, 5(2). <https://doi.org/10.23880/vvoa-16000139>
- Majeed, M. M., Saleem, Z., Sarwar, H., Ramzan, Z., Iqbal, S. N., & Naeem, M. M. (2021). The psychology of coronavirus fear: Are dentists of Pakistan suffering from coronaphobia? *Journal of the Pakistan Dental Association*, 30(1), 1-6. <https://doi.org/10.25301/jpda.301.1>
- Mallapaty, S. (2020). What's the risk that animals will spread the coronavirus? *Nature*. <https://doi.org/10.1038/d41586-020-01574-4>

McCabe, E. M., & Jameson, B. E. (2022). Ethical challenges for school nurses during COVID-19. *Nurses and COVID-19: Ethical Considerations in Pandemic Care*, 87-103. https://doi.org/10.1007/978-3-030-82113-5_8

Prevalence and factors associated with perceived stress among the general population in Pakistan during corona-virus disease 2019. (2021). <https://doi.org/10.21203/rs.3.rs-601839/v2>

RADA, E. C. (2022). COVID-19 and municipal solid waste management. *WIT Transactions on Ecology and the Environment*. <https://doi.org/10.2495/wmei220081>

Svitlana, K. (2021). Responsibility for violations of quarantine and sanitary rules and standards for preventing the spread of coronavirus infection (COVID-19) by law. *Law. Human. Environment*, 12(1). <https://doi.org/10.31548/law2021.01.016>

Tolera, S. T. (2023). Occupational diseases among sanitary workers in worldwide: Systematic review. <https://doi.org/10.21203/rs.3.rs-1724683/v1>

Wypych-Ślusarska, A., & Kraus, J. (2022). Attitudes of health care workers towards the COVID-19 pandemic. *Environmental Medicine*. <https://doi.org/10.26444/ms/150369>

Zakar, R., Yousaf, F., Zakar, M., & Fischer, F. (2020). Socio-cultural challenges in the implementation of COVID-19 public health measures: Results from a qualitative study in Punjab, Pakistan. <https://doi.org/10.21203/rs.3.rs-122145/v1>

ANNEXTURE

Annex – I

INFORMATION SHEET



DEPARTMENT OF GOVERNANCE AND PUBLIC POLICY
NATIONAL UNIVERSITY OF MODERN LANGUAGES (NUML)
ISLAMABAD

Introduction: This is Jawaria Aslam from Department of Governance and Public Policy at National University of Modern Languages (NUML), Islamabad. I am conducting my M.Phil study on the topic of “Analysis Of Health And Safety Mechanisms Of Sanitary Workers During Covid-19: A Case Study Of Public Sector Hospitals In Islamabad”. You are requested to be a part of this research for betterment of the society.

Objective of the Study: To investigate the health and safety mechanisms of sanitary workers during Covid 19 in public sector hospitals of Islamabad.

Type of Research Intervention: This research will involve your participation in in-depth interviews. That will take twenty minutes.

Participants Selection: You are being invited to be a part of this study as you are one of the major stake holders of the study.

Voluntary Participation: Having freedom of expression, you are being invited to participate in this study on voluntary basis, you can choose between being of part of this study or not.

Procedure: Sanitary workers can answer the interview guide and survey guide but can also add any information if they want to.

Duration: Research will be concluded in two years.

Risks: The research does not entail any risk as you participate. No person will be harmed physically, psychologically or emotionally.

Benefits: There will be no direct benefits to you but your valuable inputs will help us achieving objectives of the study.

Confidentiality: The data provided by you will only be used for academic and research purpose and will not be provided to anyone else for any purpose. Identity of the respondents will be kept confidential and will not be shared with anyone outside this study.

Sharing the results: Results of the study can be shared to the respondents. Information provided by you will not be shared to any irrelevant person or institution.

Right to Refuse / Withdraw: You do not have to take part in this research if you do not wish to do so. You may stop participating in interviews at any time you wish and responses can be withdrawn before concluding the study as well.

How to Contact: Queries related to the study can be addressed by contacting the scholar directly at jiaraja341@gmail.com or through supervisor Dr. Athar Rashid, Assistant Professor of Department of Governance and Public Policy, National University of Modern Languages, Islamabad at atharrashid@numl.edu.pk.

This study will be reviewed and approved by NUML Faculty Board of Study which is a committee responsible to ensure protection of participants. If you do have any further questions please contact Dean Faculty of Social Sciences, Professor Dr. Khalid Sultan through email khalidsultan@numl.edu.pk.

Annex – II

CERTIFICATE OF CONSENT

I have been invited to participate in research titled as “Analysis Of Health And Safety Mechanisms Of Sanitary Workers During Covid-19: A Case Study Of Public Sector Hospitals In Islamabad”. I have read the forgoing information, or it has been read to me. I have had the opportunity to ask questions and any questions I have been asked and have answered to my satisfaction. I give my consent voluntary to be a participant of this study.

Name of Participant: _____

Signature of Participant: _____

Date: _____

Annex – III

STATEMENT BY THE RESEARCHER

I have accurately read out the information sheet to the potential participant and to the best of my ability made sure that participants understand the detail of the research. I confirm that the participants were given an opportunity to ask questions about the study, and all the questions asked by the participants have answered correctly and to the best of my ability. I confirm that the individuals have not been forced by any means to give consent, and that consents have been given freely and voluntarily.

A copy of this informed consent form has been provided to the participant.

Name of Researcher: Jawaria Aslam

Signature of Researcher: _____

Date: February , 2023

Annex – IV

Name:

Gender:

Age:

Work experience:

Education:

Interview questions for sanitary workers

- 1) What are the benefits and compensations given to you and your family by the hospital and government? Are there any extra benefits or fund being given to you at times of the pandemic? (D, 2018)**
- 2) What are health protective services given to you during Covid 19 for your protection? Does the hospital provides you with basic aid or you are just ignored? (Chaudhary et al., 2017)**
- 3) What is the most difficult part of your job during the pandemic?**
- 4) Are you aware of the risks that are involved in your profession especially in the pandemic? (D, 2017)**
- 5) Have you faced mental health problems? If yes how did you deal with it?**
- 6) What are the services provided to you and your family by the government after your retirement?**
- 7) Tell me what are your tasks as a sanitary worker in hospital?**
- 8) Can you tell a time when your work was criticized and prejudiced and how did you handle it? (D, 2017)**
- 9) Can you tell about any of your worst experience of your job and anything that you have done beyond your job level?**
- 10) Explain me how much physical work daily are you required to do and what impact it has on your physical wellbeing? (Rajan, 2019)**

SURVEY QUESTIONNAIRE

Gender:

Age:

Work experience:

The following questions would be asked from sanitary, administrative staff of hospital, medical workers and nurses and sanitary workers.

On which scale would you like to rate the following services offered to you during the times of pandemic.

Level of Satisfaction:									
1	2	3	4	5	6	7	8	9	10

Strongly agree.....1	Moderately agree.....2
Somewhat agree.....3	Agree.....4
Neutral.....5	Null.....6
Disagree.....7	Moderately disagree.....8
Somewhat disagree.....9	Strongly disagree.....10

Covid training

i. Training given by the hospital sanitary worker during covid 19	Level of Satisfaction:									
	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> </table>	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10	
ii. Access to/availability of protective equipment like mask, gloves, sanitizers	Level of Satisfaction:									
	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> </table>	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10	

iii. Availability of medical checkups during the pandemic	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10

Health issues

i. Stress, depression, anxiety during Covid 19	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10
ii. Occupational injuries while handling waste	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10
iii. knowledge of infectious diseases	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10

Provision of PPE

i..Provision of essential stuff as female sanitary worker	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10
ii. Discrimination as female sanitary worker in terms of funds or compensation	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10
iii. Family roles and work load as a female	Level of Satisfaction:									
	1	2	3	4	5	6	7	8	9	10

Government provision

i. Services offered after retirement	Level of Satisfaction: <table border="1"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr></table>	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10		
ii. Welfare services offered to your family and children	Level of Satisfaction: <table border="1"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr></table>	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10		
iii. Compensation and paychecks during Covid 19	Level of Satisfaction: <table border="1"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr></table>	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10		

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