

“Garbage in, Health Out”: An Insight into Knowledge, Attitude, and Practices Related to Health Problems and Preventive Measures among Sanitation Workers in Maharashtra

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Abstract: ***Introduction:** Sanitation workers face multiple health risks due to exposure to various hazards. These occupational hazards lead to high mortality rates among sanitation workers. Despite playing a crucial role, they are often overlooked, lack basic labor rights and lack support and protection. **Objectives:** The objectives of this study were to study the common health problems among sanitation workers in the study area, to study their knowledge, attitude and practices regarding preventive measures taken at the workplace and to assess their health seeking behavior and challenges in utilizing health facilities. **Methods:** This qualitative study focuses on sanitation workers in southern district of Maharashtra, employing in-depth interviews as method of data collection. Data was analyzed using content analysis approach. **Results:** Personal details in this study reveal that these workers were compelled to work as a sanitation worker as being illiterate, they had no other job options available. Some sanitation workers while performing their duties had to face discrimination at work. Musculoskeletal injuries were the most common health issue found among sanitation workers. Although sanitation workers had adequate knowledge and attitude towards preventive measures but the use of these preventive measures by sanitation workers was found to be rare at the workplace. **Conclusion:** Study underscores need for targeted interventions to bridge awareness-implementation gap and address the financial barriers to healthcare access among sanitation workers.*

Keywords: Sanitation workers, occupational health, musculoskeletal injuries, health seeking behavior

1. Introduction

About sanitation workers: World Health Organization defines the term "Sanitation" as the provision of facilities and services for the safe disposal of human excreta and also refers to the maintenance of hygienic conditions, through services such as garbage collection and waste disposal (World Bank Group and World H, 2019). While sanitation workers are individuals responsible for cleaning, maintaining, operating or emptying a sanitation technology at any step of the sanitation chain. Sanitation workers or Safai Karamcharis are those individuals which are employed as 'sweepers' or 'sanitation workers' in municipalities, government and private offices. These workers are employed on direct or contractual basis. These workers who are employed on contractual basis are mostly engaged in collection and disposal of garbage. Whereas these safai karamcharis are not manual scavengers (ENVIS, 2015). As these jobs are a part of informal sector often their work is not recognized as work and hence not protected by any kind of basic labor rights (World Bank Group and World H, 2019). Sanitation work play an important role in maintaining safe sanitation services and protecting public health in different settings like schools, homes, hospitals and other settings. In this process these sanitation workers face many health risks which include exposure to wide range of biological and chemical agents (Heldal et al., 2019). There are millions of sanitation workers that are forced to work in working conditions that endanger their health, lives and violates their dignity and human rights (WHO, 2019). Globally it is difficult to estimate the number of sanitation workers, as vast lines of services are included in the definition of sanitation workers and often, they are categorized with sectors like solid waste, health care management etc. (World Bank Group and World H, 2019). Furthermore, in many low-income countries many sanitation workers are difficult to localize as they are employed

informally (WHO, 2020). In addition to this rapid urbanization in developing countries, have led to increase in urban population which leads to increase in waste that puts a burden on sanitation workers increasing their workload and working hours (Gada et al., 2023). Although sanitation is the most important work in society still it continues to be unseen and underappreciated.

Caste dynamics related to work of sanitation: The work of sanitation was historically reserved for Shudras who were exploited and discriminated by the society (Earanna & Laxman, 2017). Previous studies highlight three important factors which are interrelated to each other in this caste dynamics, caste identity, lack of dignity of labor and economic depression. This caste-based occupations are continued through generations and are further interconnected to gender based identities. This cycle of caste, occupation and gender is continuously recycled over time and further increases the vulnerabilities of women sanitation workers (PRIA, 2018).

Vulnerability of sanitation workers to health problems: Out of total 5 million sanitation workers in India, about 2.5 million of sanitation workers are exposed to various occupational hazards (Joy et al., 2018). The Sanitary workers are always exposed to vulnerable surroundings and also, they have higher risk for accidents, injuries and other health impacts such as musculoskeletal problems, gastrointestinal problems, respiratory problems, dermatological problems etc. (Pushparani et al., 2018). Such health hazards related to sanitation work not only leads to illness but also deaths (Gada et al., 2023). After Launching of Swachh Bharat Mission, 2014 sanitation has attracted lot of attention (Khatri et al., 2018). In India, the responsibility of maintaining cleanliness lies with the sanitation workers, who fulfill this responsibility in the forms of sweeping roads, cleaning toilets, cleaning

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septic tanks, disposal of human and animal excreta, collecting and 3 transporting garbage etc. (Earanna & Laxman, 2017). About 90 percent of municipal sanitation workers in these occupation experience death before their retirement age due to occupation related health conditions. As this sanitation work is usually hard, smelly and often dangerous (Harriss-White, 2018). The street sweepers and sanitation workers face high prevalence of occupational hazards and mortality. As stated by National Institute of Occupational Health and Safety (NIOS), out of all the occupation related deaths worldwide about 70% comprise of respiratory diseases while other work environment related factors highlighted by International Labor Organization (ILO) in March 2007 includes dust, smell, traffic accidents, sun heat and street crime (Beckett, 2000; ILO, 2007). Therefore, the working conditions for these sanitation workers was observed to be unsafe. Although sanitation workers perform their occupational job but still this workforce are underappreciated for their work. These everyday risks of sanitation work expose them to various diseases, infections and cuts their life short. Not only the workers, but their families too have to suffer from stigma of work, health consequences and life losses. As sanitation workers face all these health risks it is essential to recognize their contributions and provide them all the required support and protection in order to carry out their duties with dignity and safety (Gada et al., 2023).

Lack of data related to sanitation workers: One of the most prominent challenges faced by sanitation workers face is, despite facing all the vulnerabilities and health consequences, they are not even counted at different levels of government. There is lack of reliable statistics of those people who are engaged in this work related to sanitation. In addition to this when it comes to occupational hazard there is very little evidence available about the access to healthcare and treatment seeking practices (Water Aid, 2019).

2. Methodology

Objectives of this research are as follows:

- 1) To study the common health problems among sanitation workers in the study area.
- 2) To study their knowledge, attitude and practices regarding preventive measures taken at the workplace.
- 3) To assess their health seeking behavior and challenges in utilizing health facilities.

Study design: The study design for this study is descriptive qualitative approach was adopted for this study.

Universe of the study and study respondents: The study was conducted with the sanitation workers who had been working under Municipal Corporation for more than 1 year and are above 18 years of age. The universe of the study is sanitation workers of southern district of Maharashtra working under Municipal Corporation.

Study settings: The study was conducted in the district, situated in the southern region of the Maharashtra.

Sampling procedure: A sample size of 10 sanitation workers was selected for this qualitative study.

Data collection method: In-depth interviews were conducted for qualitative study for collecting primary data from the respondents until a saturation level was reached.

Data collection tools: The data collection tool consisting of Interview Guide with open ended questions was used for this qualitative study. Audio Recorder was used for recording interviews.

Data analysis: Data analysis was done using conventional content analysis approach.

Ethics: Written consent was obtained from the respondents for participating in this research. The respondents were assured about the confidentiality that the information provided by them will be used for research purpose only.

3. Results

Personal Details of Sanitation Workers:

Personal details of sanitation workers reveal that there were high number of dependents on the sanitation workers. They were solely held responsible for managing day to day living expenses of their family. Lack of education was found to be the major barrier in accessing better job opportunities for these sanitation workers. These workers were compelled to work as a sanitation worker as being illiterate, they had no other job options available. Sanitation workers were found to be overall satisfied with their job but insisted on receiving pensions after retirement. Although they were satisfied with the job but there was lack of pay satisfaction found among the sanitation workers. The sanitation workers complained about low payments and delay in their monthly payment for their work. Further these workers also complained about lack of information provided to them about monthly deduction of their payment in the form of Defined Contribution Pension Scheme (DCPS).

"I alone work in my family...there are 10 people dependent on me for their living and food" [Sita, 53 years, Sweeper].
"I am illiterate...that is why I am doing this work" [Gita, 55 years, Sweeper]. Job satisfaction: *"I am satisfied with my job; pension is the only thing I wish I should get after retirement" [Gita, 55years, Sweeper]*

"Overall, we are satisfied but are not informed about the DCPS system through which money gets deducted from our account...we are clueless about the money deducted" [Joy, 28 years, Toilet Cleaner].

"Salary is less and is not paid on time...we don't receive our payments before 10th of every month" [Roy, 39 years, Laborer].

"We are given lowest payment but highest workload..." [Rita, Sweeper, 48]

Work Details of Sanitation Workers:

Sanitation workers perform their duties for eight hours daily except Sundays. The work of sanitation workers especially sweepers and laborers include sweeping of streets, waste collection and throwing the waste into garbage collection vehicles, while the work of toilet cleaners involves cleaning

of public toilets. The work allotted to sanitation workers was found to be exhaustive as street sweepers had to cover long distances while sweeping the areas allotted by the sanitation inspectors. Toilet cleaners also found their work to be exhaustive, as public in the area did not follow basic hygiene standards like using sufficient water after using the toilet and spit in toilets after chewing substances. Although most of the sanitation workers did not face discrimination and were respected by people. Some sanitation workers while performing their duties had to face discrimination at work, as people residing in their work area used different kinds of abusive words and language. Such situations make sanitation workers feel that there is lack of dignity associated to their work. Sanitation workers find themselves helpless and do not respond to such type of disrespect from people. Such instances after a period of time are considered normal by these sanitation workers.

Type of work:

"We work from 6am to 2 pm daily and have been provided only one holiday which is Sunday" [Mita, 45 years, Sweeper]
"We sweep waste, collect waste and throw them in garbage collecting vehicles" [Rita, 48 years, Sweeper] *"The work provided to us is exhaustive as we have to cover long distances of roads while sweeping". [Nita, 36 years, Sweeper]*

"People increase our workload by not following basic rules, they dirty the toilets a lot. They don't put adequate water after toilet use and spit in toilet here and there after chewing substances...if people use the public toilets properly, there will be no need of workers like us" [Joy, 28 years, Toilet Cleaner]

Bias related to work:

"No, I don't face any discrimination, as I have been allotted good area, people in my area are good". [Rita, 48 years, Sweeper]

"In this area people give lot of bad words to us, the area is not good" [Sita, 53 years, Sweeper] *"People keep giving bad words to us but we continue working ...we do not reply to them" [Nita, 36 years, Sweeper]*

Health Problems faced by Sanitation Workers:

Musculoskeletal injuries were the most common health issue found among sanitation workers. This musculoskeletal injury was caused mostly due to bending postures and nature of work including collecting heavy loads of waste, cleaning toilets and sweeping of waste for long distances. These musculoskeletal injuries were found among sanitation workers irrespective of type of sanitation workers.

Musculoskeletal injuries faced by sanitation workers were in the form of leg pain, knee pain, back pain and gaps in intervertebral column. In addition to this, eye problem was the second major health problem faced by sanitation workers. These health problems faced by sanitation workers became more serious with their increasing age and years of experience. It was found that though these sanitation workers suffered from musculoskeletal injuries, the workers did not prefer to take leave due to these health issues. The sufferings of these health problem have become part of their daily

routine. When the pain caused due to these health issues becomes more severe, they consume medicines and come back to work. They have become habitual to this behavior of consuming medicines and coming back to work. They rarely report such health issue to the employer as they think that these issues are not worth reporting until they turn into a major disease. The sanitation workers complained about the lack of information regarding provision of health checkup facility by the municipal corporation. These workers complained that such camps were organized far from their working place at the municipal corporation and the date and timings of such camp was not informed to them by their employers. These workers thought that the employers did not tell them about the medical camp details as they want them to not miss out on their work for that day. These sanitation workers thought that health checkup facility like a medical camp should be organized at their solid waste management offices so that they can easily avail the benefits and the dates and timings of such facility should be informed, a day prior to them. It was found that although the sanitation workers were instructed to wear these preventive measures while distributing them, however no such formal training was provided to them regarding occupational health and safety related to these preventive measures. The sanitation workers accepted that they had been provisioned with preventive measures by municipal corporation but have not been receiving these preventive measures frequently. Some informed that these preventive measures were provided to them twice while others informed that they received these preventive measures only during COVID last year. The sanitation workers think that provisioning of these preventive measures should be done once in every three months by the municipal corporation, as the preventive measures provided could not be used for longer duration as they get torn off easily.

Occupational health problems:

"Due to my work, I suffer from diarrhea and vomiting...nothing much serious" [Coy, 55 years, Toilet Cleaner] *"Due to my work, I suffer from leg pain and back pain..." [Nita, 36 years, Sweeper]* *"I have lost my knees due to this work, bending postures and heavy work of waste collection." [Rita, 48 years, Sweeper]*

Impact of health issue on daily life:

"I have knee pain and have gap in my intervertebral column" [Mita, 45 years, Sweeper]

"I have been working since many years, I can see only with my one eye today" [Gita, 55 years, Sweeper]

Impact of work on health:

"Usually, I don't take leave when I am not well, but in some conditions when I am no longer capable to bear the pain...I take leave" [Rita, 48 years, Sweeper]

"I don't take leave, even if I am ill, I take medicines and get back to work" [Nita, 36 years, Sweeper]

Health provisions:

"We are not informed about the medical camp day at municipal corporation. As our supervisors think that we won't work that day, if they informed us" [Lata, 43 years, Sweeper]

"We are unaware of the date and timings of such health checkup camps of the municipal corporation" [Joy, 28 years, Toilet Cleaner]

Knowledge, attitude and practices regarding preventive measures among sanitation workers:

It was found that sanitation workers were found aware about the hazards caused due to their work. They knew that it is their nature of work which makes them vulnerable to various diseases like breathing problem, chest filled with heavy cough, diarrhea, vomiting, body pain, back pain, leg pain, joint pain and eye problems. Their previous knowledge and their own experience related to these health problems made them aware about the occupational hazards at work. Apart from health problems, they were also aware about the prevention of these problems by use of preventive measures (Personal Protective Equipment). However, the awareness and information they had was based on the instructions provided at the time of distribution of PPE and their previous knowledge. There was no occupational and safety training or workshops conducted for increasing their awareness by the municipal corporation.

Awareness:

"I know the hazards caused due to this work like, cough fills up in chest, breathing problem, infections and all other things" [Rita, 48 years, Sweeper].

"I know that doing this work will cause me diarrhea, vomiting but what can I do? It is my work I have to do it" [Coy, 55 years, Toilet Cleaner].

Information:

"We are just told this to wear but we are not provided any training to use this PPE" [Nita, 36 years, Sweeper].

"Sometimes we sanitation workers don't know the impact of our work on our health...we work tirelessly eating painkillers...but after the pain gets severe, we go to hospital. But till then it turns into major disease" [Mita, 45 years, Sweeper].

Sanitation workers believed that preventive measures are effective in preventing health problems. However, this believe and importance given to preventive measures by sanitation workers was found to different for different types of preventive measures. Mask as a preventive measure was considered important by the sanitation workers, as sanitation workers think that it was effective in preventing dust particles and foul smell. Gloves were also believed to be effective preventive measures in preventing skin problems and sharp object injuries. Casual attitude among sanitation workers were found regarding jackets and boots. As jackets were worn by the sanitation workers only during official visits and boots were rarely believed to be important by the sanitation workers especially the sweepers. However, the sanitation workers were willing to use these preventive measures especially masks and gloves, if provided by the employer.

Importance:

"I use my own mask and use gloves only if there is any emergency...I use mask compulsorily because since it is a public toilet, we do not know who is coming how...it is difficult

to work when wearing gloves" [Joy, 28 years, Toilet Cleaner].

"Jackets are provided to us but I use it only when there is visit of officers at our area." [Nita, 36 years, Sweeper].

Believes:

"Yes, I do believe that using masks prevents the dust particles while sweeping from going inside, this can further prevent breathing problems" [Rita, 48 years, Sweeper].
"Wearing gloves is effective as this prevents sharp objects injuries while collecting the waste" [Nita, 36 years, Sweeper].

Although sanitation workers had adequate knowledge and attitude towards preventive measures but the use of these preventive measures by sanitation workers was found to be rare at the workplace. There were various reasons for not using these preventive measures as per the recommendations of the employer at the workplace. The sanitation workers were not found using these preventive measures regularly, but they used them depending on the requirement of the situation, for instance gloves were used when collecting waste and not while sweeping or cleaning toilets. The sanitation workers used these preventive measures according to their convenience, they used sarees and scarfs to cover their face in case they forgot bringing preventive measures at work. The major reasons for not using preventive measures by the sanitation workers were poor quality and lack of availability. Although the sanitation workers were provided the preventive measures twice a year, but these preventive measures provided were of low quality, the masks and gloves provided to these workers teared off within three to four days, after getting teared off these were unavailable for these sanitation workers for further use. Hence the sanitation workers were found using saree or scarf instead of mask and carry bags instead of gloves, due to lack of availability of preventive measures. Feeling of awkwardness and not habituated to work after wearing preventive measures were other reasons for not using preventive measures. Sweepers found it difficult to work with gloves as they thought that this will slow down their speed of doing work. Toilet cleaners found it difficult to wear masks as this mask gets wet due to sweating caused during their work. Most of the sanitation workers complain about the boots provided to them, as these boots were very heavy for regular use and the improper sizes of these boots did not fit the sanitation workers. The sanitation workers mostly did not wear the jacket provided to them and preferred to wear the jacket only when there was a visit of a higher official, as wearing of jacket in the hot weather condition of the area made them feel exhausted.

Adherence:

"In some places I use and in some places I don't, I use PPE only when required" [Roy, 39 years, Laborer]. *"Sometimes I use scarf and sometimes I cover my mouth with my saree while working..." [Gita, 55 years, Sweeper].*

"Since PPE kit are provided only once a year...I usually pick waste using my hand or metal sheets and sometimes tie carry bag to my hands to pick up waste" [Rita, 48 years, Sweeper].

"I use scarf while working ...I generally don't use mask as the masks are provided are of low quality and they get teared off within 3 or 4 days of use" [Sita, 53 years, Sweeper].

Barriers:

"We were given PPE kits only during the COVID pandemic...after that we were not provided any PPE kits" [Mita, 45 years, Sweeper].

"We are provided masks but I don't use it because I feel awkward while working...I am not habitual to it...and the gum boots provided are very heavy to wear" [Rita, 48 years, Sweeper].

"I don't use those boots because I got shoe bite from these boots when I used it twice, as these boots are packed from inside" [Joy, 28 years, Toilet Cleaners].

"While sweeping and collecting waste the gloves provided to us tear up as soon as I use it for the first time....and I feel exhausted to use the jacket due to hot weather...I cannot walk due to the heavy boots provided to us and the masks provided are of extremely low quality" [Nita, 36 years, Sweeper].

Health seeking behavior and challenges faced by sanitation workers in utilizing healthcare facilities:

Sanitation workers mostly preferred private hospital over government hospital for seeking healthcare. The major reason for deprioritizing government hospital was the low quality of care provided by the government hospital in terms of long waiting queues and lack of guaranteed treatment. The sanitation workers thought that although the cost of treatment is high in private hospital as compared to government hospital but the treatment was effective and guaranteed. Severity of disease was found to be one of the factors influencing the health-seeking behavior, as most of the sanitation workers felt the need to seek health care only when they were not able to bear the pain and suffering of the disease. Apart from effective treatment and severity of disease, close proximity of private hospital near their home was another factor responsible for choosing private hospital for seeking healthcare. Sanitation workers had to face various challenges while utilizing the healthcare facilities. Sometimes due to heavy workload the sanitation workers were not able to take time out for seeking treatment this led to further delay in their treatment. High cost of medicines and long waiting time were another major barrier faced by sanitation workers while accessing healthcare. Although the waiting time in private hospitals is less in comparison to government hospitals, but the sanitation workers anyhow had to lose time and wages while seeking healthcare. Apart from these challenges, sanitation workers also faced challenges in utilizing healthcare through insurance coverage. Insurance coverage provided to sanitation workers was limited to major diseases only and required the sanitation workers to pay 10% of the total medical expense beared at the time of treatment in case of major disease. This puts a financial burden on the sanitation workers to manage all the minor diseases and pay 10% of the total medical expense incurred for major disease in order to claim insurance benefits. In addition to this, this insurance provided to sanitation workers was for one year duration and can be renewed for next year, but these workers could not claim insurance once they get retired. As mentioned by

sanitation workers, the minor diseases itself convert into major diseases and these major diseases occur after retirement, 55 but after retirement these sanitation workers become ineligible for availing the benefits of this insurance.

Health seeking practices:

"Government hospitals takes lot of time.... even if people lay there is no one to see them...that is why I prefer going to private hospital." [Sita, 53 years, Sweeper]

"I prefer private hospital because it is close to my house, I don't have to wait long time in queue...and the doctor provides medicines as soon as I go". [Coy, 55 years, Toilet Cleaner]

Factors influencing choices:

"We have to just pay money in private...treatment is guaranteed there ...they take about 100 to 150 Rs at one time there". [Nita, 36 years, Sweeper]

"I go to private hospital for treatment and I only go if the pain is unbearable and severe" [Roy, Laborer, 39] **Challenges in utilization:** *"Sometimes due to heavy workload I do not get time to seek treatment at clinic" [Rita, Sweeper, 48 years, Sweeper]*

"The fees in private hospital are less but the cost of medicines is too high" [Joy, 28 years, Toilet Cleaner]

"We have to wait in private hospital for at least 1 to 2 hrs. to get proper treatment" [Nita, 36 years, Sweeper]

"I go to private hospital if I have minor health problems...like headache and backpain. We can use card only for major diseases ...for fifty to sixty thousand rupees treatment...but these minor diseases itself gets further converted into major diseases therefore I think there is no use of card". [Coy, 55 years, Toilet Cleaner]

"Even if we use the card, we have to pay 10% of total medical bill for fifty to sixty thousand treatment that is challenging for us" [Gita, 55 years, Sweeper]

Quality of healthcare services: *"Treatment provided by the private hospital is good and effective...I recover fast when I go to private hospitals" [Rita, 48 years, Sweeper]*

"I prefer my family doctor who resides near my house, because treatment is guaranteed even if the cost is comparatively high" [Mita, 45 years, Sweeper]

Suggestions of Sanitation Workers:

Sanitation workers suggested that their monthly payments be made on timely basis. The sanitation workers also recommended the establishment of a specialized health facility to address minor illness they may face. Additionally, they proposed the provision of health checkup facilities at the office. If medical camps are organized at the municipal corporation, the workers should be granted one-day leave, and information regarding the date and time of the camp should be provided to them. They suggested the provision of cotton masks as a preventive measure. Sanitation workers should receive training on occupational health and safety measures. They also requested a unique uniform code,

expressing concern that the current blue uniform is similar to ASHA workers in their area. Facilities like Dettol and soaps for hygiene purposes were suggested. The workers also recommended the provision of proper equipment such as brooms, buckets, brushes and mugs. Proper sanitation facilities at the offices were suggested by sanitation workers. Those residing in unauthorized areas suggested being provided quarters by the municipal corporation for accommodation. The workers recommended the provision of a pension facility after their retirement and emphasized that insurance coverage post-retirement should be made mandatory. Sanitation workers should be awarded and recognized for their work to motivate them, as suggested by the sanitation workers themselves.

"We should be given proper equipment's to work. Currently we buy brooms and bucket from our own money, half of our salary goes in buying equipment's and half goes in travelling for work" [Coy, 55 years, Toilet Cleaner]

"Toilets should be provided and kept functional to us at our offices...It has been 15 years I am working the toilet here is always closed, sometimes when we could not control, we urinate on open ground as there is no option available" [Sita, 55years, Sweeper]

"We should be awarded and recognized for our work...even during corona we have worked tirelessly picking corona infected clothes of people still we have never been facilitated" [Mita, 45 years, Sweeper]

4. Discussions

In-depth studies regarding personal and work details reveal that, a complex tapestry of challenges and dynamics exists within essential workforce of sanitation workers. These workers with numerous dependents, find themselves financially constrained, primarily due to lack of educational opportunities that would open doors to alternative employment. Despite an overall satisfaction with their jobs, sanitation workers express discontent with low pay and delays in receiving their monthly payments. In addition to this there is notable lack of awareness about certain systems managing deductions, indicating potential communication gaps between workers and administrative process. The nature of their work, ranging from extensive street sweeping to the demanding task of public toilet cleaning, adds a layer of physical strain to their professional lives. This finding is similar to a study conducted in Karnataka where extensive and hazardous working conditions and adverse effect on the bodies of sanitation workers (Patil et al.,2017). Public behavior is highlighted as a significant factor influencing the workload, emphasizing the need for public cooperation to reduce the necessity for labor in maintaining cleanliness. The call for pensions after retirement highlights a need for long-term financial planning and security. Additionally, instances of discrimination faced by some workers, though not universal, reveal a concerning lack of dignity associated with their roles, with abusive language and disrespect behavior becoming normalized over time. These findings are similar to findings of a study based in Odisha where sanitation workers face discrimination, face verbal abuse and are beaten up (Ajit, 2019). The findings underscore the importance of addressing issues such as fair compensation, improved working

conditions, educational opportunities and measures to combat discrimination, all aimed at enhancing the overall well-being and dignity of sanitation workers.

Health problems faced by sanitation workers reveal that musculoskeletal injuries are the predominant health issue, resulting from physically demanding nature of their work involving heavy lifting, bending postures, and long-distance sweeping. Common injuries included leg pain, knee pain, back pain and gaps in intervertebral column. These findings were similar to a study conducted in Chandrapur and Tamil Nadu where majority of sanitation workers suffered from musculoskeletal injuries and increase in its prevalence was attributed to usage of short and damaged broom, inadequate supply of brooms and working postures (Patil et al.,2017; Pushparani et al.,2018). However, these findings differed from a study conducted in Karnataka where injuries were the most common reported illness by men (Rangamani et al.,2015), while a in a study conducted in Indore revealed that respiratory diseases were the most common health problems among sanitation workers. Eye problems emerged as second major health concern. This finding was different from Tamil Nadu conducted study where eye problem was the fourth major health problem and was caused due to negligence of workers in using goggles while the second major problem was respiratory diseases attributed to dust raised by sweeping and low usage of mask (Pushparani et al.,2018).Despite these health issues worsening with age and experience, sanitation workers seldom took leave, instead opting to self-medicate and return to work, considering it a routine part of the job. Whereas studies done in Karnataka reveal that the sanitation workers did not take leave and continued their work due to fear of losing their job (Rangamani et al.,2015). Complaints arose regarding a lack of information about health checkup facilities provided by municipal corporation, with workers suggesting onsite medical camps at solid waste management offices for better accessibility. While a study conducted in Indore revealed that there was no provision of health checkup provided to sanitation workers and the reasons revealed for this were lack of political commitment, absence of any authoritative body and loss of pay or job of workers (Khatri et al.,2018). Additionally, the study highlighted a gap in occupational health and safety training, as sanitation workers, though given preventive measures, received limited formal training. They suggested regular provision of preventive measures and periodic training, advocating for a three-month interval for distribution of preventive measures by municipal corporation.

Sanitation workers demonstrated awareness of the occupational hazards associated with their job, acknowledging the risk of various health issues such as respiratory problems, cough, diarrhea, vomiting, body pain, back pain, leg pain, joint pain and eye problems. This awareness stemmed from their own experiences and prior knowledge. While they were cognizant of preventive measures, including the use of Personal Protective Equipment (PPE), their understanding relied on instructions provided during PPE distribution and their existing knowledge. Notably, there was a lack of formal occupational health and safety training or workshops conducted by the municipal corporation to enhance their awareness regarding workplace hazards and preventive measures. This finding was similar to

Odisha based study where the workers did not get any training before they joined as sanitation worker (Ajit, 2019).

Sanitation workers recognize the efficacy of preventive measures in averting health issues, but their perceptions vary for different types of precautions. Masks are considered crucial for preventing dust particles and foul smells, while gloves are deemed effective against skin problems and sharp object injuries. However, a casual attitude prevails towards jackets, worn primarily during official visits and boots particularly among sweepers. Despite this, sanitation workers express willingness to use these preventive measures, especially masks and gloves, if provided by the employer.

This study reveals a significant gap between sanitation worker's knowledge and attitudes towards preventive measures and their actual utilization in the workplace. Despite possessing adequate awareness, the workers seldom used the recommended precautions consistently. This finding was similar to Indore based study in which none of the sanitation workers was found to use these preventive measures (Khatri et al., 2018). Usage of these preventive measures varied based on situational needs, with gloves worn during waste collection but not while sweeping or cleaning toilets. Sanitation workers employed makeshift solutions, such as using sarees or scarfs to cover their faces when they forgot their preventive measures. The primary hindrance to consistent use were attributed to poor quality and limited availability of provided preventive measures. This finding was similar to a study conducted in Indore where the major reason for not using preventive measures was lack of provision (Khatri et al., 2018). The items provided such as masks and gloves were of low quality, teared within few days, leaving workers without adequate protection. Awkwardness, lack of habituation and discomfort were additional barriers to usage of preventive measures. Specific job roles found certain preventive measures impractical, with sweepers perceiving gloves as hindering work speed and toilet cleaners experiencing difficulties with wet masks due to sweating. This finding was similar to Tamil Nadu based study in which the lack of usage of masks and gloves was attributed to inconvenience in wearing and interference with work (Pushparani et al., 2018). Complaints about heavy and improperly sized boots further deterred their regular use. Additionally, sanitation workers preferred not to wear jackets regularly, reserving them for official visits to avoid discomfort in the hot weather. These findings underscore the need for improved quality, regular availability and tailored approaches to promoting the consistent use of preventive measures among sanitation workers.

Sanitation workers predominantly prefer private hospitals over government ones due to perceived higher quality of care, guaranteed treatment and proximity to their homes. The major deterrents for utilizing government hospitals include long waiting ques and uncertainty in receiving treatment. The choice is also influenced by severity of disease, with many workers seeking healthcare only when the pain becomes unbearable. This finding differs from Karnataka and Odisha based study in which most of the sanitation workers seek treatment at government hospital and intake of counter medicines was the most followed common practice (Rangamani et al., 2015; Ajit, 2019). However, various

challenges hinder their access to healthcare such as heavy workloads leading to treatment delays, high medication costs and time loss incurred even in private hospitals with shorter waiting lines. These findings are similar to Odisha based study where cost of medicines and consultation fee of private hospital is the main problem (Ajit, 2019). The use of insurance coverage was constrained to only major diseases, requiring a 10% payment for major disease treatments and posing financial burdens on sanitation workers for managing minor illness. Furthermore, the insurance coverage is limited to one year and cannot be claimed post-retirement, creating concerns as minor illnesses may escalate into major diseases during the retirement period. While study from Odisha, reveal that government did not provide any medical health facility and health insurance schemes to sanitation workers (Ajit, 2019). These findings underscore the multifaceted challenges faced by sanitation workers in accessing and utilizing healthcare services, emphasizing the need for targeted interventions to address these issues comprehensively.

5. Limitations of the Study

⊖ Language was one of the barriers encountered while conducting interviews, as some of the sanitation workers spoke Kannada language and help of other sanitation workers was sought for the translation of answers. ⊖ The study was conducted in one district therefore the findings cannot be generalized for the state of Maharashtra. ⊖ More extensive studies with larger population cohort can be done for better assessment of KAP with respect to sanitation workers.

6. Conclusion

Despite facing obstacles, sanitation workers express a strong belief in the need for additional support tailored to their specific needs from municipal corporations, highlighting an opportunity for community focused interventions and policy recommendations to enhance their wellbeing. Overall, the study demands for targeted interventions to bridge the gap between awareness and implementation of preventive measures, address financial barriers to healthcare access and advocate for policies that cater to unique needs of sanitation workers for improved occupational health and wellbeing.

7. Policy Recommendations

- Implementation of strategies to cultivate health consciousness, heighten awareness of personal safety and underscore the importance and proper utilization of personal protective equipment (PPE) through creation and dissemination of concise cinematic content via mass media.
- Incorporation of advanced ergonomic principles, including the provision of elongated handled broomsticks, cotton masks and appropriately sized sweat absorbing gloves is advised.
- Periodical screening should be conducted at intervals of three months to assess the efficacy of proposed measures.
- Daily monitoring of workers adherence to usage of PPE is recommended for sustained safety.

- To ensure efficacy, there is a need for consistent and adequate supply of PPE along with promotion of user-friendly equipment.
 - Provision of goggles as one of the personal protective equipment for preventing eye problems among sanitation workers.
 - Developing and implementing a comprehensive occupational health and safety framework tailored to unique challenges faced by sanitation workers encompassing training programs, regular health checkups and provision of necessary safety equipment. Provide preventive measures such as masks and essential hygiene supplies like soaps and disinfectants to safeguard sanitation workers against occupational health hazards.
 - Establish a unique uniform code for sanitation workers to distinguish them from other occupational groups, addressing concerns about uniform similarity and fostering a sense of identity.
 - Implementing ongoing skill development and training programs for sanitation workers, covering not only occupational health and safety but also provide opportunities for career advancement.
 - Establish robust and punctual payment systems to ensure sanitation workers receive their monthly remuneration on time, promoting financial stability
- [10] Pushparani JP, Chitra A, & Kalpana J. (2018). A cross-sectional study to assess the health profile of street sweepers and sanitary workers in a zone of Greater Chennai, Corporation, Tamil Nadu, India.
- [11] Rangamani , Obalesha , & Gaitonde. (2015). Health issues of sanitation workers in a town in Karnataka : Findings from a lay health-monitoring study. *The National Medical Journal of India*
- [12] World Bank Group. (2019). World Health Organization, International Labor Organization, WaterAid. *Health, Safety and Dignity of Sanitation Workers.*

References

- [1] Ajit Lenka. (2019). Health identity and livelihood status of sanitation workers in Bhubaneswar city, Odisha.
- [2] Barbara Harriss-White . (2017). Formality and informality in an Indian urban waste Economy.
- [3] Earanna. J, & Laxman Kawale. (2017). Pourakarmikas In India: Analysis Of Social, Occupational And Health Status
- [4] Gada NP, ShuklaR, Kumar P, Shah K, Abhishek K, Sarkar M, et al. (2023). Assessment of occupational health hazards and associated morbidities in sanitation workers of a metropolitan city in India: a cross-sectional study. *Int J Community Med Public Health*
- [5] Heldal, K.K., Austigard, Å.D, & Svendsen, K.H., et al. (2019). Endotoxin and hydrogen sulphide exposure and effects on the airways among wastewater workers in sewage treatment plants and sewer net systems. *Ann Work Expo Health*.
- [6] Joy,P and Chitra,AKJ. “A cross sectional study to assess the health profile of street sweepers and sanitary workers in a zone of Greater Chennai Corporation in Tamil Nadu,India”.*Int J Community Med Public Health*
- [7] Khatri, Kujur, Sirohi, Sanodiya, & Dixit. (2018). Health Problems among sanitation workers in Indore City. *Journal of Medical Science and Clinical Research*.
- [8] Patil, P. V., & Kamble, R. K. (2017). Occupational Health Hazards in Sanitary Workers of Chandrapur City, Central India. *International Journal of Environment*.
- [9] PRIA. (2018). Research Brief: Bodies of Accumulation: A Participatory Policy Research on the Lives and Work of Women Sanitation Workers in Ajmer, Rajasthan.