

Deaths Due to Manual Scavenging: Challenges from Forensic and Ethics Lens Towards Policy Changes

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Abstract

Manual scavenging, a practice prevalent in India, entails the manual removal of human excreta from public areas, dry latrines, septic tanks, and sewers. Despite legislative measures and technological advancements, manual scavenging persists, leading to numerous fatalities and health hazards. Manual scavenging perpetuates caste discrimination and compels individuals into hazardous work, infringing upon human dignity. This study evaluates the perspectives of Forensic Medicine faculties and Postgraduates through a questionnaire survey to advocate for policy changes aimed at empowering manual scavengers. Results highlight the importance of preventable deaths among manual scavengers, attributed to infections, drowning, lack of protection and financial support from the government, lack of education, and scarce job opportunities. Hence, immediate action is needed to shift towards hygienic and safe methods for waste management, including the use of protective equipment and robotics where feasible. Emphasis should be placed on empowering current manual scavengers with training to operate new equipment. Additionally, adequate compensation for the families of deceased manual scavengers is crucial. These measures aim to eradicate the negative impact of manual scavenging and ensure dignified livelihoods for affected individuals.

Keywords: Manual scavenging, human dignity, occupational hazards, health policy reforms and intergenerational poverty

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Introduction

Manual scavenging is defined as manual removal of excreta (night soil) from dry toilets (toilet without modern flush system or water seal)¹. The International Labour Organization (ILO) describes three forms of manual scavenging in India: 1. Removal of

human excrement from public streets and dry latrines.

2. Cleaning septic tanks.

3. Cleaning gutters and sewers Manual cleaning of railway lines of excreta dropped from the toilets of trains is another form of manual scavenging in India².

The deaths of manual scavengers are on the rise. According to the Times of India between 1993 and 2019 there has been about 814 sewer deaths in India, among which Tamilnadu and Gujarat had the highest number of cases and as per Press Trust of India 115 manual scavengers died while cleaning drainage in 2019^{2,3}. Presence of

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toxic gases like carbon monoxide and methane are the major reason for death of manual scavengers⁴. Chronic ailments show high prevalence among manual scavengers. Annually about 600 septic tank cleaners die prematurely and their average life expectancy is reduced⁵. The data from national commission of Safai Karmacharis regarding the death of manual scavengers from January 2017 to September 2018 “In India every five days a manual scavenger dies in a septic tank or manhole”⁶. Death usually occurs on exposure of individual to low oxygen levels and presence of toxic gases like carbon monoxide, methane, hydrogen sulphide, and ammonia in manhole⁴. Manual scavenging is primarily characterized by forced labour rather than being a matter of choice; it is often entrenched as a customary practice.

In spite of all technologies manual scavenging still exists in India and is considered as one of the dehumanizing practices in the country^{7,8}. Since the municipal corporations of metropolitan cities have adopted underground drainage systems, clogged drains during monsoon affect the daily routine of individuals, requiring manual scavengers to clear the clog. Clearing the clog where unhygienic water passes lead to infections⁹. Being in an occupation which is more associated with health-related risk, along with them their family also faces similar risk through exposure to pathogens compromising quality of life³. The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013 was implemented to ensure that no person is engaged as a manual scavenger and to ensure investigation and prosecution of individual¹⁰. Despite the act being implemented, manual scavenging is present due to cheap labour availability and less awareness about the risks involved¹¹. Manual scavengers were also mostly on a contractual basis without providing any health insurance leading to compromise in quality of life. Only those contractual

workers hired by corporations had the promise of permanent jobs if they continue working for long duration which is almost a decade on contract basis^{12,13}. When a manual scavenger dies on duty, Forensic doctors perform the autopsy. So, Forensic doctors are also stakeholders when it comes to policy development and rehabilitation of manual scavenging. More so, an essential question for reflection is whether manual scavenging violates human dignity. Therefore, this article aims to explore the perspectives of Forensic Medicine faculties and Postgraduates via questionnaires to advocate for policy changes aimed at empowering workers engaged in manual scavenging.

Methodology

This study constitutes descriptive quantitative research, which began after the ethical clearance was obtained. A pragmatic review of literature formed the basis of questionnaire. The questionnaire, comprising 15 questions, was tailored to address specific domains related to Forensic medicine, ethics, and policy considerations. This questionnaire was face-validated for content and construct by three experts in the field of Forensic medicine (two) and General medicine (one). Data analysis involved descriptive analysis (frequency and percentages) and the findings were presented using pie charts, employing colour codes to represent the diverse opinions expressed by participants (see supplementary file). The sample size of 96 was determined statistically using purposive sampling methods. The questionnaire was developed using Google Forms and distributed online to a targeted group of forensic experts attending a Forensic Conference (2023). The perceptions of Forensic delegates and postgraduates were investigated using this questionnaire.

Results

In the present perception study, we got a range of external and internal findings

among individuals who drowned or were involved in manual scavenging incidents. Among the external findings, cyanosis was the most perceived symptom, reported in 56.3% of cases, followed by frothing (28%), and bleeding from ear, nose, throat (7.3%) as shown in figure 1. Scalp laceration was less frequent, observed in 4.2% of cases. In figures 2 & 3, aspiration was the most common internal finding, perceived in 86.5% of cases, followed by cardiac hypertrophy (3.1%), pericardial effusion (3.1%), and ruptured berry aneurysm (2.1%). The leading cause of death among individuals who drowned in a cesspool and experienced respiratory distress was asphyxia (76%), followed by aspiration (12.5%) and wet drowning (9.4%). Similarly, among deaths related to manual scavenging, asphyxia was the most common diagnostic finding, accounting for 32% of cases, followed by aspiration (17%), pulmonary edema, and cyanosis (11%), with respiratory failure and infections comprising the fourth most common cause at 3.1%.

Also, the results revealed strong consensus among participants regarding the issue of manual scavenging. A significant majority,

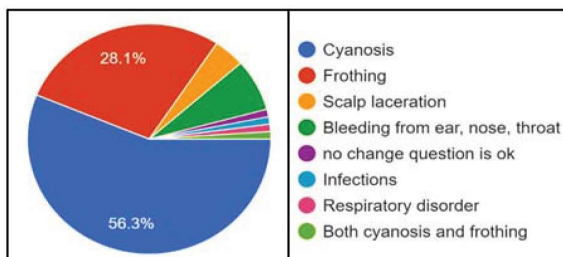


Figure 1: shows common external findings in the order of perceived occurrence.

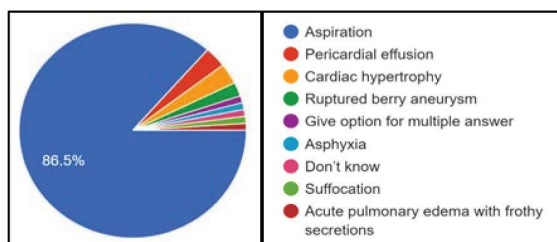


Figure 2: shows the commonest internal findings in the order of occurrence (perceived)

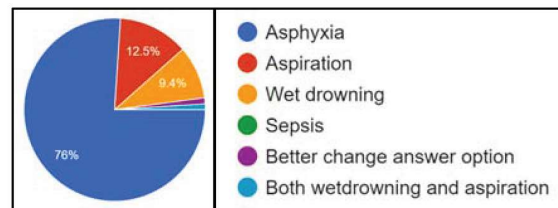


Figure 3: shows common causes of death in a cesspool.

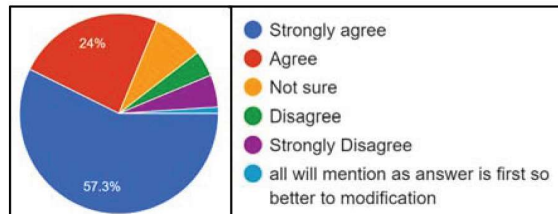


Figure 4: shows the perception of whether manual scavenging violates the dignity of the person.

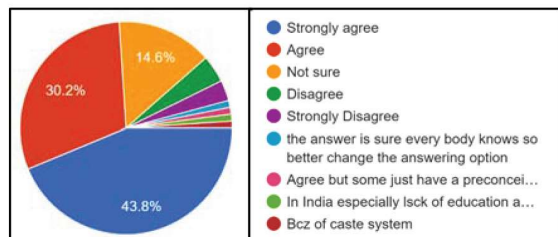


Figure 5: shows perception of manual scavengers as a profession due to lack of job opportunities.

comprising 81% of respondents, strongly agreed that manual scavenging is a violation of human dignity, with only 8.3% expressing uncertainty (see figure 4). Additionally, 74% of participants agreed that the lack of adequate job opportunities drives individuals to engage in manual scavenging, while 14% were uncertain and a small minority disagreed (4.2%) as depicted in figure 5.

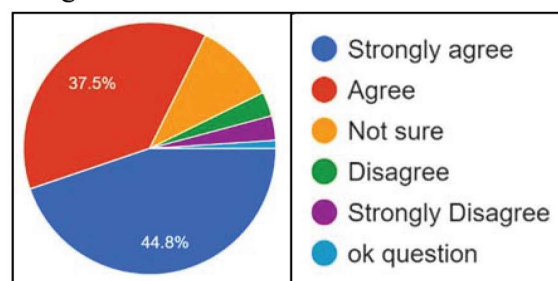


Figure 6: shows manual scavenging as a vulnerable group.

Figure 6 depicts the opinion of participants regarding the vulnerability of manual scavengers. A striking 82% of respondents acknowledged that manual scavengers predominantly hail from vulnerable sections of society. Furthermore, an overwhelming 89% of participants emphasized the need for government intervention to provide protection and financial support to manual scavengers, although 7.3% remained unsure about this requirement. However, regarding compensation in the unfortunate event of a death while on duty, only 32.3% of respondents agreed, indicating a potential area for policy improvement (see figure 7). In terms of mitigating fatalities among manual scavengers, various suggestions were put forward by participants, with 38.5% advocating for the education of their children, 27.1% proposing additional support for occupational-related impairments and deaths, and 15.6% recommending free health coverage. Interestingly, a small proportion (2.1%) supported implementing all the aforementioned options (see figure 8). These findings highlight the urgent need for comprehensive measures to address the plight of manual scavengers and ensure their well-being and dignity.

The results highlight the widespread consensus among participants regarding the urgent need for policy interventions to address health-related issues stemming from manual scavenging. An overwhelming 95% of respondents agreed (see figure 9) on the necessity of implementing protective measures through

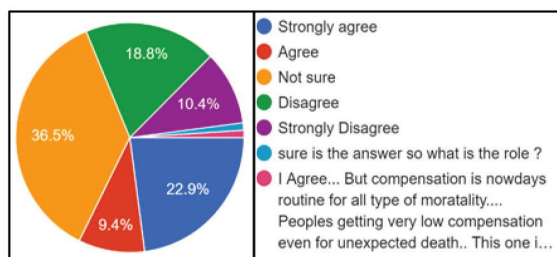


Figure 7: shows whether deaths on duty while manual scavengers are adequately compensated.

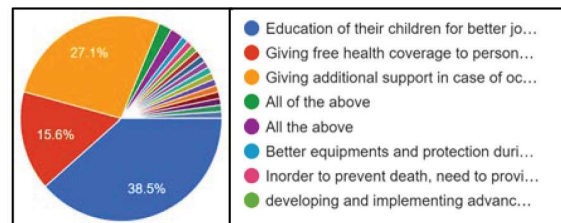


Figure 8: shows the measures to mitigate deaths among people doing manual scavenging.

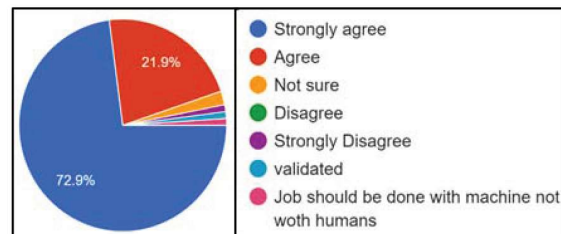


Figure 9: shows the implementation of health policies.

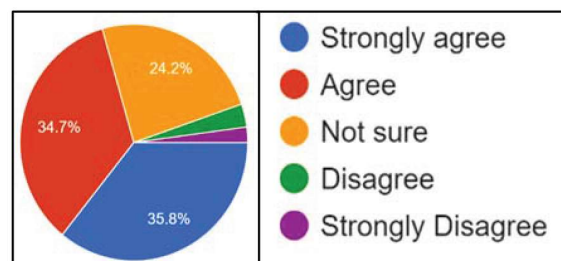


Figure 10: shows political willingness in implementing measures.

policies, with only a small fraction expressing uncertainty (2.1%). However, when considering potential barriers to policy implementation, opinions varied as shown in figure 10. While more than a quarter of participants acknowledged lack of finances as a probable obstacle, less than half disagreed, and the remainder were uncertain. Interestingly, lack of political willingness was identified by 70% of respondents as a significant hindrance to adequate policy implementation, with 24.2% expressing uncertainty and the remaining disagreeing. Concerns were also raised about the potential impact of introducing machines in manual scavenging, with 28% of participants expressing agreement that it may exacerbate unemployment among manual scavengers. Conversely, a vast majority (94%) believed

that introducing machines after providing adequate training to manual scavengers could effectively reduce fatalities and disabilities associated with manual scavenging, while a small percentage remained uncertain (4.2%). These findings showcase the complexities and challenges inherent in addressing the systemic issues surrounding manual scavenging, emphasizing the need for comprehensive strategies and stakeholder collaboration to ensure meaningful and sustainable solutions.

Discussion:

The discussion in this section is structured around three major themes: death resulting from manual scavenging, the impact on human dignity in the context of manual scavenging, and considerations of social justice and equity in the implementation of relevant policies.

Death Due to Manual Scavenging

The exploration of manual scavenging has uncovered compelling insights into its repercussions on health, specifically an increase in morbidity and mortality. The present study focused on perceptions of Forensic faculties regarding deaths attributed to manual scavenging, revealing valuable information.

Our questionnaire based on the perception of Forensic doctors, revealed cyanosis (56.3%) as a prevalent external finding in cases related to manual scavenging in the present study. A retrospective study conducted by Esiyok et al.,¹⁴ on 69 deceased cases found in wells, sewer systems, and pits over a ten-year span presented different results. Their study, based on data from the Council of Forensic Medicine affiliated with the Ministry of Justice, Turkey, identified head injury as a common external finding. This difference can be attributed to their study population, which specifically included individuals who experienced falls inside drainage systems. While the present study emphasized cyanosis as the primary external finding, Esiyok et al.'s¹⁴ retrospective study

outlined internal findings such as aspiration, pericardial effusion, cardiac hypertrophy, ruptured berry aneurysm, asphyxia, suffocation, and acute pulmonary edema with frothy secretions which is similar to the present study as results of the present study also pointed out aspiration (86.5%) as the most common internal finding in deaths among manual scavengers. Asphyxia was on the top of the list (76%) among manual scavengers who drowned in cesspools, aligning with their findings (32%).

Comparisons with other studies, such as Darokar⁷ and a case study by Michaelsen and Park¹⁵, highlighted asphyxia as a common cause of death. Khandare and Salve,¹⁶ in a study among Safai Karamcharis in the Municipal Corporation of Greater Mumbai revealed deaths due to non-communicable such as cancer, stroke and communicable diseases such as tuberculosis and hepatitis B. Additionally, Pandit et al.,¹⁷ identified respiratory arrest as a cause of death, further contextualizing our findings. Our study also explored common diagnostic findings, with responses indicating asphyxia, aspiration, pulmonary edema, cyanosis, frothing, and infections. Similar findings were reported in Hindu in 2019 (Nath¹⁸). Despite being preventable, these deaths are not attributed to mental failures or suicidal tendencies but rather to the absence of adequate protection for manual scavengers. More so, a conceptual paper by Thangadurai and Gomathi¹ highlighted the limited adoption of protective equipment among manual scavengers, emphasizing the prevalence of injuries. Their paper discussed the 2003 Supreme Court ruling declaring entry into sewer lines without safety equipment as a criminal act, even in emergency situations. These insights stressed the urgent need for comprehensive measures to safeguard the well-being of manual scavengers.

Human Dignity and Manual Scavenging

The practice of manual scavenging, despite being an affront to human dignity, persists due to the lack of alternative job

opportunities. The present study revealed that 81% of respondents acknowledged the violation of dignity, and 74% recognized the scarcity of job opportunities, emphasizing vulnerability as a significant factor leading individuals to engage in this hazardous occupation, resulting in increased morbidity and premature death. These findings align with Wankhede and Kahle's study, which states that the Supreme Court of India's legal stance on untouchability recognizes that manual scavenging inherently violates human dignity due to its connection with social exclusion and stigmatization and also there is a noticeable lack of explicit analysis on the violation of human dignity within the legal precedents pertaining directly to manual scavenging¹⁹. In the present study, 82% of participants concurred that manual scavengers predominantly hail from vulnerable segments of society.

Vulnerability, within a community setting, refers to the susceptibility of individuals or groups to adverse impacts, such as social, economic, or health challenges. This susceptibility arises from factors like limited resources, inadequate social support, and systemic inequalities, making these individuals more prone to risks and less resilient to adversity²⁰. Alternatively, according to the Social Contract theory, (<https://ethicsunwrapped.utexas.edu>) the government has to protect the vulnerable. The present study advocates for an additional layer of protection, with 89% of participants expressing the need for increased government support and financial assistance for manual scavengers. This resonates with findings from other studies, such as the one conducted by Saldanha et al.,³ emphasizing the inadequacy of worker protection measures and the necessity of implementing initiatives like health insurance, regular health assessments, vaccinations, and the provision of protective gear.

Further insights from studies by Shahid¹⁰ and Dubey and Murphy¹³ shed light on deplorable working conditions faced by

manual scavengers. The former highlights meagre compensation and significant health risks, while the latter exposes the lack of safety equipment, substandard materials provided by municipal corporations, and the resulting health hazards endured by these workers. In the context of the Prohibition of Employment as Manual Scavengers Act, 2013, studies by Jammanna and Sudhakar⁸, Mishra²¹, and KamaleshKumar et al.,²² reveal persistent challenges. These include weak law enforcement, corruption, and loopholes in the definition of 'manual scavenger' that allow the demeaning practice to continue. The studies highlight the contradictions within the legislation, showcasing the urgent need for comprehensive safety measures and the eradication of manual scavenging and recommends an immediate attention, with a focus on implementing robust protective measures, financial support, and policy reforms to ensure the eradication of this dehumanizing practice.

In the cross-sectional study conducted by Khandare and Salve¹⁶ among Safai Karamcharis employed by the Municipal Corporation of Greater Mumbai, it was highlighted that manual scavengers face heightened vulnerability to fatal diseases, often leading to their untimely demise. Government data further supports these concerns, revealing that 339 manual scavengers lost their lives from 2018 to 2023, emphasizing the magnitude of their vulnerability. Our present study aligns with these findings, corroborating the severity of challenges faced by manual scavengers. The impact of Death of a manual scavenger is particularly profound for the family, especially if they belong to vulnerable sections of society. The compensation structure provided to these families is deemed inadequate, as indicated by 32% agreement, 19% disagreement, and 36% uncertainty in the present study.

Thangadurai and Gomathi¹ proposes a compensation of 10 lakh rupees in the event of death during working as manual

scavenger. The study highlights the current scenario where compensations are either partial or not granted at all. A secondary literature review from Dr. Babasaheb Ambedkar Research and Training Institute (BARTI)², Pune, echoes similar sentiments. Referring to the Supreme Court Judgment in the case of *Safai Karamchari Andolan and Ors vs Union of India and Ors* on 27 March 2014, the review emphasizes the court's directive to provide a compensation amounting to 10 lakh rupees if there is any death of manual scavengers during work. Additionally, the judgment mandates the identification of all manual scavengers who died since 1993 and the provision of compensation to their families. The review stressed on the significance of 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013' and criticizes the inadequate and non-existent compensations as a grave injustice. These insights collectively emphasize the urgent need for comprehensive reforms in compensation policies to address the socio-economic vulnerabilities faced by the families of deceased manual scavengers. Mishra²¹ and Kumar et al.,²² echo the findings of previous studies, citing the Supreme Court Judgment in the case of *Safai Karamchari Andolan and Ors vs Union of India and Ors* on 27 March 2014. This landmark judgment mandated a compensation amount of 10 lakh rupees for the families of deceased manual scavengers and ordered the identification of all such individuals who died since 1993 for compensation, in accordance with 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.' Furthermore, Darokar⁷ emphasizes the absence of compensation for injuries sustained by manual scavengers during their work. Similarly, Katiyar¹² suggests a compensation of 10 lakhs rupees for the families of deceased manual scavengers since 1993. Dubey and Murphy¹³ strongly assert that manual scavengers rarely receive compensation for workplace injuries and

deaths. The persistent lack of compensation exacerbates the harm suffered by the families of manual scavengers.

The present study aligns with these observations, where 38% of participants identified educating the children of manual scavengers as the most effective measure to prevent future deaths among them. This finding resonates with Katiyar¹², which highlighted school dropouts among the children of manual scavengers due to caste discrimination. The discontinuation of education becomes a primary reason for social ostracization of manual scavenger families. This cycle of discrimination perpetuates, discouraging attempts to break the barriers. Proactive discussions with younger generation emerge as a potential solution to overcome these hurdles, fostering awareness and breaking the cycle of discrimination through education. In the present study besides education other actions recommended were providing extra assistance for work related disabilities and fatalities (27.1%) and offering complimentary health coverage (15.6%). These findings highlight the urgent need for comprehensive measures to address the plight of manual scavengers and ensure their well-being and dignity.

Social Justice and Equity (Policy Implementation)

The intersectionality of death in manual scavenging, human dignity and compassion for bio health care is a complex and multifaceted issue involving various social, economic and political factors¹⁴.

Factors influencing are race, age, sex, colour, economy, region and traditions. Manual scavengers from communities referred to 'Balmiki' or 'Dalits' has a cluster of communities, few among them were 'Bhangi', 'Mehtar', 'Chuhra', 'Lal Beghi' and 'Halalkhor'. These communities are found throughout states of north India such as Uttar Pradesh, Haryana, Punjab, Delhi, Gujarat, and Chandigarh where they are locally known by various names⁵. Sanitation workers are now referred with name "Safai

Karamcharis”³. Group of people belonging to low socioeconomic strata, mainly Dalits are affected. During colonial period ‘Balmikis’ or ‘Dalit’ groups were brought from villages for the purpose of removing human excreta and to clean the cities⁵. They were considered untouchable and treated as such. These Safai Karamcharis are subjected to deep-seated caste-based stigma which is associated with their perceived ‘caste impurity’ and also lack of cleanliness, which lead to both dangerous substandard working conditions and lack of social mobility, with women facing more difficulty³.

Ensuring protective measures to prevent health-related issues is imperative, a consensus reflected by 95% of participants in the present study. However, the implementation of these measures faces hurdles, potentially due to financial constraints or a lack of political will. The present study indicated that 28% attributed the challenges to a lack of finance, while a significant 70% pointed to a deficiency in political willingness. This aligns with a content analytic study by Katiyar²³, which identified the lack of political will as a crucial factor contributing to the persistence of manual scavenging. The study also noted that the absence of political will might stem from the perception that manual scavengers do not form a significant vote bank.

More so, introducing machines to assist in manual scavenging, while a potential solution, may pose a threat to employment for manual scavengers, as acknowledged by 28% of participants in the present study. Addressing this concern necessitates alternative job arrangements to sustain their livelihoods. Moreover, the transition to using machines should be coupled with comprehensive training for manual scavengers, a proposition supported by 94% of participants in the present study. This aligns with the recommendations of a study by Sulthana et al.,¹¹ which explored the use of robots to clear blockages in manholes to prevent deaths among manual scavengers. Also, a secondary literature review from Dr.

Babasaheb Ambedkar Research and Training Institute (BARTI)², Pune, emphasizes the need for appropriate protective gear. The review discusses legal judgments considering entering sewer lines without safety equipment as a criminal act, recommendations from the Lad Committee, and the provisions of the 'Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013.' The BARTI study also brings out the Mission Garima initiative focusing on enhancing safety gear for manual scavengers. The review highlights legal gaps that could perpetuate the practice with slight adjustments in safety tools.

Numerous reports underscore the lack of protective equipment for manual scavengers. The Tata Institute of Social Science revealed that approximately 90% of manual scavengers lack adequate protective equipment. Addressing this issue requires a combination of engineering, medical and legislative initiatives. Establishing a robust occupational health service is crucial and routine awareness programs are essential to educate individuals on safer work practices and proper use of personal protective equipment. Lack of awareness, understanding and training regarding safety measures, as well as instances of manual scavengers working without proper protective gear, underscores the urgent need for comprehensive measures to protect the health and well-being of these workers. Darokar⁷ emphasizes the prevalent absence or inadequacy of protective gear, with a particular concern for poor-quality equipment. The study argues that the government holds responsibility to ensure the well-being and safety of workers in hazardous occupations.

Katiyar¹² emphasis on grim working conditions that arise in absence of protective tools, posing significant hazards to workers. The study highlights 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013,' which prohibits local authorities or agencies from

hiring individuals for hazardous cleaning tasks unless they are provided with protective equipment. The study also sheds light on unprotected women workers who face serious health risks due to their daily and close exposure to human waste and diseases. The diseases they are vulnerable to include tuberculosis, campylobacter infection, cryptosporidiosis, giardiasis, hand, foot and mouth disease, hepatitis A, viral meningitis, rotavirus infection, salmonella infection, shigella infection, thrush, viral gastroenteritis, worm infestations, and yersiniosis among others. In the face of these risks acquired through daily contact, a safety report from January 2007 by the Tata Institute of Social Sciences (TISS) emphasized that "ninety percent of all manual scavengers lack the proper equipment to protect them from faces-borne illnesses." This shortage includes essential safety gear such as gloves, masks, boots, and brooms. The findings point out the urgency of addressing these deficiencies to safeguard the health and well-being of manual scavengers.

Another study conducted by Saikia and Noklenyangla⁵ emphasizes the arduous nature of scavenging, marked by low wages, lifelong health problems, and the risk of death when entering manholes without proper protection. The lack of formal training and information about the hazardous nature of the work, coupled with the scarcity of protective gear, exposes workers to fatal consequences. In urban areas, scavengers are often immersed in human waste without adequate protection while unclogging filthy gutters. The study raises concern about the poor flow of information among workers, compromising the efficacy of available protection. Additionally, it discusses the 'Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013.' Therefore, Shailla Cannie and Aasavri Cannie⁶ proposes addressing the health concerns of manual scavengers by assigning responsibility to the agency, ensuring health

and safety measures before task execution. The study recommends vaccinations against diseases such as hepatitis A, E. Coli, Rotavirus, and Norovirus to mitigate risk of premature mortality.

Khandare and Salve¹⁶ suggests that reforms targeting caste annihilation often focus on superficial improvements in working conditions, such as providing protective gear, without addressing the persistent intergenerational nature of menial jobs within specific caste groups. Public policies from municipal corporations, state, and union governments are seen as unfavourable towards Safai Karamcharis. The historical overview reveals committee recommendations from 1952 to 1993, highlighting suggestions for improving living conditions, mechanization, and the abolition of manual scavenging. However, loopholes in the law exclude jobs from being considered manual scavenging if protective gear is used, and the decision-making process of corporations is criticized for neglecting the welfare of Safai Karamcharis. The present study findings showcase the complexities and challenges inherent in addressing the systemic issues surrounding manual scavenging, emphasizing the need for comprehensive strategies and stakeholder collaboration to ensure meaningful and sustainable solutions.

Conclusion:

The literature review brought out the importance of preventable death in manual scavengers. This was substantiated by perception study on the Forensic faculty and postgraduates regarding the preventable nature of death, vulnerabilities that they face and the inadequate attention and support they receive. The deaths in manual scavengers could be due to infections, drowning, lack of protection and financial support from the government, lack of education and lack of job opportunities which are preventable.

Manual scavenging is against human dignity because of caste discrimination and a

compulsion through scavenging job. The job of manual scavengers exposes vulnerable people to health hazards and long-term consequences and shortens life. Compensation provided is inadequate and does not provide economic means to the family. This continuum of compulsive scavenging propagates as their children are also drawn into scavenging job. There should be a total shift in the way night soil is collected, treated, and clog removed through the use of hygienic, safe methods and protective equipment and use of robots whenever possible. The focus should be use of machines but inclusiveness that benefits people in manual scavenging. The training should empower the present people in manual scavenging jobs to shoulder the responsibility of machines and newer equipment. More so, there should be adequate compensation in the death of the manual scavenging persons.

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DEATH DUE TO MANUAL SCAVENGING, CHALLENGES FROM FORENSIC AND ETHICS LENS TOWARDS POLICY CHANGES

QUESTIONNAIRE: -

We are trying to understand the perceptions to Forensic doctors regarding manual scavenging and human dignity as well as the co morbid conditions that could account for morbidity in human scavengers that may form the basis of policy change.

I. Forensic related: -

1) Which one of these is the commonest external finding in deaths among manual scavengers?

- a) Cyanosis
- b) Frothing
- c) Scalp laceration
- d) Bleeding from ear, nose, throat

2) Which one of these is the commonest internal finding in deaths among manual scavengers?

- a) Aspiration
- b) Pericardial effusion
- c) Cardiac hypertrophy
- d) Ruptured berry aneurysm

3) Common cause of death in a person who has drowned in a cesspool and struggling for breath?

- a) Asphyxia
- b) Aspiration
- c) Wet drowning
- d) Sepsis

4) What are the common diagnostic findings in deaths among manual scavengers?

- a) Pulmonary oedema
- b) Cyanosis
- c) Respiratory failure
- d) Other infections

II. Ethics related: - Answer below statements

5) Manual scavenging is against the dignity of the person

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

6) People resort to manual scavenging because of not having adequate job opportunities Strongly agree

- a) Agree
- b) Not sure
- c) Disagree
- d) Strongly disagree

7) Manual scavenging people come from vulnerable sections of society

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

8) People in manual scavenging require more protection and financial support from the government

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

9) Family of manual scavengers are adequately compensated if there is a death while on duty

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

10) Select from the options below as a suggestion for preventing future death amongst manual scavenger's populace.

- a) Education of their children for better job opportunities
- b) Giving free health coverage to person and family
- c) Giving additional support in case of occupation related impairment and compensation in case of death

III. Social science and policy related: -Answer below statements:

11) Protective measures should be implemented through policies to prevent health related issues arising out of manual scavenging.

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

12) Most probable reason for government not implementing adequate measures is lack of finances.

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

13) Most probable reason for government not implementing adequate measures is lack of political willingness. Strongly agree

- a) Agree
- b) Not sure
- c) Disagree
- d) Strongly disagree

14) Introducing machines to help in manual scavenging may increase unemployment for manual scavengers.

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

15) Introducing machines for manual scavenging after adequate training of manual scavengers will reduce the death and disability from manual scavenging.

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree