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Health Seeking Behavior and its Determinants among Medical Waste Cleaners in West Arsi Zone, Oromia Regional State, Ethiopia

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Abstract

Few studies undertaken in Ethiopia revealed the high exposure of medical waste cleaners to occupational injuries and infectious diseases related to their job. No study, however, have been undertaken about the health seeking behavior of health care waste cleaners in Ethiopia. The purpose of this research was therefore, to analyze the patterns of health seeking behavior and associated factors among the health care waste cleaners in West Arsi Zone, Oromia regional state, Ethiopia.

An institutional based cross-sectional study was undertaken in which quantitative data were collected from medical waste cleaners working in both public and private healthcare facilities using structured questionnaire. 102 samples were selected using probability proportional to size sampling technique and data were collected by well-trained enumerators and entered in to SPSS version20 to be analyzed in relation to the objectives of the research at hand. Both descriptive and inferential statistical tools such as frequency tables, charts, Pearson Correlation, and linear regression analysis were used.

The findings of the study revealed that health care waste cleaners in West Arsi Zone have low level of health seeking behavior. Among 102 respondents that participated in the survey, 65 of them haven't been vaccinated, 57 haven't ever made health check-ups, and 34 haven't received health care services after an exposure to certain types of injuries or infections. Statistical results of both linear regression and Pearson Correlation analysis have shown no statistically significant relationship between respondents' health seeking behavior and their socio-demographic background. The low-level health seeking behavior of health care waste cleaners in the study area is largely influenced by institutional factors such as the inability or absence of willingness on the part of health care facilities to provide all the necessary means through which medical waste cleaners can improve their health seeking behavior. Therefore, health care facilities should create enabling environment for medical waste cleaners to stay protected from injuries and contaminations. They should provide safety trainings,

supply protective devices, and encourage workers to be vaccinated and seek treatments when injured.

Keywords: Health seeking behaviour; Medical waste cleaners; West Arsi zone; Determinants; Institutional factors

Background

Health-seeking behavior can be defined as the activity undertaken by individuals who perceive them-selves to have a health problem or to be ill for a purpose of finding an appropriate remedy [1]. Utilization of health care is determined by a range of predisposing, enabling, and need components [2]. Whereas the predisposing factors include socio-demographic variables such as education, gender, and beliefs and attitudes towards about health care; the enabling components consists of factors like family income, health insurance coverage, availability of services, and access to a regular source of care.

Moreover, health status expressed by self-rating of health, disability, or diagnosis comprises the need components. According to Tipping and Segall [3], the decision of an individual to engage with a given medical channel is influenced by a variety of socioeconomic variables such as social status, sex, age, the type of illness, perceived quality of the health services and access to health care services.

People who come in direct contact with the waste–healthcare workers, cleaning staff, patients, visitors, waste collectors, disposal site staff, waste-pickers, drug addicts, and those who recycle contaminated syringes—are at greatest risk [4]; United Nations Human Rights Council [5]. The UN Human Rights Council posits that even though inappropriate disposal and poor management of medical waste is a potential health threat to all health care personnel, health care facility cleaners and waste handlers are more vulnerable due to reasons associated to lower educational status, lack of relevant vaccinations and proper personal protective equipments, and most medical wastes commonly being handled and transported by hand.

Findings of the few studies undertaken in Ethiopia indicate high level of occupational injuries and exposure to risky body

fluid contaminations among medical waste collectors. For instance, A research undertaken by Tadesse on the exposure of medical waste collectors to sharp injuries and blood contaminations in Eastern Ethiopia, revealed high exposure of the population under consideration to sharp injury and blood and body fluid contaminations. Knowledge regarding the health seeking behavior of hazardous waste cleaners in Ethiopia, however, is very scanty. Likawunt et al. [6] studied Health-seeking behavior and associated factors among community in Southern Ethiopia and found a low level of health seeking behavior among the study participants. They found sex, education, and marital status to be determinants. According to the report of Health Care without Harm [7], 95% of medical waste cleaners in Dhaka, Bangladesh had a very fatalistic attitude to accidental injuries, often regarding it as an aspect of their work that simply had to be accepted. The purpose of this research is therefore, to analyze the patterns of health seeking behavior and associated factors among the health care waste cleaners in West Arsi Zone, Oromia regional state, Ethiopia.

Objective

The objective of the present study is to assess the patterns of health seeking behavior and associated factors among medical waste cleaners working in both public and private health facilities in West Arsi zone, Oromia regional state, Ethiopia.

Materials and Methods

Study design

An institutional based cross-sectional study was undertaken in which quantitative data were collected from medical waste cleaners working in both public and private healthcare facilities of West Arsi zone, Oromia regional state, from October 2018 to December 2018.

Methods

The prevalence and determinants of health care seeking behavior of medical waste cleaners can be better studied using survey research method due to its advantage of enabling the researcher to collect ample data from large sample size and the reliability of the method itself. Accordingly, a structured interviewer administered questionnaire were employed to gather data. Considerable care has been made during question construction after which they were translated in to two local languages-amaharic and afan oromo. The questionnaires were filled by trained enumerators to avoid potential competence problem of the respondents.

The data collected then were cleaned, organized, and entered in to SPSS version20 for further processing. Data interpretation and analysis were carried out with descriptive statistical tools and presented using charts, percentages and frequency distributions. Furthermore, advanced statistical tools such as linear regression and Pearson Correlation analysis were used in an attempt to see the determinants of health seeking behavior of respondents, taking socio-demographic factors like age, sex,

marital status, education, work experience, and religion as independent variables and respondents' experiences of making health check-ups, receiving medical treatments and being vaccinated as dependent variables.

Sampling

The study was undertaken in West Arsi zone, Oromia regional state, Ethiopia. West Arsi zone reportedly had 83 public health centers, 3 hospitals, and 38 health posts during the time of survey. From these, all the three hospitals and 30 health centers were randomly selected for the survey. In addition, 25 private health facilities were also considered. Ultimately, 102 health care waste cleaners were made to participate in the interviewer-administered survey using probability proportional to size sampling method. In order to avoid bias and give all potential research participants an equal chance of being selected, probability sampling design was used in determining research respondents. The lists and contact addresses of the cleaners were accessed from their respective health facilities. Using that as a sample frame, a systematic sampling technique was applied in selecting the final survey participants. Health posts were excluded from the survey since medical waste cleaners are not allocated to them.

Results

Table 1 shows the frequency distribution of the survey respondents in terms of their socio-demographic characteristics. Accordingly, 87.3% of the respondents were females while only 12.7% of them were males. Looking into age, it has been found that most respondents were within the age category of 21-30, constituting about 53%, and few (3.9%) were found to be in their old age range, i.e. 51-60. Moreover, nearly 55% of respondents have been found to be married where as 37.3% have never married. Widowhood and divorce were almost insignificant occurrences among the participants (3, 5 respectively). As far as the educational status of the respondents is concerned, respondents can be considered as "fairly educated", relatively speaking. 30.4% of respondents were 10+3 or diploma certified while 34.3% completed high school education.

This is a remarkable achievement when compared to the literacy level of the general population and the type of job in which they have engaged which is commonly perceived by the society as a religious orientation has also been indicated. In this regard, Muslims have a dominant share (52%), followed by Protestants (31.4%) and orthodox Christians (13.7%). The other relevant socio-demographic variable worth to mention here, though has not been included in **Table 1**, is the household size of respondents. Statistical results from the survey showed that the mean/average household size was 4.9.

Furthermore, the minimum and the maximum household size of the respondents have been found to be 1 and 10 respectively. In addition, the differential distribution of work experiences across the respondents were calculated in which 53.9% of them worked for 1-5 years as medical waste cleaners, 24.5% revealed to have worked for less than a year. Nevertheless, only 1

respondent had 21 and more years work experience. Results of descriptive statistics area of work that requires little or no educational qualification. In the table, distribution of respondents in terms of their showed that the mean work experience of the respondents was 2 years.

Table 1 Socio-demographic distributions of respondents.

Variables	Categories	Frequency	Percentage (%)
Sex	Male	13	12.7
	Female	89	87.3
Age	1-20	11	10.8
	21-30	54	52.9
	31-40	26	25.5
	41-50	7	6.9
	51-60	4	3.9
	≥ 61	0	-
Marital status	Never married	38	37.3
	Married	56	54.9
	Divorced	5	4.9
	Widowed	3	2.9
Education	Never attended school	1	1.0
	1-4	8	7.8
	5-8	19	18.6
	9-10	35	34.3
	11-12	5	4.9
	10+3	31	30.4
	BA/BSC Degree	3	2.9

	MA/MSc & above	0	-
Religion	Orthodox Christian	14	13.7
	Muslim	53	52.0
	Protestant	32	31.4
	Catholic	2	2.0
	Others	1	1.0
Total		102	100

Patterns of health seeking behavior of respondents

This section is devoted to the presentation of data and findings pertaining to the patterns of health care seeking behavior among the survey respondents. Although the concept of health seeking behavior is broad, an attempt has been made to address some components of health seeking behavior that are relevant to the research at hand. Accordingly, three issues, i.e. whether respondents have ever been vaccinated, have ever made health check-ups, and whether or not they seek [modern] medical treatments after experiencing some injuries or diseases have been dealt in this section.

Table 2 shows the frequency distribution of respondents in terms of their response to injuries and the extent to which they take proactive measures to safeguard themselves against possible injuries and diseases. Accordingly, it has been found that 63.7% of respondents haven't been vaccinated, 57 of 102 of them haven't ever made health check-ups, and 33.3% of respondents disclosed that they didn't receive medical treatment after experiencing some kind of injuries such as needle prick at their work place. Observing data both in the **Table 2 and Figure 1**, it can be generalized that respondents are better at responding to illness experiences than seeking preventive health care services.

Table 2 Frequency distribution of respondents by their health care seeking behaviour.

Description	Response	Frequency	Percentage (%)
Respondents who have ever been vaccinated	YES	37	36.3
	NO	65	63.7
Respondents who have ever made health checkups	YES	57	55.9
	NO	45	44.1
Respondents received medical treatment after injury or infection	YES	65	63.7
	NO	34	33.3
Total		102	100

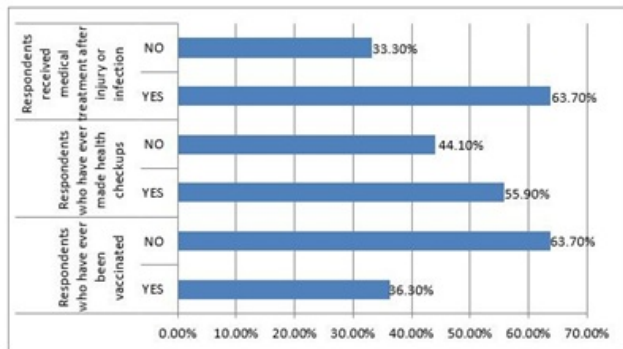


Figure 1 Distribution of respondents by health care seeking behaviour.

Dependent of health seeking behavior of respondents

Table 3 shows a linear regression analysis between socio-demographic characteristics of respondents (age, sex, marital status, education, religion, and household size) as an independent variable on the one hand, and the tendency of respondents to be vaccinated against potential health risks, on the other hand. As depicted in the table, the health seeking behavior of respondents as expressed by the habit and decision to be vaccinated, has no significant relationship with the socio-demographic backgrounds of respondents. Instead, it has been revealed that the decision of respondents not to be vaccinated has been linked to the absence of the health care service itself as shown in the **Figure 2**.

Table 3 Linear regression between respondents' tendency of being vaccinated and socio-demographic variables.

Model	Unstandardized coefficients		Standardized coefficients	95% Confidence interval for B			
	B	Std. Error		t	Sig.	Lower Bound	Upper Bound
(Constant)	2.252	0.458		4.922	0	1.344	3.161
Sex of respondents	-0.27	0.147	-0.187	-1.835	0.07	-0.563	0.022
Age of respondents	-0.013	0.061	-0.025	-0.217	0.829	-0.135	0.108
Marital status of respondents	-0.019	0.092	-0.027	-0.205	0.838	-0.201	0.163
Educational status of respondents	-0.03	0.041	-0.087	-0.725	0.471	-0.111	0.052
Religious affiliations of respondents	-0.052	0.062	-0.086	-0.837	0.405	-0.176	0.072
Household size of respondents	0.041	0.024	0.18	1.742	0.085	-0.006	0.088

Figure 2 shows the frequency distribution of respondents in terms of the reasons they provided in an attempt to justify why they failed to be vaccinated for potential health risks related to their job. It has been revealed that among the respondents who replied "No" to have ever been vaccinated, 52.9% of them haven't been vaccinated because it was not available in the nearby or the health service for which they serve couldn't make it available for them, followed by 5.9% who replied that they didn't take vaccinations for unknown reasons. 2.9% and 2.9% respectively didn't think it is important and didn't pay attention when it was available. Looking in to the figures in the table, it is possible to assert that respondents' failure to be vaccinated is justifiable in the sense that it happened due to structural factors that are beyond their ability to control.

Table 4 shows a linear regression analysis taking respondents' propensity of undertaking health check-ups as a dependent variable, and the socio-demographic backgrounds of respondents such as age, sex, educational status, marital status, religion, and household size as an independent variable. The

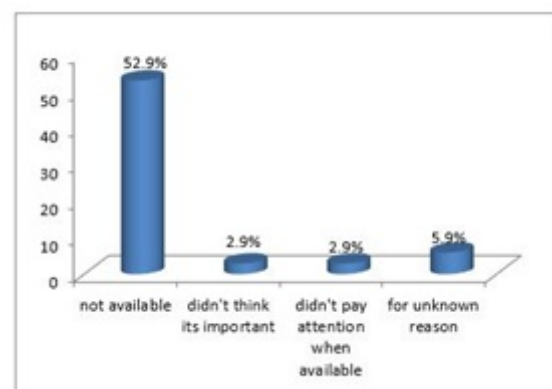


Figure 2 Respondents reasons for not being vaccinated.

same way it happened to vaccination, respondents' tendency of making health check-ups against potential health risks related to their job has no significant relationship with their socio-demographic characteristics.

Table 4 Linear regression between undertaking health check-ups and socio-demographic variables.

Model	Unstandardized coefficients		Standardized coefficients			95% confidence interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	2.671	0.465		5.747	0.000	1.748	3.594
Sex of respondents	-0.431	0.15	-0.289	-2.879	0.005	-0.728	-0.134
Age of respondents	-0.037	0.062	-0.069	-0.603	0.548	-0.161	0.086
Marital status of respondents	-0.092	0.093	-0.127	-0.985	0.327	-0.277	0.093
Educational status of respondents	-0.064	0.042	-0.182	-1.538	0.127	-0.147	0.019
Religious affiliations of respondents	0.045	0.063	0.071	0.704	0.483	-0.081	0.17
Household size of respondents	0.001	0.024	0.005	0.052	0.959	-0.047	0.049

Table 5 is a linear regression showing the relationship between health seeking behavior of respondents as expressed by their habit of receiving (modern) medical treatments after being exposed to a certain injury or infections related to their job on the one hand, and their socio-demographic characteristics on the other hand.

Once again, highly insignificant level of association has been found between the dependent variable (receiving medical treatment) and the various independent variables (age, sex, marital status and other background variables). Putting this the

other way around, the health seeking behavior of respondents has not been determined by their socio-demographic characteristics. This implies that there are extraneous or intervening variables that play role in terms of influencing the decision of medical waste cleaners to consume health care services. These variables seem to have been revealed one way or the other (**Figures 2 and 3**).

The bivariate correlation table below also confirmed that the health seeking behavior of respondents has nothing to do with their background characteristics.

Table 5 Linear regression between receiving medical treatment and socio-demographic variables.

Model	Unstandardized coefficients		Standardized coefficients			95% confidence interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.691	0.46		3.678	0	0.778	2.604
Sex of respondents	-0.211	0.153	-0.145	-1.378	0.172	-0.515	0.093
Age of respondents	-0.025	0.061	-0.049	-0.416	0.679	-0.147	0.096
Marital status of respondents	0.011	0.092	0.016	0.119	0.905	-0.172	0.194
Educational status of respondents	0.048	0.041	0.144	1.168	0.246	-0.034	0.129
Religious Affiliations of respondents	-0.052	0.063	-0.086	-0.826	0.411	-0.176	0.073
Household size of respondents	-0.001	0.025	-0.002	-0.021	0.984	-0.049	0.048

Table 6 Bivariate Pearson's correlation. **Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Independent variables		Respondents vaccinated for potential health risks	Respondents who ever made health check ups	Respondents received treatment in their healthcare facility after injury
		Sex of respondents	Pearson Correlation	-0.253
	Sig. (2-tailed)	0.01**	0.063	0.095
	N	102	99	102

Age of respondents	Pearson Correlation	-0.067	-0.013	-0.025
	Sig. (2-tailed)	0.504	0.311	0.801
	N	102	99	102
Marital status of respondents	Pearson Correlation	-0.060	-0.106	0.053
	Sig. (2-tailed)	0.548	0.297	0.594
	N	102	99	102
Educational status of respondents	Pearson Correlation	-0.053	0.193	0.011
	Sig. (2-tailed)	0.598	0.055*	0.910
	N	102	99	102
Religious affiliations of respondents	Pearson Correlation	0.038	-0.113	0.092
	Sig. (2-tailed)	0.702	0.188	0.356
	N	102	99	102
Household size of respondents	Pearson Correlation	-0.018	0.001	0.150
	Sig. (2-tailed)	0.857	0.993	0.131
	N	102	99	102
Work experience of respondents	Pearson Correlation	0.064	0.120	-0.04
	Sig. (2-tailed)	0.525	0.236	0.965
	N	102	99	102

**Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Figure 3 displays the distribution of respondents in terms of the reasons they provided for their failures to have ever made health check-ups against potential infections related to their job. It is shown that most (47%) had no reason, followed by those who failed to do so because they felt healthy (26%), those who didn't think it is important (11%). Lack of money and lack of time have also been mentioned as reasons (8% and 2% respectively).

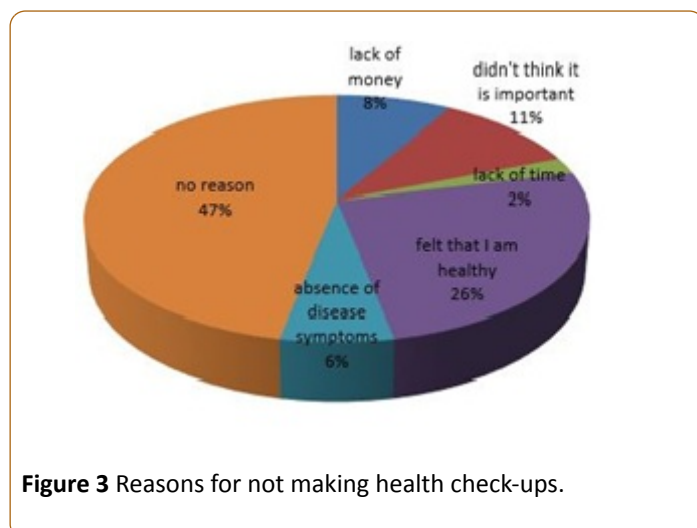


Figure 3 Reasons for not making health check-ups.

Discussion

The findings of the present study revealed that health care waste cleaners in West Arsi Zone have low level of health seeking behavior. Among 102 respondents that participated in the survey, 65 of them haven't been vaccinated, 57 haven't ever made health check-ups, and 34 haven't received health care services after an exposure to certain types of injuries or infections. Other studies about the health seeking behavior of people engaged in all the processes of cleaning, collection, disposal and management of medical wastes are hardly found in Ethiopia.

This made comparison of the findings of the present study with other findings a difficult task. According to the report of Health Care without Harm [7], 95% of medical waste cleaners in Dhaka, Bangladesh had a very fatalistic attitude to accidental injuries, often regarding it as an aspect of their work that simply had to be accepted. Researches undertaken on other societal groups in Ethiopia show the prevalence of low level of health seeking behavior [6,8]. They found sex, education, and marital status to be determinants. It has also been found that the health seeking behavior of medical waste cleaners has not been associated with any of their socio-demographic characteristics.

Statistical results of both linear regression analysis (Tables 3-5) and Pearson Correlation analysis shown in Table 6 have shown no statistically significant relationship between respondents' health seeking behavior and their socio-demographic background [9-12]. Instead, respondents' health seeking behavior seems to have been largely influenced by institutional factors that are not up to the controlling ability of the individual. As shown in Figure 1, 52.9% of respondents revealed that they haven't been vaccinated because the service was not available in the nearby. Moreover, in Figure 2, 47% of respondents disclosed that they didn't undergo health check-ups for unknown reasons, followed by 26% who reported that it was because they felt healthy that they haven't made health check-ups against potential infection related to their job.

Studies undertaken in other parts of Ethiopia among different social groups found poverty and related factors to determine the health seeking behavior of people. For instance, Baru and Murugan [9], researched social determinants of vulnerability to ill-health in Southern Ethiopia and found the poorest individuals, women, elderly, widowed, divorced, and individuals with poor education are vulnerable. According to Siddiqui et al. [10], health seeking behavior is a complex phenomenon in developing countries where poverty overrides all other factors in decision of selecting a healer. Modern health institution practice is an outsider, uncontrolled and ultimately marginalizing the poor from its benefits and services [11].

Conclusion and Recommendation

The present research was aimed at assessing the health seeking behavior and the factors associated to it among medical waste cleaners in West Arsi zone, Oromia regional state, Ethiopia. In this study, health seeking behavior of respondents has been measured in terms of three interrelated components: the tendency of respondents to consume modern health care services after being exposed to injuries or infections, their experiences of being vaccinated for potential diseases related to their job, and their habit of making health check-ups. Measured on these elements, medical waste cleaners in West Arsi zone have low level of health seeking behavior.

Moreover, the low-level health seeking behavior of health care waste cleaners in the study area is largely influenced by institutional factors such as the inability or absence of willingness on the part of health care facilities to provide all the necessary means through which medical waste cleaners can improve their health seeking behavior. Therefore, health care facilities should create enabling environment for medical waste cleaners to stay protected from injuries and contaminations. They should provide on-job safety trainings, supply protective devices, and encourage workers to be vaccinated and seek treatments when injured.

Ethical Considerations

Ethical clearance was obtained from Wolaita Sodo University ethical approval committee. In addition, an informed consent

was also gained from research participants. First, the researcher clarified what the research is all about and issues related to the purpose and objectives of the research. Moreover, research participants were informed about the possibility of being able to withdraw from the interview any time when the need arises. Above all, they were also promised and ensured that their personal identity will be kept anonymous, and pseudonyms will be used where necessary. Then, research participants were asked to provide their consent based on full willingness and data collection was undertaken on the basis of the verbal consent obtained.

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