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Knowledge, Attitude and Practice among Housekeeping Staff in Rural Tertiary Health Care Centre Towards Post Exposure Prophylaxis of HIV

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Abstract
Housekeeping staff working in health care setups and are potentially exposed to infectious materials such as blood, tissue, specific body fluids, medical supplies, equipment and environmental surfaces contaminated with these substances This study conducted to assessing the knowledge, attitude and practices related to Post Exposure Prophylaxis (PEP) for HIV among housekeeping staff in a rural tertiary care center. Conducted over three month in Palghar Maharshtra, India, the cross-sectional observational study surveyed Housekeeping staff to determine their awareness and behaviours regarding PEP. About 108 (78.83%) of respondents have heard about PEP, indicating a relatively high level of awareness within the surveyed population. Needle pricks 33 (47.14%) and splashing of blood on mucosal surfaces 29 (41.42%) were identified as common types of exposure, particularly during waste collection and handling blood samples. The study underscores the need for policy interventions to increase access to PEP services in healthcare settings and prevent occupationally acquired HIV infections among healthcare providers. Addressing gaps in knowledge, attitudes and practices regarding PEP among housekeeping staff is paramount for reducing transmission risks in this vulnerable population.

INTRODUCTION

Post exposure prophylaxis (PEP) is a medical response to prevent transmission of pathogens after potential exposure and refers to comprehensive management instituted to minimize the risk of infection following potential exposure to blood-borne pathogens (HIV, HBV, HCV). It includes first aid, counselling, risk assessment, relevant laboratory investigations based on the informed consent of the exposed person and source and depending on the risk assessment, the provision of short term (28 days) of antiretroviral drugs, along with follow-up evaluation[1]. Housekeeping staff working in health care setups and are potentially exposed to infectious materials such as blood, tissue, specific body fluids, medical supplies, equipment and environmental surfaces contaminated with these substances. They are frequently exposed to occupational hazards through percutaneous injuries such as needle stick or cut with sharps, contact with the mucus membrane of eye or mouth of an infected person, contact with non-intact skin exposed to blood or other potentially infectious body fluids[2].

They are frequently exposed to occupational hazards through percutaneous injury such as needle stick or cut with sharps, contact with the mucus membrane of eyes or mouth of an infected person, contact with non intact skin exposed with blood or other potentially infectious body fluids. When we focus on housekeeping staff in developing countries, they are at serious risk of infection from blood borne pathogens like HIV, Hepatitis B and C because of their high prevalence and increased occupational risk of these pathogens[2,3]. Unsafe practices like careless handling of contaminated needles, unnecessary injections on demand, reuse of inadequately sterilized needles can increase risk of these occupational blood borne pathogens[4].

PEP for HIV exposure is best when started within golden period of <2 hours and there is little benefit after 72 hours. The prophylaxis needs to be continued for 28 days. PEP is available as either basic regimen (2 Nucleoside Reverse Transcriptase Inhibitor (NRTI)) or expanded regimen (2NRTI and 1 PI drugs). NACO recommend Zidovudine/ Stavudine+Lamivudine (basic regimen) and Zidovudine+Lamivudine+Lopinavir/ Ritonavir (expanded regimen) and make efforts to ensure its free of cost availability at all Anti Reteroviral Therapy Centers (ARTCs) and Integrated Counseling and Testing Centers (ICTCs)[5,6].

Different evidences showed that there is an information gap in the housekeeping staff regarding PEP for HIV. In rural area there is no such study conducted on the Post Exposure Prophylaxis (PEP) for HIV among housekeeping staff in tertiary health care center. Thus, this study will be undertaken to assess their knowledge, attitude and practice of HIV exposure prophylaxis among housekeeping staffat rural tertiary care center.

Aims and Objective

Aims: To Assess the knowledge, attitude and practice of housekeeping staff in Tertiary Health Care Centre towards Post Exposure Prophylaxis of HIV.

Objectives:

- To assess the sociodemographic profile of housekeeping staff at a tertiary care centre
- To assess their knowledge, attitude and practice towards Post Exposure Prophylaxis for HIV among housekeeping staff at a tertiary health care center

MATERIALS AND METHODS

- **Study Centre:** Rural tertiary care center of Palghar.
- **Duration of Study:** 3 month.
- **Sample Size:** Housekeeping staff who are willing to get participated in study will be included.

Inclusion Criteria: Housekeeping staff of age more than 18 years of both gender. Housekeeping staff who are working in rural tertiary care center of Palghar.

Exclusion Criteria: Housekeeping staff at rural tertiary care center of Palghar who are not willing to participate and without due consent.

- **Study Type:** Cross Sectional observational Study.

Approach: The study was explained to all healthcare workers at rural tertiary care center, Palghar. If participant willing to give consent. Consent taken. Questionnaire distributed to be filled by the participant Housekeeping staff at rural tertiary care center of Palghar included in this study will answer the prepared questionnaire. The questionnaire will have close ended questions and will help to collect information regarding their knowledge, understanding, attitude and practice towards PEP of HIV. They will be asked to answer the questions. All the collected data was represented in frequency and percentage.

RESULTS AND DISCUSSIONS

The study examined the sociodemographic characteristics of the study population, revealing that the majority were male 91 (67.15%), with ages predominantly distributed between 31-40 years (38.68%). Regarding marital status, a significant portion were married (65.69%).

About 108 (78.83%) of respondents have heard about PEP, indicating a relatively high level of awareness within the surveyed population. The data suggests that seminars are the most prominent source of information about PEP, with approximately 93 (86.1%) of respondents citing them as their source.

Table 1. Sociodemographic characteristics of study participants

Variables	Frequency (n = 137)		Percentage
Gender	Male	92	67.15
	Female	45	32.85
	21-30	48	35.03
Age (in years)	31-40	53	38.68
	41-50	33	24.08
	51-60	03	2.18
Marital status	Single	47	34.30
	Married	90	65.69

Table 2. Respondents' awareness and sources of information about PEP

		Frequency (n=137)	Percentage
Ever heard about PEP	Yes	108	78.83
	No	29	21.17
	Radio	00	00
Source of information	Television	00	00
	Newspaper	00	00
	Seminar	93	86.1
	Other	15	13.88

Table 3. Types, frequency and circumstances of exposure

	No of participant (n = 70)		Percentage
Types of exposure			
	Needle prick	33	47.14
	Splashing of blood on mucosal surfaces	29	41.42
	Needle prick and splashing on mucosal surfaces	08	11.42
Circumstances of exposure (multiple responses allowed)			
	Collecting waste	49	70
	Collecting and transporting blood samples	28	40
	Recapping needles	23	32.85
	Others	18	25.71

Table 4. Respondents' practice of PEP

	No of participants (n = 70)		Percentage
Post exposure HIV screening (out of 70)	Screened	21	30
	Not screened	49	70
	Not aware	07	14.28
Reasons for not screening (out of 49)			
	Assume source not positive	28	57.14
	Other reasons	14	28.57
Post exposure prophylaxis after exposure (out of 70)			
	Received PEP after exposure	00	00
	Did not receive PEP after exposure	70	100
Reasons for not receiving PEP			
	Not necessary	38	54.28
	ARV medications not available	00	00
	Source HIV negative	27	38.57
	Other reasons for not receiving PEP	05	7.14
Post exposure HIV screening of the source of exposure			
	Screened	37	52.85
	Not screened	33	47.15
HIV status of the source of exposure			
	Negative	24	64.86
	Positive	13	35.14
Post exposure prophylaxis after exposure to HIV positive patients			
	Received PEP	00	00
	Completed PEP	00	00
	Did not received PEP	13	100
Reasons for not receiving PEP after exposure to HIV positive patients			
	Not aware of the need to take PEP after the exposure	05	38.46
	Not aware of PEP protocols in the hospital at that time	06	46.15
	Not believed that he/she can be infected with HIV	01	7.7
	No reason	00	00

Type of Exposure: Needle prick occurs when a sharp object, like a needle, punctures the skin, potentially introducing pathogens into the body. In this study, needle pricks accounted for 33 incidents, making it the most prevalent type of exposure, constituting 47.14% of reported incidents. Splashing of blood on mucosal surface involves blood or bodily fluids coming into contact with mucous membranes, such as the eyes, mouth, or nose. With 29 reported incidents, it represents 41.42% of exposures, indicating a significant risk in scenarios where blood or fluids are handled. In some instances, exposure involves both a needle prick and splashing on mucosal surfaces. This combined type accounted for 8 incidents, constituting 11.42% of

reported exposures.

Circumstances of Exposure

Collecting Waste: This circumstance involves handling or disposing of medical waste materials that may contain contaminated sharps or fluids. It was reported in 49 incidents, representing 70% of exposures, signifying a prevalent risk during waste management activities. Housekeeping often handles blood samples during collection and transportation, posing a risk of exposure. This circumstance accounted for 28 (40%) incidents, comprising 40% of exposures. Improper handling, such as recapping needles, can lead to accidental needle pricks. This practice contributed to 23 (32.85%) incidents. Other category encompasses diverse circumstances not explicitly listed. It accounted for 18 incidents, representing 25.71% of exposures.

Only 30% of respondents (21 out of 70) underwent post-exposure HIV screening. The majority, 70% of respondents (49 out of 70), did not undergo post-exposure HIV screening. Approximately 14.28% of respondents (7 out of 49) reported not being aware of the need for post-exposure HIV screening. A significant portion, around 57.14% of respondents (28 out of 49), assumed that the source of exposure was not HIV positive. About 28.57% of respondents (14 out of 49) cited other reasons for not undergoing post-exposure HIV screening.

Post Exposure Prophylaxis (PEP) After Exposure: None of the respondents received PEP after potential exposure to HIV. All 100% of respondents (70 out of 70) did not receive PEP after exposure.

Reasons for Not Receiving PEP (Out of 70 Not Receiving): The most commonly cited reason, approximately 54.28% of respondents (38 out of 70), indicated that they believed PEP was not necessary. Around 38.57% of respondents (27 out of 70) cited the belief that the source of exposure was HIV negative as a reason for not receiving PEP. Approximately 7.14% of respondents (5 out of 70) mentioned other reasons for not receiving PEP.

Post-Exposure HIV Screening of the Source of Exposure: The majority of sources (52.85%) were screened for HIV after the exposure incident, while approximately 47.15% were not screened.

HIV Status of the Source of Exposure: Most of the sources (64.86%) were determined to be HIV negative after screening. A significant minority, around 35.14%, were found to be HIV positive after screening.

Post Exposure Prophylaxis After Exposure to HIV Positive Patients: None of the respondents received PEP after potential exposure to HIV positive patients. All 100% of respondents (13 out of 13) did not receive PEP after exposure to HIV positive patients.

Reasons for not Receiving PEP After Exposure to HIV Positive Patients: The reasons cited for not receiving PEP after exposure to HIV positive patients included, Not aware of the need to take PEP after the exposure 5 (38.46%), Not aware of PEP protocols in the hospital at that time 6 (46.15%),Not believing that he/she can be infected with HIV 1 (7.7%).

The study observed that majority of respondents have heard about PEP. The finding is consistent with other studies in Ugandan[7] and London[8].Many of our respondents have had at least one accidental exposure. The circumstances of exposures were during recapping of needles, collecting waste, transporting blood samplesetc. This is consistent with studiesin Nigeria[9] and india[10]. In spite ofthe high exposure rate amongthe study respondents, only about 0% sought PEP. This findingis supported by findings from similar study conducted in Nigeria that revealed poor attitudes of health care providers toward PEP[11].

The reason why many ofthem did not seek PEP wasthatthe source patient was HIV negative. Of the 12 respondents who had accidental exposure and whom the source patients were HIV positive, Noneof them receive PEP either because they did not appreciate the risk involved or they did not have an idea of what actions to take at the time of the incident. This finding is corroborated by the similar studies from Kenya and Malawi, which reported a low uptake of PEP among health care workers who had needle stick injuries[7,8,12,13]. There is therefore the need for the hospital authorities to train health care workers on the protocol for health care workers with accidental exposure to infectious body fluids detailing the steps the health care workers should take and also making the drugs available. Health care workers need to understand the pathophysiology of HIV infection that when a patient is HIV negative does not totally rule out HIV infection. A careful HIV risk assessment should be done on every patient before a final decision is taken concerning the use of PEP in health care workers who have had accidental exposure to potentially infectious body fluids. ad accidental exposure to potentially infectious body fluids. These findings show that the knowledge and practice of PEP among housekeeping staff are very poor. The implication of this is that these health care providers who were exposed to HIV-positive sources and did not take PEP may undergo positive seroconversion, which can increase occupationally acquired HIV infection among this group.

CONCLUSION

Present study findings show that the Knowledge, Attitude and Practice among housekeeping stafff or

Post Exposure Prophylaxis (PEP) are poor. There is an urgent need for policy makers in the health sector to put in place programs that will rapidly scale up PEP services in health care settings, so that avoidable occupationally acquired HIV infection can be prevented among the health care providers.

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