Original Article

Interventional Study on Reducing Stigma and Improving HIV/AIDS Awareness on Transmission among Housekeeping Workers in a Tertiary Care Hospital with Health Education

Kirubakaran Samuel Santhosham[1], Prasananjali Appanabhotla[2], Hariharan Kovur[3], Dharshnee Sudhan[4], Arun Murugan[5]

[1]Assistant Professor, [2]Intern, [3]Head of the Department, Department of Community Medicine, Government Medical College, Omandurar Government Estate, Chennai, India.

How to cite this article: Kirubakaran Samuel Santhosham, Prasananjali Appanabhotla, Hariharan Kovur et. al. Interventional Study on Reducing Stigma and Improving HIV/AIDS Awareness on Transmission among Housekeeping Workers in a Tertiary Care Hospital with Health Education. Indian Journal of Public Health Research and Development / Vol. 15 No. 4, October-December 2024.

Abstract

Background: Hospital housekeeping workers (HHW), also known as hospital janitorial staff, are individuals responsible for maintaining the cleanliness and hygiene of hospital facilities. This study focuses on the perceptions of HIV/AIDS among HHWs and their role in controlling its spread. The aims included assessing their knowledge of HIV/AIDS transmission, reducing stigma, and evaluating the impact of Information, Education, and Communication (IEC) on their awareness and perception.

Methods: Conducted at a Chennai tertiary care hospital from December 2022 to January 2023, this interventional study involved 25 HHWs. The research utilised a structured questionnaire for socio-demographic details and HIV/AIDS-related questions, implementing pre- and post-tests after health education. Statistical analysis was performed using IBM SPSS Statistics v20.0. The chi-square test was used to arrive at a p-value to test the significance between pre- and post-intervention test results. A p-value of <0.05 was considered statistically significant.

Conclusion: Post-intervention, the knowledge thatusing condoms reduces transmission very significantly increased to 100% (p-value=<0.0000001), awareness that HIV/AIDS doesn't transmit through touch very significantly improved to 88% (p-value=<0.0000001), belief in hope for affected individuals rose very significantly to 96% (p-value=<0.0000001) and understanding that mosquito bites don't cause transmission very significantly increased to 88% (p-value=<0.0000001).

These findings emphasise the positive impact of health-education on HHWs. Empowering HHWs with the necessary knowledge to address fear-based stigma and boosting awareness is pivotal. Conducting effective and periodic awareness programs significantly enhances HHWs' understanding of HIV/AIDS, and is a crucial step in eliminating occupational transmissions and stigma.

Keywords: Hospital housekeeping workers, HIV/AIDS, stigma prevention, health education for de-stigmatization, health education intervention, policy making.

Corresponding Author: Kirubakaran Samuel Santhosham,Assistant Professor, Department of Community Medicine, Government Medical College, Omandurar Government Estate, Chennai, India.

E-mail: kirubasam01@gmail.com

Submission date: December 2, 2023 **Revision date:** January 26, 2024 **Published date: September 20 , 2024**

Introduction

Hospital housekeeping workers (HHW), also known as hospital janitorial staff, are responsible for maintaining the cleanliness and hygiene of hospital facilities[1]. Hospitals are high-risk zones, catering to vulnerable patients. Neglected areas breed bacteria and viruses, endangering patients. Housekeeping staff play a pivotal role in curbing infections by disinfecting surfaces, enforcing hand hygiene, and maintaining an organized environment. This cleanliness significantly impacts the perceived quality of care, fostering trust in healthcare despite their non-treatment role.

HHWs are involved in managing soiled and infected medical instruments. Their frequent interaction with sharp medical instruments places them at heightened susceptibility to percutaneous needle-stick and sharp injuries (NSSI) and the incidence of NSSI among housekeeping staff is 2.93 [2].

UNAIDS defines HIV-related discrimination as: "a 'process of devaluation' of people either living with/associated with HIV/AIDS and is the unfair and unjust treatment of an individual based on his/her real or perceived HIV status [3]. For proper adherence to treatment, there must be a trustful and respectful relationship between a caregiver and PLHA. Unfortunately, PLHA faces a lot of discrimination and stigma at the healthcare facility. Discrimination (i.e., enacted stigma) in healthcare settings is particularly problematic as it deprives people of critical healthcare services[4].Discriminatory attitudes among healthcare providers can discourage PLHA from seeking treatment, undermining treatment adherence. Eradicating this requires comprehensive education, promoting empathy and sensitivity.

Studies say PLHA face a varied range of discriminatory and stigmatizing habits like neglect, differential treatment, denial of care, testing/ disclosing HIV status without consent, and verbal abuse/gossip in hospitals[5][6]. A study conducted among hospital staff revealed that individuals who agreed with stigmatising statements directed at PLHA and observed discriminatory practices were those with inaccurate knowledge about the transmission of HIV[7]. More data indicates that people with better knowledge tend to demonstrate fewer stigmatizing attitudes towards PLHA. Improving the knowledge and practices of the healthcare community is imperative to provide better healthcare services to PLHA.

The objective of this study is to assess the knowledge and perception HHWs have of HIV/ AIDS and its transmission. Also, to reduce the stigma and judgement around HIV/AIDS identification. Secondarily, this study promotes methods for the prevention of occupational injuries among HHWs thus protecting themselves from HIV/AIDS. This study also compares the effectiveness of health education on HIV/AIDS awareness among HHWs.

Material and Methodology

This study was conducted from December 2022 to January 2023in a tertiary care hospital in Chennai, Tamil Nadu. The literature review was done from November 2022 to February 2023.Participants expressing voluntary participation were recruited after obtaining verbal informed consent translated into the regional language (Tamil). A total of 25 HHWs from the hospital premises were taken using the convenience sampling method. All translations in this study were done by the author.

Inclusion criteria:

- Worker performing the function of housekeeping and maintenance of the hospital premises.
- HHW who have agreed to provide consent.

Exclusion criteria:

- Health workers were other than housekeeping staff.
- HHWs who weren't willing to participate.

Data Collection:

After obtaining consent, an individual pre-test was held, followed by a health education intervention conducted by the author in the regional language of the participants (Tamil).A post-test with the same questionnaire in the same order followed this.

Responses were recorded in Google Forms and charted in Ms. Excel. Both tests were conducted in English as well as in the regional language of the participants (Tamil), translated by the author. The

language of convenience was left to the discretion of the participant.

A pilot study was conducted on HHW volunteers (n-10).Inputs from the pilot study and community medicine experts were used for the construction, content and validity of the questionnaire and necessary modifications were made. It consisted of 18 questions, excluding personal history. All the questions were mandatory and close-ended with yes/no answers.

Statistical Analysis:

All analyses were carried out using IBM SPSS Statistics for Macintosh, version 20.0 [IBM Corp., Armonk, New York, USA]. Categorical, continuous data was represented as a percentage and mean ± standard deviation respectively. The chi-square test was used to arrive at a p-value to test the significance between pre- and post-intervention test results. A p-value of <0.05 was considered statistically significant.

Findings:

Out of the 25 participants name, age, gender, socio-demographic details and socioeconomic status [as per Modified Kuppusamy Scale] were collected. All the participants were female, the mean age of the population was 36.34 ± 12.53. 60% of the participants were married and 40% were divorced/separated. The majority(48%) of the participants' education was limited to primary school and the rest (32%) did not have any formal education. Almost all belong to class V lower class of socioeconomic status. *[See Table 1]*

Table 1: socio-demographic details

Average age		**36.34 ± 12.53**	
		Frequencies	**Percentages**
Marital Status	Married	15	60%
	Separated/Divorced	10	40%
	Unmarried	0	0
Education	illiterate	8	32%
	Primary School	12	48%
	Secondary School	5	20%
	High School	0	0
	Graduate	0	0
Socio Economic Status	Lower (V)	18	72%
	Upper lower (IV)	6	24%
	Lower middle (III)	0	0

± denotes standard deviation

These 5 questions tested the knowledge the participants had about HIV/AIDS. The first 1st the knowledge about the treatment for HIV/AIDS. The 2nd, 3rd and 4th questions analyse the stigma and fear held by the participants for the infection. The 5th question tested their knowledge of the proper biomedical waste disposal protocols. The knowledge about the treatment modalities available changed significantly after health education. The number of participants who knew about the treatment modalities increased from 36% before health education to 88% after health education (p-value= 0.0001). 96% of the participants felt that a person with an HIV/AIDS diagnosis has no hope which significantly changed to 24% after the health education (p-value= <0.0000001). *[See Table 2]*

Table 2: Knowledge about HIV/AIDS

S.NO	Questions	Response	Before n (%)	After n(%)	p-value
1	Can HIV/AIDS can be cured	Yes	9 (36%)	22 (88%)	0.0001*
		No	15 (60%)	3 (12%)	
2	Can a healthy-looking person have HIV/AIDS	Yes	17 (68%)	14 (56%)	0.1512
		No	7 (28%)	11 (44%)	
3	Do you agree that a person with HIV/AIDS has no hope	Yes	24 (96%)	6 (24%)	<0.0000001*
		No	1 (4%)	19 (76%)	
4	Should a person keep HIV/AIDS diagnosis a secret	Yes	4 (16%)	5 (20%)	0.3816
		No	20 (80%)	20 (80%)	
5	Do you know the proper protection protocols during biomedical waste disposal	Yes	23 (92%)	25 (100%)	0.1572
		No	1 (4%)	0	

n=frequency, %=percentage
p=<0.05 statistically significant

These 7 questions were employed to address the perception the HHWs had about the transmission of HIV/AIDS in the healthcare system as well as in society. These questions were designed to see if the HHWS' had adequate information on the various modes in which HIV infection can spread among people. Questions were asked about the modes of transmission like would touching, hugging, holding hands, and sharing food, clothes, comb, or towel with PLHA cause transmission of the infection. After the health education, 88% of the participants agreed that touching, hugging, holding, or shaking hands with PLHA does not cause transmission, which significantly reduced from 16% (p-value= <0.0000001). The participants' perception that HIV/AIDS can be transmitted via mosquito bites was also statistically reduced from 88% before the health education to 8% after the health education (p-value= <0.0000001). *[See Table 3]*

Table 3: Perception of the HIV/AIDS transmission

S.NO	Questions	Response	Before n (%)	After n (%)	p-value
1	Can touch, hug, hold/shake hands with a person with HIV/AIDS cause transmission	Yes	4(16%)	22(88%)	<0.0000001*
		No	20(80%)	3(12%)	
2	Does sharing food cause HIV/AIDS transmission	Yes	6(24%)	4(16%)	0.2173
		No	18(72%)	21 (84%)	
3	Would you buy food from anHIV/AIDS-infected vendor	Yes	18(72%)	6(24%)	0.0537
		No	23(92%)	2(8%)	
4	Does sharing my clothes, comb, and towel with an HIV-infected person cause transmission	Yes	7(28%)	17(68%)	0.1677
		No	6(24%)	19(76%)	
5	Does HIV/AIDS spread by mosquito bites	Yes	22(88%)	2(8%)	<0.0000001*
		No	4(16%)	21(84%)	
6	Do you follow proper protection protocol during biomedical waste disposal	Yes	23(92%)	25(100%)	0.1521
		No	1(4%)	0	
7	Can transmission occur when infected syringes are improperly disposed	Yes	23(92%)	25(100%)	0.1521
		No	1(4%)	0	

n=frequency, %=percentage

p=<0.05 statistically significant

The following questions assisted us in knowing the understanding HHWs had of sexual/ reproductive causes of HIV/AIDS transmission. After the health education, all [100%] of the participants understood that the usage of condoms considerably confers protection against transmission (p-value= <0.0000001) and only 8% of the participants were aware that a PLHA can get pregnant, which significantly increased to 100%(p-value=0.0384).*[See Table 4]*

Table 4: Understanding the Sexual/ Reproductive Causes

S.NO	Questions	Response	Before n (%)	After n (%)	p-value
1	Does having multiple sexual partners and unprotected intercourse increase the risk of HIV transmission	Yes	23(92%)	25(100%)	0.2352
		No	2(8%)	0	
2	Does a condom protect against HIV/AIDS transmission	Yes	6(24%)	25(100%)	<0.0000001*
		No	18(72%)	0	
3	Is a person with HIV/AIDS capable of getting pregnant	Yes	2(8%)	25(100%)	0.0384*
		No	22(88%)	0	

n=frequency, %=percentage

p=<0.05 statistically significant

Discussion

The prevalence of HIV in the Indian population is about 0.3% which is more than the global average of 0.2% (UNAIDS 2014). In Tamil Nadu, 0.18% of the population is infected with HIV [(8)]. Centers for Disease Control and Prevention (CDC) estimates that 385,000 NSSIs are sustained by hospital-based healthcare personnel[(9)]. Globally, NSSIs pose a 3 -10% risk of transmitting hepatitis B,3% risk of transmitting hepatitis C, and 0.3% risk of transmitting human immunodeficiency virus [(10)(11)]. It has been estimated that around 30 different pathogens can be transmitted via NSSIs [(12)].

HHWs regularly handle a lot of sharp medical devices and thus have a higher chance of acquiring NSSI. The most common cause of NSSI among HHWs is syringe recapping[(2)].Such occupational exposure not only runs down hospital resources but also increases anxiety about safety. This can be attributed to inadequate safety measures and risk reduction strategies in place to deal with this increased risk [(13)]. Regular training is pivotal for HHWs as they are in contact with used medical devices and hence are running a higher risk for NSSIs. Every HHW should undergo a hospital administration-mandated mandatory training programme to understand the significance of proper prevention protocols and the consequences of non-adherence. They should be provided with the supplies necessary [e.g., gloves, gowns, water, disinfectant solution] so that they can take appropriate steps to ensure staff and patients' safety.

As per a study, PLHAs experience severe forms of stigma (27%) and negative self-image (30%). Such people had a 3.4- and 2.1-times higher risk of severe depression respectively [(14)]. In Indian hospitals, stigma and discrimination look like health workers notifying family members of a patient's HIV status without his or her proper consent and doing the following only with HIV-positive patients: incinerating their bedding upon discharge, charging them for the cost of infection control materials, and using gloves during all interactions, irrespective of whether physical contact has occurred etc [(7)]. In addition, research has exhibited that the incidents or fear of stigma often cause delaying or refusing care, obtaining care further away from home to protect privacy, and nonadherence to treatment[(15)(16)]. To hide the use of antiretroviral medications, HIV-positive patients in South Africa reportedly grind drugs into powder and do not take the medication in front of others, which can result in unpredictable dosing [(17)].

The stigma against HIV infections extends up to the caregivers too. A study in South Africa and Botswana reported that health workers struggle with self-stigma concerning a probable HIV diagnosis, as well as fear of stigmatizing attitudes and actions from their associates, which contribute to a scarcity of uptake of HIV testing and early treatment if needed [18]. While health workers living with HIV may experience similar if not heightened types of stigmata. As stated by one hospital manager, " *I feel people that are more educated, like nurses, find it most difficult to discuss and disclose their status...*"[19]. A study in 2007 interviewed 884 healthcare workers in India, found a correlation between higher stigma scores and reduced knowledge about HIV transmission. The research also supported the hypothesis that increased stigmatizing attitudes led to more discriminatory behaviours [7]. Stigmatizing attitudes and discriminatory actions towards PLHA are immense challenges to overcome in hospitals in India and to be successful stigma-reduction interventions need to be undertaken.

Three primary addressable factors contribute to HIV-related stigma within healthcare facilities: inadequate awareness among healthcare personnel regarding the nature and consequences of stigma, misconceptions about HIV transmission leading to the fear of casual contact, and the linking of HIV with improper or immoral conduct[4].

We have explained in extensive detail that educating HHWs about the various forms of transmission and enforcing proper prevention protocols helps reduce the stigmatization and discrimination against PLHA looking for medical care. This study utilizes the same principle to educate the HHWs and thereby has proven that there is a significant improvement in the comprehension and outlook of HHWs about the infectivity of HIV/AIDS infection and the stigma surrounding it.

Conclusion

Equipping HHWs with HIV protection and knowledge mitigates fear-based stigma. Health education programs using participatory methods foster non-judgmental environments, aiding self-exploration and knowledge enhancement. To ensure safety, holistic strategies are imperative.

Administratively, prioritizing information, supplies, and precautions for workers prevents HIV transmission.

Policies against discrimination, developed collaboratively, must be communicated, and enforced.

Individually, ongoing health education dispels misconceptions, nurturing a compassionate healthcare environment.

Overall, these efforts safeguard workers and patients by integrating comprehensive strategies across administrative, policy, and individual levels, fostering a safer, informed healthcare setting for all.

Conflict of Interest: NIL

Ethical Clearance: ~~Taken From the Institutional Ethics Committee.~~

Source of Funding: Self

References

1. Singh Ph.D M. The Importance of Housekeeping in Hospitals. 2023. https://www.researchgate.net/ publication/368428854_ The_Importance_of_ Housekeeping_in_Hospitals
2. Rajagopal Jahnavi1 MM. Needle Stick Injury among Health Care Workers in THC IN MANDYA. PMID:20418554https://pubmed.ncbi.nlm.nih.gov/20418554/
3. Association AP. DSM 5. American Psychiatric Association; 2013. https://psycnet.apa.org/record/2013-14907-000
4. Nyblade L, Stangl A, Weiss E, Ashburn K. Combating HIV stigma in health care settings: What works? Vol. 12, Journal of the International AIDS Society. John Wiley and Sons Inc.; 2009. https://pubmed.ncbi.nlm.nih.gov/19660113/https:// doi.org/10.1186/1758-2652-12-15
5. Nyblade L, MacQuarrie K, Phillip F, Kwesigabo G, Mbwambo J, Ndega J, et al. Working report measuring HIV stigma: results of a field test in Tanzania. Washington, DC: United States Agency for International Development. 2005; https://www.researchgate.net/publication/248471780_ Working_ Report_Measuring_HIV_Stigma_Results_ of_a_Field_ Test_in_Tanzania
6. Banteyerga H, Kidanu A, Nyblade L, MacQuarrie K, Pande R, Yichalaliko L. Exploring HIV and AIDS

stigma and related discrimination in Ethiopia: causes, manifestations, consequences, and coping mechanisms. Addis Ababa: Miz-Hasab Research Center. 2004;6–69. https://www.scienceopen.com/ document?vid=a0392bad-4df4-41bb-b14b-63b92b0c8fd7

7. VS Mahendra, L GilbornBharat S, Mudoi R, Gupta I, George B, Samson L, et al. Understanding and measuring AIDS-related stigma in health care settings; a developing country perspective VS Mahendra, L Gilborn. Vol. 4, Journal of Social Aspects of HIV/AIDS. 2007. https://pubmed.ncbi.nlm.nih.gov/18071613/ https://doi.org/ 10.1080/17290376.2007.9724883
8. Tamil Nadu first among big states in controlling and preventing AIDS. the indian express. 2022 Dec 2; https://www.newindianexpress.com/states/tamil-nadu/2022/dec/02/tamil-nadu-first-among-big-states-in- controlling-and-preventing-aids-2524213.html
9. Information Provided How to Use the Workbook [Internet]. Available from: https://www.cdc.gov/ sharpssafety/ resources.html#:~:text=The
10. Lakbala P, Azar FE, Kamali H. Needlestick and sharps injuries among housekeeping workers in hospitals of Shiraz, Iran. BMC Res Notes. 2012;5. https://doi.org/10.1186/1756-0500-5-276https:// pubmed.ncbi.nlm.nih.gov/22676775/
11. Wilburn SQ, Eijkemans G. Preventing Needlestick Injuries among Healthcare Workers: A WHO-ICN Collaboration. Int J Occup Environ Health [Internet]. 2004;10(4):451–6. Available from:https://doi.org/10.1179/oeh.2004.10.4.451https:// pubmed.ncbi.nlm.nih.gov/15702761/
12. Jagger J. Caring for Healthcare Workers A Global Perspective. Infect Control Hosp Epidemiol. 2007;28(1):1–4.https://www.cambridge.org/core/ services/aop-cambridge-core/content/view/EEA5EF95B7B83A7BD9 28B1A62473D45C/S0195941700045562a.pdf/ div-class-title-caring-for-healthcare-workers-a-global-perspective-div.pdf
13. Lee R. Occupational transmission of bloodborne diseases to healthcare workers in developing countries: meeting the challenges. Journal of Hospital Infection. 2009 Aug 1;72(4):285–91. https://pubmed.ncbi.nlm.nih.gov/19443081/ https://doi.org/10.1016/j.jhin.2009.03.016
14. Charles B, Jeyaseelan L, Pandian AK, Sam AE, Thenmozhi M, Jayaseelan V. Association between stigma, depression and quality of life of people living with HIV/AIDS (PLHA) in South India - A community based cross sectional study. BMC Public Health. 2012;12(1). https://bmcpublichealth.biomedcentral.com/ counter/pdf/ 10.1186/1471-2458-12-463.pdf
15. Ford K, Wirawan DN, Sumantera GM, Sawitri AAS, Stahre M. Voluntary HIV testing, disclosure, and stigma among injection drug users in Bali, Indonesia. AIDS Education and prevention. 2004;16(6):487–98. https://pubmed.ncbi.nlm.nih.gov/15585426/ https://doi.org/10.1521/ aeap.16.6.487.53789
16. Niang CI, Tapsoba P, Weiss E, Diagne M, Niang Y, Moreau AM, et al. 'It's raining stones': stigma, violence and HIV vulnerability among men who have sex with men in Dakar, Senegal. Cult Health Sex. 2003;5(6):499–512. https://www.semanticscholar.org/paper/%E2%80%98It%27s-raining-stones%E2%80%99%3A-stigma%2C- violence-and-HIV-men-Niang-Tapsoba/46804ef376fbcd4ae545d3ae20ce3c0fb2c6e334
17. Mills EA. From the physical self to the social body: expressions and effects of HIV-related stigma in South Africa. J Community Appl Soc Psychol. 2006;16(6):498–503.https://onlinelibrary.wiley.com/doi/abs/10.1002/casp.899https://doi.org/10.1002/casp.899
18. Uebel KE, Nash J, Avalos A. Caring for the caregivers: models of HIV/AIDS care and treatment provision for health care workers in Southern Africa. J Infect Dis. 2007;196(Supplement_3):S500–4. DOI: https://doi.org/10.1086/521113 https://pubmed.ncbi.nlm.nih.gov/18181701/
19. Dieleman M, Biemba G, Mphuka S, Sichinga-Sichali K, Sissolak D, van der Kwaak A, et al. 'We are also dying like any other people, we are also people': perceptions of the impact of HIV/AIDS on health workers in two districts in Zambia. Health Policy Plan.2007;22(3):139–48. https://doi.org/10.1093/heapol/czm006 https://pubmed.ncbi.nlm.nih.gov/17400577/