

HIV knowledge and preventive Standards Precautions Among Healthcare Workers in Blood Transfusion Centers

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ABSTRACT

The number of instances of HIV has climbed considerably in the previous ten years, which is cause for alarm. Because healthcare workers are future healthcare professionals, they must have proper knowledge and preventive standards and precautions about HIV because they will play a vital role in the prevention of HIV transmission and treatment of HIV patients. The article aims to identify HIV knowledge and preventive standard precautions among healthcare workers in blood transfusion Centers. Cross-sectional descriptive research to characterize and provide information about the knowledge and preventive standards precautions among healthcare workers in blood transfusion Centers from March 25 to April 15, 2022. Participants from the described Studies (N = 34) provided data for these analyses. This result revealed that the participants' knowledge ranged between acceptable and good (47.05 and 52.95). Also, participants' knowledge of prevention strategies was similar, but the hand hygiene strategy was the most valuable (M: 3.62 and SD: 0.45). The instrument consists of 3 parts: part 1: demographical variables. Part two: healthcare workers' knowledge of HIV, Part 3: preventive standards precautions among healthcare workers. The current study of healthcare personnel shows that they have a decent understanding of HIV based on the precise results and adhere to the preventive measures during the blood transfusion.

Keywords: HIV, knowledge, preventive Standards precautions, Healthcare Workers, Blood Transfusion Centers.

INTRODUCTION

Of its high rates of morbidity and mortality, as well as its high treatment costs around the world, HIV has been seen as a severe health issue in past years. At the end of 2017, the World Health Organization and the Joint (UNAIDS) projected that 40 million individuals worldwide had HIV. In addition, according to WHO (2017) estimates, HIV prevalence increased in 2017, with 1.8 million new infections and 1.0 million deaths worldwide due to HIV-related causes¹. Nurses who are exposed to blood on the job are more likely to contract blood-borne illnesses. The amount of danger is determined by the number of patients in the healthcare facility

who have that virus, as well as the precautions used by healthcare workers while dealing with HIV². In most countries, nurses comprise most of the various cadres of healthcare workers. Working with clients' blood or body fluids necessitates them to be on the front lines of care.

As a consequence, they risk getting HIV and other blood diseases at work. Workers exposed among healthcare employees are accountable for 2.3 percent of global HIV cases, according to the World Health Organization. In order to provide high-quality HIV care, preventive measures are critical⁴. The World Health Organization (WHO) has been a global leader in implementing preventative measures for healthcare personnel⁵. The WHO defines preventive precautions as "the absence of preventable harm to a patient during healthcare, as well as the reduction of the risk of unnecessary harm connected with healthcare to an acceptable minimum." We need strong laws and skilled healthcare personnel to successfully incorporate patient safety science into world educational institutions' training programs to create significant and effective changes in healthcare safety⁶. All governments should have measures in place to address HIV-related stigma and prejudice, as well as to protect people from acquisition, provide medication, and provide assistance to people living with the disease⁷. Iraq's Ministry of Health and Environment offers HIV/AIDS patients both prevention and treatment services, and they have the same rights as other patients. So, according to the British HIV Association (BHIVA), nurses working in blood banks should prescribe qualifications^{8,9}. Several studies have found that blood bank nurses are afraid of HIV/AIDS patients and have negative opinions toward them. These have been connected to a lack of understanding of the condition; as a result, they may be hesitant to treat HIV/AIDS patients¹⁰. The findings of this study are hoped to raise nurses' knowledge and safeguards when caring for HIV-positive patients. Nursing that focuses on Aids and other infectious disease skills and information is regarded as effective for improving patient care and resulting in better healthcare¹¹. The focus of this research was to assess the knowledge of nurses who may be exposed to HIV and to assess the preventive actions for nurses working in blood banks who may be responsible for Aids patient care in the future.

MATERIALS AND METHODS

Cross-sectional descriptive research to characterize and provide information about the awareness and preventive standards precautions among healthcare workers in blood transfusion Centers without trying to influence or manipulate the participants. Participants from the described Studies (N = 34) provided data for these analyses. This study was applied to the correct workers in the blood transfusion center in the state of Nineveh for 20 days, during which the knowledge of the correct workers was assessed. I monitored the right workers' preventive measures from March 25 to April 15, 2022. After evaluating previously published material, The questionnaire method was constructed by the researchers participating in the research. The questionnaire focused on three main aspects: demographic information (age, gender, level of education, experience, type of work and previous exposure to infection). The second aspect is the knowledge of the correct workers about HIV, which was evaluated using the 3_likert scale: Yes, no, and I do not know. The instrument categories, according to the researcher, Poor (0 of 20), acceptance (21–40 of 14), and sound (41 of 60) knowledge were the three categories. The third aspect is the measurement of the preventive measures used by the correct workers inside the blood transfusion centers, which were evaluated using the 4_likert scale, including (Always, often, rarely, never). The mean, standard deviation, frequency, percentage regression, and percentages were used by the SPSS Ver:26 program to analyze^{12,13}. The knowledge of the right workers, as well as in the analysis of the paragraphs of preventive measures, which included (personal hygiene, use of gloves, prevention of needle prick injuries, environmental hygiene, waste disposal, and finally, sick care equipment).

RESULTS

Table 1 In describing the demographic variables of the study sample, most participants were between 20 and 29 years old, and most had a bachelor's degree. Women were slightly more than males. The majority of the participants had experience between 1 to 10 years, and the majority of them had been exposed to infection previously. The researchers looked at a total of 34 healthcare personnel, 16 of whom were male and 18 of whom were female. The Internet and television were the primary sources of HIV knowledge for most students (65.0%) in this study, followed by school or university and friends/relatives (26.0 percent). Table 3 The results showed that the participants' knowledge ranged between acceptable and good (47.05 and 52.95), respectively. Table 4 The results showed that most participants' knowledge of prevention strategies was similar, but the hand hygiene strategy was the most valuable (M: 3.62 and SD: 0.45). Finally, The results showed no effect of demographic data on the level of knowledge except for (exposure to communicable diseases in the workplace) which had a positive effect of 0.034.

Variables	No.	%
Age		
20-29 Years	17	50
30-39 Years	9	26.5
40-49 Years	6	17.6
50 Or More	2	5.9
Level of education	No.	%
Secondary	10	29.4
Diploma	10	29.4
Bachelors	13	38.2
Master degree	1	2.9
Gender	No.	%
Male	16	47.1
Female	18	52.9
Experience	No.	%
Less 1 year	12	35.3
(1-5 Y)	12	35.3
(6-10 Y)	6	17.6
(11-15 Y)	3	8.8
More than 15Y	1	2.9
Type of work	No.	%
Physician	3	8.8

Nurse	26	76.5
Others	5	14.7
Previous exposure to infection	No.	%
Yes	29	85.3
No	5	14.7

Table (1): The study sample was divided into groups based on demographic characteristics.

In describing the demographic variables of the study sample, it appears that most participants were between 20 and 29 years old, and most had a bachelor's degree. Women were slightly more than males. Most participants had experience between 1 and 10 years, and most had been exposed to infection previously.

Source of information	Number	Percent.
Internet	15	44.11%
Television	7	20.58%
Friends/relatives	4	11.76%
Newspaper	2	5.88%
School or university	5	14.7%
Continuing education	1	2.94%
Non-governmental organizations	1	2.94%

Table (2): Source of information about HIV.

The researchers looked at a total of 34 healthcare personnel, 16 of whom were male and 18 of whom were female.

The Internet and television were the primary sources of HIV knowledge for the majority of students (65.0%) this study, followed by school or university and friends/relatives (26.0 percent).

Knowledge	Score Knowledge	No	%	Mean	SD
Poor	(0-20)	0	0	0	0
Acceptance	(21_40)	16	47.05	35.43	3.75
Good	(41_60)	18	52.95	44.11	2.51
Total		34	100	40.02	5.38

Table (3): Knowledge of blood bank workers towards infection control.

The results showed that the participants' knowledge ranged between acceptable and sound (47.05 and 52.95).

Prevention Strategies	Mean	SD	Rank
Hands hygiene	3.62	0.45	1
Gloves	3.58	0.51	2
Equipment care	3.57	0.44	3

Tingling prevention	3.53	0.48	4
Clean the environment	3.47	0.58	5
Waste management	3.26	0.59	6

Table (4): Distribution of the participant's knowledge rank regarding prevention strategies against HIV.

The results showed that most of the participants' knowledge of prevention strategies was similar, but the hand hygiene strategy was the most valuable (M: 3.62, and SD: 0.45)

Model	Unstandardized_Coefficients		Standardized_Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	36.25	8.888		4.079	0.000
Age	-1.22	1.488	-0.216	-0.825	0.417
Educational level	-0.03	1.288	-0.006	-0.028	0.978
Experience	-.039	1.364	-0.008	-0.029	0.977
Gender	-1.71	2.182	-0.161	-0.78	0.439
Specialty	0.72	1.976	0.066	0.36	0.716
Exposure to communicable diseases	6.58	2.93	0.44	2.24	0.034
Training	0.31	2.25	0.02	0.140	0.890

**Table (5): Linear regression analysis to predict the knowledge among staff of blood bank
a. Dependent Variable: Knowledge**

The results showed that there was no effect of demographic data on the level of knowledge except for (exposure to communicable diseases in the workplace) had a positive effect of 0.034.

DISCUSSION

The current study's findings show that respondents had a strong understanding of HIV. Nevertheless, given that the current study's target demographic was healthcare workers, their HIV knowledge was good and sufficient for future healthcare professionals. In describing the demographic variables of the study sample, it appears that most participants were between 20 and 29 years old, and most had a bachelor's degree. Women were slightly more than males. The majority of the participants had experienced between (1 to 10 years), and the majority of them had been exposed to infection previously. The main reason that the right workers who were less served by them have the least knowledge and experience in adhering to the correct preventive measures during blood transfusion is that they did not have any courses or workshops for HIV/AIDS. Knowledge and precautionary measures are essential factors in lowering the risk of HIV transmission in the workplace. Health workers encounter patients with known and unknown HIV status. As a result, there is a genuine need for healthcare staff to be aware of preventive measures. The majority of those polled had prior knowledge of HIV, according to the findings. In terms of knowledge, 52.95 percent of respondents were aware of HIV. This finding is consistent with the findings of another Ethiopian study, which found that 72.0 percent

of respondents believe PEP minimizes the risk of HIV infection following exposure¹⁴. Similar findings were found in previous studies, which revealed that nurses had a high degree of understanding regarding HIV and AIDS¹⁵. For responders, the Internet was the most popular source of HIV-related information. This demonstrates that the respondents are concerned about the risk of contracting HIV. This can be explained by the fact that the current society in general and the society of the correct workers are the most use of social media. Therefore, the results of more than half of the correct workers have appeared in taking information from the Internet.

The current study's findings were satisfactory and aligned with previous research findings. In this research, the most popular source of HIV knowledge was the Internet (85.0 percent), followed by the newspaper, friends, and relatives (40 percent). Likewise, in a study, India mentioned that the Internet was the source of information for 90% of women of reproductive age (7). As a result, it may be stated that both nurses and healthcare workers have similar sources of HIV/AIDS information. The results showed that most participants' knowledge of prevention strategies was similar, but the hand hygiene strategy was the most valuable (M: 3.62 and SD: 0.45). Waste management was a lower precaution between preventive measures used in bank transfusion (M=3.26 & SD=0.59). This study is similar to those (Singh & Paudel 2015) in Nepal, who found that nurses had the maximum number of needle stick injuries at approximately (76.7%)¹⁶.

The results showed no effect of demographic data on the level of knowledge except that (exposure to communicable diseases in the workplace) had a positive effect of (0.034). This makes the right workers in the future. All preventive measures must be followed in dealing with infectious diseases, as they pose a threat to the lives of nurses, doctors, and the rest of the workers inside the blood transfusion centers^{17,18}. We only included one blood Transfusion Center in this study because it was conducted for only 20 days. The study's drawback was this. The sample size was insufficient to detect a substantial difference in knowledge between male and female participants. Despite these restrictions, we were able to determine the level of awareness among healthcare personnel concerning HIV transmission and treatment, as well as preventive standards.

CONCLUSIONS

The current study of healthcare personnel shows that they have a decent understanding of HIV based on the precise results and adhere to the preventive measures during the blood transfusion.

Author Contributions:

Design and collection data: Nasir M. Younis

Statistical expertise and analysis and interpretation of data: Mahmoud M. Ahmed

Drafting of the article and Final approval: Alaa Y. Ayed

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REFERENCES

1. World Health Organization. Young people and HIV/AIDS: Opportunity in crisis. The Stationery Office; 2017.

2. Alam M. Knowledge, attitude and practices among health care workers on needle-stick injuries. *Annals of Saudi Medicine*. 2002 Sep;22(5-6):396-9.
3. Hamidi O, Tapak L, Poorolajal J, Amini P. Identifying risk factors for progression to AIDS and mortality post-HIV infection using illness-death multistate model. *Clinical Epidemiology and Global Health*. 2017 Dec 1;5(4):163-8.
4. Al-Rashidi RR, Naeem W, Alsadoon Z, Al-Shaikhli H, Alsaray RA, Kadhim MM. Knowledge, awareness and attitude of an Iraqi college undergraduate students towards patient safety Particularly HIV. *HIV Nursing*. 2021 Jul 1;21(01).
5. Organization WH. Patient safety: making health care safer, 2017.
6. Abbas AS, Younis NM. Efficacy of Pender's Health Promotion-based Model on Intervention for Enhancing University of Mosul Hypertensive Employees' Eating Behaviors: A randomized Controlled Trial. *Revis Bionatura*. 2022;7(3):35.
7. Stangl AL, Lloyd JK, Brady LM, Holland CE, Baral S. A systematic review of interventions to reduce HIV-related stigma and discrimination from 2002 to 2013: how far have we come?. *Journal of the International AIDS Society*. 2013 Nov;16:18734.
8. Bura'a LN, Younis NM. Nurses' knowledge regarding to phototherapy at neonatal care units in Mosul City, Iraq. *Rawal Medical Journal*: 2023 Apr. Vol. 48,(2):379-.
9. Younis NM, Ibrahim RM, Idrees NH. Prevalence of snake bite among children in Nineveh Governorate/Iraq: A retrospective study. *International Journal of Medical Toxicology & Legal Medicine*. 2022;25(3and4):169-172.
10. Ibrahim MS, Fatal GA, Rasheed MN. Polymorphism within the 5'UTR genomic region of hepatitis G virus (HGV) isolated from beta-thalassemia population in Iraq. *Biomedicine*. 2023 Apr 8;43(01):477-81.
11. Suominen T, Laakkonen L, Lioznov D, Polukova M, Nikolaenko S, Lipiäinen L, Välimäki M, Kylmä J. Russian nursing students' knowledge level and attitudes in the context of human immunodeficiency virus (HIV)—a descriptive study. *BMC nursing*. 2015 Dec;14(1):1-8.
12. Ibrahim RM, Idrees NH, Younis NM. Epidemiology of leukemia among children in Nineveh Province, Iraq. *Rawal Medical Journal*: 2023 Jan. Vol. 48, (1):137-.
13. Ahmed MM, Younis NM, Abdulsalam RR. Assessment of changes in sleep habits in elementary students during covid_19 lockdown. *International Journal of Medical Toxicology & Legal Medicine*. 2022;25(1and2):76-80.
14. Tebeje B, Hailu C. Assessment of HIV post-exposure prophylaxis use among health workers of governmental health institutions in Jimma Zone, Oromiya Region, Southwest Ethiopia. *Ethiopian journal of health sciences*. 2010;20(1).
15. Adea MK, Lefta RM, Younis NM. Impact of psychosocial aspect parameters on psoriasis patients' quality of life at outpatient clinic in Al-Dewania City, Iraq. *Rawal Medical Journal*. 2022 Dec 11;47(4):892-.
16. Singh B, Paudel B, Kc S. Knowledge and practice of health care workers regarding needle stick injuries in a tertiary care center of Nepal. *Kathmandu University Medical Journal*. 2015;13(3):230-3.
17. Ali HA, Abbas FF, Younis NM. Mothers' knowledge and attitudes towards breastfeeding in Thi-Qar City, Iraq. *Rawal Medical Journal*: 2023 Apr. Vol. 48,(2):514-.
18. Khadilkar NP, Mamatha BV, Bhat BM, Crasta PS. Knowledge, attitudes and practices among medical students on blood donation. *Biomedicine*. 2022 Dec 31;42(6):1228-32.

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