SJIF Impact Factor: 6.711

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 8.
Issue: 8
Page N. 49-55
Year: 2024

Original Article www.wjahr.com

KNOWLEDGE, ATTITUDE, AND PRACTICE OF IRAQI HEALTHCARE WORKERS REGARDING HIV POSTEXPOSURE PROPHYLAXIS

Dr. Shaymaa Hazim Mahmood Al_Bakri[1]*, Saeb Jasim Al-Shuwaili[2], Haider Hekmat Jewaid Ataimish[3] and Ansam Hussein Muhei Al-Agele[1]

[1]Baghdad Teaching Hospital, Baghdad, Iraq.
[2]Al-Hadi University College, Baghdad, 10011, Iraq.
[3]Imamein Kadhimein Medical City, Baghdad, Iraq.

Article Received date: 03 June 2024 **Article Revised date:** 23 June 2024 **Article Accepted date:** 13 July 2024

***Corresponding Author: Dr. Shaymaa Hazim Mahmood Al_Bakri**
Baghdad Teaching Hospital, Baghdad, Iraq.

ABSTRACT

Background: HIV infection is a significant public health issue, resulting in the loss of numerous lives, including those of healthcare professionals. HCWs (healthcare workers), who are on the forefront, face a heightened susceptibility to acquiring the infection. The study aimed to evaluate the knowledge, attitude, and practice of healthcare workers about PEP (post-exposure prophylaxis) for HIV. **Methods:** This is a cross sectional study that included 300 healthcare workers. A questionnaire based interview was employed as the data collection method. The questionnaire consisted of 3 sections evaluating each of knowledge, attitude, and practice regarding PEP. **Results:** Among the studied sample, 74 (24.7%) participants showed good knowledge, 127 (42.3%) had good attitude, and 91 (30.3%) showed good practice. Profession was found to a predictor of improved awareness, as the doctors and pharmacists had significantly better knowledge, attitude and practice than dentists and nurses. **Conclusion:** Based on the findings of the present study, there is a significant gap regarding the knowledge and implementation of prophylactic measures (especially PEP) against HIV occupational exposure. Therefore, it is essential to implement infection prevention and control training that is primarily focused on HIV prophylaxis in order to improve the demonstrated gap of knowledge.

INTRODUCTION

HIV/AIDS continues to be one of the most significant health and socio-economic issues in the globe, particularly in low and middle-income countries, such as Iraq, despite the progress that has been made.[1]

In 2018, the World Health Organization (WHO) estimated that there were around thirty-eight million individuals worldwide who were living with HIV. Out of the total of two million new HIV infections, one million resulted in AIDS-related fatalities. Additionally, twenty three million individuals were receiving antiretroviral medication (ART). The total number of adults affected was 36 million, with 18 million being women and 16 million being males. Furthermore, there were 2 million children affected. On a global scale, there has been a 16% decline in new HIV infections since 2010, and a 45% decrease in HIV-related mortality. This positive outcome may be attributed to the use of antiretroviral therapy (ART) and the dedicated efforts of national HIV/AIDS programs.[2]

In the Middle East region, the overall prevalence of HIV is still low (<0.1%). However, there has been a significant increase of 28% in the annual number of newly identified HIV cases from 2010 to 2018. This has positioned the region at the top among the different regions of the World Health Organization in terms of the growth of the HIV epidemic. This increase may be attributed to variations in socio-economic factors and the health system.[3,4]

Post-exposure prophylaxis (PEP) is necessary to prevent the transfer of pathogens after probable exposure and to provide comprehensive treatment to limit the risk of infection after potential exposure to HIV. Post-exposure prophylaxis (PEP) encompasses a range of interventions, including immediate medical care, psychological support, appraisal of potential risks, necessary laboratory tests with the permission of the exposed individual and the source, administration of antiretroviral medications for a period of 28 days, and further monitoring and assessment.[5]

Health care workers (HCWs) often face occupational risks due to per-cutaneous injuries, such as needle sticks or cuts from sharp objects, as well as contact with the mucus membranes of infected individuals' eyes or mouth. They may also come into contact with non-intact skin that is exposed to blood or other potentially infectious bodily fluids.[6]

Post-exposure prophylaxis (PEP) is a brief course of anti-retroviral (ARV) medication used to decrease the risk of contracting HIV after probable exposure, whether via work-related or non-work-related means. PEP should be implemented as a comprehensive universal precaution package within the health sector to minimize staff's exposure to infectious dangers in the workplace.[7]

The US guidelines include many criteria for deciding whether healthcare workers (HCWs) should get post-exposure prophylaxis (PEP) and for selecting the appropriate PEP regimen. A standard 4-week regimen consisting of two drugs is often advised for most cases of HIV exposure requiring post-exposure prophylaxis (PEP). In cases with HIV exposures with a heightened risk of transmission, it may be advisable to prescribe a three-drug regimen.[8]

The effectiveness of post-exposure prophylaxis (PEP) is determined on the particular treatment plan, the timing of administration, and the level of compliance by the individuals who have been exposed. In order to get optimal results, it is recommended to begin the process within 72 hours after exposure. However, the chances of success are higher if the process is began within 1 to 2 hours and it is not advisable to start it after 72 hours. Nevertheless, it is not entirely foolproof and does not provide an absolute assurance that an individual exposed to HIV would remain uninfected.[7]

METHODS

This is a cross sectional study that included 300 participants and was conducted at health institutes of Al-Karkh Health Directorate/ Baghdad/ Iraq during the period 12/1/2024 to 16/6/2024. All healthcare workers were included in the study. A questionnaire based interview was employed as the data collection method. The questionnaire consisted of the following parts

1. Basic sociodemographic characteristics (age, gender, marital status, residence, and occupation).
2. The study employed a self-administered questionnaire to assess participants' knowledge, attitude, and practice (KAP) regarding HIV postexposure prophylaxis. The questionnaire comprised 18 items divided into three domains: general knowledge (6 items), attitude (6 items), and practice (6 items). Each item employed a binary scoring system, awarding one point for a correct response and zero points for an incorrect response. To evaluate KAP levels, a total score of 3-6 points within each domain was categorized as "good," while scores ranging from 0-3 points were classified as "poor."

Statistical analysis

Analysis was conducted using statistical package for social sciences (SPSS version 26). Categorical variable were tested using Fischer's exact test. A P value of less than or equal to 0.05 was assigned as a criterion for declaring statistical significance.

RESULTS

The age distribution of the studied sample ranged from 24-58 years old with a mean 36.4 ± 6.6 SD. Regarding gender; the studied sample showed slight female predominance, as the female to male ratio was 1.36: 1. Regarding marital status, the majority (68.7%) were married. Concerning profession; 103 (34.3%) participants were medical doctors, 45 (15%) were dentists, 62 (20.7%) were pharmacists, and 90 (30%) were nurses. As for work experience; 68 (22.7%) had < 1 year work experience while 76 (25.3%) had 1-5 year experience and 156 (52%) had >5 year experience; as shown in table (1).

Table 1: Basic demographic and job characteristics of the studied sample.

Variable	Frequency	Percentage
Age		
<40 years	177	59.0
≥40 years	123	41.0
Gender		
Male	127	42.3
Female	173	57.7
Marital status		
Single	94	31.3
Married	206	68.7
Profession		
Physician	103	34.3
Dentist	45	15.0
Pharmacist	62	20.7
Nurse	90	30.0
Work experience		

< 1 year	68	22.7
1-5 years	76	25.3
>5 years	156	52.0

Participant responses to the knowledge section are illustrated in table (2).

Table 2: Participant responses to the knowledge section.

Knowledge item	Frequency	Percentage
Have you have you heard about PEP?		
No	164	54.7
Yes	136	45.3
PEP reduces the likelihood of HIV		
No	133	44.3
Yes	167	55.7
Do you know how soon should PEP commence? If yes, please answer in details.		
No	175	58.3
Yes	125	41.7
Do you know the drugs recommended for PEP? If yes, please answer in details.		
No	181	60.3
Yes	119	39.7
Do you know the length of time to take PEP? If yes, please answer in details.		
No	180	60.0
Yes	120	40.0
Do you think that HIV PEP should be mandatory for HCWs		
No	122	40.7
Yes	178	59.3

Participant responses to the attitude section are illustrated in table (3).

Table 3: Participant responses to the attitude section.

Attitude item	Frequency	Percentage
HIV is acquired occupationally.		
No	25	8.3
Yes	275	91.7
PEP is important.		
No	81	27.0
Yes	219	73.0
PEP is the most effective way to prevent infection.		
No	192	64.0
Yes	108	36.0
PEP is indicated after sharp injury.		
No	194	64.7
Yes	106	35.3
PEP prevents further infection.		
No	145	48.3
Yes	155	51.7
Without exclusion, all needle stick injuries should be reported.		
No	181	60.3
Yes	119	39.7

Participant responses to the practice section are illustrated in table (4).

Table 4: Participant responses to the practice section.

Practice item	Frequency	Percentage
If you are injured by a needle, would you report the injury?		
No	149	49.7
Yes	151	50.3
If you were exposed to occupation injury, would you be placed on PEP?		
No	142	47.3
Yes	158	52.7

Would you complete the course of PEP?		
No	138	46.0
Yes	162	54.0
If you are injured, would you check the patient for HIV?		
No	149	49.7
Yes	151	50.3
Have you ever received IPC training?		
No	143	47.7
Yes	157	52.3
Do you have access to IPC guidelines?		
No	140	46.7
Yes	160	53.3

Regarding knowledge rating; 74 (24.7%) participants had good knowledge while 226 (75.3%) had poor knowledge. Concerning attitude rating; 127 (42.3%) had good attitude while 173 (57.7%) had poor attitude. As for practice; 91 (30.3%) showed good practice while 209 (69.7%) showed poor practice; as illustrated in figure (1).

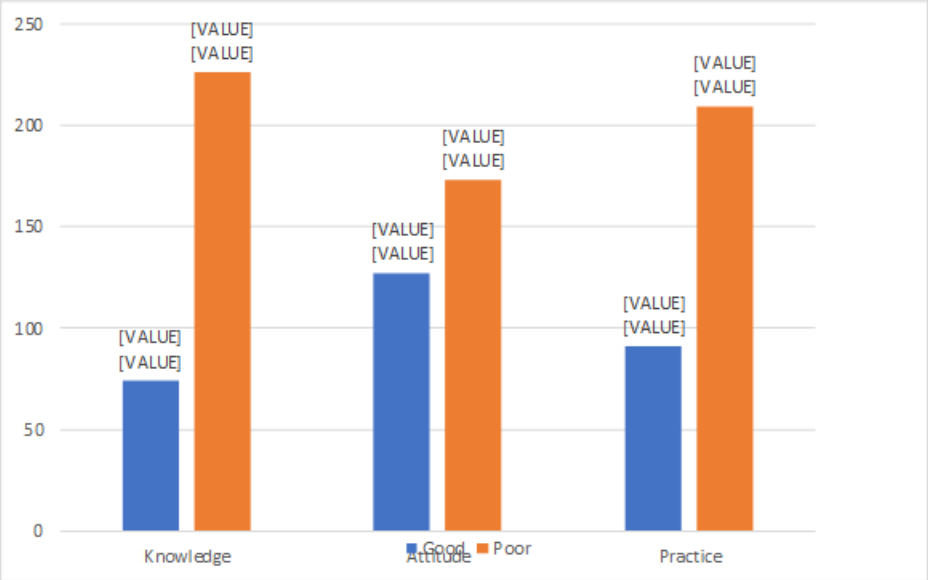

Figure 1: Rating of questionnaire sections.

Relationship between overall knowledge rating and basic characteristics

A statistically significant association was detected between overall knowledge rating and profession; as shown in table (5).

Table 5: Relationship between overall knowledge rating and basic characteristics.

Variable	Knowledge rating		P value
	Good	Poor	
Age			
<40 years	46	135	0.785
	25.4%	74.6%	
≥40 years	28	91	
	23.5%	76.5%	
Gender			
Male	30	103	0.501
	22.6%	77.4%	
Female	44	123	
	26.3%	73.7%	
Marital status			

Single	26	89	0.582
	22.6%	77.4%	
Married	48	137	
	25.9%	74.1%	
Profession			
Physician	50	53	**<0.001**
	48.5%	51.5%	
Dentist	3	42	
	6.7%	93.3%	
Pharmacist	19	43	
	30.6%	69.4%	
Nurse	2	88	
	2.2%	97.8%	
Work experience			
<5 years	37	121	0.688
	23.4%	76.6%	
>5 years	37	105	
	26.1%	73.9%	

Relationship between overall attitude rating and basic characteristics

A statistically significant association was detected between overall attitude rating and profession; as shown in table (6).

Table 6: Relationship between overall attitude rating and basic characteristics.

Variable	Attitude rating		P value
	Good	Poor	
Age			
<40 years	74	107	0.552
	40.9%	59.1%	
≥40 years	53	66	
	44.5%	55.5%	
Gender			
Male	61	72	0.291
	45.9%	54.1%	
Female	66	101	
	39.5%	60.5%	
Marital status			
Single	52	63	0.471
	45.2%	54.8%	
Married	75	110	
	40.5%	59.5%	
Profession			
Physician	74	29	**<0.001**
	71.8%	28.2%	
Dentist	3	42	
	6.7%	93.3%	
Pharmacist	48	14	
	77.4%	22.6%	
Nurse	2	88	
	2.2%	97.8%	
Work experience			
<5 years	60	98	0.128
	38.0%	62.0%	
>5 years	67	75	
	47.2%	52.8%	

Relationship between overall practice rating and basic characteristics

A statistically significant association was detected between overall practice rating and profession; as shown in table (7).

Table 7: Relationship between overall practice rating and basic characteristics.

Variable	Practice rating		P value
	Good	Poor	
Age			
<40 years	59	122	0.307
	32.6%	67.4%	
≥40 years	32	87	
	26.9%	73.1%	
Gender			
Male	39	94	0.801
	29.3%	70.7%	
Female	52	115	
	31.1%	68.9%	
Marital status			
Single	37	78	0.607
	32.2%	67.8%	
Married	54	131	
	29.2%	70.8%	
Profession			
Physician	52	51	**<0.001**
	50.5%	49.5%	
Dentist	7	38	
	15.6%	84.4%	
Pharmacist	15	47	
	24.2%	75.8%	
Nurse	2	88	
	2.2%	97.8%	
Work experience			
<5 years	47	111	0.900
	29.7%	70.3%	
>5 years	44	98	
	31.0%	69.0%	

DISCUSSION

The present study has shown that around three quarters had poor knowledge regarding PEP. Although most heard about PEP, the majority failed to identify the drugs recommended for PEP and the onset and duration of treatment. This finding is in concordance with the study by Shamil et al. who reported that around half the respondents had poor knowledge.[7] In Egypt, the study by Adebimpe et al. reported poor knowledge in 58%.[9] The variations observed in these studies can be ascribed to disparities in knowledge assessment, such as the presence of PEP service and training in this survey, as well as discrepancies in the study environment and the involvement of different health professionals.

The present study has shown that less half the patients had good attitude. Although the majority could identify that HIV could be tramsmitted occupationally, a significant number failed to identify the importance of PEP especially after needle stick injury and distrusted its potential to prevent further infection. Shamil et al. showed that around half of respondents did not accept that ARV drugs are effective after occupation exposure.[7] Nevertheless, the percentage of respondents in Nigeria who distrusted the preventative impact of antiretroviral medication was higher, reaching 73% in a comparable survey.[10]

Unfortunately, our study showed a concerning lack of good practice among Iraqi HCWs, as it has been shown that around half would not report needle stick injuries and would not place themselves of PEP, let alone complete a course. Tebeje et al. identified a concerning lack of awareness, with 33.8% of participants uninformed about the existence of PEP services and protocols. Furthermore, 23.2% demonstrated a lack of understanding regarding the importance of reporting exposures, potentially delaying access to PEP. Additionally, Tebeje et al. documented that 32.2% of participants harbored fears related to stigma and

prejudice associated with PEP use.[11] Biyadge et al. reported that 31.5% did not take PEP due to negligence and lack of awareness.[12] Tshering et al. demonstrated that the primary factors contributing to this were the lack of Post-Exposure Prophylaxis (PEP) service, accounting for 30.2% of cases, and the absence of support for reporting occurrences, accounting for 22.6% of cases.[13] Shamil et al. reported that the major reasons for not taking PEP were fear of its adverse effects and lack of information about the existence of service.[7]

Our study revealed that occupation was a significant indicator of superior knowledge, attitude, and behavior. Doctors and pharmacists exhibited a significantly higher likelihood of possessing enhanced knowledge, attitude, and practices compared to dentists and nurses. One potential explanation is that, given their study curriculums, doctors and pharmacists possess a more profound understanding of antiretroviral therapy.

CONCLUSION

Based on the findings of the present study, there is a significant gap regarding the knowledge and implementation of prophylactic measures (especially PEP) against HIV occupational exposure. Therefore, it is essential to implement infection prevention and control training that is primarily focused on HIV prophylaxis in order to improve the demonstrated gap of knowledge.

REFERENCES

1. Chilimoniuk Z, Borkowska A, Sobstyl A, Chałupnik A, Dobosz M, Stanicki P, et al. The problem of HIV infections and AIDS in the world in relation to WHO activities. Journal of Education, Health and Sport, 2019; 9: 259–67.
2. Saleh I, Numan H, Khalil N, Koubaisy H. HIV/AIDS Status in Baghdad/ Iraq Over Ten Years. Indian Journal of Forensic Medicine & Toxicology, 2021; 15: 2253.
3. Okoroiwu HU, Asemota EA. Blood donors deferral prevalence and causes in a tertiary health care hospital, southern Nigeria. BMC Health Services Research, 2019; 19(1): 510.
4. Gökengin D, Doroudi F, Tohme J, Collins B, Madani N. HIV/AIDS: trends in the Middle East and North Africa region. International Journal of Infectious Diseases, 2016; 44: 66–73.
5. Mathewos B, Birhan W, Kinfe S, Boru M, Tiruneh G, Addis Z, et al. Assessment of knowledge, attitude and practice towards post exposure prophylaxis for HIV among health care workers in Gondar, North West Ethiopia. BMC Public Health, 2013; 13(1): 508.
6. Organization NAC. Antiretroviral therapy guidelines for HIV-infected adults and adolescents including post-exposure prophylaxis. Ministry of Health and Family Welfare, Government of India, 2007.
7. Shamil M, Legese N, Tadiwos Y. Assessment of Knowledge, Attitude, Practice and Associated Factors Towards Post-Exposure Prophylaxis for HIV/AIDS among Health Professionals in Health Centers Found in Harari Region, Eastern Ethiopia. HIV/AIDS - Research and Palliative Care, 2021; 13: 41–51.
8. Panlilio AL, Cardo DM, Grohskopf LA, Heneine W, Ross CS, U.S. Public Health Service. Updated U.S. Public Health Service guidelines for the management of occupational exposures to HIV and recommendations for postexposure prophylaxis. MMWR Recommendations and reports : Morbidity and mortality weekly report Recommendations and reports, 2005; 54(RR-9): 1–17.
9. Adebimpe WO. Knowledge and practice of health care workers towards post exposure prophylaxis in the era of low and stable HIV prevalence in Southwestern Nigeria. Bulletin of Faculty of Pharmacy, Cairo University, 2018; 56(1): 104–8.
10. Ajibola S, Akinbami A, Elikwu C, Odesanya M, Uche E. Knowledge, attitude and practices of HIV post exposure prophylaxis amongst health workers in Lagos University Teaching Hospital. Pan African Medical Journal, 2014; 19.
11. 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, 2011; 20(1).
12. Biyadgie A, Tamir Y, Alem G. Knowledge, attitude, practice, and associated factors towards post-exposure prophylaxis to HIV infection among health care professionals in Debre Markos town public health institutions, Northwest Ethiopia. Clin Pract, 2017; 14(6): 385–95.
13. Tshering K, Wangchuk K, Letho Z. Assessment of knowledge, attitude and practice of post exposure prophylaxis for HIV among nurses at Jigme Dorji Wanghuck National Referral Hospital, Bhutan. PLOS ONE, 2020; 15(8): e0238069.