

Knowledge, Attitude and Practice towards Infection Control Measures among Mizan-Aman General Hospital Workers, South West Ethiopia

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Abstract

Background: Compliance on the part of healthcare workers with standard precautions has been recognized as being an efficient means to prevent and control healthcare-associated infections. Such measures not only protect the patient, but also the HCWs and environment.

Objective: To assess knowledge, attitude and practice towards infection control measures among Mizan-Aman general hospital.

Methods: The study was conducted at Mizan-Aman General Hospital, Southwest Ethiopia. Cross-sectional study design was employed. All HCWs (135) were included in the study. Self-administered questionnaire was used to collect data. Data was entered in to Epidata 3.1 and transported to SPSS version 17 for analysis.

Results: Out of 135 respondents, 57 (42.2%) of HCWs think that they apply standard precaution always. About two-third (65.6%) of them had ever participated in training program. All of the respondents know that dirty needle and sharp materials could transmit disease causing agents. More than three fourth (76.3%) of health care workers think that they were at risk of acquiring HIV in their work place. Among HCWs 59 (43.7%) of them disposed sharp materials in open pails, 91 (67.4%) in sharp and liquid proof container without removing syringe. Ninety five (70.4%) HCWs know that gloves and gowns were required for any contact with patients. Among respondent 63 (46.8%) of HCWs practice standard blood and body fluid precautions always. One hundred three (76.5%) of HCWs wear gloves last time while they took blood sample. Ninety two (68.7%) of HCWs wash their hands before examining the patients and 84 (62.5%) of HCWs recap needle immediately after using them.

Conclusion: Majority of health care workers' knowledge, attitude and practice toward standard precaution were not sufficient, favorable and safe enough to the expected standard. Strengthening and integrating universal precaution with routine services through provision of training and introducing health care workers infection prevention standard of practice, protocol, rules, and regulation are recommended.

Keywords: Knowledge; Attitude; Practice; Infection prevention; Health facility

Introduction

Nosocomial infections are infections acquired in the hospital or other health care facilities that were not present or incubating at the time of the client's admission. It is also referred to as hospital-acquired infections. It includes those infections that become symptomatic after the client is discharged as well as infections among medical personnel. Most nosocomial infections are transmitted by health care personnel who fail to practice proper hand washing procedures or change gloves between client contacts [1].

Standard precautions are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents. The term standard precautions is replacing 'universal precautions' as it expands the coverage of universal precautions by recognizing that any

body fluid may contain contagious and harmful microorganisms. Standard precautions include hand hygiene, use of appropriate personal protective equipment (PPE), use of aseptic technique to reduce patient exposure to microorganisms and management of sharps, blood spills, linen, and waste to maintain a safe environment [2].

Compliance on the part of Healthcare workers (HCWs) including nursing and medical students with standard precautions has been recognized as being an efficient means to prevent and control healthcare-associated infections. Such measures not only protect the patient, but also the HCWs and the environment. Among the standard precautions advocated, hand hygiene is considered, in itself, the most important one [3,4]. Another important measure is the adequate use of gloves, whose purpose is to protect the HCWs, as well as the patient. A preventive measure also worthy of mention is the adoption of safe practices for handling needle sticks and other sharp objects, in view of the possibility of outbreaks, especially of Hepatitis B and C, frequently associated to the offer of healthcare [4]. However, in spite of the

effectiveness of these standard precautions, what reality shows us is very low compliance with these measures [3].

In Ethiopia where the healthcare service is largely covered by low and midlevel health professionals assessing the necessary knowledge, attitude and practice or the skill on infection prevention and factors in health care facilities as early as possible can give way to manage the limited resource available in the sector for health providers and customers [4].

A high prevalence of HIV and multi drug resistant tuberculosis, lack of resource allocation and disinfections and widespread antimicrobial resistant create major risks for health care related infections [5]. Infectious diseases including HIV are increasing in an alarming rate. This condition makes the environment of the health workers unsafe, risky and stressful which could interfere with the proper and appropriate provision of patient care [6].

Globally WHO (world health organization) estimates that every year unsafe injections and needle stick injuries cause at least 8-16 million HBV infections, 2.3-4.7 million HCV infections and 160,000 HIV/AIDS infection. WHO estimated that at least 50% of the 12 billion injections administered each year in developing countries are unsafe posing serious health risk to recipients, health workers, health students and the public. Injuries from sharp devices have been associated with the transmission of more than 40 pathogens including hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV [4].

Standard precautions are practiced in high-income countries to protect HCWs from occupational exposure to blood and the consequent risk of infection with blood-borne pathogens. The situation is different in low-income countries, where standard precautions are partially practiced [7].

In African setting, Sub Saharan Africa harbors the largest population of people living with infectious disease mainly with HIV/AIDS. Ethiopia, Nigeria and South Africa are the three countries with the largest number of people living with HIV/AIDS. Based on the 2003 nationwide sentinel surveillance of Kenya every year unsafe injections and needle stick injuries cause around 2 million to become infected by infectious diseases. Urban prevalence of HIV seems stabilizing at a higher magnitude while the spread of HIV among the rural African population is increasing [4].

In Ethiopia, Southern Nation Nationalities and people region (SNNPR) showed that 32.4% of health science students reported as they had sustained at least one form of accidental injury by needle or other sharps. Nurses and health assistants sustained the highest proportion of accidental injuries by needles or sharps [8]. So the purpose of this research was to assess the knowledge, attitude and practice of standard precautions among health care workers in Mizan-Aman General Hospital (MAGH). The study will have a significant input in identifying and improving the pattern of universal precaution at the health facility level in the study area and beyond. It also helps to provide information for both governmental and private health care workers regarding universal precaution.

Methods

Study area and period

The study was conducted at Mizan-Aman General Hospital. Mizan-Aman is one of the towns found in Bench Maji Zone, Southwest Ethiopia which is located at 561 km from Addis Ababa. There was one

hospital and one health center. There were 144 health care workers who were actively working in the hospital. The health care workers were composed of nurses, laboratory technicians, pharmacy technicians, sanitarians, health officers, physicians, housekeeping personnel, maintenance personnel, and laundry personnel. The study was conducted from April to June 2013.

Study design

Institutional based cross-sectional study design was conducted to assess knowledge, attitudes and practice of health professionals towards infection preventions in Mizan-Aman General Hospital.

Population

In this study, the source population was all health care workers in Mizan-Aman General Hospital.

Sample size and sampling technique

There were a total of 144 health care workers in Mizan-Aman General Hospital. All HCWs were included in this study. Among these 135 responded to the questionnaires.

Data collection procedures

In this study, the researchers developed the questionnaire, guided by the research objectives, considering the target population (doctors and nurses). The questionnaire was developed in English, using simple basic questions and statements to enhance clarity. The questionnaire had four main parts, namely, general information, the perception and feeling you have on working conditions in your institution, possible reasons that influence occupational exposure and question on knowledge, attitude and practice of health care workers on standard precautions. The answer categories were mutually exclusive and special instructions were provided where necessary for easy understanding. Data was collected by self-administered questionnaire.

Data quality control

The data collectors were oriented on standardized data collection, particularly in the proper filling of questionnaire. The questionnaire was prepared in English. To improve the quality of the data, it was collected by the trained data collectors under close supervision of principal investigators, each completed questionnaire was also checked to ascertain all questions whether properly filled or not.

Operational definitions

- Knowledge-is clear awareness and understanding of Mizan Aman General Hospital healthcare workers on infection prevention activities when caring patients.
- Attitude-is a personal view of Mizan Aman General Hospital health care workers on infection prevention activities when caring patients.
- Practice-is a skill of Mizan Aman General Hospital health care workers on infection prevention activities when caring patients.

Data analysis procedure

The collected and cleaned data was entered in to Epidata 3.1 and transported to SPSS version 17 for analysis of frequencies. Frequencies

and percentages were calculated to all variables which were related to the objectives of the study.

Ethical considerations

The study protocol was approved by the Mizan Tepi University College of Health Sciences Institutional Research Ethics Review Committee. Official letters of cooperation was written by officials of the College of Health Sciences to Mizan Aman General Hospital. Data was collected with the consent of health care workers after they informed about the objective, procedures, potential risks, and benefits of the study. They were asked to provide accurate and honest responses. Written and signed consent forms obtained from each participant. The identification of the respondents was possible only through numerical codes which were secured so that there is anonymity and confidentiality in completing the questionnaire. Health care workers were reassured of the information they provided to this study.

Results

Socio demographic characteristics

A total of 135 HCWs with response rate of (93.8%) were found complete and included in analysis. Among 135 respondents 68 (50.4%) were males and 67 (49.6%) were females. Eighty two (60.7%) of HCWs were in the age group of 18-25 years and 48 (35.5%) were in age group of 25-35 years and 5 (3.8%) were in age group of above 35 years. Concerning the professional categories of respondents 65 (48.1%) were nurses, 19 (14.1%) were lab technicians, 18 (13.3%) were midwives, 9 (6.7%) were physicians. Eighty four (62.2%) of the respondents were professional service tenured for less than two years and 32 (23.7%) between 2-5 years (Table 1).

Perception and feeling of HCWs in their work place

Out of 135 respondents, 57 (42.2%) of HCWs think that they regularly apply standard precaution in their institution always. while 42 (31.2%) and 17 (26.6%) think that they regularly apply universal/standard precaution in their work place usually and sometimes respectively. Seventy eight (57.8%) of HCWs thinks that they were working to reduce nosocomial infections always while 27 (42.2%) of them think that they were working to reduce nosocomial infections sometimes in their institution.

Forty six (34.4%) of HCWs thinks that they were always secured from any infection while 45 (32.9%), 23 (17.1%) and 21 (15.6%) thinks that they never secured, usually secured and sometimes secured from any infection respectively. Forty nine (35.9%) of health professionals were satisfied by training/education opportunity on standard precaution on their institution while 45 (32.9%), 17 (12.4%), 12 (6%) and 12 (6%) of health professionals had satisfaction level of very satisfied, very dissatisfied, sometimes and seldom respectively by training opportunity on standard precaution in their institution.

Characteristics	Frequency	Percentage (%)
Age in Group (years)		
18-25	82	60.75
26-35	48	35.5
>35	5	3.8
Sex of respondents		
Male	68	50.4
Female	67	49.6
Profession of respondents		
Physician	9	6.7
All type of Nurses	65	48.1
Midwife	14	10.4
Pharmacist/pharmacy technician	18	13.3
Lab technician	19	14.1
Others (health officers and others)	10	7.4
Educational status of the respondents		
Diploma	105	77.8
BSc	21	15.6
MD (medical doctor)	9	6.6
Specialist level	----	-----
Service year tenured by respondents		
<2	84	62.2
02-May	32	23.7
>5	19	14.1

Table 1: Socio-demographic characteristics of the respondents HCW’s, Mizan Aman General Hospital, 2013.

Perceived obstacles for infection prevention

Among perceived obstacles, overcrowded work place like ward, OPD, lab said to be of very weak important factor by 44 (32.6%) of HCWs who participated in the study. From 135 HCWs respondents 11 (8.1%) believes that it has weak importance and 25 (18.5%) medium importance. The rest 16 (11.9%) and 39 (28.9%) said this factor had strong and very strong importance respectively. Lack of HCWs and work load, from 135 respondents 44 (32.6%) responded it as very weak importance, 19 (14.1%) weak importance, 32 (23.6%) medium importance, 21 (15.6%) strong importance and 19 (14.1%) responded it as very strong importance (Table 2).

Perceived Obstacles that influence infection prevention	Very importance		weak importance		Medium importance		Strong importance		Very Strong importance	
	N	%	N	%	N	%	N	%	N	%

Overcrowded work place (wards, outpatient department, lab etc)	44	32.6	11	8.1	25	18.5	16	11.9	39	28.9
Lack of health care workers and work load	44	32.6	19	14.1	32	23.6	21	15.6	19	14.1
Lack of personal protection equipment	39	28.9	25	18.5	25	18.5	25	18.5	21	15.6
Lack of commitment on the part of health facility to invest in infection control programs	27	20	25	18.5	32	23.7	24	17.8	27	20
Lack of guideline on standard precaution in the health facility	42	31.1	16	11.9	34	25.2	24	17.7	19	14.1
Lack of awareness about standard precautions in health care settings	32	23.7	32	23.7	34	25.2	16	11.8	21	15.6
Inadequate hand washing facility	34	25.2	24	17.7	21	15.6	21	15.6	35	25.9

Table 2: Perceived Obstacles that influence infection prevention, Mizan Aman general Hospital, April 2013.

Knowledge toward standard precaution

Among 135 health professionals 89 (65.6%) of them had ever participated in any training program about infection prevention/standard precaution. All of the respondents know that dirty needle and sharp materials could transmit disease causing agents. Some of the common diseases known by respondents were HIV (98.5%), hepatitis (HBV) (84.4%), hepatitis (HCV) (80.0%), tetanus (clostridium tetani) (57.8%), malaria (plasmodium) (17.0%), and tuberculosis (M.tuberculosis) (2.2%) (Table 3).

Among one hundred and thirty five respondents 103, (76.3%) of health care workers think that they were at risk of acquiring HIV in their work place. 74 (54.8%) of HCW's think that their client may have acquire HIV through the service they get in their health care facility.

One hundred four (77.0%) of HCW's said, it is not safe to use syringe if the needle is changed, on contrary 31 (23.0%) of respondents thinks that it is safe to use syringe between patients if the needle is changed.

Among 135 HCW's 59 (43.7%) of them disposed sharp materials such as used needles in open pails, 91 (67.4%) in sharp and liquid proof container without removing syringe, 59 (43.7%) in sharp and liquid proof container after separating the needle from syringe, 42 (31.1%) mixed with other wastes/rubbish and 107 (79.2%) in safety box. Ninety five (70.4%) HCW's knows that gloves and gowns were required for any contact with patients. To prevent accidental injury 82 (60.7%) of HCW's knows that contaminated needle should be recapped immediately after use.

Characteristics	Response of HCW's	
	Yes	Percentage (%)
Knowledge variables		
Ever attained training on IP/SP	89	65.6
Dirty needles transmit disease causing agent	135	100
Which of following disease causing agent transmit		
With dirty needles and sharps?		
Hepatitis (HBV)	114	84.4
Hepatitis (HCV)	108	80
HIV/AIDS	133	98.5
Tetanus (clostridium tetani)	78	57.8
Malaria (Plasmodium spp.)	23	17
Tuberculosis (<i>M. tuberculosis</i>)	3	2.2
Practice variables		
Wash hands before examining the patients	92	68.7
Recap needles immediately after using them	84	62.5

Ever had needle stick injury	39	29.6
Ever had sharp injury	32	23.4
Ever had blood or body splash to the eye and/or mouth	61	45.2
IP-Infection prevention, SP-Standard Precaution, spp.-species		

Table 3: Knowledge and Practice of HCW’s on selected variables, Mizan Aman General Hospital, 2013.

Practice toward standard precaution/infection prevention

Among 135 respondent 63 (46.8%) of HCWs practice standard blood and body fluid precautions always at their work place. The rest 32 (23.4%), 23 (17.1%), and 17 (12%) practice standard blood and body fluid precaution usually, less frequently and rarely at their work place respectively. One hundred and three (76.5%) of HCWs wears gloves last time while they took blood sample and the rest 32 (23.5%) didn't wear gloves when they took blood sample. Ninety two (68.7%) of HCWs wash their hand before examining the patients and 84 (62.5%) of HCWs recap needle immediately after using them. One hundred and five (78.1%) of HCWs treat blood splash on floors or other surfaces with a disinfectant before cleaning up while 30 (21.9%) didn't. Twenty seven (69.7%) of HCWs consider presence of PEP after needle stick injury in their work place while 12 (30.8%) didn't consider.

Almost all 134 (99.2%) of the respondents had ever wore at least one type of PPE. Among the respondents who ever worn PPE's 78 (57.7%) used apron, 135 (100%) used utility glove, 74 (54.8%) head cover, 74 (54.8%) boots/shoes, 59 (43.7%) eye protectors/goggle, 87 (64.4%) used mask, 122 (90.4%) used examination glove and 133 (98.5%) were used gown. Some of the reasons for not wearing any of stated personal protective equipment were 86 (63.7%) stock out of desired PPE, 64 (47.4%) believed PPE were not always necessary, 42 (31.1%) replied that PPE were not comfortable/convenient and 18 (13.3%) answered the difficulty to work with PPE. Sixty seven (49.7%) of HCW's washed their gown once per week while 53 (39.4%) and 15 (10.9%) washed their gown two times per week and three times per week respectively. One hundred and thirty five (100%) of health professionals didn't reuse syringes and needle at all time (Table 4).

Personal protective equipment	Response of HCW's	
	Yes	Percentage (%)
Apron	78	57.7
Utility glove	135	100
Head cover	74	54.8
Boots/shoes	74	54.8
Eye protector/goggle	59	43.7
Mask	87	64.4
Examination glove	122	90.4
Gown	133	98.5

Table 4: Personal protective equipment ever used by HCW’s, Mizan-Aman General Hospital, 2013.

Among 135 health professionals 39 (29.6%) of them had ever had needle stick injury while 96 (70.4%) of them had not ever had needle stick injury. Among those who had needle stick injury 16 (42.1%) of them had injury during recapping while 23 (57.9%) had injury while during sudden movement of the patients. Among 135 HCWs who participate in the study 32 (23.4%) had ever had sharp injury and 61 (45.2%) of the respondents had ever had blood or body fluid splash to eye or mouth.

The measures of HCWs had taken after being exposed to blood body fluid through splashing to wet surfaces/mucus membrane such as eyes or through sharps or needle stick injury were 58 (95.1%) of health professionals wash with soap and water, 49 (80.3%) wash with alcohol, iodine, or chlorine, 23 (37.7%) apply pressure to stop bleeding, 19 (31.1%) dress the wound, 28 (45.9%) squeeze to extract more blood, 14 (22.9%) took TAT, 12 (19.6%) visit VCT service, 7 (11.4%) seek PEP and 21 (34.4%) report to the head person (Table 5).

Action/measure taken (n=61)	Response of HCW's	
	YES	Percentage (%)
Washing with soap and water	58	95.1

Wash with alcohol, iodine, chlorine	49	80.3
Applying pressure to stop bleeding	23	37.7
Dress the wound	19	31.1
Squeezing to extract more blood	28	45.9
Take TAT	14	22.9
Visiting VCT	12	19.6
Seek Post Exposure Prophylaxis	27	69.2
Report to the head person	21	34.4

Table 5: Measures used by HCW’s after being exposed to blood or body fluid through splashing or sharp/needle stick injury, Mizan Aman General Hospital, 2013.

Attitudes to standard precaution and HIV/AIDS

Among 135 HCWs who participated in the study 23 (17.0%) strongly agree and 27 (27.0%) agree that admitted patients in the hospital with HIV positive serostatus should not put in rooms with other patients. Whereas 36 (26.7%) and 34 (25.2%) were disagree and strongly disagree that admitted HIV positive patients should be put in rooms with other patients. When caring for a person with HIV/AIDS, from 135 HCWs who participated in the study 23 (17%) of them strongly agree and 45 (33.4%) of them were agree that they need to

worry about putting their family and friends at risk of contracting the disease.

From 135 HCWs who participant in the study 38 (28.8%) strongly agree and 48 (35.6%) agree that all HCWs in their work place or institution were worry about getting HIV/AIDS while caring for patients. More than half of HCWs who participated in the study 84 (62.2%) strongly agree that using glove for all patients care contacts were useful strategy for reducing risk of transmission of organisms (Table 6).

Characteristics	Strongly agree		Agree		neutral		disagree		Strongly disagree	
	N	%	N	%	N	%	N	%	N	%
When admitted to hospital, patients who are HIV +ve should not be put in rooms with other patients	23	17	27	20	15	11.1	36	26.7	34	25.5
When caring for a person with HIV/AIDS, you need to worry about putting your family and friends at risk of contracting the disease	23	17	45	33.4	30	22.2	11	8.1	26	19.3
Healthcare workers in your institution worry about getting HIV/AIDS while caring for patients	38	28.1	48	35.6	15	11.1	19	14	15	11.1
Glove use for all patient care contacts is a useful strategy for reducing risk of transmission of organisms?	84	62.2	46	34.1	5	3.7	0	0	0	0
In the absence of standard precaution health care facilities can be the source of infection and epidemic diseases?	76	56.2	40	29.7	5	3.7	5	3.7	9	6.7
The risk of occupational HIV/AIDS infection among health workers in your work place is high	29	21.8	57	42	15	11.1	19	14	15	11.1

Table 6: HCW’s attitude toward standard precaution and HIV/AIDS, Mizan Aman General Hospital, 2013.

In the absence of standard precaution in health care facilities nearly more than half of health care worker’s i.e. 76 (56.2%) strongly agree and 40 (29.7%) agree that it can be the source of infection and epidemic disease. In the other side 29 (21.8%) strongly agree and 57 (42.0%) from the total of 135 HCW’s agree that risk of occupational

HIV/AIDS infection among health care workers in their work place is high while the rest 19 (14.0%) disagree and 15 (11.1%) strongly disagree that the risk is not high at their work place.

Discussion

In Ethiopia, there are few studies on standard precaution and related topics. This study contributes to determine knowledge, attitude and practice of health care workers toward standard precaution in Mizan Aman General Hospital (MAGH). The respondent's average service tenured by their current professions in health care facilities was 5.8 years. Only 89 (65%) of the respondents said that they ever had participated in any training dedicated to infection/standard precaution. This shows the inadequacy of training on standard precautions.

Twenty seven (69.2%) of the respondents consider the presence of post exposure prophylaxis after sustaining needle stick injury. This finding was much better than the result of North Wollo which indicated 31.3% of the participants consider the presence of PEP after sustaining needle stick injury [9].

Thirty nine (29.6%) of health care workers ever had needle stick injury. This was relatively lower than previous study in North Wollo which showed needle stick injury of 53.0% and south Ethiopia which had needle stick injury of 32.4% [8,9]. This difference could be achieved by the effort made on infection prevention measure.

In Mizan Aman General Hospital out of one hundred thirty five health care workers 107 (79.2%) dispose sharp materials and needle in safety box, 59 (43.7%) of respondents dispose sharp materials and needles in open pail, 91 (67.4%) in sharp and liquid proof container without removing syringe and 59 (43.7%) dispose in sharp and liquid proof container after separating the needle from syringe. This was better than the previous study done in North Wollo zone in which 73.8% used safety box to collect needle and sharp materials [9]. The result of our study was also better than the study among dental students which indicated that 69.8% disposed glove appropriately [10]. This was an indicative of improvement on supply of safety box to collect sharp materials in some health care facilities.

Considering that hand washing is the single most important means of preventing the spread of infection, 68.7% of health care workers wash their hand before examining patients. This study has revealed that health care workers had comparatively lesser in practicing hand washing technique than the previous study done in North Wollo that 74.1% of health care workers wash their hands before examining patients [9]. The result of our study was also lower than the study conducted among dental students, which was 95.5% [10].

The use of personal protective device in provision of cares ever worn were 133 (98.5%) for gown, 78 (57.7%) for apron, 135 (100%) for gloves, 87 (64.4%) for mask. When this study compared with study done in North Wollo, which has the health care workers have lesser practice in using personal protective equipments that 345 (98.9%) gown, 216 (61.9%) apron, 244 (69.9%) mask despite all health care workers have worn utility glove. Our study result was much higher than the study conducted in Central India among dental science students which indicated that among the study participants only two participants (students) used face mask, gloves, eye wears and protective clothing during as infection control measure [10].

Regarding Measures used by HCW's after being exposed to blood or body fluid, this study revealed that 95.1% washed with soap and water. This was comparable with the study conducted among dental students which was 95.5% [10]. But this figure was assessed before examination not after exposure to blood or body fluids and it was for all hand washes not only washing with soap. The figure for washing with soap

was 56.7% which was lower than our study. In our study washing with antiseptic was 80.3%. This was higher than the study done among dental students which was 39.2%. This difference could be because our study measured after they get exposed to blood and body fluids whereas the other study assessed before examination of patients. Our study result was also higher than the study conducted among surgeons which indicated that only 47.4% of surgeons recommended preoperative bathing [11]. In our study 22.9% vaccinated for TAT. This was higher than the study conducted among dental students which was 11.8%

For the statement when admitted to hospital, patients who are HIV positive should not be put in rooms with other patients, 37% responded as agree and strongly agree. This was lower than the study conducted among dental students, which was noted as 92.2%.

Health care workers washed their gown 67 (49.7%) once per week, 53 (39.4%) two times per week and 15 (10.9%) three times per week. This finding revealed that infection prevention/standard precaution knowledge and practice of health care workers were not sufficient to standard level of universal/standard precaution.

Conclusion

Majority of health care workers' knowledge, attitude and practices toward universal/standard precaution in Mizan Aman General Hospital were not sufficient, favorable and safe enough to the expected standard. Health care workers were not properly handling, and disposing used needle/sharp materials in the study area. Health care workers did not consistently use personal protective devices. The risk of health institution acquired infection to health care workers, clients, patients, children and the communities were very high. Therefore strengthening and integrating universal precaution with the routine services through provision of training and preparing and introducing health care workers infection prevention standard of practice, protocol, rules, regulation and opportunities to promote the desired team spirit at all health facility levels are recommended.

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