

Assessment of Knowledge, Attitude and Practice of Hand Washing among Health Workers in Jugel Hospital Harar, East Ethiopia 2019

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Abstract

Background

Hand washing is the rubbing together of all surfaces and cleaning of the hands using a soap or chemical and water. Effective hand hygiene involves the removal of visible soiling and the reduction of microbial colonization of the skin. Nosocomial infections due to poor hand hygiene are a major cause of increasing morbidity, mortality, and health care costs among hospitalized patients worldwide. Therefore proper open hand washing practice is simple and an important method to prevent it however, about 50% of healthcare associated infections occur due to hand of health care providers. Even though few institutions based studies were conducted in Ethiopia. Regarding hand washing knowledge, attitude and practice among health care workers there is no sufficient information in our study area. Therefore this study will try to fill the information gaps and used as a reference data for other researchers.

Objectives

To assess Knowledge, Attitude and hand washing practice of health workers in Jugel Hospital Harar, East Ethiopia in 2019.

Method

Institutional based cross-sectional study was employed on 125 health profession. Structured questionnaires were used for data collection, participants were selected by simple random sampling techniques. Training was given for data collectors and supervisor as well as Pretest and double data entry was made to assure quality of data. Collected data were entered to SPSS version 22.0 for analysis and results were presented in tables, bar graphs, pie charts.

Result

In this study the overall prevalence of good knowledge was 61%. Among the study 58.4% participants had positive attitude while 74.4% participants had good practice regarding hand hygiene.

Conclusion and recommendation

Overall KAP of health profession toward hand hygiene is moderate, therefore provision of training, and enhancing hand washing tradition need to be established.

Keywords

Hand Washing, Knowledge, Attitude, Practice, Harar Town

Introduction

Background

Hand washing is the rubbing together of all surfaces and cleaning of the hands using a soap or chemical and water. It should be performed after arriving at work, before leaving work, between client contacts, after removing gloves, when hands are visibly soiled, before eating, after excretion of body wastes (urination and defecation), after contact with body fluids, before and after performing invasive procedures, and after handling contaminated equipment [1].

World Health Organization (WHO) introduced "My five moments for hand washing" to minimize problems related to hand washing. These five moments that call for the use of hand washing include the moment before touching a patient, before performing aseptic and clean procedures, after being at risk of exposure to body fluids, after touching a patient,

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and after touching patient surroundings [2]. Healthcare worker's hands are the most usual type of vehicle for transmission of health care associated infections for handling it universal Precautions" are designed to prevent health care staff being exposed to blood and body fluids by applying the basic principle of infection control through hand washing [3,4].

Statement of the problem

Nosocomial infections due to poor hand hygiene are a major cause of increasing morbidity, mortality, and health care costs among hospitalized patients worldwide. The high prevalence of these infections, as high as 19%, in developing countries poses a challenge to health care providers [5]. Health care workers' hands are the most usual type of vehicle for transmission of health care associated infections. Pathogenic microorganisms can stay for 2-60 minutes on health care workers' hands [3].

An estimated more than 1.4 million people worldwide are suffering from infections acquired in hospitals. Hospital Acquired Infection as the fifth leading cause of death in acute care hospitals [2]. According to the Centers of Disease Control and Prevention (CDC) in US nearly 1.7 million HAIs occur yearly, leading to approximately 99,000 deaths every year. However, about 50% of health care associated infections occur due to hand of health care providers (HCPs) [6]. In Sub-Saharan countries the problems associated with patient safety is often hampered by inadequate data. However, prevalence studies on hospital-wide healthcare-associated infection from some African countries reported high infection rates (Mali 18.9%, Tanzania 14.8%, Algeria 9.8%) with patients undergoing surgery being the most frequently affected) due to poor hand hygiene practice [7]. Increased workloads, under-staffing, limited time, lack of role models among colleagues or seniors, lack of organizational pledge to good hand hygiene practice, disagreement with guidelines and protocols and lack of motivation have all contributed to poor compliance with hand hygiene and infection control measures. Lack of hand hygiene products and facilities, such as running water, sinks, antiseptic or non-antiseptic soaps, alcohol hand-rubs and hand paper towels, can also play a major role in poor hand hygiene practice [8]. Despite limited studies were conducted on issue of EC in the country there is lack of well documented study and sufficient information in my study area. Therefore this study will try to fill the information gaps and used to identify knowledge, attitude and hand washing practice of health workers and problems exists and drawn possible solution. It will also serve as correction madding tools for stake holders including Harari region health bureau. Finally it will be serving as a base line data for other researchers.

Objectives

General objective: To assess knowledge, attitude and practice of hand washing among health workers in Jugel hospital Harar, Town Eastern Ethiopia 2019.

Specific objective: To assess knowledge of health workers on hand washing in Jugel hospital Harar, Town East Ethiopia

To identify attitude of health workers on hand washing in Jugel hospital Harar, Town east Ethiopia

To identify practice of health workers on hand washing in Jugel hospital Harar, Town east Ethiopia

Methods

Study area and study period

This study was conducted in Harari regional State Harar Ethiopia which was located in the eastern part 526 km away from Addis Ababa, the capital city of Ethiopia. In the region 20 health posts, 8 health centers and 18 Private for profit clinics, 25 pharmaceutical retails out let, 3 pharmaceutical whole sellers and 2 modern laboratories are available and 7 Hospitals were available and the study was conducted

in Jugela hospital which was established in 102. It has 105 inpatient beds. The general staff Composition of Hospital is 239, of them 162 are BSc nurses, 56 Diploma nurses, 30 health officers, 3 Laboratory technician, 4 lab technology, 10 mid wife Diploma, 17 Bsc Midwife, 13 Pharmacy, 19 medical doctor. This study was conducted from April 11 to April 30, 2019.

Study Design

Institutional based cross sectional study design was used.

Source population

All health care providers who are working in Jugel Hospital

Study Population

Randomly selected health care provider who are working in Jugel Hospital

Sample size

The sample size was determined by using a single population proportional formula $n = \frac{(Z_{\alpha/2})^2 p(1-p)}{d^2}$

sample size was calculated for the three variables using of good knowledge 84.2 from study conducted in Bahir Dar City [9] prevalence of patient's attitude which is 74 % from study conducted in Srilanka [10] prevalence of Hand washing practice, which is 43% from study conducted in Afar (11) by comparing the three sample size the highest was taken which becomes 377. Using sampling size estimation method and finite population correction the total sample size will be obtained as

$$\text{Where: } N_i = \frac{n}{1 + (n / N_0)}$$

N_i - is the corrected sample size

n - is initial sample size that is 377

N_0 - is total number of

$$nf = ni / (1 + ni / N)$$

$$nf = \frac{377}{(1 + 377 / 162)} = 113.5 = 114$$

By adding 10% non-response rate, the final sample size was = 126

Sampling Techniques and Procedure

Simple random sampling technique was used to select the study participants. The questionnaires was distributed to different wards (emergency department, surgical department, laboratories, outpatient departments, operation room, pediatrics, injection and dressing rooms, EPI unit, FP unit, and pharmacy). It was filled by health professionals at their work places and collected by data collectors. Study participants was proportionately allocate to number of different profession and the first participant was selected randomly. Stratified random sampling technique was used to proportionately allocate.

$$n_i = \frac{n}{N} N_i \text{ Where; } n \text{ is sample size of the } i^{\text{th}} \text{ stratum}$$

N_i is population size of the i^{th} stratum

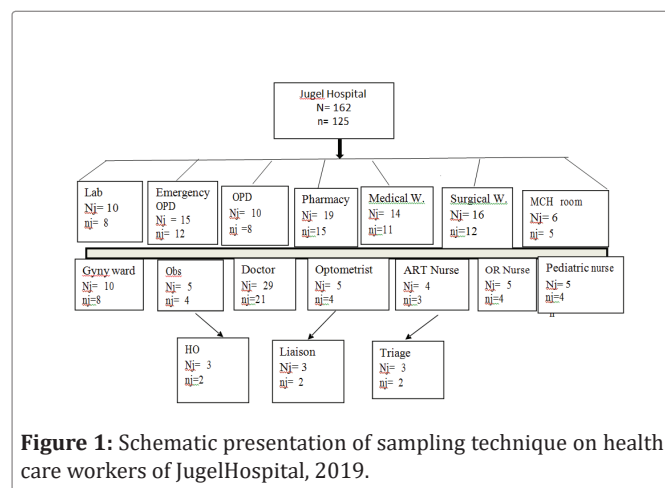
$n = n_1 + n_2 + \dots + n_k$ is the total sample size

$N = N_1 + N_2 + \dots + N_k$ is the total population size

(Figure 1)

Data collection tools and method

A Data collection tool was developed after critical review of literature. It was prepared in the as a self-administer to assess participants socio demographic condition, knowledge, attitude and



practice towards hand washing. A total off our data collectors and two supervisors were participated on this study.

Variables of the Study

Dependent Variable

Knowledge, attitude & Practice on Hand washing

Independent Variable

Age, Sex, Place of residence, marital status, Religion, Ethnicity, Work experience, Profession

Data Quality Control

To assure the quality of data pretested was done on 5% of total sample size in HFSUH. Training was given for data collector's supervisor and data entry clerks prior to the study. Data completeness, consistency and legibility were checked by supervisor on daily based and double data entry was performed by separate data clerk.

Data Processing, Analysis and Presentation

After data collection each questionnaire was checked for completeness, consistency then coded. Epi-Data version 3.1 and SPSS version 21 were used for data entry and analysis. Frequency is runned to analyze descriptive statistics. Knowledge, attitude and practice part are analyzed based on total question mean value were used to classify as good or Poor knowledge, altitude and practice on hand hygiene. Finally the study finding was presented by figure, tables and graphs and it will interpreted accordingly.

Ethical Consideration

Ethical clearance letter was obtained from Harar health Science College Institution Research Ethics Review Committee. Permission was obtained from study institution. All the participants were informed the purpose, advantages and disadvantages, and there right to be involved or not also with draw from the study at any time. Informed consent was obtained from all participants. Confidentiality was maintained by avoiding names and other personal identification.

Operational Definitions

Knowledgeable

Knowledgeable is defined as having adequate understanding about hand washing and earning score of mean and above the mean on the knowledge questions [11].

Good Knowledge

Participants who responded mean and above the mean on knowledge questions[11].

Poor knowledge

participants who responded below the mean on knowledge questions [11].

Good practice

Study participants who responded to the practice questions mean and above the mean in line with the recommended hand washing practice [11].

Poor practice

Study participants who responded to the practice questions below the mean in line with the recommended hand washing practice [11].

Positive attitude

Participants who responded mean and above the mean on altitude questions [11].

Negative attitude

Study participants who responded below the mean on altitude questions [11].

Results

A total of 125 respondents have participated in this study with a response rate of 99.2 %.Majority 42 (33.6%) of respondents were between 26-30 years of age and Male in sex 76 (60.8%). Regarding residence and marital status majority 94 (75.2%) and 69 (55.2%) were urban habitant and married. 63 (50.4%) of respondents were Muslim religion followers. more than half 73 (58.3%) of study participants had more than five year work experience (**Table 1**).

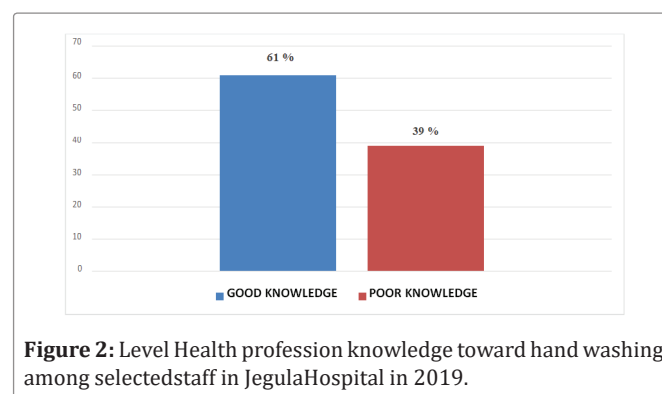
All the 125 staffs have responded to the questionnaire and the distribution of the staff was: 19(15.2%) physicians, 46(36.8%) were B.Sc nurses, 19 (15.2%) was diploma nurses, 18(14.4%) were midwifery nurse, 2(1.6%) Health officer and the rest others 19 (15.2%) were laboratory technicians, pharmacy and anesthetists.

Knowledge Related Characteristics

In these study about 88 (70.4%) of health profession were having training on infection prevention/hand washing and only 20(16%) of participants describe that there is no need of hand washing for those who perform their activity with caution. Majority 74 (59.2%) agreed that no need of hand washing if gloves are properly worn (**Table 2, Figure 2**).

Attitude Related Characteristics

More than half of participant 70 (56%) agreed with hand hygiene adherence. About 64 (51.2%) miss out hand hygiene simply because of forgetting and majority 93 (74.4%) of participants agreed that hand hygiene practices is easy in the current hospital setup (**Table 3, Figure 3**).



Variable	Frequency	Percentage
Age in years		
<21	20	16
21-25	31	24.8
26-30	42	33.6
31-35	6	4.8
>35	26	20.8
Sex		
Male	76	60.8
Female	49	39.2
Residency		
Urban	94	75.2
Rural	31	24.8
Marital status		
Married	69	55.2
Single	44	35.2
Separated	12	9.6
Religion		
Muslim	63	50.4
Orthodox	50	40
Protestant	12	9.6
Ethnicity		
Oromo	51	40.8
Amhara	26	20.8
Harari	36	28.8
Others	12	9.6
Experience in years		
≤5	52	41.6
>5	73	58.4

Table 1: Sociodemographic characteristics of respondents in Jegula Hospital at Harar town Eastern Ethiopia, 2019.

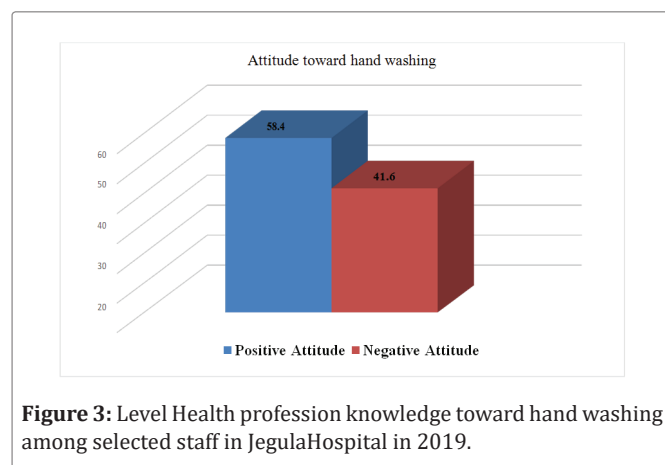


Figure 3: Level Health profession knowledge toward hand washing among selected staff in Jegula Hospital in 2019.

Practice Related Characteristics

Majority 94 (75.2%) of participants wash hand before and after contact with patient, of them about 31 (33%) of them wash their hand at usual frequency. Majority 103 (82.4%) of respondent wash hand during performing aseptic procedures whereas about 90 (72%) of participants wash hands during clean procedures. About 71 (60%) of respondents follow hand hygiene cleaning steps. Generally about 93 (74.6%) of respondent has good practice concerning hand hygiene where as 32 (25.4%) had poor hand washing practice (**Table 4, Figure 4**).

Discussion

In this study, out of 125 health professionals, 76 (61%) were

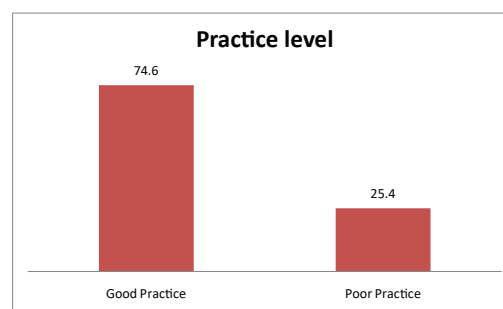


Figure 4: Practice Level of Health profession toward hand washing among selected staff in Jegula Hospital in 2019.

knowledgeable and 49 (39%) were not knowledgeable this finding in line with study done in Afar, region Dubti Hospital in which 66% were good knowledge and 34% were poor knowledge about hand hygiene [11] while the finding was lower than study done in Shenen Gibe Hospital in which about 83% of them had good knowledge and 17% had poor knowledge [12]. The difference might be due difference in sample size study area and socio – demographic characteristics.

In this study about 58.4% of respondents had good attitude toward hand hygiene practice. These finding is lower than study done in srilanka 74%, West Harghe Chiro 71.9% and woliata sodo 93% [10,13,14]. The possible reasons for may be difference in study area as well as lack of standard operating procedures and strict rules to implement hand washing.

In these study about 93 (74.6%) of respondent has good practice concerning hand hygiene whereas 32(25.4%) had poor hand washing practice. These finding is higher than study conducted in Nigeria in which about 42.2%, Dubti Hospital, 43% Afar Region, 43% Jimma Hospital [15,11,16]. The difference could be due to difference in complying hand washing policy, availability of hand washing facilities around health institution as well as difference in sample size.

Conclusion and Recommendation

Conclusion

In this study about 61% of respondents had good knowledge and 58.4% of respondents had positive attitude and 74.6% of respondent has good practice concerning hand washing in health facility.

Based on the result finding majority of the respondent had attendee work shop on IPPS/ hand hygiene and had good knowledge on hand hygiene but there are not aligned and obey the practice as it was proved by majority of respondent agreed that no need for hand washing for those who perform their activity with caution, No need of hand washing if gloves are properly worn and health care workers should no need of always wash their hands immediately after arriving facilities. Most of the study subjects were had good attitude and practice towards hand washing but not performing it all the time as it was mentioned on the standard just before and after contact with patient, after contact with body secretions, before performing any aseptic procedures, before performing any clean procedure.

Recommendation

In this study about 61% of respondents had good knowledge and 58.4% of respondents had positive attitude and 74.6% of respondent has good practice concerning hand washing in health facility. Even though what had observed is good, Jegula Hospital should give attention to improve the knowledge and practice of those Health Care Workers towards hand washing. Regular practice of hand washing requires supplies like soap, water, dry and clean towel, etc. depending on the type of procedure to be performed at all times. Therefore, the hospital and other concerned bodies should fulfill those necessary facilities to improve practice of hand washing. The hospital

Variable	Frequency (%)	
	Yes	No
Knowledge Testing Related Question		
Do you attend workshop on IPPS/ hand hygiene	88.(70.%)	37(29.6%)
Proper and consistent hand washing prevents infections in health facilities	106.(84.8%)	19(15.2%)
No need for hand washing for those who perform their activity caution	20(16%)	105(80%)
No need of hand washing if gloves are properly worn	51(40.8%)	74(59.2%)
HCP should always wash their hands immediately after arriving facilities	24(19.2%)	101(80.8%)
Steps of hand washing wetting, soaping, applying friction, rinsing and drying.	106(84.9%)	19(15.2%)
Hands should be washed at least for seconds	67(53.6%)	58(46.4)
Using disinfectants during hand washing decrease bacterial load on hands	101(80.8%)	21(19.2%)
Alcohol has the ability to eradicate micro-organisms compared to water	100(80%)	20(20%)
Hand washing is the single most effective way to prevent spread of infection	99(79.2%)	26(20.8%)

Table 2: Knowledge related characteristics of study participants in Jegula Hospital at Harar town Eastern Ethiopia, 2019.

Variable	Freq	%
Adhered to hand hygiene practices always		
Agree	70	56
Disagree	55	44
Wash your hand with soap and water even if one has used a sanitizer		
Agree	60	48
Disagree	65	52
Wearing gloves reduce the need for hand washing		
Agree	87	69.6
Disagree	38	30.4
Hand hygiene is always necessary before and after touching a patient		
Agree	94	75.2
Disagree	31	24.8
Hand hygiene forms an important practice to prevent cross infection		
Agree	101	80.8
Disagree	24	19.2
You wash your hands only when dirt is obvious on the hand		
Agree	36	28.8
Disagree	89	71.2
Sometimes I miss out hand hygiene simply because I forget it		
Agree	64	51.2
Disagree	61	49.8
Feel guilty When I omit hand hygiene		
Agree	52	41.6
Disagree	73	58.4
Hand hygiene practices is easy in the current setup		
Agree	93	74.4
Disagree	32	25.6

Table 3: Attitude related characteristics of study participants in Jegula Hospital, Harar town Eastern Ethiopia, 2019.

Variable	Freq	Percentage
Do wash hands before and after contact with patients		
Yes	94	75.2
No	31	24.8
If yes how frequent (n=94)		
Always	19	20.2
Usually	31	33
Often	20	21.2
Some times	22	23.4
Do you wash hands after contact with body secretions		
Yes	91	72.8
No	34	27.2
If yes how frequent(n=91)		
Always	19	20.8
Usually	28	30.7
Often	20	21.9
Some times	22	24.1
Do you Wash hands before performing any aseptic procedures		
Yes	103	82.4
No	22	17.6
If yes how frequent(n=103)		
Always	35	34.0
Usually	28	27.1
Often	25	24.3
Some times	16	15.6
Do you wash hands before performing any clean procedure		
Yes	90	72
No	35	28
If yes how frequent(n=90)		
Always	19	21.1
Usually	26	28.1
Often	20	22.2
Some times	25	27.7
Do you apply soap during hand washing		
Yes	93	74.4
No	29	25.6
Do you use alcohol-based hand rub for hand hygiene		
Yes	96	78.6
No	29	23.2
If yes how frequent(n=96)		
Always	26	27.2
Usually	20	20.8
Often	30	31.2
Some times	20	20.8
Do you follow hand hygiene cleaning steps		
Yes	76	60.8
No	49	39.2
Do you wash hands before leaving the hospital		
Yes	85	68
No	40	32

Table 4: Practice related characteristics of study participants in Jegula Hospital, Harar town Eastern Ethiopia, 2019.

authorities are responsible for posting the general guidelines for the staff at each hand washing site. Close supportive supervision and positive encouragement should be better to be performed by hospital administrators to create adherence on hand washing practice as per standard. Finally further study is recommended with large sample size including other health institutions.

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