INFECTION CONTROL MEASURES AMONG MANUAL WORKERS IN YANGON GENERAL HOSPITAL

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M.B.,B.S

Master of Hospital Administration (MHA)

University of Public Health, Yangon

2019

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A Thesis submitted to
the Postgraduate Academic Board of Studies
University of Public Health, Yangon
as the partial fulfillment of the requirements
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This thesis has been approved by the Board of Examiners.

Chief Examiner

Examiner (1) **Examiner (2)**

ACKNOWLEDGEMENT

There are many respectful and honorable persons to give my profound gratitude in doing this thesis for the fulfillment of Master degree of Hospital Administration.

Firstly, I would like to give my deepest gratitude to Professor Dr Hla Hla Win, Rector, University of Public Health, Yangon and Chairman of MHA Course for giving opportunity to conduct this research.

I am glad to convey my sincere gratitude to Dr Ko Ko Zaw, Professor and Head of Epidemiology Department, University of Public Health for kind supervisions and helpful advice.

I would like to express special thanks to my supervisor Dr Cho Thet Khaing, Associate Professor of Epidemiology Department, Dr Yamin Thaung, Lecturer of Epidemiology Department for their support and empathy, their kind advice throughout my thesis period and continuous guidance to complete my research.

I also would like to thanks to Dr Yi Yi Myint, Rector/Medical Superintendent (Medical care), Dr Myint Myint Aye, Senior Medical Superintendent of Yangon General Hospital for their kind permission and support for successful data collection. I am very grateful to all MS and to all professors, all sisters of YGH for their help in data collection. I would like to express thanks to all manual workers who actively answered face to face interview with structured questionnaires.

Last but not the least, I wish to express my gratitude to all my teachers from University of Public Health, Yangon for their support and encouragement. And to those all who I did not specifically name, I also give thanks for moving me towards my goal.

ABSTRACT

Many hospitals have increased workload due to increasing number of patients, increase demand in health care facilities and resources. Manual workers were at risk of acquiring and transmitting infection during patient handling, transport and also in waste disposal process. If they had knowledge about infection and infection control measures, their attitude and practice would change and lead to reducing cross infection between patients and health care workers.

A cross sectional descriptive study was conducted to assess the knowledge and perception on infection control measures among manual workers in YGH by face-to-face interview with structured questionnaires. Checklist was used to assess the availability of infection control supplies and whether the respondents really practice their knowledge and perception or not. Total of 132 respondents were from 15 wards of YGH. Mean age (Standard Deviation) of the respondents was 34.9 ± 10.1years. Most of them were between 1-9 years of service and middle school passed. Education level of manual workers was relatively lower than other health care workers. Majority of them knew about infection control measures mainly from work site (on job training). About 89% of the respondents had good knowledge on hand hygiene, using PPE and waste disposal process. Only about 15.9% of them had good perception score. Concerning practice, all used soap and water in hand washing, wore gloves and mask during patient transport and handling. However, correct practice for sharp and infectious waste disposal were weak. Statistically significant association was found between education level and good knowledge. The higher the education level, the better the knowledge level of respondents *(P*=0.046). Other variables were not statistically significant associated with both knowledge and perception.

Basic facilities needed for infection control were allocated to all wards according to their needs. Regarding maintenance and improvement of infection control process, health care administrators should arrange periodic refresher training course relating infection control measures. Regular monitoring of infection control practice was also essential.

CONTENTS

LIST OF ABBREVIATIONS

CDC	-	Center for Disease Control and Prevention
HCW	-	Health Care Workers
ICC	-	Infection Control Committee
ICT	-	Infection Control Team
PPE	-	Personal Protective Equipment
SPSS	-	Statistical Package for Social Science
WHO	-	World Health Organization
YGH	-	Yangon General Hospital

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CHAPTER (1)
INTRODUCTION

(1.1) Background information

The epidemiological changes like migration and urban growth leads to increase occurrence of infectious disease among community. This become a challenged to health system.

Many hospitals have increased workload due to increasing ill patients (mostly from infections) and increased demand in health care facilities and resources. All these facts could impact on occurrence of infection diseases. The risk of cross infection to patients and health care workers can be prevented by applying infection control measures in all health care setting almost all the time (Yassi et al., 2016).

Manual workers are at risk of acquiring and transmitting infection during patient handling and transport. They should have knowledge on standard precaution about infection control measure and training at work site may be the main source of knowledge for them. As manual workers are the very first people to meet and handle the patients, it needs to make sure that their knowledge and skills regarding infection control are up to date and regular monitoring at work site is also essential to assess whether they applied their knowledge or not.

Yangon General Hospital (YGH) had been established in 1899 as a general hospital with 483 patient beds. Nowadays it is a 2000-bedded, tertiary care teaching hospital with 4 general medical wards, 3 general surgical wards, 1 trauma and orthopedic ward and 24 wards for specialties. It has emergency receiving center for receiving acute and emergency cases, general and specialist out-patient department for out-patient care and 5 diagnostic departments in that hospital. The specialist out-patient department opens from Monday to Friday in a week according to the schedule and provides out-patients care for both new and follow-up cases.

(1.2) Problem statement

Health care associated infection can cause more serious health problems like increase antimicrobial resistance, prolong hospital stays, increase workload to health care personnel, financial burden to both their family and health care setting. Significant morbidity and mortality are mainly from health care associated infection (May-Soe-Aung, 2010).

Of every 100 hospitalized patients, 7 in developed and 10 in developing countries will acquire at least one health care associated infection (WHO, 2016). Burden of health care associated infection is significantly higher in low and middle income countries (May-Thu-Zaw, 2016).

Most countries (especially developing countries) have lack of surveillance system for infection control measures. If every health care workers practice standard precautions for infection control measures, health care associated infection will be decreased (May-Thu-Zaw, 2016).

According to the profile of YGH 2019, hospital performance indices of the hospital have the increasing trend also that of out-patient department from 2013 to 2018. The average number of out-patient per day was 1,842 in 2017 and 2,021 in 2018 respectively. It is an interesting point in how infection control measure is carried out. All health care providers including manual workers need to know infection control measures and need to practice at work sites.

If health care workers had enough knowledge about danger of hospital associated infections, they would surely find the ways to control infection. They would not reluctant to attend training for infection control measures and willing to practice this measures at work sites. So, all manual workers had to get the health education about infection control measures and they had to get the monitoring whether they practice actually at work sites. Infection control measures will be more successful if authorities who concern for supply to hospitals continuously support basic needs to hospitals (Musu et al., 2017).

(1.3) Justification

Health care associated infections are a major cause of morbidity and mortality and all of us (both health care workers and patients) can become victims of diseases. Most of these infections can be prevented by applying standard precautions for infection control measures. Failure to apply these measures favors the spread of pathogens and infectious diseases within hospital and also within the community.

Manual workers from health care settings are the very first persons to handle a patient with different types of disease or injuries. Their practices in patient handling and hospital sanitation measures depend on their underlying knowledge and perception. Therefore, we need to assess the current situation of their knowledge, perception and practice towards infection control. Safe and clean hospital environment can be created by promoting knowledge, perception and practice of manual workers along with increasing health problems. The results of the study are expected to provide the ways for further interventions to promote infection control measures among manual workers.

CHAPTER (2)
LITERATURE REVIEW

(2.1) Infection and Infectious materials

"Infection is defined as the invasion and multiplication of microorganisms such as bacteria, viruses, and parasites that are not normally present within the body". (William C. Shiel Jr.,MD, FACP, FACR). Every infection may not be apparent and most are subclinical. "Infectious materials are things which contain pathogens in sufficient concentration that exposures to it could cause disease."

(2.2) Infection control measures

Five basic principles for infection control includes proper hand hygiene, using PPE, prevention of needle stick and sharps injury, using disinfectants and environmental cleaning and respiratory hygiene (cough Etiquette). Universal precautions should apply when handling body fluids (blood, semen and vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid and amniotic fluid). Standard precautions are a set of infection control practice used to prevent transmission of diseases that can be acquired by contact with blood and body fluids. These measures are to be used when providing care to all individuals, whether or not they appear infectious or symptomatic (WHO, 2016).

Every hospital must have Infection Control Committee (ICC) and Infection Control Team (ICT). Infection Control Manual should be established in all hospital. Weekly monitoring of hospital waste management and environmental cleaning of hospital is essential. Health care workers must know universal precaution, isolation of infectious cases, disinfection, sterilization and proper hand washing practice. For proper infection control in hospital, "Practical Guidelines for Infection Control in Health Care Facilities" from WHO should be quoted (Department of Medical Service, 2016).

Duration of hand washing and timing of handwashing is also important for effective infection control measures. Proper using of PPE can reduce certain degree of

waste is important and all health care workers need to know amount of container necessary to be removed. Hospital floor should be cleaned twice daily with disinfectants and facilities needed for cleaning should also supply adequately to all wards.

Background educational level of health care worker is important when providing training for infection control measures. Although these training can provide mainly knowledge to all level of health care personnel, opportunity to practice that knowledge is mainly at worksite. Functioning infection control committee and adequate logistic supply is also essential to success infection control measures.

(2.3) Studies on infection control in Myanmar

Most of the health care workers (nurses) had more knowledge on standard precaution on infection control measures than additional precaution. All realized benefits of hand washing and prevention of needle stick/sharp injuries. But they had lack of knowledge about the air- borne infections. About one third of the respondents did not practice correct duration in hand washing with soap and water. The majority of them could not denote mode of transmission of hospital infection and waste disposal method (May-Thu-Zaw, 2016).

About two third of the respondents (60%) had high knowledge and perception regarding hand hygiene but lower knowledge on patient handling and transport. It needed to improve their knowledge of hand hygiene between procedures whether they were performing on same or different patients. Most of the respondents (80%) did not know cytotoxic drugs and laboratory waste were health care waste. This study shows infection control message was available from health talk and seminars but practice of respondents mainly depends on underlying knowledge and available resources at work site. Higher perception score could be attained from formal lecture concerning infection control measures. The majority of them wished to get protection for themselves from hospital associated infection and they were ready to follow infection control guidelines (May-Soe-Aung, 2010).

Another local study which was done among nurses showed there were some gaps although majority of respondents had high knowledge. Only about half of the participants wore surgical mask during patient caring. All respondents had knowledge about hand washing and appropriate time for hand washing. They had poor practice about wearing eye cover/googles and boots during high risk procedure. Although this

study was done among nurses, less than half of the respondents had poor knowledge about complications of need-stick injury from infected patients (Kaung-Htet-Thu, 2012).

A cross sectional descriptive study conducted in Military hospital showed there was significant association between education level and knowledge level of respondent. Practice of respondents was also associated with educational level. This study pointed out that placement of containers for sharp and general waste was associated with occurrence of need stick injuries among health care workers. All health care workers should know that need stick injuries needed to report for post exposure prophylaxis or early treatment. But there was lack of polices and guidelines concerning needle stick injuries (Soe-Thet-Hein, 2012).

(2.4) International studies on infection control

All health- care workers used masks and gloves during patient handling and transport. Only 61.8% knew to wash their hands with soap and water after attending every patient. In this study, almost all of them (94.3%) knew to the clean injection site with alcohol swab before giving injections and only 35.7% used color coding system of bags for waste disposal in some areas of hospital (labs/wards/operation theatres) (Sha, 2015).

This study pointed out "knowing and practicing that knowledge are not always the same." Although all participants knew to use masks and gloves during patient handling, not all of them could practice it. Only about one third of the participants applied that knowledge. More than half of them practice hand washing after patient handling. Regarding perception, 94.8% of the participants believed that working in hospital environment favors exposure of infectious diseases to them and more than half of them had a desire to create a save working environment (Nag et al., 2018).

Almost all participants practiced major infection control measures at work site. More than 90% of hospitals lacked infection control committees. That hospitals also could not supply equipment needed for infection control. This study also showed respondents who had at least 11 years of formal education with prior infection control training practice hand washing (Wasswa et al., 2015).

Most participants (89 %) had good knowledge about hazards in health facilities, beneficial hand washing prior to, and after every clinical procedure in preventing cross infection (100 %). Besides, most participants (96.2 %) believed they had occupational

hazardous risk while about two-thirds perceived the risk as high. Only 52.1 % “always” followed by standard procedures and most (93.8 %) practice safe sharps disposal while 40 % of them generally criticized the lack of basic safety equipment. In this study, hand washing practice was not affected by occupation and education (Aluko et al., 2016).

Adequate hand washing was performed among (20%) nurses and none of the technicians. As knowledge and practice regarding various aspects of universal precautions was not satisfactory, training was needed urgently in the study population. Also, suggestions were created to develop and implement institutional policies and strategies on the universal precautions and verifying supply of personal protective equipment (Phukan, 2014).

In this study, six hundred and five healthcare workers participated. Four hundred (66.1%) health care workers followed infection prevention guidelines and performed according to good infection prevention practices. Good infection prevention practices were influenced by adequate knowledge on infection prevention measures, favorable attitude towards infection prevention practices, awareness on availability of standard operating procedures and availability of constant and sustained water supply (Binyamin et al., 2018).

(2.5) Conceptual framework

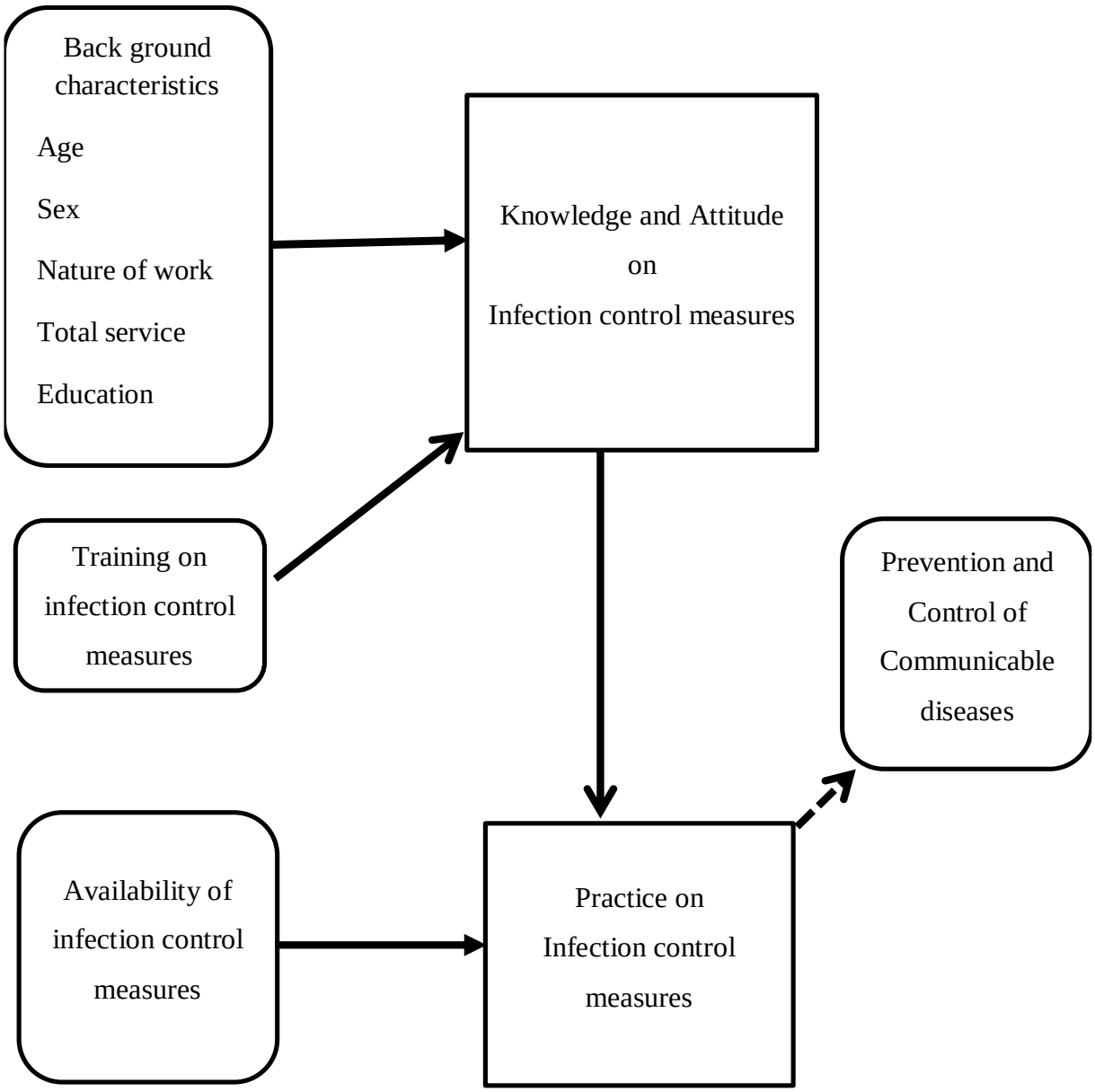

Figure (2.1) Conceptual framework of infection control measures among manual workers

CHAPTER (3)
OBJECTIVES

(3.1) General Objective

To assess the knowledge, attitude and practice of infection control measures among manual workers in YGH

(3.2) Specific Objectives

1. To assess the knowledge, attitude and practice of Infection control measures among manual workers
2. To assess the availability of infection control supplies by checklist

CHAPTER (4)

RESEARCH METHODOLOGY

(4.1) Study Design

A cross sectional descriptive study

(4.2) Study period

The study period was from August to November, 2019

(4.3) Study Area

The study was conducted in Yangon General Hospital, 2000 bedded tertiary hospital.

(4.4) Study population

All manual workers who were working at YGH

Inclusion criteria - workers with at least one-year service in YGH

Exclusion criteria - workers who were not available at the time of data collection

(4.5) Sample Size Determination

The following formula was used for sample size determination.

$n = z^2pq/d^2$

n = the desire sample size

z = absolute precision required on either side of population if confidence level = 95% =1.96

p = approximate proportion of manual workers who attain acceptable level of knowledge, perception and practice of infection control measure (0.5)

q = 1-p = 0.5

d = absolute precision required on either side of the proportion = 0.08

$(1.96)^2*0.5*0.5/ (0.08)^2 = 150$

So, calculated sample size was 150.

Total sample size was 132 (due to exclusion criteria).

(4.6) Sampling procedure

There were four medical wards, three surgical wards, emergency department and 27 specialties in YGH. As the sample size of the study was 150, all manual workers from medical, surgical, operation theatre (both emergency and modular OT), cancer ward (both radiation and chemo), tropical medicine, hematology ward and emergency departments of YGH were selected.

(4.7) Data collection methods and tools

After taking informed consent from the respondents, data was collected by face to face interview with structured questionnaires and observation checklist was also used. Before data collection, pretest was done in New Yangon General Hospital to clarify interpretation. The questionnaires were developed using local literature and it included four parts.

(1) Background characteristics of the respondents

(2) Knowledge of infection control measures

(3) Perception to infection control measures

(4) Practice of respondents on infection control measures and availability of infection control supplies

For knowledge level, the possible range of score was 0 to 62 and the cut-off point mid score (31) was used for good and poor knowledge. Perception of manual workers was assessed using a questionnaire with five points Likert scale which were strongly agree, agree, disagree, strongly disagree and don't know. Scoring was 5 points (strongly agree) to 1 point (don't know) for positive statements and reverse scoring was applied to negative statements. Perception score was standardized to the range of 1 to 5 by dividing the attitude score with 10 (the number of the attitude statement). Good perception was referred as score >=4 and poor perception score as score <4. Observation checklist was used for assessing availability of infection control supplies and practice of manual workers in the various department.

(4.8) Data management and analysis

Coding for some variables was done before data entry. Data entry was done by using EpiData software, version 3.1 after editing for consistency and completeness. Data Analysis was carried out by using Statistical Package for social science (SPSS) software version 16.0. Data summarization was done by using frequency and cross

tabulation in SPSS program. For continuous variables, mean and standard deviation were calculated while for categorical variables, proportions were used. Chi-square test or Fisher's exact test were used when appropriate in bivariate analysis.

(4.9) Ethical consideration

The study was conducted according to the guidelines issued by University of Public Health and ethical clearance was obtained from the Institutional Review Board of University of Public Health, UPH-IRB (2019/MHA/3). All participants were firstly explained about the research purpose and informed consent were obtained before data collection. It was their right whether they participate or not and withdraw at any time of the study. Confidentiality was strictly maintained by privacy and anonymity of the respondent during data collection, analysis and reporting.

CHAPTER (5)

FINDINGS

Out of 150 respondents from YGH, 132 answered the questionnaires. The rest did not give consent to participate and some of them were off duty.

(5.1) Background characteristics of the respondents

Table (5.1) Background characteristics of the respondents (n=132)

Statement	**Number (n=132)**	**%**
Age group		
<=19 years	1	0.8
20-29 years	44	33.3
30-39 years	54	40.9
40-49 years	14	10.6
50-59 years	19	14.4
Service years		
1-9 years	83	62.9
10-19 years	26	19.7
20-29 years	17	12.9
30-39 years	6	4.5
Gender		
Female	67	50.8
Male	65	49.4
Education level		
Illiterate	6	4.5
Read and write	4	3
Passed primary	56	42.4
Passed middle	59	44.7
Passed higher	7	5.3

The age of the respondents ranged from 18 to 59 years, 40.9% were between 30-39 years. The mean age of the respondents was 34.9 years (SD= 10.1, not mention in table). Proportion of the gender of the respondents was more or less the same. Service year was between 1 to 39 years and (62.9%) were between 1-9 years of service. The median service year was 6 ± 9 years (not mention in table). Concerning the education level of the respondents, 44.7%passed middle school and 3%could read and write only. (Table 5.1)

(5.2) Knowledge towards infection control measures

Table (5.2) Knowledge on infection control measures (n=132)

Statement	**Number (n=132)**	**%**
Infection control practices are essential to provide protection of the following persons *		
Manual workers	127	96.2
Patients	65	49.2
Nurses	56	42.4
Doctors	47	35.6
Visitors	33	25.0
Others (family and children)	3	2.4
Source of information for infection control measures*		
From work site	129	97.7
Internet	10	7.6
Radio and television	3	2.3
Posters and pamphlet	1	0.8
Training from work	1	0.8

Statement	Number (n=132)	%
Infection control measures include*		
Hand hygiene	132	100.0
Use of PPE	132	100.0
Environmental cleaning and spills management	131	99.2
Prevention of needle stick and sharp injuries	130	98.5
Appropriate handling of waste	130	98.5
Appropriate handling of patient belongings, equipment and soiled linen	127	96.2
Optimum spacing between 2 beds		
Less than three feet	81	61.4
Three to six feet	8	6.1
Don't know	43	32.5
Cleaning hospital floors (times per day)		
Two times	75	56.8
Others (one or three or four times)	57	43.2
Most common used disinfectants*		
Surgitol/ Aseptol	132	100.0
Bleaching powder	8	6.1

*Multiple Responses

Most of them, (96.2%) knew infection control practice are essential to protect themselves and 2.4% believed for their children and family. Almost all respondents (97.7%) answered they got source of information mainly from work site and 2.3% from radio and television.

All respondents knew hand hygiene and using PPE included in infection control measures. Regarding optimum spacing between 2 beds, 67.5% of participants responded they knew but among them only 6.1% could answer the right distance (one to two meter). A little more than half of the respondents, 56.8% answered they cleaned the hospital floor two times per day with disinfectants and 43.2% gave various answers (one or three or four times). Most common used disinfectant they know was surgitol/aseptol and only 6.1% answered they used bleaching powder also.

Table (5.3) Knowledge of hand hygiene (n=132)

Statement	Number (n=132)	%
Hand washing		
Steps in hand washing	84	63.6
Types of hand washing	52	39.4
Hands can be cleaned with*		
Soap and water	131	99.2
Antiseptic hand wash	128	97.0
Antiseptic hand gel	113	85.6
Alcohol swabs	41	31.1
Conditions which are necessary for hand washing*		
Before and after handling between different patients	128	97.0
After dead body handling and others	45	34.2
After handling any contaminated items	21	15.9
After handling body secretion and excretion	9	6.8
Handling any blood and blood product	8	6.1
Before and after handling patient, hand washing up to		
Hand and wrist	75	56.8
Hand and forearm	57	43.2

*Multiple Responses

All respondents answered they knew proper hand washing practice. Among them, 39.4% knew different types of hand washing and 63.6% responded steps in hand washing but no one could give the true answer for both various kinds of steps and types in hand washing. Almost all respondents (99.2%) answered hands could be cleaned with soap and water.

Only 6.1% of them answered they washed hands after handling any blood and blood product but 97% responded hand washing was necessary before and after handling between different patients. While 34.2% responded hand washing was needed (after cleaning of ward, after dead body handling and after waste disposal). Out of 132 respondents, 56.8% answered they washed their hands up to wrist and 43.2% up to forearm.

Table (5.4) Knowledge on PPE (n=132)

Statement	Number (n=132)	%
PPE includes*		
Mask	132	100.0
Gloves	132	100.0
Apron	42	31.8
Hair cover or cap	41	31.1
Gown	38	28.8
Shoe cover	15	11.4
Goggles or eye wear	6	4.5
PPE is required when*		
Handling blood and blood product	132	100.0
Handling body secretion and excretion	132	100.0
When transporting infectious patients	132	100.0
Transportation of patients	86	65.2
Type of mask suitable for airborne infection		
N95 mask	103	78.0
Surgical mask	29	22.0
Situations which needs to change mask*		
After transporting the infectious patients	74	56.1
After cleaning and others	52	39.4
If patient coughs	13	9.8
After dropping down for talking or breathing	11	8.3
When touch by own hands or fingers	6	4.5
Hand washing is required before wearing gloves	76	57.6
Situations which need to change gloves*		
Between different patients	97	73.5
When they become soiled	38	28.8
After dead body handling and others	19	14.4

*Multiple Responses

All respondents knew glove and mask were PPE and only 4.5% knew goggles was included in PPE. All knew PPE is required while handling blood and blood products, body secretion and excretion and during transporting infectious patients. More than half (65.2%) of the respondents knew to wear gloves while transporting patients.

To prevent airborne infection, 78% knew to use N95 mask, the rest 22% answered they would use surgical mask. Just more than half of the respondent (56.1%) answered they would change mask after transporting the infectious patients and 39.4% knew to change masks after following situations (after cleaning, after handling dead body, after waste disposal etc.)

More than half of the respondents (57.6%) knew to wash their hands before wearing gloves. About one third (73.5%) answered they knew to change gloves between different patients and 14.4% of them answered changing gloves after cleaning, waste disposal and after work.

Table (5.5) Knowledge on health care waste (n=132)

The respondent know:	**Number (n=132)**	**%**
Health care waste*		
Sharps	132	100.0
Infectious waste which contain pathogen	95	72
Used swabs, masks, gloves and PPEs	63	47.7
Laboratory waste	7	5.3
General waste must be disposed in blue, green container	119	90.1
Sharp waste must be disposed in yellow container	40	30.3
Highly infectious waste must be disposed in red container	54	40.9

*****Multiple Responses

All respondents were aware of sharps are one of the health care waste. But no one knew toxic laboratory chemicals as health care waste. About 90.1% of the respondents knew correct color container for general waste that were blue and green. One third of them (30.3%) answered yellow color for sharp waste and 40.9% of them knew red color container was for highly infectious waste.

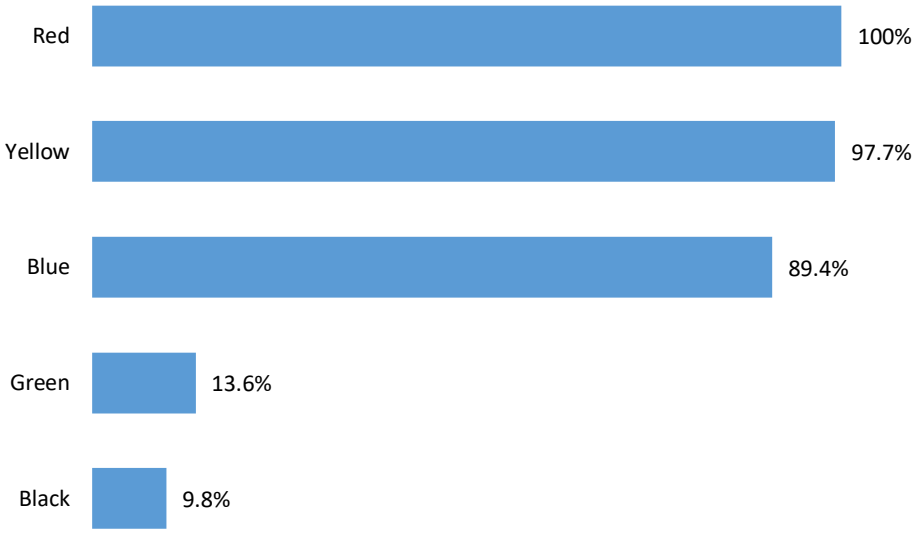

Figure (5.1) Knowledge on WHO color coding system for waste (n=132)

Regarding color coding for waste, the respondents answered red (100%), yellow (97.7%), blue (89.4%), green (13.6%), black (9.8%) color were included.

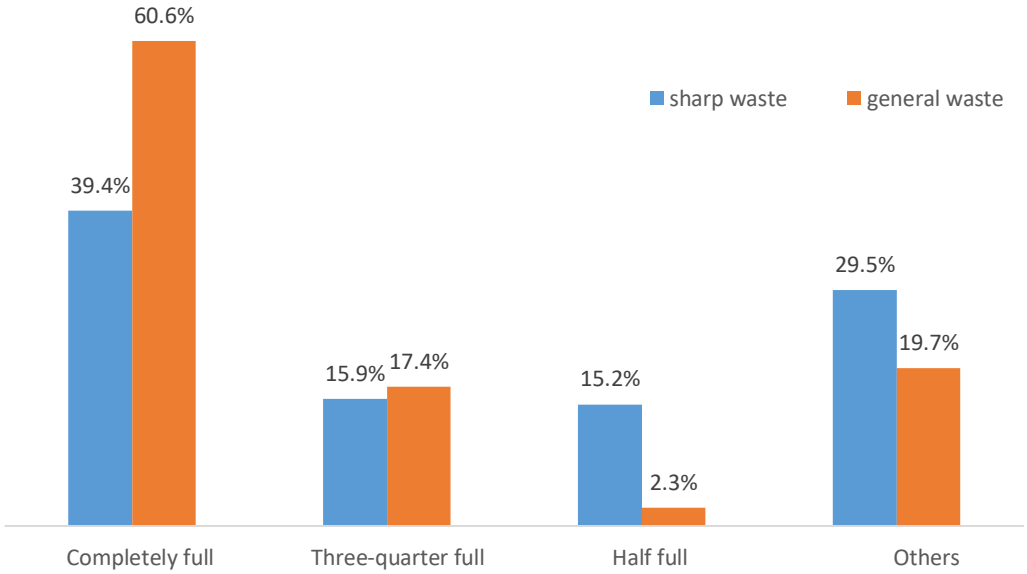

Figure (5.2) Condition of containers for sharp and general waste necessary to be removed (n=132)

For sharp waste, only 15.9% of the respondents answered correctly as the containers should be removed at three-quarter full. About 39.4% answered that the containers should be removed only when they were completely full. The rest 29.5% revealed to remove containers when they were nearly full or when the rubbish bag could be tied or after their duty shift was over.

For general waste, only 17.4% of the respondents gave the correct answer to remove the container at three-quarter full. The majority of the respondents (60.6%) revealed to remove containers when they were completely full and the rest 19.7% answered they removed only when the nurses told them.

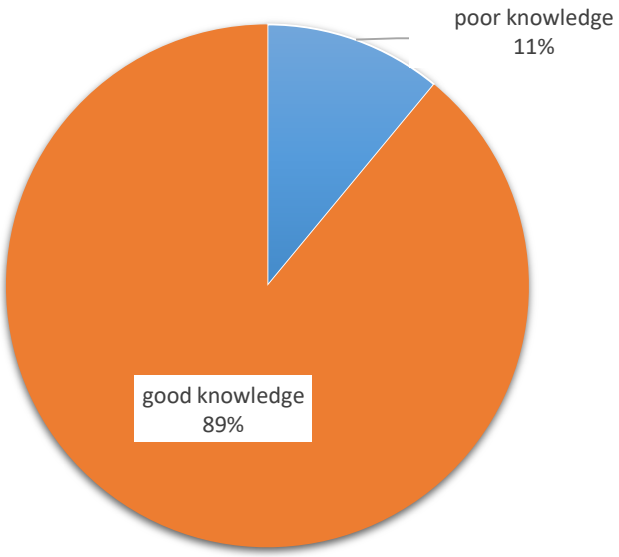

Figure (5.3) Good and Poor knowledge score (n=132)

This figure denotes the good and poor knowledge score (cut-off point mid score (31) was used. The majority of the respondents (89%) had good knowledge score.

(5.3) Perception towards infection control measures

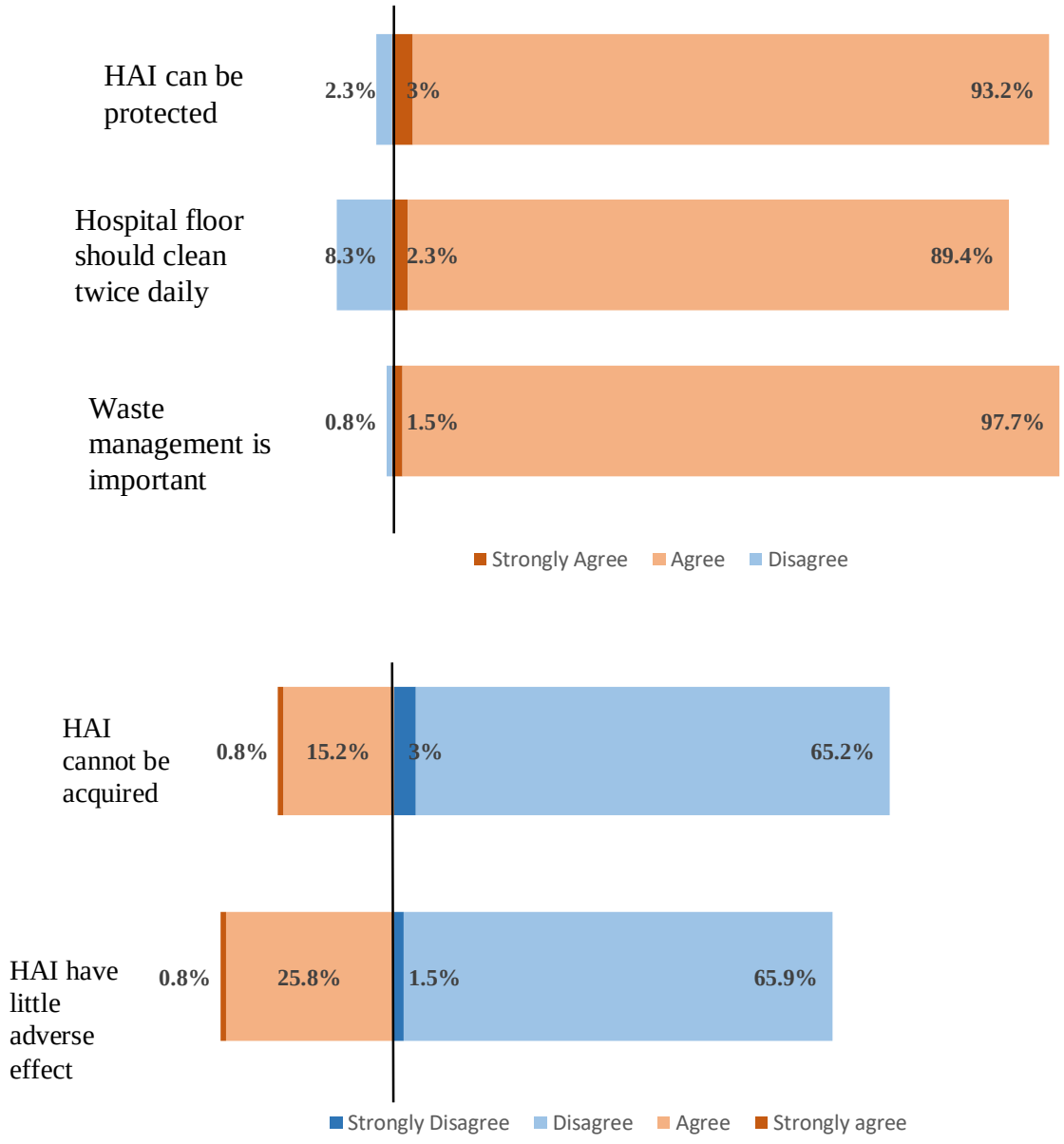

Figure (5.4) Perception towards infection control measures (n=132)

HAI= Hospital Associated Infection

This figure shows the perception of manual workers towards infection control measures.

For positive statements, "every worker should have right to protect themselves from hospital associated infection" 95.2% of the respondents "agree" and "strongly agree." For the statement that "hospital floor should be cleaned twice daily with water

and disinfectants," 91.7% of the respondents "agree" and "strongly agree." Almost all respondents (99.2%) "agree" and "strongly agree" to "management of health care waste is important for prevention of hospital associated infection."

For negative statements, "general workers cannot be acquired hospital associated infection," majority of the respondents (68.2%) answered correctly as "disagree" and "strongly disagree". More than half of the respondents (67.4%) "disagree" and "strongly disagree" to "hospital associated infection have little adverse effect on health care workers."

Table (5.6) Perception towards hand hygiene (n=132)

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
	Num.(%)	Num.(%)	Num.(%)	Num.(%)	Num.(%)
Practice of proper hand washing can prevent hospital associated infection	5(3.8)	123(93.2)	2(1.5)	0(0.0)	2(1.5)
Hand hygiene is not necessary in between contact with different patients	1(0.8)	15(11.4)	107(81.1)	6(4.5)	3(2.3)
We can use one towel together for hand drying	1(0.8)	91(68.9)	39(29.5)	1(0.8)	0(0.0)

Num. = Number

This table shows 97% of respondents "agree" and "strongly agree" to "practice of proper hand washing could prevent hospital associated infection." For the statement "hand hygiene is not necessary in between contact with different patients", 85.6% of the them "disagree" and "strongly disagree." They (69.7%) answered "agree" and "strongly agree" to "we can use one towel for hand drying".

Table (5.7) Perception towards utilization of PPE (n=132)

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
	Num.(%)	Num.(%)	Num.(%)	Num.(%)	Num.(%)
Utilization of PPE is effective for prevention of hospital associated infection	3(2.3)	129(97.7)	0(0.0)	0(0.0)	0(0.0)
Utilization of surgical mask is effective for all airborne infection	1(0.8)	66(50.0)	58(43.9)	2(1.5)	5(3.8)

Num. = Number

All respondents "agree" and "strongly agree" to "utilization of PPE is effective for prevention of hospital associated infection." Nearly half of the respondents (45.4%) "disagree" and "strongly disagree" to "utilization of surgical mask is effective for all airborne infection."

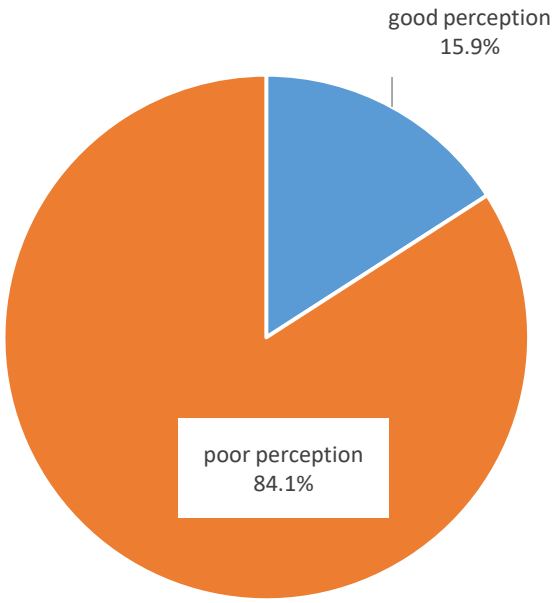

Figure (5.5) Good and Poor perception score (n=132)

This figure denotes the good and poor perception score. Perception score was standardized to the range of 1 to 5 by dividing the perception score with 10 (the number of the perception statement). Good perception score was referring as score >=4 and poor perception score as score <4. Most of the respondents (84.1%) had poor perception sore.

(5.4) Practice of infection control measures and facilities supply from hospital for infection control measure

Table (5.8) Hand hygiene practice and facilities supply from hospital (n=132)

Statement	Number (n=132)	%
Materials used for hand washing*		
Soap and water	132	100
Antiseptic hand wash	129	97.7
Antiseptic hand gel	113	85.8
Alcohol swabs	40	30.3
Situations on which hand washing is practiced*		
Before and after handling between patients	129	97.7
After waste disposal	24	17.3
After dead body handling	20	14.5
After handling any contaminated items	19	14.4
After handling body secretion and excretion	7	5.3
Handling any blood and blood product	6	4.5
Soap and water always available at work site	132	100
Antiseptic hand wash always available at work site	132	100
Drying hand after hand washing	100	75.8
Methods of hand drying*		
Reused towel	92	69.7
Air dry	13	9.8
Tissue	2	2.3

*Multiple Responses

This table shows all of them used soap and water for hand washing but about 30.3% used alcohol swabs. Almost all (97.7%) of them practiced hand washing before and after handling between different patients and only 4.5% washed their hands after handling blood and blood product. Facilities for hand washing, such as soap and antiseptic hand wash were always available at work site. Running water which is essential for hand washing was also available for 24 hours in hospital. About three

quarter (75.8%) of respondents practiced drying hand after washing. Among those, 69.7% of the respondents used reused towel and 2.3% used tissue for hand drying.

Table (5.9) Practice on utilization of PPE and supply from hospital (n=132)

Practice	Number (n=132)	%
Using surgical mask at work site	132	100.0
Situations on which surgical mask is use*		
Patient transport	64	48.5
Infected patient transport	56	42.4
During work	5	3.8
During cleaning	4	3.0
If patient coughs	2	1.5
If needed	1	0.8
Surgical mask always available at work site	132	100.0
Using gloves at work site	132	100.0
Situations on which gloves is used*		
Patient transport	71	53.8
Infected patient transport	54	40.9
Waste disposal	4	3.0
During cleaning	2	1.5
Handling blood (bottles/bags)	1	0.8
Gloves always available at work site	132	100.0
Using cap at work site	14	10.6
Situations on which cap is used*		
During work	14	10.6
Cap always available at work site	14	10.6
Using apron at worksite	27	20.5
Situations on which apron is used*		
During work	14	10.6
If needed	13	9.8
Apron always available at worksite	27	20.5

*Multiple Responses

Surgical mask and gloves were available at all wards of hospital and all participants used mask and gloves. About half of the respondents (48.5%) used gloves in patient transport and masks (53.8%) in patient transport. Cap and Apron were only available at operation theater, 10.6% and 20.5% of the respondents used it. (Table 5.10)

Table (5.10) Practice on health care waste (n=132)

Practice	Number (n=132)	%
General waste must be disposed in blue/ green container	119	90.1
Sharp waste must be disposed in yellow container	40	30.3
Highly infectious waste must be disposed in red container	54	40.9

Regarding health care waste, the majority (90.1%) of the respondents threw general waste to correct color (blue/ green) container. About one third of them (30.3%) threw sharp waste into yellow color container and 40.9% of them threw highly infectious waste into red color container. Although all participants knew they should wash hospital floor daily, no one could practice it.

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Table (5.11) Practice of optimal space between two beds (n=132)

Statement	Number (n=132)	%
3 feet and above	50	37.9
Below 3 feet	82	62.1

Only one third of the respondents (37.9%) placed beds according to optimal spacing.

(5.5) Association between background characteristics and knowledge on infection control measures

Table (5.12) Association between background characteristics and knowledge on infection control measures (n=132)

Background Characteristics	Knowledge Score		*P*
	Good	**Poor**	
	No. (%)	**No. (%)**	
Age Group (years)			
<=19	1 (100.0)	0 (0.0)	0.562*
20-29	41 (93.2)	3 (6.8)	
30-39	45 (83.3)	9 (16.7)	
40-49	13 (92.9)	1 (7.1)	
50-59	17 (89.5)	2 (10.5)	
Gender			
female	59 (88.1)	8 (11.9)	0.832
male	58 (89.2)	7 (10.8)	
Total service (years)			
≤ 9 years	74 (89.2)	9 (10.8)	0.806
> 9 years	43 (87.8)	6 (12.2)	
Education level			
illiterate	4 (66.7)	2 (33.3)	**0.046***
read and write	2 (50.0)	2 (50.0)	
passed primary	52 (92.9)	4 (7.1)	
passed middle	52 (88.1)	7 (11.9)	
passed higher	7 (82.4)	0 (0.0)	

*Fisher's Exact Test

This table shows the respondents of each education level had higher percent good knowledge score and this finding was statistically significant (*P=0.046*). Higher percent of good knowledge score was clearly seen in every age group *(P=0.562*).

Similar result was found in both male and female *(P=0.832)*. The higher percent of good knowledge score was found in each service year group *(P*= 0.806).

(5.6) Association between background characteristics and perception towards infection control measures

Table (5.13) Association between background characteristics and perception towards infection control measures(n=132)

Background Characteristics	Perception Score		*P*
	Good No. (%)	Poor No. (%)	
Age Group (years)			
<=19	0 (0.0)	1 (100.0)	0.492*
20-29	10 (22.7)	34 (77.3)	
30-39	8 (14.8)	46 (85.2)	
40-49	2 (14.3)	12 (85.7)	
50-59	1 (5.3)	18 (94.7)	
Gender			
male	12 (18.5)	53 (81.5)	0.430
female	9 (13.4)	58 (86.6)	
Total service (years)			
≤ 9 years	14 (16.9)	69 (83.1)	0.695
> 9 years	7 (14.3)	42 (85.7)	
Education level			
illiterate	0 (0.0)	6 (100.0)	0.510*
read and write	0 (0.0)	4 (100.0)	
passed primary	7 (12.5)	49 (87.5)	
passed middle	13 (22.0)	46 (78.0)	
passed higher	1 (14.3)	6 (85.7)	

*Fisher's Exact Test

This table shows in every age group, there was higher percent of poor perception score *(P=0.492*). Similar finding was found in both male and female *(P=0.430)*. Both

service year groups had higher percent of poor perception score *(P=0.695).* Regarding education level, all education level had higher percent of poor perception score *(P=0.510).*

(5.7) Association between knowledge and perception towards infection control **measures**

Table (5.14) Association between knowledge and perception towards infection control measures (n=132)

Knowledge	**Perception Score**		***P***
	Good	**Poor**	
	No. (%)	**No. (%)**	
Good	3 (20.0)	12 (80.0)	0.645
Poor	18 (15.4)	99 (84.6)	

The above table denotes the respondents with good knowledge score had good perception score was more than poor knowledge score had good perception score. That finding was not statistically significant (*P*=0.645).

(5.8) Availability of infection control supplies and practice

Checklist was used to access the availability of infection control supplies and practice of infection control measures among manual workers. Through checklist we could find out whether they applied their knowledge and perception in actual practice or not. It was used to assess the practice of manual workers from 15 wards in YGH.

Due to increasing number of patients, optimum spacing between two beds was not available in wards, especially during admission days. Although some respondents knew optimum spacing, they could not apply that knowledge. The maximum spacing between two beds was below three feet. Disinfectants (70% alcohol and bleaching powder) were continuously available but 1%hypochloride was only available and used in blood bank. Disinfectants used for hospital floor cleaning were available in all wards and all respondents used it daily.

For hand washing, soap, alcohol swabs, antiseptic hand wash and antiseptic hand gel were supplied to all wards. Running water was available 24 hours in all wards. Although posters of hand washing steps were placed near washing area of hands, most of the respondents were not aware of the steps involved. Roller towel and disposable towel were not available in all wards. Air-dry machine was only available in one medical ward and tissue was used together by all respondents for hand drying in others.

Regarding PPE, mask and gloves were supplied abundantly to all wards. Most of the respondents used gloves and mask not only in patient transport and handling but also in environmental cleaning and during waste disposal process. Other PPE such as gown and hair cover/cap were only available in operation theatre. Apron was available in both operation theatre and emergency department. Workers assigned at there used them (gown, apron and hair cover/cap) during their duty period. Boots were not supplied for manual workers.

All respondents knew the color coding system for health care waste but weak practice in correct color matching for correct waste especially for sharp and infectious waste. Moreover, practice of color coding was not uniform in all wards. Some wards reused empty water bottle for sharp waste. Although correct color container for waste could not supply in YGH, disposable colored-bags were supplied to all wards.

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CHAPTER (6)

DISCUSSION

In this study almost all respondents (97.7%) got source of information for infection control mainly from working experience, not from training. A study from Nepal showed less than half (44.3%) of the respondents attended trainings which were organized by several agencies (Rajbhandari and Sagtani, 2018). A study from Egypt revealed that training significantly improves the knowledge level of the nurses (Atalla, Aboalizm and Shaban, 2016).

In current study, all respondents knew (hand hygiene, use of PPE, prevention of needle-stick and sharp injuries, appropriate handling of patient belongings, solid linen and equipment, appropriate handling of waste and environmental cleaning) included in infection control measures. This was different from the result of a study from North West Ethiopia which revealed only 84.7% of the health care workers had knowledge on what were included in infection control measures (Desta et al., 2018). In a study from Ethiopia, 90.7% of the respondents mentioned hand hygiene included in infection control measure (Gulilat and Tiruneh, 2014).

In this study, all respondents knew hands could be cleaned with soap and water and about one third of them knew alcohol swab could be used in cleaning of hands. They also knew hand washing was necessary before and after handling different patients. A study from Myanmar showed all respondents realized hand hygiene (May-Thu-Zaw, 2016). Similar finding was found in a study from Nepal in which 97% of health care workers agreed to wash their hands between different patients (Rajbhandari and Sagtani, 2018). In a study from Ethiopia, 94.1% of the respondents knew benefits of hand washing and 77.1% knew the appropriate time for hand washing (Care et al., 2017). If the manual workers knew proper hand washing could prevent most of the occurrence of diseases, nosocomial infection rate would be reduced.

All of them could answer mask and gloves were included in PPE. About one-third of them (including manual workers from operation theater) knew apron, gown and hair cover/cap were PPE. Less than 10% of the respondents knew shoe cover and

goggles/eye wear were PPE. All of them knew PPE was required during handling blood and blood products, handling body secretion and excretion. A study from Myanmar showed more than 90% of the respondents could mention the materials included in PPE (May-Thu-Zaw, 2016). In a study from Ethiopia, 55% of the respondents did not know the condition to use glove (Care et al., 2017). About one third of the respondents knew to change gloves after handling or transporting patients which was different from a study of Nepal in which all respondents knew when to change gloves. That difference might be due to difference in education level of respondents and due to lack of training.

All respondents in this study agreed using PPE was required in infection control measures. This finding was similar with a study from Nepal in which majority (98.6%) knew gloves, mask and apron included in PPE and using of them could reduce the risk of infection (Rajbhandari and Sagtani, 2018). In current study, almost all respondents wore mask while transporting infectious patient and it was differ from a study of Ethiopia showed 57.9% of health care workers wore mask while approaching infectious patients (Biniyam et al., 2018). If masks and gloves were supplied without interruption, usage of them would increase and a certain amount of infection could prevent.

Regarding health care waste, all of them could answer sharps were included. About two-third of them knew infectious waste which contain pathogen were health care waste. Although they knew color coding system for health care waste, only about one third of them could match correct color container for sharp and highly infectious waste. Less than 20% of the respondents had poor knowledge that containers of the sharp and general waste should be removed at three-quarter full. In a local study, nearly 90% of participants knew to remove the container when they were three-quarter full (May-Soe-Aung, 2010). That difference may be due to unequal education level the study population. If manual workers knew about sharp and highly infectious waste from training, they were not reluctant to remove the containers at three-quarter full.

In current study, nearly 90%of the respondents had high knowledge score and this finding was similar with the results of Ethiopia (Guiltat and Tiruneh, 2014), (Care et al., 2017) and (Desta et al., 2018). Different results were found in local studies (Kaung-Htet-Thu, 2012) and (May-Thu-Zaw, 2016) in which only half of the participants had high knowledge score.

Result of this study revealed that only 15.9% of the respondents had good perception score and majority (84.1%) had poor perception towards infection control

meaures, hand hygiene and PPE. This findings were different from studies of Ethiopia and (Care et al., 2017) and (Biniyam et al., 2018) both studies denoted that HCW had positive attitude towards infection control measures. In a local study which was done among nurses, about two third of the participants had good perception score (May-Thu-Zaw, 2016).

The majority (93.2%) of the respondents in current study agreed that they should protect themselves from hospital associated infection. A study from Tripura had similar results, in which 94.8% of the participants believed that working in hospital environment favors exposure of infectious diseases to them and more than half of them had a desire to create a save working environment (Nag et al., 2018).

More than 90% of respondents accept proper hand washing could prevent hospital associated infection and similar finding was found in a local study (Kaung-Htet-Thu, 2012). The alarming finding in current study was that about 70% of the respondents agreed to use one towel together for hand drying and nurses from those wards also used one towel together. This may be due to lack of air-drying machine and poor knowledge about the risk of cross infection between them.

Nearly all the respondents believed that utilization of PPE is effective for hospital associated infection and a local study done in Orthopedics hospital (Kaung-Htet-Thu, 2012) and a study from Nepal (Rajbhandari and Sagtani, 2018) had similar result. About half of the respondents had wrong attitude that utilization of surgical mask is effective for all airborne infection and that fact could be corrected if infection control training established.

In current study, all manual workers used soap and water and antiseptic hand wash. They also used antiseptic hand gel (80%) and alcohol swabs (30%) for hand cleaning. Most of them practiced hand washing before and after handling between different patients and about one third of respondents washed their hands (after handling dead body and after waste disposal). Less than 15% of the manual workers washed their hands after handling blood products and body secretion/excretion. That proportion pointed out that training and monitoring were essential to prevent spread of infectious diseases. All used of gloves and mask at work site for various purposes. Apron and cap were used mainly by manual workers from operation theater (reported practice). A local study showed majority of nurses practiced hand hygiene and utilization of PPE (May-Thu-Zaw, 2016). Regarding the waste management,color coding system for waste was different from WHO guideline. The majority of them disposed general waste to

blue/green container and one-third of respondents confused color of containers for sharp and infectious waste. Some wards reused empty water bottle for disposal of sharp waste. Similar finding was found in local studies (May-Soe-Aung, 2010) and (May-Thu-Zaw, 2016). Reusing empty water bottle must be prohibited to prevent needle stick and sharp injuries. Less than 40% of them could practice optimal spacing between two beds and that favour the spread of droplet and airborne infection.

Association between education level and good knowledge score was statistically significant in this study and a local study (Pwint-Phyu-Kyaw, 2015) which was done among nurses had similar results. It was assumed that the higher the education level among the study respondents, the better knowledge on infection control practice. The current study has no statistical association between knowledge score and perception score and similar finding found in local study (May-Thu-Zaw, 2016).

As YGH was a 2000 bedded tertiary hospital, basic facilities needed for infection control measures were supplied without interruption to all wards. Amount and items needed were allocated according the needs of the ward.

Limitation of the study

This study was done by face-to-face interviews with structured questionnaire to all manual workers in YGH. To maintain the validity of data, manual workers who were not present at the time of interview were not asked on other day as they could get the information about questionnaire from their colleagues. So, expected sample size was not attained. Some practices of the respondents (those who are assigned at operation theater) are just reported practice. Although there were many literatures about infection control measure among health care personnel, there were limited literature resource about manual workers to compare the results of this study.

CHAPTER (7)
CONCLUSION

This study was a descriptive cross sectional study done in YGH to assess the knowledge, attitude and practice of infection control measures among manual workers. The largest proportion of age group was 30-39 years, most of them passed middle school level and about two third of them were between 1-9 years of service.

Regarding general knowledge on infection control measures, all respondents could answer what the infection control measures were. Only a few respondents knew the optimal spacing between two beds. About half of respondents had knowledge that hospital floor should be cleaned twice a day. The majority of them had high knowledge on infection control measure especially standard precaution measures than additional precautions. All respondents well realized hand hygiene and using PPE were necessary in infection control. Although they knew the substances used in hand washing, the majority of them had lack of knowledge on types of hand washing and steps in hand washing. All respondents knew that gloves and mask were included in PPE but the minority of them knew googles/eye wear and shoe cover were PPE. Most of them had no enough knowledge for conditions which needed to change masks and gloves. Concerning health care waste, all respondents knew color coding for waste but about half of them could not answer correct color matching for sharp and infectious waste. All of them had lack of knowledge that laboratory waste was included in health care waste. Less than one fifth of the respondents knew the correct amount of container to discard for sharp and general waste.

Regarding attitude towards hand hygiene, the alarming finding was two third of the respondents agreed to use one towel together for hand drying and they also practice that. About half of the respondents thought that surgical mask is effective for all airborne infection. Although nearly 90% of them accept hospital floor should be cleaned twice daily no one could practice it. One third of the respondents practices optimal spacing between beds. Only 15.9% of the respondents had good attitude score towards infection control measures.

Although good knowledge score was 89%, good perception score was just 15.9%. That large gap could be filled with infection control training. There were significant association between high education level of manual workers and good knowledge score *(P=0.046)*. Other associations were not statistically significant in this study.

CHAPTER (8)
RECOMMENDATIONS

1. Training about infection control measures should be given before employment and periodic refresher training should be also given to all manual workers
2. Practices of manual workers should be regularly assessed to monitor whether the knowledge obtained from training was applied in the real practice

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Annex (1) Operational definitions and Variables

No	Variable	Operational Definition	Scale of measurement
1	Knowledge	Understanding the infection control measures	Nominal
2	Perception	Belief on acquiring health care associated infection without proper infection control measures	Nominal
3	Practice	Practice of infection control measures	Nominal
4	Hand Hygiene	Hand washing and use of antiseptics	Nominal
5	Hand washing	Washing limited to hands and wrists for a minimum of 40-60 seconds with soap and water	Nominal
6	Hand antisepsis	Removes or destroys transient micro-organisms and confers a prolong effect by using antimicrobial soap and water or waterless alcohol based hand gel/hand rub	Nominal
7	Personal Protective Equipment(PPE)	Protective barriers to reduce the risk of contaminating hands, eyes, clothing, hair and shoes(e.g. gloves, goggles, mask, apron, gown, shoe covers and cap)	Nominal
8	Infectious materials	Contain pathogens in sufficient concentration that exposures to it could cause disease	Nominal
9	Health care waste	Unique form of solid and liquid waste generation in the diagnosis, treatment, prevention or research of human and animal diseases	Nominal

No	Variable	Operational Definition	Scale of measurement
10	Standard precaution	Applied for all patients at all times regardless of their known or presumed infection status	Nominal
11	N 95 mask	The mask that protects health care providers from inhaling respiratory pathogens that are transmitted via airborne route such as MDR-TB	Nominal
12	Sharps	Any items that could cause a cut or puncture such as syringes, needle scalpels and blades	Nominal
13	Color coding	Designates the use of different colors for storage of various categories of hospital wastes	Nominal

Annex (2) Informed consent form

သုတေသန လုပ်ငန်းတွင် ပါဝင်ဆောင်ရွက်ရန် သဘောတူညီချက်တောင်းခံခြင်း

ဤသဘောတူညီချက်မှာ ရန်ကုန်ဆေးရုံကြီးတွင် တာဝန်ထမ်းဆောင်နေသော အခြေခံကျန်းမာရေး ဝန်ထမ်းများ၏ ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်း နှင့်ပတ်သက်၍ ဗဟုသုတ၊ ခံယူချက်၊ သဘောထားဆိုင်ရာ အချက်များအား သုသေသနပြုလုပ်ခြင်း လုပ်ငန်းတွင် ပါဝင်ဆောင်ရွက်ရန် ဖိတ်ခေါ်ခြင်း ဖြစ်ပါတယ်။

အဓိကသုတေသီအမည် - ဒေါက်တာစုစုအေးဝင်း

ဌာန - ပြည်သူ့ကျန်းမာရေး တက္ကသိုလ် (ရန်ကုန်)

သုတေသနခေါင်းစဉ် - ရန်ကုန်ဆေးရုံကြီးတွင် တာဝန်ထမ်းဆောင်နေသော အခြေခံကျန်းမာရေး ဝန်ထမ်းများ၏ ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်း နှင့်ပတ်သက်၍ ဗဟုသုတ၊ ခံယူချက်၊ သဘောထားဆိုင်ရာ အချက်များအား သုသေသနပြုလုပ်ခြင်:

အပိုင်း(က) သုတေသန နှင့်သက်ဆိုင်သောအချက်များ

၁။ မိတ်ဆက်နိဒါန်း

ကျွန်မသည် ဒေါက်တာစုစုအေးဝင်း၊ ဆေးရုံအုပ်ချုပ်မှုဆိုင်ရာ မဟာဘွဲ့ သင်တန်းသား၊ ပြည်သူ့ကျန်းမာရေး တက္ကသိုလ်၊ရန်ကုန်မှ ဖြစ်ပါတယ်။ ကျွန်မအနေနဲ့ ရန်ကုန်ဆေးရုံကြီးတွင် တာဝန်ထမ်းဆောင်နေသော အခြေခံကျန်းမာရေးဝန်ထမ်းများ၏ ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်း နှင့်ပတ်သက်၍ ဗဟုသုတ၊ ခံယူချက်၊ သဘောထားဆိုင်ရာ အချက်များအား သုတေသန တစ်ခု ဆောင်ရွက်လိုပါသည်။ သုတေသနအကြောင်းကို ရှင်းပြပြီး သင့်အား ပါဝင်ရန် ဖိတ်ခေါ် လိုပါသည်။ သင့်အနေနှင့် မရှင်းလင်းသည်များ ရှိပါက မေးမြန်းနိုင်ပါသည်။

၂။ ရည်ရွယ်ချက်

ဤသုတေသန၏ရည်ရွယ်ချက်မှာရန်ကုန်ဆေးရုံကြီးတွင်တာဝန်ထမ်းဆောင်နေသောအခြေခံကျန်းမာရေးဝန်ထမ်းများ၏ကူးစက်ရောဂါပိုးမွှား ထိန်းချုပ်ခြင်း နှင့်ပတ်သက်၍ ဗဟုသုတ၊ ခံယူချက်၊ သဘောထားဆိုင်ရာ အချက်များ မည်သို့ ရှိမည်ကို လေ့လာလိုပါသည်။

၃။ သုတေသနဆောင်ရွက်ပုံအမျိုးအစား

ဤသုတေသနသည် သင့်အား သုတေသီက မေးသော မေးခွန်းများကို ဖြေဆိုရမည် ဖြစ်ပြီး မိနစ် ၃၀ခန့် ကြာမြင့်မည် ဖြစ်ပါသည်။

၄။ ပါဝင်မည့်သူများရွေးချယ်ခြင်း

သင့်အား ဤသုတေသနတွင်ပါဝင်ရန်ဖိတ်ခေါ်ခြင်းမှာ ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်း နှင့် ပတ်သက်၍ ပိုမိုကောင်းမွန်ရန်ပြုပြင်ရေးလုပ်ဆောင်မှုများအပေါ် အထောက်အကူပြုနိုင်မည်ဟု ယူဆ၍ ဖြစ်ပါသည်။

၅။ မိမိဆန္ဒ အလျောက်ပါဝင်ခြင်း

ဤသုတေသနတွင် သင်ပါဝင်ကူညီခြင်းသည် သင်၏သဘောဆန္ဒအလျောက်သာ ဖြစ်ပါသည်။ ပါဝင်ခြင်း၊ မပါဝင်ခြင်းမှာ သင်၏ ဆန္ဒအတိုင်း ရွေးချယ်မှုသာဖြစ်ပါသည်။

၆။ လုပ်ဆောင်ပုံ

ဤသုတေသနတွင် ပါဝင်ဖို့ သင်သဘောတူမည် ဆိုလျှင် သင့်ကို သုတေသီက မေးသော မေးခွန်းများကို ဖြေဆိုရမည် ဖြစ်ပြီး မိနစ် ၃၀ခန့်ကြာမြင့် မည်ဖြစ်ပါသည်။ သင်သည် သီးသန့် နေရာတခုမှာဖြေဆိုရမှာဖြစ်ပြီး သင်၏ လူမှုရေးအချက်အလက်များ၊ လုပ်ငန်းခွင်နှင့်ဆိုင်သော အချက်အလက်များနှင့် အခြေခံကျန်းမာရေးဝန်ထမ်းများ၏ကူးစက်ရောဂါပိုးမွှား ထိန်းချုပ်ခြင်း နှင့်ပတ်သက်၍ သဘောထားမည်သို့ရှိမည်ကိုလေ့လာလိုပါသည်။ မေးခွန်းများဖြေဆိုရာတွင် မရှင်းလင်းသည့် မေးခွန်းများရှိပါကကျွန်မအား မေးမြန်းနိုင် ပါသည်။

၇။ အကျိုးကျေးဇူးများ

ဤသုတေသနတွင်ပါဝင်သောကြောင့် သင့်အတွက် တိုက်ရိုက်အကျိုးကျေးဇူးရရှိမည် မဟုတ်ပါ။ သို့သော်သင်ပါဝင်မှုသည် ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းနှင့်ပတ်သက်သော ခံယူချက်၊ သဘောထားဆိုင်ရာအချက်များပြုပြင်ရေးလုပ်ဆောင်မှုများ အပေါ်တွင်အထောက် အကူ ဖြစ်စေပါသည်။

၈။ အချက်အလက်များသိမ်းဆည်းထားရှိခြင်း

ဤသုတေသနမှ ကောက်ယူရရှိသည့်အချက်အလက်များကို လုံခြုံစွာထားရှိမှာဖြစ်ပါသည်။ သင့်ထံမှ သိရှိရသည့်အချက်များကို သုတေသနအဖွဲ့မှ တပါးအခြားမည်သူမှ မသိစေရပါ။

၉။ သုတေသနရလဒ်များကို ဖြန့်ဝေခြင်း

ဤသုတေသန၏ တွေ့ရှိချက်များကို စိတ်ဝင်စားသူများမှသိရှိနိုင်စေရန် ရလဒ်များကိုသာ ဖြန့်ဝေမည်ဖြစ်ပါသည်။

၁၀။ ဆက်သွယ်ရမည့်ပုဂ္ဂိုလ်

အကြောင်းတစ်စုံတစ်ရာမေးမြန်းလိုလျှင် ဒေါက်တာစုစုအေးဝင်း၊ ဖုန်း ၀၉၅၃၉၄၃၀၁ ကိုဆက်သွယ်နိုင်ပါသည်။ ဤသုတေသန ကို လူပုဂ္ဂိုလ်များအပေါ် သုတေသနပြုမှုဆိုင်ရာ ကျင့်ဝတ်ကော်မတီ မှ ခွင့်ပြုချက်ရရှိပြီး ဖြစ်ပါသည်။

အပိုင်း (ခ) သုတေသနတွင်ပါဝင်ရန် သဘောတူညီမှုပုံစံ

ကျွန်ုပ်သည်အခြေခံကျန်းမာရေး ပန်ထမ်းများ၏ ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းနှင့်ပတ်သက်၍ လေ့လာသော သုတေသနတွင် ပါဝင်ရန် ဖိတ်ခေါ်ခြင်းခံရပါသည်။ ဤသုတေသနတွင် ပါဝင်သောကြောင့်ကျွန်ုပ်အတွက်တိုက်ရိုက်အကျိုးကျေးဇူးမရရှိပါ။

ကျွန်ုပ်သည် သုတေသီကမေးသောမေးခွန်းများကို ဖြေဆိုရမည်ဖြစ်ပြီး မိနစ်(၃၀)ခန့် ကြာမြင့်မည်ဖြစ်ကြောင်းနှင့် လူမှုရေးအချက်အလက်များ၊ လုပ်ငန်းခွင်နှင့်ဆိုင်သော အချက်အလက်များနှင့် အခြေခံကျန်းမာရေးပန်ထမ်းများ၏ ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းနှင့် ပတ်သက်၍ သဘောထားမည်သို့ရှိမည်ကိုလေ့လာလိုပါသည်။ ဤသုတေသနတွင်ကျွန်ုပ်သည် အထက်ဖော်ပြချက်များကို ဖတ်ရှုပြီးဖြစ်ပါသည်။ မရှင်းလင်းသည့်မေးခွန်းများကိုလည်းမေးမြန်းနိုင်၍ ၎င်းတို့ကိုကျွန်ုပ်သည်ကျေနပ်စွာဖြေဆိုပေးပါသည်။ ကျွန်ုပ်ဆန္ဒ အလျောက် ဤသုတေသနတွင်ပါဝင်ရန် သဘောတူပါသည်။

သုတေသနတွင်ပါဝင်သူအမည် ----------

သုတေသနတွင်ပါဝင်သူလက်မှတ် ----------

သုတေသနတွင်ပါဝင်သူ၏လက်ဗွေ ----------

ရက်စွဲ ----------

Institutional Review Board

University of Public Health, Yangon

Name of Investigator – Dr Su Su Aye Win

Title of research - "Infection Control Measures Among Manual Workers in Yangon General Hospital, 2019"

Part (A)

1. Introduction

I am Dr Su Su Aye Win, a candidate of MHA, attending at University of Public Health, Yangon. I am doing research on "Infection Control Measures Among Manual Workers in Yangon General Hospital, 2019"

2. Purpose of the research

This study is to assess "Infection control measures (knowledge, attitude and practice) of all manual workers in YGH.

3. Type of Research Intervention

This research will involve your participation in face to face interviewed with structured questionnaires about thirty minutes.

4. Participant Selection

You are being invited to take part in this research because we feel that you will interest in "Infection control measures in YGH."

5. Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether participate or not.

6. Procedure

I would like to invite you to take part in this research project. If you accept, you have to answer face to face interviewed with structured questionnaires about thirty minutes. It will be taken at a place which is comfortable for you. The questionnaires will include 4 main parts which are information about your socio demographic characteristics, questions on knowledge (knowledge on infection control measures, knowledge on hand hygiene, knowledge on personal protective equipment, knowledge on health care waste), perception towards infection control measures and questions on practice of infection control measures. You do not have to answer any question or take

if you feel the issue(s) are too personal or if talking about them makes you uncomfortable.

7. Benefits

Participation in this study will not benefit the participant directly but your participation is likely to help us find out more about how to support and help all manual workers in infection control measures.

8. Confidentiality

I will not be sharing information about your participation in this study to anyone outside. The information that I collect from this research project will be kept private.

9. Sharing the Results

The knowledge that I get from research will be only to the persons who have the responsibility for this study. I will then publish the results to be read only by the interested people.

10. Who to contact

If there are any queries before, during and after the study you can directly contact the investigator Dr Su Su Aye Win, Phone – 095394301 or via email susuayewin1981@ gmail.com. This proposal had been reviewed and approved by the Institutional Review Board, University of Public Health, Yangon which is a committee whose task is to make sure that research participants are protected from harm. If you wish to find out more about the committee, contact the secretary of the committee at University of Public Health, Yangon, No. 246, Myoma Kyaung Street, Latha Township, Yangon, 11311. Office phone +95 1395213, +95 1395214 ext:23/25.

Part (B) Consent form

I have been invited to participate in research about "Infection control measures among manual workers in YGH." I know that I will have to answer face to face interviewed with structured questionnaires about thirty minutes. I am aware that there may be no benefit to me personally. The questionnaires include socio demographic characteristics, questions on knowledge (knowledge on infection control measures, knowledge on hand hygiene, knowledge on personal protective equipment, knowledge on health care waste), perception towards infection control measures and questions on practice of infection control measures. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions. I consent voluntarily to be a participant in this study.

Name of participant ----------

Signature of participant ----------

Date ----------

Annex (3) Questionnaires

ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းဆိုင်ရာမေးခွန်းလွှာပုံစံ

လူနာဆောင် ----------

အမှတ်စဉ် -

နေ့စွဲ -

(၁) ဖြေဆိုသူ၏ လူမှုစီးပွားအချက်အလက်ဆိုင်ရာ မေးခွန်းများ

စဉ်	မေးခွန်း	အဖြေ	Code
၁။	အသက် (ပြည့်ပြီးအသက်)	_____ နှစ်	
၂။	ကျား/မ	(၁) ကျား (၂) မ	
၃။	ယခုတာဝန်ထမ်းဆောင်နေသော Ward	_____	
၄။	လုပ်ငန်းရာထူး	(၁) အမြဲတမ်းဝန်ထမ်း (၂) နေ့စား	
၅။	စုစုပေါင်းလုပ်သက်	_____	
၆။	ပညာအရည်အချင်း	(၁) စာမတတ် (၂) ရေး/ဖတ် (၃) မူလတန်းအောင် (၄) အလယ်တန်းအောင် (၅) အထက်တန်းအောင်	

(၂) သိမှုဆိုင်ရာမေးခွန်းများ

(က) ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းနှင့်ပတ်သက်၍ သိမှုဆိုင်ရာမေးခွန်းများ

စဉ်	မေးခွန်း	အဖြေ	Code
၁။	ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်း အကြောင်းကို ကြားဖူးပါသလား။	(၁) ကြားဖူးပါသည်။ (၂) မကြားဖူးပါ။ (အကယ်၍မကြားဖူးပါ ဆိုလျှင် မေးခွန်း ၆ ကိုသွားပါ။)	

၂။	ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းအကြောင်း မည်ကဲ့သို့ သိရှိပါသနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မက ဖြေဆိုနိုင်ပါသည်။)	(၁) ရေဒီယိုနှင့် ရုပ်မြင်သံကြား (၂) သတင်းစာ၊ မဂ္ဂဇင်း (၃) ပိုစတာ ၊လက်ကမ်းစာစောင် (၄) အင်တာနက် (၅) လကုန်အစည်းအဝေး (၆) လုပ်ငန်းမှစီစဉ်ပေး သောသင်တန်း (၇) အခြား _____	
၃။	ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းဖြင့် မည်သည့် ပုဂ္ဂိုလ်များကိုကာကွယ်နိုင်ပါသလဲ။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုင်နိုင်သည်။)	(၁) ဆရာဝန်များ (၂) လူနာများ (၃) ဧည့်သည်များ၊ လူနာစောင့်များ (၄) သူနာပြုများ (၅) ဆေးရုံရှိ အလုပ်သမားများ (၆) ခါတ်ခွဲကျွမ်းကျင် ပုဂ္ဂိုလ်များ (၇) အခြား _____	
၄။	ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ရာတွင် အောက်ပါ အချက်များ ပါဝင်သည်။ (အဖြေအားဖတ်ပြမည်။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) လက်ဆေးခြင်း (၂) PPE (Personal Protective Equipment)အသုံးပြုမှု (၃) ဆေးထိုးအပ်နှင့် ချွန်ထက်သောပစ္စည်း အန္တရာယ်မှကာကွယ်မှု (၄) လူနာ၏အသုံး အဆောင်အခင်းအကျင်း များကို မှန်ကန်သော ကိုင်တွယ်မှု (၅) အညစ်အကြေး နှင့် အမှိုက်များအားမှန်ကန်	

		သောကိုင်တွယ်မှု (၆)ပတ်ဝန်ကျင်သန့်ရှင်းမှု နှင့်အညစ်အကြေးများ ကိုစီမံမှု	
၅။	PPE အသုံးပြုမှုသည် ပိုးမွှားထိန်းချုပ်ရာတွင်လိုအပ်ပါသလား။	(၁) လိုအပ်ပါသည်။ (၂) မလိုအပ်ပါ။	
၆။	လူနာများကိုနေရာချရာတွင် ခုတင်တစ်ခုနှင့် တစ်ခု ကြား အကောင်းဆုံးအကွာအဝေးကို သိပါသလား။	(၁) သိပါသည်။ (၂) မသိပါ။ (အကယ်၍မသိပါဆို လျှင် မေးခွန်း ၈ ကို သွားပါ။)	
၇။	သိလျှင်၊ အကောင်းဆုံးအကွာဝေးကိုပြောပြပေးပါ။	_____	
၈။	ဆေးရုံကြမ်းပြင် ဆေးကြောခြင်းကို သိပါသလား။	(၁) သိပါသည်။ (၂) မသိပါ။ (အကယ်၍မသိပါဆို လျှင် မေးခွန်း ၁၀ ကို သွားပါ။)	
၉။	သိလျှင်၊ တစ်နေ့လျှင် ဘယ်နှစ်ကြိမ် ဆေးကြောရပါသနည်း။	_____	
၁၀	အသုံးများသောပိုးသတ်ဆေးရည်များမှာ (အဖြေအားဖတ်ပြမည်။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) ၇၀%အရက်ပြန် (၂) ၁% hypochloride (၃) Bleaching powder (၄) Surgitol	

(ခ) လက်ဆေးခြင်းနှင့်ပတ်သက်၍ သိမှုဆိုင်ရာမေးခွန်းများ

စဉ်	မေးခွန်း	အဖြေ	Code
၁။	စနစ်တကျလက်ဆေးခြင်းကို သိပါသလား။	(၁) သိပါသည်။ (၂) မသိပါ။ (အကယ်၍မသိပါဆို လျှင် မေးခွန်း ၄ ကို သွားပါ။)	

စဉ်	မေးခွန်း	အဖြေ	Code
၂။	သိလျှင်၊လက်ဆေးခြင်းအမျိုးအစား ဘယ်နှစ်မျိုး ရှိပါသနည်း။	_____	
၃။	လက်ဆေးခြင်းအဆင့်ဘယ်နှစ်ဆင့်ရှိပါ သနည်း။	_____	
၄။	လက်ဆေးခြင်းတွင် မည်သည့်နည်းကို အသုံးပြုနိုင် ပါသနည်း။ (အဖြေအားဖတ်ပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်ပါသည်။)	(၁) ဆပ်ပြာနှင့်ရေ (၂) အရက်ပြန်ဂွမ်း (၃) ပိုးသတ်ဆေးပါသော လက်ဆေးရည် (hand wash) (၄) ပိုးသတ်ဆေးပါသော လက်ဆေးရည် (hand gel)	
၅။	မည်သည့်အခြေအနေတွင် လက်ဆေးရန် လိုအပ်ပါ သနည်း။ (အဖြေအားဖတ်မပြပါ။ (တခုထက်မကဖြေနိုင်သည်။)	(၁) သွေးနှင့်ဆိုင်သော အရာဝတ္ထုများကို ကိုင်တွယ်ပြီးလျှင် (၂) လူ၏ခန္ဓကိုယ်မှ ထွက်သောအရည်များ ကိုကိုင်တွယ်ပြီးလျှင် (၃) ကူးစက်ရောဂါပိုးရှိ နိုင်သောအရာဝတ္ထု များကိုကိုင်တွယ်ရာတွင် (၄) လူနာတစ်ဦးအကြား မထိတွေ့မီနှင့် ထိတွေ့ပြီးနောက် (၅) အခြား_____	
၆။	လူနာများကို နေရာမချမီနှင့် ချပြီးပါကလက်ကိုဆပ်ပြာ၊ရေတို့ဖြင့် ဆေးကြောရာတွင် မည်သည့်အစိတ် အပိုင်း အထိဆေးမည်နည်း။ (အဖြေအားဖတ်ပြမည်။) (တစ်ခုသာဖြေဆိုရန်။)	(၁) လက်တစ်ခုတည်း (၂) လက်မှ လက်ကောက်ဝတ်အထိ (၃) လက်မှတံတောင်ဆစ် အထိ	

(၈) PPE နှင့်ပတ်သက်၍ သိမှုဆိုင်ရာမေးခွန်းများ

စဉ်	မေးခွန်း	အဖြေ	Code
၁။	PPE တွင် မည်သည့်အရာများ ပါဝင်သနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) ဆံပင်သိမ်းခေါင်းစွပ် (၂)အကာအကွယ်မျက်မှန် (၃) နှာခေါင်းစည်း (၄) ဝတ်ရုံ (Gown) (၅) Apron (၆) လက်အိတ် (၇) အကာအကွယ်ဖိနပ် (၈) အခြား_____	
၂။	အောက်ပါအခြေအနေတို့တွင် PPE သုံးရန်လိုအပ် သည်။ (အဖြေအားဖတ်ပြမည်။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁)သွေးနှင့်ပတ်သက်သော ပစ္စည်းများကိုင်တွယ်ရာတွင် (၂) လူနာ၏အရည်နှင့် အညစ်အကြေးများကို ကိုင်တွယ်ရာတွင် (၃) လူနာများကိုသယ်ယူပို့ဆောင်ရာတွင် (၄) ကူးစက်ရောဂါရှိသော လူနာများကိုသယ်ယူပို့ဆောင်ရာတွင်	
၃။	လေမှတဆင့်ကူးစက်နိုင်သောရောဂါ ခံစားနေရသော လူနာများကို သယ်ယူပို့ဆောင်ရာတွင် မည်သည့်နှာခေါင်းစည်းကို အသုံးပြုမည်နည်း။ (အဖြေအားဖတ်မပြပါ။) (တခုသာဖြေရန်)	(၁) သာမန်နှာခေါင်းစည်း (၂) N-95 နှာခေါင်းစည်း	
၄။	မည်သည့်အခြေအနေတွင် နှာခေါင်းစည်းလဲရန်လိုအပ်ပါသလဲ။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) လူနာချောင်းဆိုးလျှင် (၂) ကူးစက်ရောဂါပိုးရှိနိုင်သောလူနာများကို သယ်ယူပို့ဆောင်အပြီးတွင် (၃) မိမိလက်နှင့်နှာခေါင်းစည်းကို ထိမိလျှင်	

		(၄) စကားပြောရန် (သို့) အသက်ရှူရန် အတွက် နှာခေါင်းစည်းချွတ်မိ လျှင် (၅) အခြား_____	
၅။	လက်အိတ်မဝတ်မီ လက်ဆေးခြင်းပြုလုပ်ရန် လိုအပ်ပါသလား။	(၁) လိုအပ်ပါသည်။ (၂) မလိုအပ်ပါ။	
၆။	မည်သည့်အခြေအနေတို့တွင် လက်အိတ်လဲလှယ်ရန် လိုအပ်ပါသနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) လူနာတစ်ဦးနှင့်တစ်ဦး ကြား ထိတွေ့ ရာတွင် (၂) လက်အိတ်ညစ်ပေလျှင် (၃) အခြား_____	

(ဃ) ဆေးရုံစွန့်ပစ်ပစ္စည်းနှင့်ပတ်သက်၍ သိမှုဆိုင်ရာမေးခွန်းများ

စဉ်	မေးခွန်း	အဖြေ	Code
၁။	ကျန်းမာရေးစောင့်ရှောက်မှုနှင့်ပတ်သက်သည့် စွန့်ပစ်ပစ္စည်းများကို သိပါသလား။	(၁) သိပါသည်။ (၂) မသိပါ။ (အကယ်၍မသိပါဆိုလျှင် မေးခွန်း ၃ ကိုသွားပါ။)	
၂။	သိလျှင် ပြောပြပေးပါ။ (အဖြေအားဖတ်မပြပါ) (တစ်ခုတက်မကဖြေဆိုနိုင်)	(၁) ကူးစက်ရောဂါပါဝင်သော အညစ်အကြေး (၂) ဓါတ်ခွဲခန်းဆိုင်ရာ စွန့်ပစ် ပစ္စည်းများ (၃) ချွန်တက်သော ပစ္စည်းများ (၄) အဆိပ်အတောက် ဖြစ်စေသောဓါတ်ခွဲခန်း သုံးပစ္စည်းများ (၅) အသုံးပြုပြီးသော အရက်ပြန်ဂွမ်း၊လက်အိတ်၊ နှာခေါင်းစည်းနှင့် တခြား PPE များ	

စဉ်	မေးခွန်း	အဖြေ	Code
၃။	(WHO)အမှိုက်ပုံးအရောင်ခွဲခြားစနစ်ကို သိပါသလား။	(၁) သိပါသည်။ (၂) မသိပါ။ (အကယ်၍မသိပါဆိုလျှင် မေးခွန်း ၈ ကိုသွားပါ။)	
၄။	(WHO)အမှိုက်ပုံးအရောင်နှင့်ခွဲခြားစနစ် ပြုလုပ်ရာတွင် မည်သည့်အရောင်များ ပါဝင်သနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) အမဲရောင် (၂) အဝါရောင် (၃) အနီရောင် (၄) အစိမ်းရောင် (၅) အညိုရောင် (၆) အခြား_____	
၅။	စားကြွင်းစားကျန်အမှိုက်အညစ်အကြေးများကို မည်သည့်အမှိုက်ပုံးအရောင်တွင် စွန့်ပစ်ရမည်နည်း။	_____	
၆။	ချွန်ထက်သောပစ္စည်းများကိုမည်သည့်အမှိုက်ပုံးအရောင်တွင် စွန့်ပစ်ရမည်နည်း။	_____	
၇။	ကူးစက်ရောဂါပိုးပါဝင်နေသောအညစ်အကြေးများကို မည်သည့်အမှိုက်ပုံးအရောင်တွင် စွန့်ပစ်ရမည်နည်း။	_____	
၈။	ချွန်ထက်ပစ္စည်းများထည့်သည့် အမှိုက်ပုံးကို မည်မျှ ပြည့်လျှင်လဲလှယ်ရမည်နည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုသာဖြေရန်။)	(၁) လုံးဝပြည့်လျှင် (၂) လေးပုံသုံးပုံပြည့်လျှင် (၃) တဝက်ပြည့်လျှင် (၄) အခြား_____	
၉။	စားကြွင်းစားကျန် အမှိုက်အညစ်အကြေးများထည့်သည့် အမှိုက်ပုံးကို မည်မျှပြည့်လျှင် လဲလှယ်ရမည်နည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုသာဖြေရန်။)	(၁) လုံးဝပြည့်လျှင် (၂) လေးပုံသုံးပုံပြည့်လျှင် (၃) တဝက်ပြည့်လျှင် (၄) အခြား_____	

(၃) သဘောထားခံယူချက်ဆိုင်ရာမေးခွန်းများ

စဉ်	မေးခွန်း	လုံးဝသဘောတူပါသည်	သဘောတူပါသည်	သဘောမတူပါ	လုံးဝသဘောမတူပါ	မသိပါ
၁။	ဆေးရုံလုပ်သားများသည် ဆေးရုံအတွင်း ကူးစက်ရောဂါပိုးကြောင့် ရောဂါမဖြစ်နိုင်ပါ။					
၂။	မှန်ကန်သောလက်ဆေးခြင်းသည် ဆေးရုံအတွင်း ကူးစက်ရောဂါပိုးဖြစ်ပွားမှုကို ကာကွယ်နိုင်သည်။					
၃။	PPE များကို စနစ်တကျအသုံးပြုခြင်းဖြင့် ဆေးရုံအတွင်း ကူးစက်ရောဂါဖြစ်ပွားမှုကို ကာကွယ်နိုင်သည်။					
၄။	ဆေးရုံမှစွန့်ပစ်ပစ္စည်းများကို သေချာစွာ စွန့်ပစ်နိုင်ရန် စီစဉ်နိုင်လျှင် ဆေးရုံအတွင်း ကူးစက်ရောဂါဖြစ်ပွားမှုကို ကာကွယ်နိုင်သည်။					
၅။	ဆေးရုံလုပ်သားအားလုံးတွင် ဆေးရုံအတွင်း ကူးစက်ရောဂါဖြစ်ပွားမှုကို ကာကွယ်ရန် တာဝန် ရှိပါသည်။					
၆။	လူနာတစ်ဦးနှင့် အခြားလူနာများကို ထိတွေ့ကိုင်တွယ်ရာတွင် လက်ဆေးခြင်း မလိုအပ်ပါ။					
၇။	သာမန်နာခေါင်းစည်းသည် လေထုထဲမှ ကူးစက် ရောဂါပိုးပျံ့နှံ့ခြင်းကို ကာကွယ်နိုင်သည်။					
၈။	ဆေးရုံအတွင်း ကူးစက်ရောဂါဖြစ်ပွားခြင်းသည် ဆေးရုံလုပ်သားများကို ထိခိုက်စေခြင်းမရှိပါ။					
၉။	လက်ကိုခြောက်သွေ့အောင် ဆောင်ရွက်ရာတွင် ပုဝါတဘက် တစ်ခုတည်းကို သုံးနိုင်သည်။					

စဉ်	မေးခွန်း	လုံးဝသဘောတူပါသည်	သဘောတူပါသည်	သဘောမတူပါ	လုံးဝသဘောမတူပါ	မသိပါ
၁၀။	ဆေးရုံကြမ်းပြင်အား တစ်နေ့လျှင် (၂) ကြိမ် ရေနှင့်ပိုးသတ်ဆေးကိုသုံး၍ ပုံမှန်သန့်ရှင်းသင့်သည်။					

(၄) ကူးစက်ရောဂါပိုးမွှားထိန်းချုပ်ခြင်းနှင့်ပတ်သက်၍ အလေ့အကျင့်ဆိုင်ရာ မေးခွန်းများနှင့် ဆေးရုံမှ ပံ့ပိုးပေးသည့် ကူညီမှုများ

စဉ်	မေးခွန်း	အဖြေ	Code
၁။	လုပ်ငန်းခွင်တွင်လက်ဆေးခြင်းပြုလုပ်ပါသလား။	(၁) ပြုလုပ်ပါသည်။ (၂) မပြုလုပ်ပါ။ (အကယ်၍ မပြုလုပ်ပါ ဆိုလျှင် မေးခွန်း၅ကို သွားပါ။)	
၂။	ပြုလုပ်ပါက မည်သည့်နည်းလမ်းကို အသုံးပြုပါ သနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) ဆပ်ပြာနှင့်ရေ (၂) အရက်ပြန်၀မ်း (၃) ပိုးသတ်ဆေးပါသော လက်ဆေးရည် (hand wash) (၄) ပိုးသတ်ဆေးပါသော လက်ဆေးရည် (ပျစ်) (hand gel) (၅) အခြား _____	
၃။	မည်သည့်အချိန်တွင် လက်ဆေးခြင်းပြုလုပ်ပါ သနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) သွေးနှင့်ဆိုင်သောအရာ ဝတ္ထုများကိုကိုင်တွယ်ပြီးလျှင် (၂) လူ၏ခန္ဓာကိုယ်မှ ထွက်သော အရည်များကို ကိုင်တွယ်ပြီးလျှင် (၃) ကူးစက်ရောဂါပိုးရှိနိုင်သော အရာဝတ္ထုများကိုကိုင်တွယ်ရာတွင် (၄) လူနာတစ်ဦးအကြားမထိတွေ့မီနှင့် ထိတွေ့ပြီးနောက် (၅) အခြား _____	
၄။	စနစ်တကျလက်ဆေးခြင်းအဆင့် အတိုင်း ဆေးပါသလား။	(၁) ဆေးပါသည်။ (၂) မဆေးပါ။	
၅။	လုပ်ငန်းခွင်တွင် လက်ဆေးရန် ဆပ်ပြာနှင့် ရေ အမြဲတမ်း ရရှိပါသလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	

၆။	လုပ်ငန်းခွင်တွင် လက်ဆေးရန် ပိုးသတ်ဆေးပါ သော လက်ဆေးရည် အမြဲတမ်း ရရှိပါသလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၇။	လက်ဆေးပြီးလျှင်လက်ကိုခြောက်သွေ့ အောင် ပြုလုပ်ပါသလား။	(၁) ပြုလုပ်ပါသည်။ (၂) မပြုလုပ်ပါ။ (အကယ်၍မပြုလုပ်ပါဆို လျှင် မေးခွန်း ၉ ကိုသွားပါ။)	
၈။	ပြုလုပ်သည်ဆိုလျှင်မည်သည့် နည်းလမ်းကို အသုံး ပြုပါသနည်း။ (အဖြေအားဖတ်မပြပါ။) (တစ်ခုထက်မကဖြေဆိုနိုင်သည်။)	(၁) တခါသုံးလက်သုတ်ပဝါ (၂) ပြန်လည်အသုံးပြုနိုင်သော လက်သုတ်ပဝါ (၃) လေဖြင့်အခြောက်ခံခြင်း (Air Dry) (၄) အခြား _____	
၉။	လုပ်ငန်းခွင်တွင် ဆံပင်သိမ်းခေါင်းစွပ် အသုံးပြုပါ သလား။	(၁) အသုံးပြုပါသည်။ (၂) အသုံးမပြုပါ။ (အကယ်၍အသုံးမပြုပါဆို လျှင် မေးခွန်း ၁၁ ကိုသွားပါ။)	
၁၀။	အသုံးပြုလျှင် မည်သည့်အချိန်တွင် သုံးပါသနည်း။	_____ _____	
၁၁။	လုပ်ငန်းခွင်တွင် ဆံပင်သိမ်းခေါင်းစွပ်များ အမြဲရရှိပါသလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၁၂။	လုပ်ငန်းခွင်တွင် နှာခေါင်းစည်း အသုံးပြုပါ သလား။	(၁) အသုံးပြုပါသည်။ (၂) အသုံးမပြုပါ။ (အကယ်၍ အသုံးမပြုပါဆိုလျှင် မေးခွန်း ၁၄ ကိုသွားပါ။)	
၁၃။	အသုံးပြုလျှင် မည်သည့်အချိန်တွင် သုံးပါသနည်း။	_____ _____	
၁၄။	လုပ်ငန်းခွင်တွင် နှာခေါင်းစည်းများ အမြဲရရှိပါ သလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၁၅။	လုပ်ငန်းခွင်တွင် လက်အိတ် အသုံးပြုပါသလား။	(၁) အသုံးပြုပါသည်။ (၂) အသုံးမပြုပါ။ (အကယ်၍ အသုံးမပြု ပါဆိုလျှင် မေးခွန်း ၁၇ ကိုသွားပါ။)	

စဉ်	မေးခွန်း	အဖြေ	Code
၁၆။	အသုံးပြုလျှင် မည်သည့်အချိန်တွင် သုံးပါသနည်း။	----------	
၁၇။	လုပ်ငန်းခွင်တွင် လက်အိတ်များ အမြဲရရှိပါ သလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၁၈။	လုပ်ငန်းခွင်တွင် Apron အသုံးပြုပါသလား။	(၁) အသုံးပြုပါသည်။ (၂) အသုံးမပြုပါ။ (အကယ်၍ အသုံးမပြု ပါဆိုလျှင် မေးခွန်း ၂၀ ကိုသွားပါ။)	
၁၉။	အသုံးပြုလျှင် မည်သည့်အချိန်တွင် သုံးပါသနည်း။	_____ _____	
၂၀။	လုပ်ငန်းခွင်တွင် Apron များ အမြဲရရှိပါသလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၂၁။	လုပ်ငန်းခွင်တွင် အကာအကွယ်ဖိနပ် အသုံးပြုပါ သလား။	(၁) အသုံးပြုပါသည်။ (၂) အသုံးမပြုပါ။ (အကယ်၍ အသုံးမပြုပါဆိုလျှင် မေးခွန်း ၂၃ ကိုသွားပါ။)	
၂၂။	အသုံးပြုလျှင် မည်သည့်အချိန်တွင် သုံးပါသနည်း။	_____ _____	
၂၃။	လုပ်ငန်းခွင်တွင်အကာအကွယ်ဖိနပ်များ အမြဲ ရရှိပါသလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၂၄။	လုပ်ငန်းခွင်တွင် အမှိုက်များကို အမှိုက်ပုံးအရောင် များခွဲခြားစွန့်ပစ်ခြင်း ပြုလုပ်ပါသလား။	(၁) ပြုလုပ်ပါသည်။ (၂) မပြုလုပ်ပါ။ (အကယ်၍ မပြုလုပ် ပါဆိုလျှင် မေးခွန်း ၂၈ ကိုသွားပါ။)	
၂၅။	စားကြွင်းစားကျန်အမှိုက်အညစ်အကြေး များကိုမည်သည့်အမှိုက်ပုံးအရောင်တွင် စွန့်ပစ်ပါသနည်း။	_____	
၂၆။	ချွန်ထက်သောပစ္စည်းများကိုမည်သည့် အမှိုက်ပုံးအရောင်တွင် စွန့်ပစ်ပါသနည်း။	_____	
၂၇။	ကူးစက်ရောဂါပိုးပါဝင်နေသောအညစ် အကြေးများ ကို မည်သည့်အမှိုက်ပုံး အရောင်တွင် စွန့်ပစ်ပါသနည်း။	_____	

စဉ်	မေးခွန်း	အဖြေ	Code
၂၈။	အမှိုက်ပုံးကိုမည်မျှပြည့်လျှင်လဲလှယ်ပါသနည်း။	_____	
၂၉။	ဆေးရုံကြေမ်းပြင်ကိုရေပိုးသတ်ဆေးရည်နှင့်နေ့စဉ်ဆေးကြောပါသလား။	(၁) ဆေးကြောပါသည်။ (၂) မဆေးကြောပါ။ (အကယ်၍မဆေးကြောပါဆို လျှင်မေးခွန်း ၃၁ ကိုသွားပါ။)	
၃၀။	ဆေးကြောလျှင် တစ်နေ့ ဘယ်နှစ်ကြိမ် ဆေးကြောပါသနည်း။	_____	
၃၁။	သန့်စင်ဆေးကြောရန် ပိုးသတ်ဆေးရည် အမြဲရရှိ ပါသလား။	(၁) ရရှိပါသည်။ (၂) မရရှိပါ။	
၃၂။	လူနာများကိုနေရာချရာတွင်ကုတင်တစ်ခုနှင့်တစ်ခုအကြားအကွာအဝေးမည်မျှ ခြားပါသနည်း။	_____	

Date - Code__ __ __

Ward-

(A) Background characteristics of manual workers

No	Question	Answer	Code
1	Age		
2	Gender	1) male 2) female	
3	Ward		
4	Rank	1) permanent 2) temporary	
5	Total service		
6	Education Level	1) illiterate 2) read and write only 3) passed primary 4) passed middle 5) passed higher	

(B) Questions on Knowledge

(B-1) Knowledge on infection control measures

No	Question	Answer	Code
1	Have you ever heard any information about infection control measures	1) yes 2) no (if no, skip Q.2,3,4,5)	
2	Sources of information for infection control measures (answer will not be read) (can answer more than one)	1) radio and television 2) newspapers and magazines 3) poster and pamphlet 4) internet 5) debar 6) training from work 7) others	
3	Infection control practices are essential to provide protection for (answer will not be read) (can answer more than one)	1) patients 2) doctors 3) visitors 4) nurses 5) manual workers 6) lab worker 7) others	

No	Question	Answer	Code
4	Infection control measures include llowings (answers will be read) (can answer more than one)	1) hand hygiene 2) use of Personal Protective Equipment (PPE) 3) prevention of needle stick and sharp injuries 4) appropriate handling of patient belongings, equipment and soiled linen 5) appropriate handling of waste 6) environmental cleaning and spills management	
5	Using PPE is needed in infection control measures	1) yes 2) no	
6	Do you know optimum spacing between 2 beds	1) yes 2) no	
7	If the answer is Yes, What is the optimum spacing between 2 beds?	1) one to two meters 2) others	
8	Do you know cleaning the hospital floor with disinfectants?	1) yes 2) no (if no, skip Q.9)	
9	If yes, do you know how many times per day?		
10	Most common used disinfectants are (answers will be read) (can answer more than one)	1) 70% alcohol 2) 1%hypochloride 3) bleaching powder 4) surgitol/aseptol	

(B-2) Knowledge on hand hygiene

No	Question	Answer	Code
1	Do you know proper hand washing practice?	1) yes 2) no (if no, skip Q.2)	
2	If yes, how many types of hand washing present?		

No	Question	Answer	Code
3	How many steps in hand washing present?		
4	Hands can be cleaned with (answers will be read) (can answer more than one)	1) soap and water 2) alcohol swabs 3) antiseptic hand wash 4) antiseptic hand gels	
5	When will you wash your hands? (answers will not be read) (can answer more than one)	1) handling any blood and blood product 2) after handling body secretion and excretion 3) after handling contaminated items 4) before and after handling between different patients 5) others	
6	Before and after handling the patient, hand washing should be up to (answers will be read) (can answer more than one)	1) hands only 2) hand and wrist 3) hand and forearm	

(B-3) Knowledge on Personal Protective Equipment (PPE)

No	Questions	Answers	Code
1	Can you answer what includes in PPE? (answers will not be read) (can answer more than one)	1) hair cover or cap 2) goggles or eye wear 3) mask 4) gown 5) apron 6) gloves 7) shoe cover 8) others	
2	PPE is required when (answers will be read) (can answer more than one)	1) handling blood and blood product 2) handling body secretion and excretion 3) transportation of patients 4) when transporting infectious patients	
3	For airborne infection, which type of mask is suitable? (answers will not be read) (to answer only one)	1) surgical mask 2) N95 mask	
4	When do you need to change mask? (answers will not be read) (can answer more than one)	1) if patient coughs 2) after transporting the infectious patients 3) when touch by own hand or fingers 4) after dropping down for talking or breathing	
5	Before wearing gloves, hand washing is required?	1) yes 2) no	
6	When do you need to change glove? (answers will not be read) (can answer more than one)	1) between different patients 2) when they become soiled 3) Others	

(B-4) Knowledge on health care waste

No	Questions	Answers	Code
1	Do you know health care waste?	1) yes 2) no (if no, skip Q.2)	
2	What are health care waste? (answers will not be read) (can answer more than one)	1) infectious waste which contain pathogen 2) laboratory waste 3) sharps 4) toxic laboratory chemicals 5) used swabs, masks, gloves and other PPE	
3	Do you know WHO color coding system for health care waste?	1) yes 2) no (if no, skip Q.4,5,6)	
4	WHO color coding system for health care waste disposal	1) black 2) yellow 3) red 4) green 5) brown 6) others	
5	General waste must be disposed in -------colored container.		
6	Sharp waste must be disposed in ----colored container.		
7	Highly infectious waste must be disposed in -----colored container.		
8	Containers for sharp waste must be removed when they are (answers will not be read) (to answer only one)	1) completely full 2) three-quarter full 3) half full 4) others	
9	Containers for general waste must be removed when they are (answers will not be read) (to answer only one)	1) completely full 2) three-quarter full 3) half full 4) others	

(C) Perception towards infection control measures

No	Questions	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
1	General workers cannot be acquired hospital associated infection	1	2	3	4	5
2	Practice of proper hand washing can prevent hospital associated infection	1	2	3	4	5
3	Utilization of PPE is effective for prevention of hospital associated infection	1	2	3	4	5
4	Management of health care waste is important for prevention of hospital associated infection	1	2	3	4	5
5	Every worker should have right to protect themselves from hospital associated infection	1	2	3	4	5
6	Hand hygiene is not necessary in between contact with different patients	1	2	3	4	5
7	Utilization of surgical mask is effective for all airborne infection	1	2	3	4	5
8	Hospital associated infection have little adverse effect on health of the health care workers	1	2	3	4	5
9	We can use one towel together for hand drying.	1	2	3	4	5
10	Hospital floor should be cleaned twice daily with water and disinfectants.	1	2	3	4	5

(D) Practice of infection control measures and facilities supply from hospital for infection control measures

(E)

No	Questions	Answers	Code
1	Do you practice hand washing at work sites?	1) yes 2) no (if no, skip Q.2,3,4)	
2	If yes, how do you wash your hands? (answers will not be read) (can answer more than one)	1) soap and water 2) alcohol swabs 3) antiseptic hand wash 4) antiseptic hand Gels	
3	When will you wash your hands? (answers will not be read) (can answer more than one)	1) handling any blood and blood product 2) after handling body secretion and excretion 3) after handling contaminated items 4) before and after handling between different patients 5) others	
4	Do you wash your hands according to steps of hand washing?	1) yes 2) no	
5	Are there soap and water always available at work site?	1) yes 2) no	
6	Are there antiseptic hand wash always available at work site?	1) yes 2) no	
7	Drying hand after hand washing?	1) yes 2) no (if no, skip Q.8)	
8	If Yes, methods of hand drying (answers will not be read) (can answer more than one)	1) disposable towel 2) reused towel 3) air dry 4) others	

No	Questions	Answers	Code
9	Do you use cap at work site?	1) yes 2) no (if no, skip Q.10)	
10	If yes, when do you use cap?		
11	Are there cap always available at work site?	1) yes 2) no	
12	Do you use surgical mask at work site?	1) yes 2) no (if no, skip Q.13)	
13	If yes, when do you use surgical mask?		
14	Are there surgical mask always available at work site?	1) yes 2) no	
15	Do you use gloves at work site?	1) yes 2) no (if no, skip Q.16)	
16	If yes, when do you use gloves?		
17	Are there gloves always available at work site?	1) yes 2) no	
18	Do you use apron at work site?	1) yes 2) no (if no, skip Q.19)	
19	If yes, when do you use apron?		
20	Are apron always available at work site?	1) yes 2) no	
21	Do you use boots at work site?	1) yes 2) no (if no, skip Q.22)	
22	If yes, when do you use boots?		
23	Are there boots always available at work site?	1) yes 2) no	
24	Is color coding system for waste disposal used at work site?	1) yes 2) no (if no, skip Q.25,26,27)	
25	For general waste, which color of container is used?		
26	For sharp waste, which color of container is used?		
27	For infectious waste, which color of container is used?		

No	Questions	Answers	Code
28	When you change container of waste? (amount they are filled)		
29	Do you wash hospital floor daily?	1) yes 2) no (if no, skip Q.30)	
30	If yes, how many times per day you wash hospital floor?		
31	Are there disinfectants for cleaning always available at work site?	1) yes 2) no	
32	What is the optimal space for patient between each bed?		

Annex (4) Scoring System

No	Knowledge	Scoring	
		Yes	No
1	Infection control practices are essential to provide protection for		
	patients	1	0
	doctors	1	0
	visitors	1	0
	nurses	1	0
	manual workers	1	0
	lab worker	1	0
	others (children, family)	1	0
2	Infection control measures include the followings		
	hand hygiene	1	0
	use of Personal Protective Equipment (PPE)	1	0
	prevention of needle stick and sharp injuries	1	0
	appropriate handling of patient belongings, equipment and soiled linen	1	0
	appropriate handling of waste	1	0
	environmental cleaning and spills management	1	0
3	Using PPE is needed in infection control measures	1	0
4	Optimum spacing between 2 beds		
	one to two meters	1	0
5	Cleaning the hospital floor with disinfectants 2 times per day	1	0
6	Most common used disinfectants for cleaning the hospital	1	0
	Bleaching powder	1	0
	Surgitol/Aseptol		
7	Types of hand washing (3 types)	1	0
8	Steps in hand washing (6 steps)	1	0
9	Hands can be cleaned with		
	soap and water	1	0
	alcohol swabs	1	0
	antiseptic hand wash	1	0
	antiseptic hand gels	1	0
10	Before and after handling the patient, hand washing should be up to		
	hand and wrist	1	0
	hand and forearm	1	0

No	Knowledge	Scoring	
		Yes	No
11	PPE includes		
	hair cover or cap	1	0
	goggles or eye wear	1	0
	mask	1	0
	gown	1	0
	apron	1	0
	gloves	1	0
	shoe cover	1	0
12	PPE is required when		
	handling blood and blood product	1	0
	handling body secretion and excretion	1	0
	transportation of patients	1	0
	when transporting infectious patients	1	0
13	For airborne infection, type of mask is suitable is N95 mask	1	0
14	It needs to change mask		
	if patient coughs	1	0
	after transporting the infectious patients	1	0
15	Hand washing is required before wearing gloves	1	0
16	It need to change glove		
	between different patients	1	0
	when they become soiled	1	0
	Others	1	0
17	Health care waste are		
	infectious waste which contain pathogen	1	0
	laboratory waste	1	0
	sharps	1	0
	toxic laboratory chemicals	1	0
	used swabs, masks, gloves and other PPE	1	0
18	Color coding system for health care waste disposal		
	yellow	1	0
	red	1	0
	green	1	0
	blue	1	0
19	General waste must be disposed in blue/green colored container	1	0
20	Sharp waste must be disposed in yellow colored container.	1	0
21	Highly infectious waste must be disposed in red colored container.	1	0

No	Knowledge	Scoring	
		Yes	No
22	Containers for sharp waste must be removed when they are three-quarter full.	1	0
23	Containers for general waste must be removed when they are three-quarter full.	1	0

Perception towards Infection Control Measures

No	Perception	Score				
		Strongly agree	Agree	Disagree	Strongly Disagree	Don't Know
1	General workers cannot be acquired hospital associated infection.	2	3	4	5	1
2	Practice of proper hand washing can prevent hospital associated infection.	5	4	3	2	1
3	Utilization of PPE is effective for Prevention of hospital associated infection.	5	4	3	2	1
4	Management of health care waste is important for prevention of hospital associated infection.	5	4	3	2	1
5	Every worker should have right to protect themselves from hospital associated infection.	5	4	3	2	1
6	Hand hygiene is not necessary in between contact with different patients.	2	3	4	5	1
7	Utilization of surgical mask is effective for all airborne infection.	2	3	4	5	1

No	Perception	Score				
		Strongly agree	Agree	Disagree	Strongly Disagree	Don't Know
8	Hospital associated infection have little adverse effect on health of the health care workers.	2	3	4	5	1
9	We can use one towel together for hand drying.	2	3	4	5	1
10	Hospital floor should be cleaned twice daily with water and disinfectants	5	4	3	2	1

Annex (5) Gantt Chart

Month	August				September				October				November				December			
Week	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Protocol preparation																				
Protocol defend																				
Pilot study – Preparation for data collection																				
Data collection																				
Data entry and analysis																				
Preparation for Grand Presentation																				
Thesis preparation																				
Submission of Thesis (Draft)																				
Thesis defend																				
Correction and Submission of thesis																				

Annex (6) Checklist for Infection Control Measures

ID _____ Ward _____

Date _____

A.Availability of infection control supplies

No.	Description	Availability	
I.	**General measures**		
1	Optimum spacing between 2 beds	(1) Available	(2) Not available
2	Disinfectants (a) 70% alcohol	(1) Available	(2) Not available
	(b) 1%hypochloride	(1) Available	(2) Not available
	(c) bleaching powder	(1) Available	(2) Not available
II.	**Hand washing**		
1	Soap and water	(1) Available	(2) Not available
2	Alcohol swabs	(1) Available	(2) Not available
3	Antiseptic hand wash	(1) Available	(2) Not available
4	Antiseptic hand gels	(1) Available	(2) Not available
5	Roller tower	(1) Available	(2) Not available
6	Disposable tower	(1) Available	(2) Not available
7	Air dry	(1) Available	(2) Not available
8	Poster of hand washing steps	(1) Available	(2) Not available
III.	**PPE**		
1	Hair cover or cap	(1) Available	(2) Not available
2	Mask	(1) Available	(2) Not available
3	Gown	(1) Available	(2) Not available
4	Apron	(1) Available	(2) Not available
5	Gloves	(1) Available	(2) Not available
6	Boot	(1) Available	(2) Not available

IV.	Health care waste	
1	WHO color coding system for health care waste disposal (a) Green for general waste (dry)	(1) Available (2) Not available
2	(b) Black for general waste (wet)	(1) Available (2) Not available
3	(c) Yellow for sharp waste	(1) Available (2) Not available
4	(d) Red for highly infectious waste	(1) Available (2) Not available

B. Practice of infection control measures among manual workers

No.	Practice	Done
I.	**General measures**	
1	Optimum spacing between 2 beds	(1) Correctly (2) Incorrectly (3) Not done
2	Washing of floor with disinfectants	(1) Correctly (2) Incorrectly (3) Not done
II.	**Hand washing**	
1	Soap and water	(1) Correctly (2) Incorrectly (3) Not done
2	Alcohol swabs	(1) Correctly (2) Incorrectly (3) Not done
3	Antiseptic hand wash	(1) Correctly (2) Incorrectly (3) Not done
4	Antiseptic hand gels	(1) Correctly (2) Incorrectly (3) Not done
5	Hand washing steps	(1) Correctly (2) Incorrectly (3) Not done
6	Roller tower	(1) Correctly (2) Incorrectly (3) Not done
7	Disposable tower	(1) Correctly (2) Incorrectly (3) Not done
8	Air dry	(1) Correctly (2) Incorrectly (3) Not done
III.	**PPE**	
1	Hair cover or cap	(1) Correctly (2) Incorrectly (3) Not done
2	Mask	(1) Correctly (2) Incorrectly (3) Not done
3	Gown	(1) Correctly (2) Incorrectly (3) Not done

4	Apron	(1) Correctly (2) Incorrectly (3) Not done
5	Gloves	(1) Correctly (2) Incorrectly (3) Not done
6	Boot	(1) Correctly (2) Incorrectly (3) Not done
IV.	**Health care waste**	
1	WHO color coding system for health care waste disposal (a) Green for general waste (dry)	(1) Correctly (2) Incorrectly (3) Not done
2	(b) Black for general waste (wet)	(1) Correctly (2) Incorrectly (3) Not done
3	(c) Yellow for sharp waste	(1) Correctly (2) Incorrectly (3) Not done
4	(d) Red for highly infectious waste	(1) Correctly (2) Incorrectly (3) Not done
5	Waste disposal	(1) Correctly (2) Incorrectly (3) Not done

Annex (7) Curriculum Vitae

Name	Dr Su Su Aye Win
Gender	Female
Date of birth	4.8.1981
Race	Bamar
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Permanent address	No.11, Sabal Street, Mingalar Taungnyunt township, Yangon
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Academic qualification	M.B, B.S (2007), University of Medicine 1, Yangon
Employment history	1. Medical officer, Pazundaung Urban Health Centre, Yangon (2016 to 2018) 2. Medical officer, Thanlyin General Hospital (2014 to 2016) 3. Medical officer, Yeni Hospital, Bago Division (2013 to 2014) 4. Assistant surgeon, Oktwin Hospital, Bago Division (2009 to 2013) 5. Assistant surgeon, Yangon General Hospital (2007 to 2009)
Publication	-