ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF STANDARD PRECAUTIONS AMONG 3RD AND 4TH YEAR REGULAR NURSE STUDENTS IN JIMMA UNIVERSITY, SOUTHWEST ETHIOPIA, 2013G.C

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COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCE DEPARTMENT OF NURSING

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ABSTRACT

BACKGROUND: - Standard/universal precautions reduce the risk of transmission of blood borne infections among patients and health care workers. Compliance with universal precautions has been shown to reduce the risk of exposure to blood and bodily fluid.

Objective: The objective of this study is to assess the level of knowledge, attitude and practice of the infection prevention among regular nurse students in Jimma University.

Methods: - A cross-sectional descriptive study will be conducted in Jimma University among Regular Nurse student of 3rd and 4th year from March 28 to April 1 2013G.C with convenient sampling. Data was collected by structured, open and closed ended questioner. Data was analyzed by using scientific calculators and chi-square test was considered to see the association between the dependent and independent variables.

Result: The finding of this study showed that the percentage score for knowledge and attitude toward standard precautions were acceptable: 74.4% for knowledge and 70.3% for attitude. The low percentage score for practice was recorded, only 58.7% of the maximum score. 166(96.5%), 162(94.2%) and 82(47.7%) of them had adequate knowledge, attitude and practice of hand washing before and after patient care respectively. Both gender and study year had significant association with knowledge, attitude and practice toward standard precautions (P<0.05).

Conclusion: - From the study, one can conclude that gender and study year had an effect with knowledge, attitude and practice toward standard precautions. But the practice of standard precautions among nursing students of Jimma University was poor. Most of the nursing student did not comply to hand washing.

Recommendation: - the University administrators in collaboration with the nursing school has to give emphasis on the importance of knowledge, attitude and practice toward standard precautions and the necessary supervision has to be done by Head of nursing department.

Key words: Standard precaution, nursing students, Knowledge, Attitude, Practice, Education

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ACRONYMS

AIDS-Acquired Immuno Deficiency syndrome

CN: - Clinical Nurse

CDC:- Centers for Disease control and Prevention

HAV: Hepatitis A virus

HBV:-Hepatitis B Virus

HCV:-Hepatitis C Virus

HCWs:- Heath Care Workers

HIV:-Human Immunodeficiency Virus

HIMST: - Health Information Management System Technician

IP:-Infection prevention

NSIs:- Needle Stick Injuries

MWN:-Mid Wife Nurse

PHN: -Public Health Nurse

UP:- Universal Precaution

CHAPTER ONE - INTRODUCTION

1.1 Back ground

Colonization is the presence and multiplication of microorganisms without tissue invasion or damage. Infection means that the colonizing organisms are now causing Cellular response. Infection Prevention is largely depends on placing barriers between a susceptible host (person lacking effective natural or acquired protection) and the microorganism. The goal of Infection Prevention and Patient Safety is to make healthcare facilities a safer place (1).

The provision of health care is not without risk of concern to both health care workers and the public there is a risk of exposure to blood borne pathogens including hepatitis B and C viruses (HBV and HCV) and human immuno deficiency virus (HIV). Most exposures are accidental and can be avoided by using safe work practice and following infection control guidelines. However, because some exposures are not preventable, immunization and appropriate post management become the key defense (2).

Health science students are more involved in patient contact during their training; they are at risk of exposure to pathogens. It is the responsibility of academic institutions to facilitate appropriate pre-clinical immunization and provide training in infection control to protect patients and the health and careers of undergraduates, and to lay the foundation for safer work practice in health care. Studies monitoring occupational injuries and infection control practice among student health care workers are necessary to assess the efficacy of infection control training and facilitate the development of educational interventions to improve adherence to guidelines and injures(3). The fact that blood and other fluids from patients are becoming increasingly hazardous to those who provide care for them had become of great concern to public health professionals the world over. It has specifically necessitated the need for a preventive approach in protecting care patients. Thus the practice of universal precautions as a way of safeguarding possible routine infections in work places had become more and more a widely accepted among various health workers(1).

The CDC published a document entitled "blood and body fluid precautions" and recommendations in this section emphasized on blood and body fluid precautions when a patient is known or suspected to be infected with blood borne pathogens. in another document blood and body fluid precautions could be consistently used for all patients regardless of their blood borne infection status(4 -5).

1.2 Statement of the Problem

Healthcare associated infections affect patients, healthcare workers, support staffs, medical students and patient attendants in healthcare facilities. Healthcare workers are mostly affected while providing care to patients, especially if the environment they work in is conducive for contracting infection from patients or colleagues. Studies showed that huge number of healthcare workers get infected worldwide by different micro-organisms every day while they provide health services to their patients (6). For instance, in USA, more than 800,000 needle stick injuries are reported each year by healthcare works (7).

Health care professionals (physicians, Nurses and Mid wives) who work in high-risk areas such as surgical and obstetrical units should know what to do in the event of a possible blood exposure to themselves or another health workers. Preventing accidents (needle sticks) and other blood or body fluid exposures are the primary means of preventing work related transmission of HIV or HCV. For hepatitis B Virus, however, an effective vaccine has been available for nearly 20yrs. unfortunately, in many countries, even health professionals have not been immunized against this serious blood borne disease (7).

Although only about 5% of people who contract hepatitis B die from disease, a high percentage become chronic carriers or are disabled and can't work because of permanent damage to the liver (cirrhosis). In addition hepatitis B infection is a necessary precursor for hepatitis D(HDV) and primary liver cancer. Being vaccinated protects not only the individual, but also fellow workers, other patients and the individual's family in working to create an infection-free environment, it is important that the rational for each of the recommended infection prevention process, and their limitations, be clearly understood by clinic staff at all levels- from health care providers to cleaning and maintenance staff the basic infection prevention process, recommended to reduce disease transmission from soiled instruments, surgical gloves and other reusable items are decontamination, cleaning and either sterilization or high level disinfection (8).

HIV transmission in health care setting requires an immediate and sustained attention. Every year more than 500,000 people contract HIV in Health care setting. According to numbers endorsed by the world health organization, every year at least 260,000 people became infected through unsafe medical injection and at least 5% of new infections or 255,000 people become infected through unsafe blood transfusions (9).

Unfortunately, may health care providers in developing countries have neither the raining nor the supplies to implement universal precautions such as safe injections practice and the use of

gloves, goggles and other protective gear. Without adequate training or supplies, some health care provides reasonably fear for their own safety, which may lead them to refuse providing as many as 70-90% of infected with HIV. Providing as many as 70-90% of injections in developing countries are unnecessary and as of 2000, only 13 of 46 counties in WHO's African regions had implemented national blood safety policies (10).

1.3 Significance of the study

The aim of this study is to assess nursing students' knowledge, attitude and practice of standard precautions this will help to know the gap regarding KAP on standard precautions, so that different responsible bodies can implement effective strategy to overcome the gap. Especially this study is useful for nursing department in order to make immediate interventions like incorporating topics in specific courses and giving more emphasis for infection prevention/ standard precautions. In addition this research may also serve as academic resource or provide information or hint for further researchers.

CHAPTER II: LITERATURE REVIEW

Healthcare personnel, including support staff (e.g., housekeeping, laundry staff and maintenance), who work in healthcare settings are at risk of exposure to serious, potentially life-threatening infections such as HIV, HBV, HCV. Direct contact with blood and other body fluids is the most common or frequent risk healthcare workers encounter while caring for patients. Studies in the United States have shown that the risk of acquiring HBV after being stuck with a needle from an HBV+ client ranges from 27-37%. In addition, the risk of acquiring HCV and HIV after being stuck with a needle from an infected person ranges from 3-10% and 0.2%-0.4% respectively (Gerberding 1990and Landpher 1994). The efficiency for transmission of hepatitis B is high. For example, an accidental splash in the eye of as little as 10^{-8} ml of infected blood can transmit HBV to a susceptible host (11).

Compliance for "universal precautions' aim to prevent transmission of human immunodeficiency virus(HIV) hepatitis B(HBV), and other blood borne pathogens. The pathogens and ensuring health staff minimize the risk of exposure to infected body fluids. These measures are important occupational exposures are 37% for hepatitis B, 39% for hepatitis C and 4.4% for HIV/AIDs. Hepatitis B is particularly infection, with sharp injures to health care workers ranging from 6 to 30% as the study done Kabul governmental Hospital among 950 health staff of these multidisciplinary staff the study disclose through rank of sharp material injury accordingly, gynecologist/Nurses(80.2%) dentists(75.4%) midwives(62.0%) of the injures hollow born needles(46.3%) usually during recapping. Almost quarters (27.9%) of the respondents head not been vaccinated against hepatitis B. Basic knowledge about universal precautions were found insufficient across all hospitals and codes (3).

The other study done The cross section explanatory study done among 105 resident doctors at tertiary care teaching hospital and the result disclose, doctors correctly knew about universal precaution only 29(3L.1) of resident doctors were segregating it of the 93 residents involved indirect patient care 54(58%) were exposed to potentially infectious material considerable 63(67.7%) number of resident doctors was following dangerous procedures of either bending it against table wall or recapping(82.2%) used needle before disposal. and the investigator conclude that the pre placement training in various aspects of HIV/AIDS including universal precaution along with refresher courses from time to time(4).

In the study done to asses occupational risk of HIV infection among 99 Dutch medics working in AIDS endemic areas, 61% reported percutaneous exposures during an average stay of 21 months. The mean number of injures was lower among physicians (2.0 versus 3.9%/ year) and higher among physicians than in previous research conducted in 1987-1990 among Dutch medics returning from Africa the reduction explained by shift of tasks. On the basis of an estimated a chance of transmission per accident of 0.3% and 1.9 percutaneous exposures per year, the mean occupational risk of HIV infection per year can be estimated at 0.11% per person (5).

Study done in 1993 in knowledge of HIV transmission availability of equipment, protective practice and in the occurrence of prick and splash in nine hospitals in Mwanza region in the north west of the united state Republic of Tanzania disease that incidents were common with the average health worker being pricked five times and being splashed nine times/year. The annual occupational risk of HIV/AIDS transmission was estimated at .27% for health workers (12).

The other study done in Awassa city, in southern Ethiopia. Among 401 Health workers result disclose as one hundred and thirteen (30.9%) respondents reported at least one needle stick injury in the previous 12 months. 1.4% within two week incidence of needle stick injuries. The cumulative prevalence (49.2%) during their working life time reported injury from sharp objects to their finger (72.2%) hand (17.2%) palm (5.0%) arm (1.1.) and other body part (4.4%) across professionals diploma Nurse (30.3%) Junior Nurse (41%) Laboratory technician (9.3%) other professional account (5.5) (13).

The characters of the incident involves syringe needle (54.4%) suture needle (16.7%), lancet (8.9%) glass item (8.3%) glass item (8.3%) and other (11.7%). Accidental injury was reported by 144(80.0) injury as a result of a non-compliant patient 17(9.40 injury by other staff 16(8.9%) and other causes (1.7%), 109 (57.1%) respondents reported recapping most of the time. Emergency situation is the leading factors for occurrence of needle injury (23.9%) (13).

CHAPTER THREE: OBJECTIVES

3.1. General objective

To assess knowledge, Attitude and Practice about infection prevention among 3rd and 4th year regular nursing students of Jimma University, Jimma South west Ethiopia, 2013 G.C.

3.2. Specific Objective

- To assess the knowledge about Infection prevention
- To assess the attitude toward Infection prevention
- To assess the infection prevention practice among nursing student
- To assess the associated factors with KAP of infection prevention among 3rd year and 4th year nursing students.

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study area and period

The study was conducted from April 05 to April 20, 2005 E.C at Jimma University which is public higher educational institution established in December 1999 by the amalgamation of Jimma college of Agriculture and Jimma institute of health sciences (established in 1983). Currently the University has four campuses, College of Public Health and Medical Sciences was established in 1983 having 9 schools and 32 departments and trains professionals with BSc, MD, Clinical Specialty, MPH and MSc in various disciplines in line with the national development objectives as regular, extension, summer and distance education for more than 32000 students from different part of the country. The Undergraduate Programs that given at this college includes: Human Medicine, Dentistry Pharmacy, Medical Laboratory Technology, Health Officer, Anesthesia, Cataract Surgery, Nursing, Environmental health, Public Health education (14). Therefore this study is aimed to assess the knowledge, attitude and practice of infection prevention among regular Nursing under graduate class students in 2013 academic year.

4.2. Study design

Institution based cross-sectional study was conducted to assess the knowledge, attitude and practice of standard precautions among regular nursing students.

4.3. Population

4.3.1. Source/study population

All regular 3rd and 4th year undergraduate nursing students of Jimma University 2012/2013G.C academic year.

4.4. Sample size and sampling technique

All regular 3rd and 4th year nursing students who are 182 in number were included conveniently in the study.

4.5. Study Variables

4.5.1. Dependent variable

- ✓ Knowledge about infection prevention
- ✓ Practice of infection prevention
- ✓ Attitude towards infection prevention

4.5.2. Independent variable

- **❖** Age
- **❖** Sex
- * Religion

- **\$** Ethnicity
- **❖** Marital status
- **❖** Year of study

4.6. Operational definition

- 1. **Knowledge: -** what the students know about infection prevention
 - Knowledgeable- those who score ≥ 8 for knowledge questions
 - ♦ Not knowledgeable- those who score < 8 for knowledge questions
- 2. **Practice: Skill-** evaluated on their practice
 - Good practice- those who score ≥ 15 for practice questions
 - Poor practice- those who score <15 for practice questions
- **3 Attitudes:** evaluated on their perception toward infection
 - Positive: those who score ≥ 10 for attitude questions
 - Negative:-those who score <10 for attitude questions

4.7. Data collection methods and materials

Data were collected by using self administered Pre tested structured questionnaire adopted from other study (14). The questionnaire composes questions that assess socio demographic factors, knowledge about SP, Attitude towards SP, and Practice of SP. Internal consistency coefficient (Cronbach's alpha) was 0.82 for questions that assess KAP of standard precautions. Respondents' knowledge, attitudes and practices with regard to standard precautions were measured. Knowledge questions had 3 possible answers ("yes", "no", "I don't know"). Respondents were receive one score for each correct answer while having no negative score for wrong answers. Respondent scores for all 10 knowledge questions were from 0-10. Attitudes were assessed using respondents' answers as "strong" (score 2), "weak' (score 1), and "null" (score 0). Therefore the total score of attitude were range from 0-20. The Likert scale was checked on a 4 - point scale from 'always' (score 3), "often" (score 2), "sometimes" (score 1), and 'never" (score 0) to assess the practice of subjects. The total scores on the 10 practice questions ranged from 0-30. Regarding data collection procedure the first the questionnaire were distributed to all students while they are in class room and it will be collected by principal investigator. The principal investigator was the coordinator of the whole data collection procedures.

4.8. Data processing and Analysis

Data was analyzed manually by using scientific calculator. Descriptive statistics were used to describe socio demographic status of the study participants, the knowledge and practice level and attitude of the study participants towards standard precaution and chi square test was used to see the associations between the independent and dependent variables. During chi square test those associations with P-value <0.05 was considered as statistically significant. Finally the results was presented using tables, graphs, and charts.

4.9. Data quality management

Pre-testing was done on 5% of the study population prior to the actual data collection time on 3rd year midwifery students of Jimma University who are believed to have nearly similar characteristics with nursing students of and based on findings of the pre test necessary amendments were made on questionnaire. At the time of data collection filled questionnaires were checked for completeness and consistency of information.

4.10. Ethical consideration

Ethical approval letter for the study was granted from Jimma University College of public Health and Medical sciences department of Nursing. The participants were informed about the purpose of the study, and their oral consent was obtained. The respondents were reassured on confidentiality of their responses during and after the study.

4.11. Limitations of the study

- Shortage of time
- Inconvenient schedule

4.12. Data communication plan

Finally the result of this study were submitted to Jimma University College of public health and medical science, department of Nursing, be placed in health science library to be accessed by students or future researchers.

CHAPTER FIVE: RESULT

From a total of 182 sampled populations, one hundred seventy two study subjects gave their informed consent making the respondent rate 95%. Participants were included from all of the third and fourth year of nursing department students at Jimma University.

Overall, out of 172 respondents, 91(52.9%) were fourth year students while the remaining 81(47.1%) were third year. Among the study participants were males 102(59.3%) and 70(40.7%) were females. Out of the 172 study subjects the mean age is 23.1 ranged from 20-27.

The major ethnic group of the respondents 87(50.6%) were Oromo followed by Amhara 47(27.3%) and Tigree 29(16.9%) and the remaining 9(5.2%) were others. The majority of religion among the study participants were 83(48.3%), 50(29.1%), 34(19.8%) and 592.9%) were Orthodox, Muslim, protestants and others respectively. From the total of 172 respondents were 12(7.0%) married, 154(89.5%) single and 6(3.5%) divorced.

Table 1 Socio- demographic characteristics of Jimma University nursing students from Dec 26/2008 – Jan 02/2009.(n=1712)

Socio-demographic variables		Frequency	Percentage
Age	19-23	95	55.2
	Above 24	77	44.8
Gender	Male	102	59.3
	Female	70	40.7
Study year	Third year	81	47.1
	Fourth year	91	52.9
Marital status	Single	154	89.5
	Married	12	7.0
	Divorced	6	3.5
Religion	Orthodox	83	48.3
	Muslim	50	29.1
	Protestant	34	19.8
	Others	5	2.9
Ethnicity	Oromo	87	50.6
	Amhara	47	27.3
	Tigree	29	16.9
	Others	9	5.2

KAP ABOUT STANDARD PRECAUTIONS PRACTICE

Percentage of respondents' correct answers to KAP questions regarding standard precautions are demonstrated in table 2.

The knowledge and attitude "hand washing before and after patient care" had highest correct responses (96.5% and 94.2% respectively), while the lowest percentage (34.9%) of correct answer in relation to knowledge was observed about "needle should be recapped before disposal."

In relation to attitude, the highest and lowest rate of correct answer were shown in table 2 "hand washing before and after patient care" (94.2%) and "Needle should be recapped before disposal "(33.7%).

In relation to practice, the highest and the lowest rate of correct answer were shown in table 2 " A surgical mask should be worn to protect the nose and mouth from invasive processor and activities " (68.6%) and " needle should be recapped before disposal "(26.7%).

Table 2 Percentage of respondents' correct answers to KAP questions regarding standard precautions Jimma University nursing students from April 5/2013 – April 20 /2013 E.C.

Questions	Knowledge	Attitude	Practice
	N (%)	N (%)	N (%)
Hand washing before and after patient care	166(96.5%)	162(94.2%)	82(47.7%)
Hand washing before and after using gloves	160(93.0%)	150(87.2%)	70(40.7%)
Hand washing after accidental contact with blood, bloody fluid, secretions, contaminated item	138(80.2%)	145(84.3)	52(30.2%)
Gloves should be worn when touching mucus membrane or non intact skin	156(90.7%)	136(79.1%)	84(48.8%)
Goggles should be worn to protect mucous membrane or eyes	154(89.5%)	137(79.7%)	103(59.9%)
Washing hands with Betadine after exposure to patients blood, body fluids, secretions or contaminated items	104(60.5%)	98(57.0%)	51(29.7%)
A surgical mask should be worn to protect the nose and mouth from invasive processor and activities	149(86.6%)	130(75.6%)	118(68.6%)
Needle should be bent before disposal	110(64.0%)	114(66.3%)	104(60.5%)
Needle should be recapped before disposal	60(34.9%)	58(33.7%)	46(26.7%)
Gown should be worn when there is a risk of contaminated with aggressive processors and activities	144(83.7%)	119(69.2%)	111(64.5%)

Overall knowledge status of Jimma University students.

From the total students the overall knowledge level was 128(74.4%) while the rest 44(25.6%) was not knowledgeable towards the standard precautions practice.

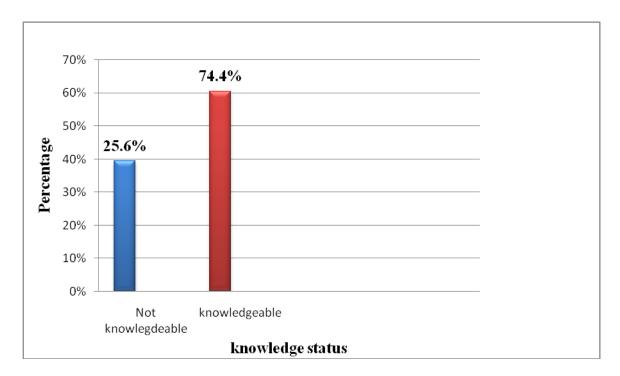


Figure 1 Percentage distribution over all knowledge status of nursing students at Jimma University from April 5/2013 – April 20 /2013 E.C.

OVER ALL ATTITUDE STATUS OF JIMMA UNIVERSITY STUDENTS

Regarding the attitude status of students 121(70.3%) had positive attitude and the remaining 51(29.7%) had negative attitude towards the standard precautions practice.

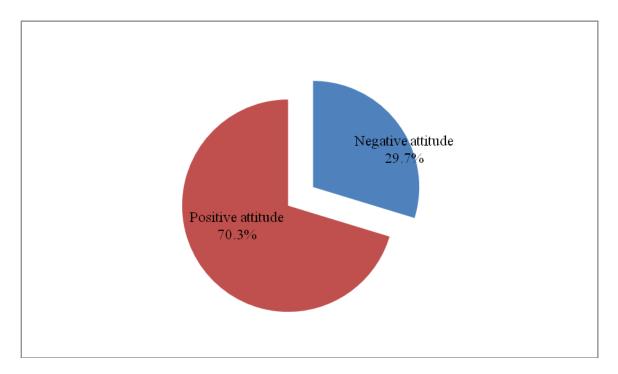


Figure 2 Percentage distribution over all attitudes of nursing students at Jimma University from April 5/2013 – April 20 /2013 E.C.

Overall practice status of Jimma University nursing students

Out of the 172 respondents 101(58.7%) and 71(41.3%) had good and poor practice regarding standard precaution practice respectively.

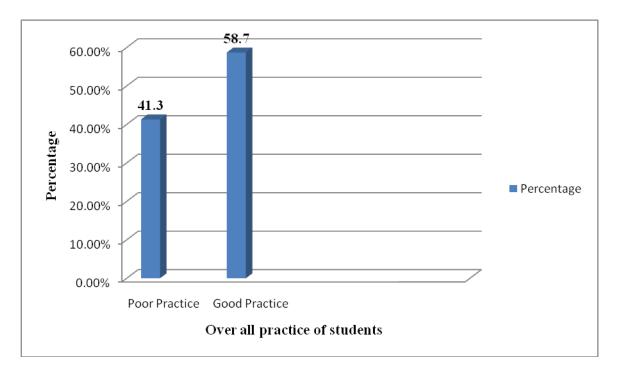


Figure 3 Percentage distribution over all practice of nursing students at Jimma University from April 05/2013 – April 20/2013.

Table 3 Shows cross tabulation of gender and KAP about standard precautions practice among 3^{rd} and 4^{th} year regular nurse students from April 05-April 20. (n= 172)

	Knowledge		Attitude		Practice		
		Not knowledg eable	Knowledg eable	Negative	Positive	Poor	Good
Sex	Male	38(37.3%)	64(62.7%)	38(37.3%)	64(62.7%)	55(53.9%)	47(46.1%)
	Female	6(8.6%)	64(91.4%)	13(18.6%)	57(81.4%)	16(22.9%)	54(77.1%)
	X ² and P-value	$X^{2} = 17.94, I$	P= 0.000	X ²⁼ 6.95, P=	= 0.008	X ²⁼ 16.53, P	= 0.000

Statistical analysis of whether gender of the respondents affects KAP about standard precautions practice among 3rd and 4th year regular nurse students showed that there is significant statistical association between gender and KAP about standard precautions practice [p<0.05].

Table 4 Shows cross tabulation of study year and KAP about standard precautions practice among 3^{rd} and 4^{th} year regular nurse students from April 05-April 20. (n= 172)

		Knowledge		Attitude		Practice	
		Not	Knowledg	Negative	Positive	Poor	Good
		knowledge	eable				
		able					
Study	Third year	28(34.1%)	54(65.9%)	20(24.4%)	62(75.6%)	39(47.6%)	43(52.4%)
year							
	Fourth year	16(17.8%)	74(82.2%)	31(34.4%)	59(65.6%)	32(35.6%)	58(64.4%)
	X ² and P-	$X^{2} = 6.03 p =$	0.014	$X^{2} = 2.08 p$	=0.145	$X^{2} = 2.56 p = 0$.11
	value						

Statistical analysis of whether gender of the respondents affects KAP about standard precautions practice among 3rd and 4th year regular nurse students showed that there is significant statistical association between study year and KAP about standard precautions practice [p<0.05].

CHAPTER SIX: DISCUSSION

This study described the knowledge, attitude and practice of nursing students at Jimma University. As this study revealed that while the knowledge and attitudes among nursing students were acceptable but practices towards standard isolation precautions were poor. This finding is similar with study conducted by (Askarian, 2007 and Mangione, 2007). The possible reason may be due to carelessness and malpractice of students.

According to this study findings; 82(47.7%) of students practice of hand washing before and after patient care. This finding is congruent with study conducted Knowledge, Attitude and Practice towards Standard Isolation Precautions among Iranian Medical Students. This could be explained by

Although 89.9% of the students had knowledge of 'hand washing before and after patient care", but only 13.5% were practicing that. This finding is congruent with study conducted Knowledge, Attitude and Practice towards Standard Isolation Precautions among Iranian Medical Students.

Regarding the standard precaution practice female students has higher than male students (P <0.008), while there were not any difference in their knowledge and attitude. This finding is congruent with study conducted Knowledge, Attitude and Practice towards Standard Isolation Precautions among Iranian Medical Students.

This result revealed that, although in general, improving knowledge and attitude positively effect on practice and behavior of students.

In this study, study year has association with Knowledge, Attitude and Practice towards Standard Isolation Precautions (p<0.05). The reason may be in fourth year students has more exposure regarding Knowledge towards Standard Precautions as compared to third year students.

CHAPTER SEVEN

7.1. Conclusion

In conclusion, these results revealed that, the practice of standard precautions among nursing students of Jimma University was poor. Having knowledge and positive attitude alone doesn't influence practice. In addition the necessity of standard isolation in prevention of disease in patients in all duration of education must be emphasized and facilities should be improved. A gown should be worn when there is a risk of contamination with aggressive processor and activity.

The factors that affect knowledge, attitude and practice of standard precaution among nursing students were gender and study year.

7.2. Recommendation

JU in collaboration with the nursing school has to give emphasis on the importance of knowledge, attitude and practice of standard precaution and the necessary supervision has to be done.

Nursing school should be give refresher course on this issue for the knowledge, attitude and practice of standard precaution for the third year students.

Finally, the investigator of this study recommends further investigation to be done on large scale taking in to account other variables which improve knowledge, attitude and practice of standard precaution.

Reference

- WHO. Prevention of Hospital Acquired Infections; A Practical Guide. 2nd edition. 2002.
 Genève.
- 2. Lynch P *et al.*, 1997. Infection Prevention with Limited Resources. ETNA communication: Chicago.
- Gilina M.Mc carthy .Jonathan E.Birtton 4 survey of final. Year dental, Medical and Nursing students. Occupational Injuries and infection control @ Jcan dent Assec 2000 western ontario.
- 4. Linda tietjen Debord Bossemeyer Noel McIntosh USAID, 2003,2005.
- 5. Baminboye, Abiodun p. knowledge and practice of universal precautions among qualifying medical and nursing students department of community health
- 6. Tietjen L. et al., 2003. Infection Prevention Guidelines for Healthcare Facilities with Limited Resources. Jhpiego Corporation, Baltimore, USA
- 7. Rogers B. 1997. Health hazards in nursing and healthcare: An overview. Am J Infect Control 25(3): 248–261.
- Geberding JL. 1990. Current epidemiologic evidence and case reports of occupationally acquired HIV and other blood borne diseases. Infect Control Hosp Epidemiol 11(Suppl): 558-560
- Bouvet E. Risk for health professionals of infection with human immunodeficiency virus
 Current knowledge and Development in Preventive measures. Medicine maladies Infectiveness, 1993, 23:28-33
- 10. Gershon RR. et al., 1995. Compliance with universal precautions among healthcare workers at three regional hospitals. Am J Infect Contol 23(4): 225-236.
- 11. Lanphear B. 1994. Trends and patterns in the transmission of bloodborne pathogens to healthcare workers. Epidemiol Rev 16(2):437-450.
- 12. Who, safety precaution in health care setting 7/31/2010.
- 13. Ahmad shahi and paul garner, occupationl injury and universal precautions awarness a survey in kabul hospital, MOH, kabul, Afghanistan

14. Askarian, M., Honarvar, B., Tabatabaeeb, H. R., *et al.* (Knowledge, attitude and practice towards standardisolation precautions in Iranian medical students. *J Hosp Infect*, 2004. 58, 292-296.

ANNEX: QUESTIONNAIRE

Jimma University

College of Public Health and Medical Sciences

Department of nursing

Questionnaires for the assessment of knowledge, attitude and practice of standard precautions among nursing students of JU.

Consent form:

Hello: My name is ----- and I am from Jimma University department of nursing. I am conducting an assessment on knowledge, attitude and practice of standard precautions among nursing students as part of this you are kindly requested to be included in the assessment. To fill the questionnaire it will take a maximum of 10 minutes. It will not cause you any physiological, financial or psychological harm. No information concerning you as an individual will be passed to another individual or institution. Your participation will be based on your willingness and you have the right not to participate fully or partially.

If you agree please continue to fill the questionnaire If Not thank you!

Name of the supervisor ----- Date ----- Signature -----

PART I: - SOCIO- DEMOGRAPHIC CHARACTERISTICS

1.	Age(in years):				
2.	Sex	A.	Male	В	. Female
3.	Religion				
	A. Orthodox			C. Protestant	
	B. Muslim			D. Other(specify)	
4.	Ethnicity				
	A. Oromo			C. Tigre	
	B. Amhara			D. Other(specify)	
5.	Marital status				
	A. Married			C. Widowed	
	B. Single			D. Divorced	
6.	Year of education	A. 3 rd year	B. 4 th year		

PART II: - QUESTION RELATED TO KNOWLEDGE ABOUT STANDARD PRECAUTIONS.

Please read the statements and if they are standard precautions please mark on 'yes' and if they are not mark on 'no' and if you don't know please make mark on 'I don't know'.

s.nº	Statements	Yes	No	I don't
				know
1	Hand washing before and after patient care			
2	Hand washing before and after using gloves			
3	Hand washing after accidental contact with blood, bloody fluid, secretions, contaminated item			
4	Gloves should be worn when touching mucus membrane or non intact skin			
5	Goggles should be worn to protect mucous membrane or eyes			
6	Washing hands with Betadine after exposure to patients blood, body fluids, secretions or contaminated items			
7	A surgical mask should be worn to protect the nose and mouth from invasive processor and activities			
8	Needle should be bent before disposal			
9	Needle should be recapped before disposal			
10	Gown should be worn when there is a risk of contaminated with aggressive processors and activities			

PART III: - ATTITUDE TOWARDS STANDARD PRECAUTIONS PRACTICES.

How do you rate your attitudes towards the following statements? Please mark how strong you rate for each statement.

Snº	Statements	Agree	Neutral	disagree
1	Hand washing before and after patient care			
2	Hand washing before and after using gloves			
3	Hand washing after accidental contact with blood, bloody fluid,			
	secretions, contaminated item			
4	Gloves should be worn when touching mucus membrane or non intact			
	skin			
5	Goggles should be worn to protect mucous membrane or eyes			
6	Washing hands with Betadine after exposure to patients blood, body			
	fluids, secretions or contaminated items			
7	A surgical mask should be worn to protect the nose and mouth from			
	invasive processor and activities			
8	Needle should be bent before disposal			
9	Needle should be recapped before disposal			
10	Gown should be worn when there is a risk of contaminated with			
	aggressive processors and activities			

PART IV: - PRACTICE OF STANDARD PRECAUTIONS.

How often you practice the following. Please mark how often you practice the following activities.

S nº	Statements	Always	often	sometimes	never
1	Hand washing before and after patient care				
2	Hand washing before and after using gloves				
3	Hand washing after accidental contact with blood, bloody fluid, secretions, contaminated item				
4	Gloves should be worn when touching mucus membrane or non intact skin				
5	Goggles should be worn to protect mucous membrane or eyes				
6	Washing hands with Betadine after exposure to patients blood, body fluids, secretions or contaminated items				
7	A surgical mask should be worn to protect the nose and mouth from invasive processor and activities				
8	Needle should be bent before disposal				
9	Needle should be recapped before disposal				
10	Gown should be worn when there is a risk of contaminated with aggressive processors and activities				

THANK YOU VERY MUCH FOR YOUR PARTICIPATION