



“A STUDY TO ASSESS KNOWLEDGE REGARDING STANDARD PRECAUTIONS AMONG HEALTH CARE PROVIDERS AT SELECTED HEALTH CARE CENTRES TIRUPATI, AP”.

¹Dr.M. Sreelatha, ²T. Hemavathi, ³Dr. P. Sudha Rani,

Associate professor, Department of Community Health Nursing, College of Nursing, Sri Venkateshwara Institute of Medical Sciences, Tirupathi-517507, Chittoor- Dist, Andhra Pradesh, India.

M.SC Nursing Student, Department of Community Health Nursing, College of Nursing, Sri Venkateshwara Institute of Medical Sciences, Tirupathi.

Professor I/C Principal, College of Nursing, Sri Venkateshwara Institute Of Medical Sciences, Tirupathi-517507, Chittoor- Dist, Andhra Pradesh, India.

Abstract:

A study was conducted to assess the knowledge of health care providers regarding standard precautions. To find the association between knowledge levels of health care providers regarding standard precautions with their selected socio-demographic variables. **Methodology:** Non-experimental research approach which used to achieve the objectives of the study. Descriptive survey design was adopted for the present study. Population includes health care providers, working in health care centres, Tirupati. The sample size consists of 100 health care providers. Non probability convenient sampling technique was adopted based on inclusion criteria. **Results:** The findings of the study revealed that 79% of health care providers were having adequate knowledge, 21% of health care providers were having moderate knowledge and none of them the inadequate knowledge. Professional qualification was significant at $p < 0.05$ level and designation & marital status were significant at $p < 0.01$ level. **Conclusion:** These findings suggested that health care providers need to be update their knowledge and continue their practices related to standard precautions. **Recommendations:** A similar study can be conducted to compare the knowledge of health care providers in urban and rural, a study can be conducted to assess knowledge, attitude and practice regarding standard precautions among health care providers, a study can be conducted to assess the effectiveness of structured teaching programme on standard precautions among health care providers.

Key words: standard precautions, health care providers, selected health care centres.

INTRODUCTION:

Universal precautions were introduced by the Centers for Disease Control (CDC) in 1985, mostly in response to the human immunodeficiency virus (HIV) epidemic. Universal precautions are a standard set of guidelines to prevent the transmission of bloodborne pathogens from exposure to blood and other potentially infectious materials (OPIM). OPIM is defined by the Occupational Safety and Health Administration (OSHA)¹. Standard Precautions refers to a system of actions, such as using personal protective equipment or adhering to safe handling of needles, that healthcare workers take to reduce the spread of germs in healthcare settings such as hospitals and nursing homes².

Standard precautions are a set of infection control practices used to prevent transmission of diseases that can be acquired by contact with blood, body fluids, non-intact skin (including rashes), and mucous membranes. These measures are to be used when providing care to all individuals, whether or not they appear infectious or symptomatic³.

According to the most recent guideline published by the Healthcare Infection Control Practices Advisory Committee (HICPAC) in 2007, it has been recommended to apply standard precautions (SPs) for all people during healthcare irrespective of their disease status. These SPs include but not limited to hand hygiene, use of personal protective equipment, and instrument processing⁴.

Standard precautions consist of the following practices:

- Hand hygiene
- The use of personal protective equipment, which may include gloves, impermeable gowns, plastic aprons, masks, face shields and eye protection
- The safe use and disposal of sharps
- Respiratory hygiene and cough etiquette
- Routine environmental cleaning
- Appropriate handling of linen.
- Waste management
- Reprocessing of reusable instruments and equipment^{3,5}

Standard precautions are the minimum infection prevention and control practices that must be used at all times for all patients in all situations⁶.

NEED FOR THE STUDY:

Global incidence of HAI (3%) of hospitalized patients in the 2015 survey had one or more HAI. There were an estimated 687,000 HAIs in U.S. acute care hospitals in 2015. About 72,000 hospital patients with HAIs died during their hospitalizations⁷.

National incidence of HAI was found to be 1.75 HAI cases per 1000 patient-days. Surgical-site infections (SSIs) were identified to be the most common HAI (23.94%), followed by hospital-acquired pneumonia (HAP) (18.31%), urinary tract infection (UTI) (16.9%), catheter-related bloodstream infection (BSI) (16.9%), ventilator-associated pneumonia (VAP) (9.85%), septicemia (8.45%) and others (5.65%). Among consultant specialities, paediatric had the maximum odds of more than four times as compared to other specialities. The prevalence of HAI was highest in surgical Intensive Care Unit (ICU) ward (25%), followed by medical ICU (20%) and burns ward (20%)⁸.

Urinary tract infections (UTIs) are the fifth most common type of healthcare-associated infection, with an estimated 62,700 UTIs in acute care hospitals in 2015. UTIs additionally account for more than 9.5% of infections reported by acute care hospitals. Virtually all healthcare-associated UTIs are caused by instrumentation of the urinary tract. Approximately 12%-16% of adult hospital inpatients will have an indwelling urinary catheter (IUC) at some time during their hospitalization, and each day the indwelling urinary catheter remains, a patient has a 3%-7% increased risk of acquiring a catheter-associated urinary tract infection (CAUTI)⁹.

Infection Prevention and Control (IPC) measures are the foundation of best practice by healthcare workers for their own safety and that of their patients, yet low adherence rates place all parties at risk¹⁰. To minimise the risk of infection transmission, standard infection control precautions must be practised whether a patient is known to have an infection. The main aim of any infection control guideline or policy should, therefore, be to make it easy for staff to do the right thing at the right time¹¹.

MATERIALS AND METHODS:**RESEARCH APPROACH:**

Research approach that is used in the study was non-experimental approach.

RESEARCH DESIGN:

A research design is the overall plan, structure and strategy of investigations of answering the questions. It is the blue print that the researcher selects to carry out the study. The research design selected for the present study is Descriptive survey design.

VARIABLES OF THE STUDY:

Independent variables: Socio-demographic variables like age, gender, religion, professional qualification, designation, years of experience, monthly income, marital status, area of residence.

Dependent variable: Knowledge regarding standard precautions.

SETTINGS OF THE STUDY:

The study was conducted in municipal MCH, PHC Mangalam, PHC Kammappalli, and RHC Chandragiri Tirupati. The setting was chosen on the basis of feasibility in terms of availability of required sample and co-operation extended by the Municipal health officer and medical officers. Formal permission was obtained from the concerned authorities for conducting the study.

POPULATION:

The population chosen for this study was health care providers working in health care centres of Tirupati.

SAMPLE:

The study sample were health care providers working in municipal MCH, PHC Mangalam, PHC Kammappalli, and RHC Chandragiri, Tirupati.

SAMPLE SIZE:

Sample size consists of 100 health care providers.

SAMPLING TECHNIQUE:

Non-Probability Convenient Sampling Technique was adopted depending upon the availability of the selected sample.

CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria: health care providers those who are

- Working in municipal MCH, PHC Mangalam, PHC Kammappalli, and RHC Chandragiri, Tirupati.
- Willing to participate in the study
- Available at the time of data collection

Exclusion criteria: health care providers those who are

- Not present at the time of data collection
- ASHA workers.
- Working in other than municipal MCH, PHC Mangalam, PHC Kammappalli, and RHC Chandragiri, Tirupati.

DEVELOPMENT AND DESCRIPTION OF THE TOOL:

Data collection tools are procedures or instruments used by the researcher to observe or measure the key variables in research problem.

Tool was developed, based on the review of relevant literature, textbooks, journals, websites, under the guidance of experts, to assess the knowledge regarding standard precautions among health care providers.

It comprises of two sections:

Section- I:

It includes socio-demographic variables like age, gender, religion, professional qualification, designation, years of experience, monthly income, marital status, area of residence, training regarding standard precautions.

Section-II:

It includes check list on knowledge regarding standard precautions among health care providers.

Scoring key:

Scoring key prepared for

Section- I: By coding the demographic variables.

Section- II: Consists of check list on knowledge regarding standard precautions among health care providers.

Dichotomous questionnaire was prepared with 'Yes' or 'No' options. Right answer carries '1' mark and wrong answer carries '0' mark.

Total score was categorized as follows:

The scores are categorized as follows:

Inadequate knowledge $\leq 50\%$ (≤ 15)

Moderate knowledge 51-75% (16-23)

Adequate knowledge $> 75\%$ (> 23)

CONTENT VALIDITY:

To ensure the content validity, the tool was given to 10 experts it includes 2 experts in the field of Community Medicine, 2 experts in the field of Microbiology and 6 experts in the field of Community Health Nursing. Necessary modifications were done and the tool was translated into Telugu language and appropriateness was obtained from Telugu Pundit. Thus, the tool was put to the test in the pilot study.

RELIABILITY OF THE TOOL:

The reliability of a measures denotes the consistency of measures obtained in the use of a particular instrument and indicates the extent of random error in the measurement method. It is concerned with how consistently and accurately the measurement technique measures the concept of interest. It is also concerned with the consistency, accuracy, precision, stability and equivalence. Reliability was conducted at Primary Health Centre (PHC), Chandragiri.

To establish reliability of the tool, Cronbach's alpha reliability was used. The tool was administered to 10 health care providers, and the score obtained knowledge regarding standard precautions was $r = 0.92$. Hence the tool was considered reliable for proceeding with the pilot study.

PILOT STUDY:

Pilot study was conducted at Mukyamanthri Arogya kendram (Urban Health Centre) from 22-04-2021 to 24-04-2021 to assess the feasibility of the study and to plan for statistical analysis of the data. Formal permission was obtained from the Medical Officer, Tirupati for conducting the study.

10 health care providers were selected for the pilot study by using non probability convenient sampling technique. Rapport was established with self-introduction and brief description of the study, consent was obtained. Subjects were made to sit comfortably; the questionnaire was administered. Doubts were clarified.

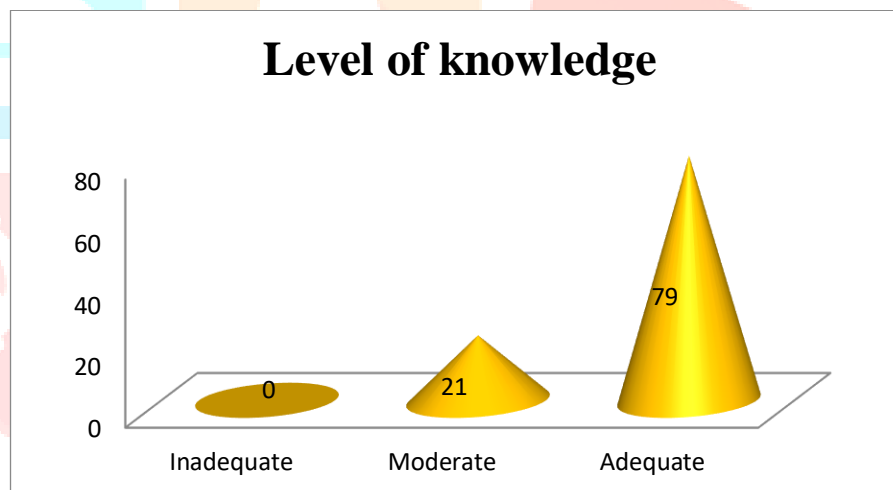
Statistical analysis was done by descriptive and inferential statistics. The findings of the study revealed that the tool was reliable and feasible to conduct the study.

PROCEDURE FOR DATA COLLECTION:

A formal written permission was obtained from Medical Health Officers of municipal MCH, PHC Mangalam, PHC Kammappalli, and RHC Chandragiri, Tirupati. Consent was taken from them by explaining the purpose of the study. The structured questionnaire was given to assess the level of knowledge regarding standard precautions among health care providers for 25 minute/ each sample daily for 25 health care providers/ week from 1/05/2021- 28/05/2021. Total duration of data collection was 4weeks.

Table no: 1 Data collection schedule

Date	Time	Number of samples per week	Duration of data collection
1/5/2021 to 7/5/2021	10 am to 1pm	25 samples/ week	30 min/ each sample
8/5/2021 to 14/5/2021	10 am to 1pm	25 samples/ week	30 min/ each sample
15/5/2021 to 21/5/2021	10 am to 1pm	25 samples/ week	30 min/ each sample
22/5/2021 to 28/5/2021	10 am to 1pm	25 samples/ week	30 min/ each sample

RESULTS:

- The findings of the study revealed that 79% of health care providers were having adequate knowledge, 21% of health care providers were having moderate knowledge and none of them the inadequate knowledge.
- Mean knowledge score was 2.79 and Standard Deviation was 0.40.
- Professional qualification was significant at $p < 0.05$ level and designation & marital status were significant at $p < 0.01$ level.

DISCUSSION:

The first objective of the study was to assess the knowledge of health care providers regarding standard precautions. The study findings revealed that 79% of health care providers were having adequate knowledge, 21% of health care providers were having moderate knowledge and none of them have inadequate knowledge.

The second objective of the study is to find the association between knowledge levels of health care providers regarding standard precautions with their selected socio-demographic variables. The study findings revealed that there was a significant association between knowledge and professional qualification at $p < 0.05$ level, designation and marital status at $p < 0.01$ level.

CONCLUSION:

In this study most of the health care providers had adequate knowledge. Professional qualification was significant at $p < 0.05$ level and designation & marital status were significant at $p < 0.01$ level. These findings suggested that health care providers need to be update their knowledge and continue their practices related to standard precautions.

RECOMMENDATIONS:

- A similar study can be conducted to compare the knowledge of health care providers in Urban and Rural
- A study can be conducted to assess knowledge, attitude and practice regarding standard precautions among health care providers.
- A study can be conducted to assess the effectiveness of structured teaching programme on standard precautions among health care providers.
- A large-scale survey can be conducted to assess the incidence of Hospital Acquired Infection (HAI).

ACKNOWLEDGEMENT:

I express my heartfelt gratitude to Dr. M. SREELATHA, M.Sc (N), Ph.D (N), Associate Professor, department of community health nursing, college of nursing, SVIMS, Tirupati for her expert guidance, valuable and thought provoking suggestions and constructive criticism. The selection and development of the tool is the fruitarian of pert, pertinacious and pertinent efforts. She is there at the beginning of the study and also there to see the successful completion indeed she was immensely graceful for her perceptual furtherance through the progress of the project.

REFERENCES:

1. Broussard I M, and Kahwaji C I. Universal Precautions. In Stat Pearls. Stat Pearls Publishing 2021
2. Moralejo D, El Dib R, Prata R A, Barretti P and Correa I. Improving adherence to Standard Precautions for the control of health care-associated infections. The Cochrane database of systematic reviews, 2018; 2; 2.
3. Infection Control and Prevention: Standard Precautions.
4. Tariku Gebre Haile, Eshetu Haileselassie Engeda, Abdella Amano Abdo. Compliance with Standard Precautions and Associated Factors among Healthcare Workers in Gondar University Comprehensive Specialized Hospital, Northwest Ethiopia, Journal of Environmental and Public Health, 2017; 8
5. World Health Organization Guidelines on Hand Hygiene in Health Care, 2007.
6. <https://www2.health.vic.gov.au/public-health/infectious-diseases/infection-control-guidelines/standard-additional-precautions>.
7. Centre for Disease Control and Prevention (HAI).
8. Nair V, Sahni AK, Sharma D, Grover N, Shankar S, Chakravarty A, Patrikar S, Methe K, Jaiswal SS, Dalal SS, Kapur A, Verma R, Prakash J, Gupta A, Bhansali A, Batura D, Rao GG, Joshi DP, Chopra BK. Point prevalence & risk factor assessment for hospital-acquired infections in a tertiary care hospital in Pune, India. Indian Journal of Medical Research. 2017; 145(6):824-832
9. National Healthcare Safety Network (NHSN). Urinary Tract Infection (Catheter-Associated Urinary Tract Infection [CAUTI] and Non-Catheter-Associated Urinary Tract Infection [UTI]) Events, CDC, 2021; 7-1
10. Bouchoucha S, and Moore K. STANDARD PRECAUTIONS BUT NO STANDARD ADHERENCE. Australian nursing & midwifery journal, 2017; 24(8); 38.
11. Ritchie L and McIntyre J. Standardising infection control precautions. Nursing times, 2015; 111(38); 17-20.