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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS [MRSA] INFECTION AMONG STAFF NURSES

Nursing

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ABSTRACT

One group pre-test posttest design was selected for the present study, which is a Pre-experimental design to measure the effectiveness of structured teaching program on methicillin resistant staphylococcus aureus infections among the staff nurses. The sample comprised of 50 staff nurses (Diploma in Nursing and Degree in Nursing) working at the time of data collection in selected settings of the Govt. District Hospital and Shridevi Hospital, Tumkur. The sampling technique used for this study was non-probability purposive sampling. A Performa for selected personal information was used to collect the sample characteristics. The characteristics included; age, professional qualification, total year of experience, current working area, attending in service classes and nursed patient with MRSA infection. Knowledge questionnaire was used to assess knowledge; Permission was obtained from the head of the institution and also from the authorities of selected hospitals at Tumkur. Assurance was given to this study participants on anonymity and confidentiality of the data collected from them. Results revealed that there is significant improvement in knowledge among study subjects after interventional teaching proogramme.

KEYWORDS

MRSA, Structured teaching program, Nurses

INTRODUCTION

The hallmark of nursing is to promote the quality of life. Today many hospitals are the source of diseases. So, the hospital infection control programmes are helpful to prevent the nosocomial infections. In developing countries like India the infrastructure of such programmes is still inadequate. This is not only the lack of resources, but also lack of awareness of preventing hospital acquired infections. To combat these infectious diseases, organisms are isolated and drugs are developed to counter them. In a short time, the organism develops resistance to the drug. Nosocomial infections are originating from hospitalization, not present at the time of hospital admission. Methicillin resistant staphylococcus aureus (MRSA) is a common nosocomial infection in hospital and extended care facilities. Staphylococcus aureus organisms that are resistant of methicillin or its comparable pharmaceutical agents are called methicillin resistant staphylococcus aureus. It may also be referred to as multiple resistant staphylococcus aureus or oxacillin resistant staphyloccus.

Methicillin resistant staphylococcus aureus/multidrug resistant staphylococcus aureus now found worldwide. It is believed that in 2007 more people have died of Methicillin resistant staphylococcus aureus than that of AIDS worldwide. World wide, an estimated 2 billion people carry some form of staphylococcus aureus of these, up to 53 million (2.7 of carries) are thought to carry Methicillin resistant staphylococcus aureus. A 2017 report in emerging infectious diseases, a publication of the centers for diseases control and prevention estimated that the number of methicillin resistant staphylococcus aureus infections treated in hospitals doubled nation wide from approximately 127,000 in 1999 to 278000 in 2005, while at the same time death rate increased from 11000 to more than 17000.

Anderson D. (2013) states occupational health nurses are in a position to counsel and educate health care personnel and to work as active partners with infection control teams. A basic understanding and awareness of methicillin resistant staphylococcus aureus infection can help to reduce unnecessary costs to institutions, unnecessary loss of time and hope full, help to decrease the rate of Methicillin resistant staphylococcus aureus in hospital settings.

Vinodhkumaradithyaa, et al. (2009) conducted a study Nasal carriage of Methicillin-Resistant Staphylococcus aureus among surgical unit staff. The aims of the study were to identify the prevalence of S.aureus in the anterior nares of surgical unit staff, to analysis their antibiogram, and to compare the isolated among surgical unit staff and in relation to the ward where they worked. Sterile swabs were used to collect the samples from anterior nares of 100 health care warless working in 5 surgical wards satisfied rigid inclusion and exclusion criteria. Standards procedures were followed for isolation, identification and antibiotic sensitivity testing S.aureus carrier status was observed in 13 individuals of whom 2(15.4%)were resistant to methicillin. All the isolates of s.aureus were multidrug-resistant but sensitive to vancomycin and bacitracin. One of the 13 was resistant to linezolid. Sixty-three of the staff was carries of coagulase- negative staphylococcus. The presence of methicillin resistance may cause problems in hospital infections control programs and may indicate emerging issues. This study suggests the need for periodic screening of hospital personnel in order to monitor trends and take steps to treat carriers.

Since investigator worked as staff nurse in a hospital and she found many staff nurses are unable to control the Methicillin resistant staphylococcus aureus infection due to lack of knowledge, improper training, lack of infection control facilities etc. So the investigator was interested to assess the knowledge of staff nurses. The investigator's motive is to improve the knowledge of staff nurses regarding methicillin resistant staphylococcus aureus infections through structured teaching programme may reduce the incidence of Methicillin resistant staphylococcus aureus infection among staff nurses.

MATERIALS AND METHODS

One group pre-test posttest design was selected for the present study, which is a Pre-experimental design to measure the effectiveness of structured teaching program on methicillin resistant staphylococcus aureus infections among the staff nurses. The sample comprised of 50 staff nurses (Diploma in Nursing and Degree in Nursing) working at the time of data collection in selected settings of the Govt. District Hospital and Shridevi Hospital, Tumkur. The sampling technique used for this study was non-probability purposive sampling. A Performa for selected personal information was used to collect the sample characteristics. The characteristics included; age, professional qualification, total year of experience, current working area, attending in service classes and nursed patient with MRSA infection. Knowledge questionnaire was used to assess knowledge; there were 30 multiple choice questions. Each correct answer scored as one mark and wrong answer has been given as zero. So the maximum score was 30 for all the questions. The research proposal was approved by the dissertation committee prior to pilot study. Permission was obtained from the head of the institution and also from the authorities of selected hospitals at Tumkur. The objective and other details of this study were explained and consent was obtained to participate. Assurance was given to this study participants on anonymity and confidentiality of the data collected from them.

RESULTS

Socio demographic data of study subjects

- 19 Staff nurses are in age group of 21-25 years.12 of Staff nurses are in age group of 26-30years .14 Staff nurses are in age group of 31-35years.5 Staff nurses are in age group of 35 years and above.
- Educational status of Staff nurses. 40 of Staff nurses are GNM qualified. Only 10 are B.Sc graduates.
- 19 Staff nurses are having maximum of 3 years,12 Staff nurses have experience of 4-6 years,7 Staff nurses have experience of 7-9 years and 12 staff nurses have experience 10 years and above.
- Current working area of staff nurses.19working in medical surgical ward.9are working in Operation Theater and ICU.12 are working in OBG and GYN.10 are working in pediatric and NICU.

- 21 staff nurses have exposed for in-service classes whereas 28 are failed to attend the classes and out of 50 nurses19 served MRSA infection patients. Whereas 31 are not served MRSA infection patients.

Pre and posttest mean and standard deviation and t value on MRSA infection among staff nurses.

Parameter	Mean	S.D	SEM	Range	Mean%	t -value	Result
Pre-test	15.36	3.47	0.49	8-24	51.7	21.56*	Sig P<0.05
Post-test	25.12	2.41	0.34	21-30	83.73		
Improvement	9.76	1.06					

The paired mean difference of knowledge on MRSA infection before and after STP was 9.47 and it was statistically significant at 0.05($p<0.05$). The results undoubtedly confirm that the STP significantly effective in improving the knowledge on MRSA infection among the staff nurses.

Association between knowledge and selected demographic variables

Association of pre-test knowledge score with demographic variables and post-test knowledge score with demographic variables was done using chi-square test. Present study showed that the age, education status, total years of experience, attending in-service classes and nursed with MRSA patient showed a significant association with pre-test and post-test findings of the staff nurses.

DISCUSSION

The pre-test findings of the study revealed that the overall score in the pre-test was mean 15.38, standard deviation 3.41 and mean score percentage was 51.7%. This shows that the knowledge of staff nurses regarding MRSA infection was inadequate.

These findings are consistent with the findings of Wolf RL et al., Easton PM et al, in their study found that there is a need of education for nurses in MRSA infection. Alex et al., study shows school nurses must be aware of risk factors for this infection and understand its signs, symptoms, diagnostic testing and management with this knowledge they can help protect students, staff and community member from this increasingly prevent pathogen.

These findings were consists with Solberg Co, who reported in their study shows the education of hospital personal is essential. Improved knowledge helps to control MRSA infection in better way. Andy Pulman et al. conducted study suggest that creative simulation or education programs for the students regarding standard precautions for infection control when nursing a patient with MRSA is more effective to care patient and control the infection.

Association of pre-test knowledge score with demographic variables and post-test knowledge score with demographic variables was done using chi-square test. Present study showed that the age, education status, total years of experience, attending in-service classes and nursed with MRSA patient showed a significant association with pre-test and post-test findings of the staff nurses. The findings with regard to experience of staff nurses reveled the majority of staff nurses had an experience 0-3 years, Cimmoti et al. conducted study shows emergence of resistant staphylococcus on hands of new graduate nurses.

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