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RESEARCH ARTICLE

HAND HYGIENE COMPLIANCE, KNOWLEDGE AND PERCEPTION AMONG HEALTHCARE WORKERS IN A TERTIARY CARE CENTER IN SOUTH INDIA

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Abstract

Aim and objective of the study: To assess the compliance, knowledge and perception among health care workers regarding hand hygiene by conducting regular surveillance and educational programs. This surveillance program objective is to evaluate the effect of three different educational programs on improving hand hygiene compliance, knowledge and perception among health care workers in a tertiary care center in South India

Materials and Methods: It is an observational and knowledge perception study conducted ina tertiary care center, over a period of 6 months (Jan 2018 to June 2018) using WHO tools. Questionnaires were distributed to 180 participants which included Doctors, Nurses, technicians, Residents & Medical students in 5 units of the hospital (3 ICUs and 2 post-operative wards) The study is divided into Pre interventional, Interventional and Post interventional phase. The interventions included.1. Role model training. 2. Lectures with PowerPoint presentations, 3. Posters and charts representing hand hygiene protocols & motivational messages

Results: Hand hygiene compliance was observed during 2153 hand hygiene opportunities and knowledge perception was assessed among 180 participants in the pre intervention and 180 participants in the post interventional period. After intervention the Hand hygiene compliance rate significantly improved in two post-operative wards and two ICUs (total four out of five units targeted). In the perception survey improvement in knowledge was observed. Strong smell of alcoholic hand rub was mentioned as a common reason for noncompliance in one ICUs. Some wrong practices like using hand rub over the glove were corrected.

Conclusion: The surveillance and training program improved the hand hygiene compliance and knowledge among health care workers in four out of five units intertiary care center. Role model training had the most impact. However consistent and continuous educational and training programs are necessary to further improve and maintain the compliance rates of hand hygiene.

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Introduction:-

To assess the compliance, knowledge and perception among health care workers regarding hand hygiene by conducting regular surveillance and educational programs. This surveillance program objective is to evaluate the effect of three different educational programs on improving hand hygiene compliance, knowledge and perception among health care workers in tertiary care center

Methods:-

The study was performed in Gandhi hospital, a905-beded tertiary care hospital, in Hyderabad Telangana,South India.

In this study, five departments including pediatrics, surgery, cardiology, pulmonology and obstetrics-gynecology (obs-gyn) were involved with characteristics as presented in Table 1.

Table 1:- Characteristics of participating wards.

SNO	**Department**	**Type of ward**	**Type of intervention**
1	Paediatrics	NICU	Role model training
2	Pulmonology	RICU	Posters and charts
3	Cardiology	CICU	Role model training
4	Gynaecology	Post-operative	Active presentations
5	Surgery	Post-operative	Active presentations

The alcohol-based hand rub (Sterilium) available in the hospital at the time was usedto demonstrate the hand hygiene steps. The study was a done in a total duration of 24 weeks.

6 months (jan2018-june2018)
It was divided into three phases:

Pre-intervention (Jan to Feb 2018; 8 weeks),
Intervention (march to Apr 2018; 8 weeks), and
Post-intervention (May to June 2014; 8 weeks).

The interventions consisted of three different educational programs:
(1) Active presentations.
(2) Role model training.
(3) Posters & charts.

By drawing lots, the five departments were randomly assigned to either one of the three educational interventions

Active presentations to the HCW were held on at least three different occasions per ward to ensure that all HCW could participate and focused on the threat of HAIs and hand hygiene procedures

In the intervention with role model training, nurses demonstrated the hand hygiene steps to other HCWs.The main outcome and secondary outcome of the study was the hand hygiene compliance among HCW, including doctors, nurses, and students (either nursing students or medical students), and knowledge-perception regarding HAIs and hand hygiene among HCW obtained by a survey in the pre-intervention phase compared to the postintervention phase, respectively .The direct observation method was applied to establish hand hygiene compliance rates, because this is considered the gold standard

The observations were carried out several times a week during differing time slots, but not during the weekend. With the help of the assigned nurses to the respective ward. Each observationperiod lasted about 30 to 60 min. The outcomes of these observations were presented as percentages of compliance representing the fraction of the number of times when hand hygiene should have taken place correctly, and the number of times it had actually taken place correctly.

The hand hygiene compliance observation sheet as well as knowledge and perceptionquestionnaireswere based on the WHO tools.

The knowledge survey consisted of three single item and five multiple item (i.e., more than one answer) questions on the following topics: transmission of microorganisms, source of HAIs, and hand hygiene indications.

A correct answer was awarded with 3 points, with a maximumscore of 24 points for 8 correct answers.
A wrong answer led to one score deduction for multiple item questioned a score of zero for a wrong answer to a single item question. and the means of the scores were calculated among different categories of participants.

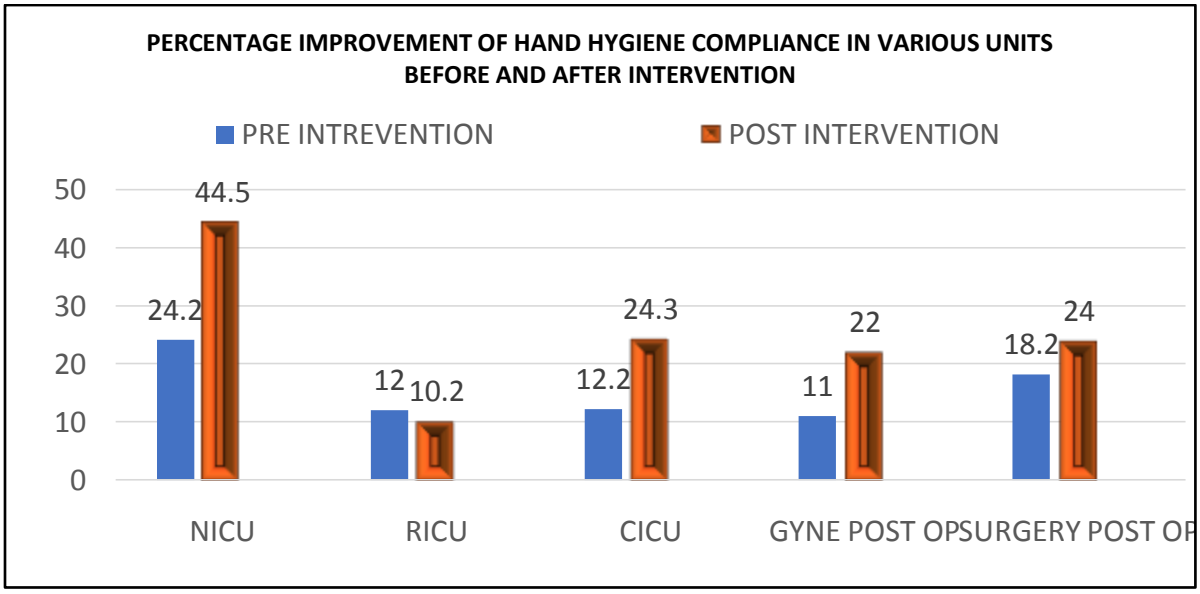
The study was approved by the medical ethics committee.

Results:-

The overall compliance to hand hygiene with confidence intervals (95%CI) was calculated using the standard normal distribution. To assess differences in compliance knowledge and perception improvement were analyzed at the different departments between pre- and post-intervention,

Compliance to hand hygiene

Hand hygiene compliance was observed during 2153 hand hygiene opportunities and knowledge perception was assessed among 180 participants in the pre-interventionand post interventional period. After intervention the Hand hygiene compliance rate significantly improved in two post-operative wards and two ICUs (total four out of five units targeted). Strong smell of alcoholic hand rub was mentioned as a common reason for non-compliance in one ICUs. Some wrong practices like using hand rub over the glove were corrected



Based on the five moments of hand hygiene recommended by the WHO, the highest compliance was to moment 4 (i.e., after touching a patient).

The lowest compliance was to moment 5 (i.e., after touching patient surroundings).

In the perception survey improvement in knowledge was observed showing the increased mean scores among different health care professionals before and after intervention in Table 2

Table 2:-

Hand hygiene knowledge scores among health care workers pre and post interventional		
profession	Pre score	Post score

Doctor	16.2	18.1
Technician	15.7	17
Reg nurse	17.5	18.6
Resident	17	18.5

Conclusion:-

The surveillance and training program improved the hand hygiene compliance and knowledge among health care workers in four out of five units intertiary care center. Role model training had the most impact. However consistent and continuous educational and training programs are necessary to further improve and maintain the compliance rates of hand hygiene.

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