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BARRIER HOUSEKEEPING – SOCIAL & EPIDEMIOLOGICALEXERCISE AT THE GOVERNMENT MEDICAL COLLEGE HOSPITAL

Hospital Administration

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ABSTRACT

Health care providers can be a cause of transmission of infections from one patient to another if they ignore proper hygiene practice. Primary source of infection can be related to unhygienic hands. Epidemiology is the branch of study that deals with distribution, determinants and occurrence of a disease. Hospital is the place where the process of healing the sickness takes place as an integrated patient care practice. Doctor and Nurse are the key professionals engaged in curing the sickness. There are other professionals who assist the sick, either directly or indirectly for their health. The concept of social epidemiology best fits for the sanitation employees at the hospital. Sanitation employees directly or indirectly come in contact with the patient. They are for providing assistance to facilitate activities of daily routine and they also are responsible for maintenance of good environment at the hospital. This study is aimed at educating the sanitation employees on the concept of barrier housekeeping – that focus on the personnel hygiene – hand hygiene, usage of personnel protective equipment, proper source segregation and precautions with biomedical waste. This exercise was helpful to raise the knowledge of sanitation employees in the above mentioned key work areas. There is a visible improvement of 50% to 90% rise in awareness in the above core housekeeping areas.

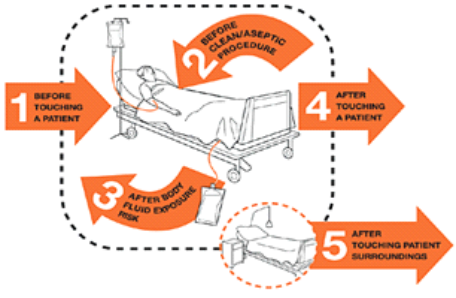
KEYWORDS

Epidemiology, Social Epidemiology, Barrier Housekeeping, PPE, Environment Services, BMW, WHO, Hygiene, Nosocomial, Capsular Training, Mock Drill, Wringer Trolley.

INTRODUCTION:

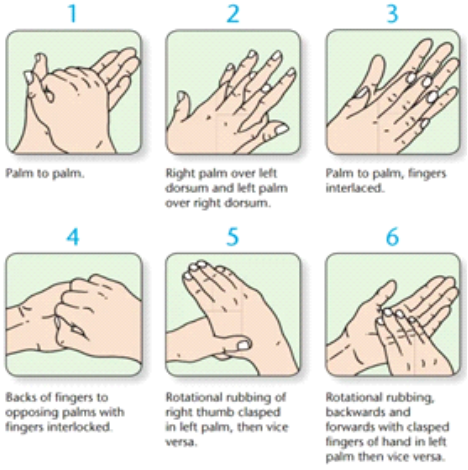
Epidemiology is a Greek word. It literally means, epi – upon, demos – people and logos are the study i.e. "the study of what is upon the people".It is a branch of study that deals with distribution, determinants and occurrence of a disease [1].Social epidemiologyis a pertinent area dealing with physical environment and sanitation, apart from other areas like nutrition and immunization facilities[2].

The present study is focused on hospital sanitation factor as an epidemiological determinant of health in a tertiary care government healthcare provider and teaching college.The objective of this study is to make the sanitary employees and garbage handling staff aware about the concept of barrier housekeeping and control of disease transmission by adopting the following standard precautions at their work,



1. Proper source segregation and disposal of biomedical waste generated at the hospital in accordance with fourcolor codes (Red – infected plastic waste, Yellow – Anatomical waste material, Blue – Glass disposables and **White, Puncture ProofContainer–sharp metal disposables.**)as suggested by Pollution Control Board, Government of India in accordance to2016 Biomedical Waste Management Guidelines[3].

2. Five movements of hand hygiene [4] (before touching a patient, before clean/aseptic procedures, after body fluid exposure/risk, after touching a patient, and after touching patient surroundings.) Six steps of hand hygiene recommended by WHO (rub palm to palm, rub back of left hand over right palm and vice versa, rub palm to palm with fingers interlaced, rub back of fingers on opposite palms with fingers interlocked, rub around right thumb with left palm and vice versa, rub palm of left hand with fingers of right hand and vice versa).



3. Usage of Personnel Protective Equipment (PPE) as barriers to promote individual care and to control of risk of nosocomial infections to the patient and their attendants.

4. Guidelines for proper cleaning of patient surroundings.

AIMS & OBJECTIVES: -

Sanitation employeeswho are working as outsourced contract employees at Gandhi Hospital (GH), Secunderabad, India were interviewed to know the housekeeping practices adopted by them during the initial evaluation stage. The capsular training program with routine sanitation operations, requirement of process reengineering wherever required is evaluated. Sanitation staffs were made aware about standard processes and procedures [5], they were thought about the standard precautions, proper usage of personnel protective equipment while they are on job.

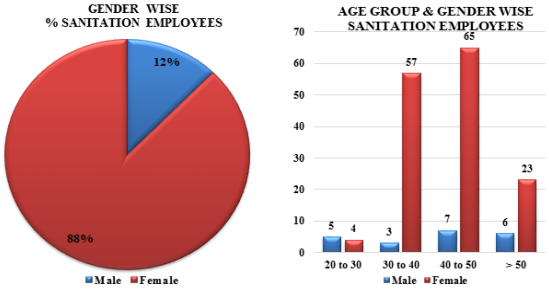
Sanitation Manpower:-

For this exercise a sample of 184 sanitary employees (i.e. 14 Sanitation Supervisors & 170 Sanitation Employees),who are working at Gandhi Hospital is taken as the subject. The objective of the study is to know about the current sanitation methods practiced by the staff. The outcome of the study is to make the staff aware about the barrier housekeeping methods and adopt the standard Sanitation processes

and procedures by convenient piecemeal training programs as a capsular module.

Evaluation tool used for the study is a structured questionnaire consisting assessment questions about thebasic requirements of barrier sanitation and standard procedural precautions that need to be followed by the housekeepingemployees. The study is carried out in two phases. 1. Pre training phase evaluation was carried out from January 2018 – February 2018. 2.Post training phase evaluation was carried outfrom September 2018 – October 2018.This consists of training of the sanitation staff about thedesired practices (like importance of hand hygiene, source segregation of biomedical waste, usage of personnel protection equipment and standard guidelines of cleaning the patient surroundings). During the training sessions the presentation aids like posters,pamphlets were used. Office circulars with strict compliance and with instructions for barrier housekeeping requirements were communicated.

On the job mock drills with hands on experience workshops were conducted. Though the staff were a bit shy & unresponsive in the beginning, in a couple of days they understood the importance of personal hygieneby sharing the real time experience of their colleagues and self-experiences. They were drawn theirfocused attention on the acquired sickness and improved personal health by adoption of standard hygiene practices.

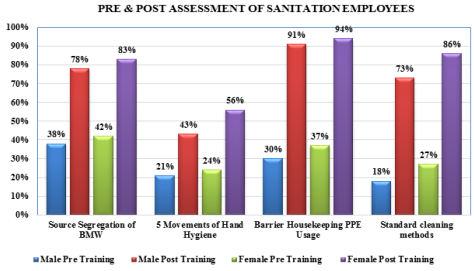


Among the sanitation employees 149 (88%) are Female and 21 (12%) are Male. All the male sanitation employees are garbage handling staff; they are engaged in collection of Biomedical Waste (BMW) which is segregated at source (Operation Theatres, Clinical Diagnostic Labs & Inpatient Wards) in the color coded bags following the Telangana State Pollution Control Board Guidelines.It is pooled at central BMW segregation area at the backyard of the hospital. The BMW pooled at central segregation area is collected by the Medicare Environmental Management Private Limited, Hyderabad for safe disposal as per 2016 Guidelines of Pollution Control Board, Government of India. The general waste generated in the hospital is collected from different places by the garbage handling staff and is pooled at central collection area at the backyard of the hospital. The general waste is collected by the Greater Hyderabad Municipal Corporation for safe disposal.

Female sanitation employeesare the hygiene crusaders at the hospital. They are engaged in the up keeping task of clinical, non-clinical, administrative, common utility and open areas of the hospital. Initially for the sanitation activity the traditional bucket mopping and broom stick sweeping according to the need that is based on different areas of the hospital was in practice. Post training the staff were sensitized on the concept of scientific and ergonomic sanitation processes and procedures. Introduction of twin tub mopping – wringer trolleys in place of bucket mops, dry mopping pads in place of soft broom sticks for inside areas. However, for external non patient open areas hard broom stick practice is still in practice.

Assessment& Impact:

Sanitation staff knowledge assessment is done before and after training, the evaluation of their level of knowledge is done in terms of percentage values. Observation oftask performed by the sanitation employees are keenly observed and scientific method of steps performed is recorded with respect to standard practice. This exercise of barrier housekeeping assessment is done in multiple steps and average metrics are arrived for each broad area of the important tasks considered for study objectives. Following bar graph is the pre and post assessment of the study objectives.



The exercise of barrier housekeeping study helped in the considerable improvement of sanitation employees' knowledge. Critical area of biomedical waste management color coding system has shown rise in awareness. Male employees show 40% and Female employees show 41% improvement.Five movements of hand hygiene show rise in awareness, Male employees show 22% & Female employees show 32% improvement. Usage of personnel protective equipment for barrier housekeeping practice – there is a good improvement by the employees. Male show 61% & Female show 57% improvement. Overall cleaning methods process reengineering is made by incorporation of scientific methods and standard benchmark processes and procedures. This area is crucial for visible ambiance of environment at the hospital, which shows remarkable change in the employee performance. Male show 55% & Female show 59% improvement.

6 steps hand wash method is taken as key training objective. There was a keen observation of sanitation staff hand wash method both in the pre training and post training phase. The checklist analysis of staff hand wash steps is tabulated below with their percentage values – calculated as an aggregate percentage for each step.

Steps of Handwash	Female (Pre)	Female (Post)	Male (Pre)	Male (Post)
1	66%	98%	61%	98%
2	54%	92%	51%	91%
3	47%	87%	49%	89%
4	30%	85%	32%	86%
5	0%	81%	0%	84%
6	0%	80%	0%	81%

Study Outcome: -

This exercise is carried out with the staff who are new and has one plus year of experience and were open to learn process reengineering methods. Improvement in the system by adopting technology and ergonomic methods helped the staff to manage the tasks in professional manner. There is a visible process improvement, which increased the esteem of the employees. This observation is limited for one-year period of study. There is further scope of improvement of above areas, provided the continual process improvement objective is made by adopting refinement of redundant processes by limiting the footsteps of unwanted visitors to the patient care areas.

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