



A study on utilization of equipments in Basic Medical Sciences

Published online on 23rd March 2017©www.eternalpublication.com

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Received: 10th March 2017; Accepted: 18th March 2017

How to cite this article: Roy PP, Kumar SS. A study on utilization of equipments in basic medical sciences. International Journal of Anatomy Physiology and Biochemistry 2017;4(3):10-11.

Abstract:

The present study was undertaken to assess utilization and viability of equipments in basic medical sciences. The present study was a descriptive study, conducted at basic medical sciences departments after obtaining approval from institutional ethical committee. Data collection methods include observation to get an idea about usage of equipment and semi structured interview to gather information about equipments. In each of the basic sciences departments the costliest equipments were selected for the study purpose. This equipment includes Poly Ryte, Stereotaxic in physiology, centrifuges, autoclave, spectrophotometers in Biochemistry, Microscopes in Anatomy. Our study presents utilization coefficient of different costly equipments in three basic medical sciences departments. We recommend further detailed studies including all equipments.

Key words: utilization coefficient, equipment, basic medical sciences

Introduction:

Using the equipment to its maximum potential is called as utilization. Utilization coefficient is the classic index to measure the functional status of the equipment. Equipment means any instrument or apparatus or tool or appliance or machine or any other related article. In the current study equipment mainly represents the laboratory equipment.¹

As every institution spend huge amount of money to purchase the equipments, as per standard norms, it is mandatory to use the equipments to maximum and to maintain them. Optimal utilization of equipment will minimize the breakdown and maintenance work load.² The most important factors that effects use of equipment includes, training of staff, preventive maintenance and after-

sales services and adequate facility of backup oversupply for electronic equipments. Utilization coefficient can be calculated by dividing average number of minutes the equipment is used per day with maximum number of hours the equipment is observed/ functioning per day. If the utilization coefficient is less than fifty percent, it is considered as underutilized.^{3,4} The present study was undertaken to assess utilization and viability of equipments in basic medical sciences.

Materials and Methods:

The present study was a descriptive study, conducted at basic medical sciences departments after obtaining approval from institutional ethical committee. Data was collected from teaching and

non-teaching staff of the departments who are involved in operating the equipments regularly. Data collection methods include observation to get an idea about usage of equipment and semi structured interview to gather information about equipments. In each of the basic sciences departments the costliest equipments were selected for the study purpose. This equipment includes poly ryte, stereotaxic in Physiology, centrifuges, autoclave, spectrophotometers in Biochemistry and microscopes in Anatomy.

Data analysis: Data was analyzed by SPSS 20.0 version. Data was expressed as frequency. Standard formula was applied to obtain utilization coefficient.⁵

Results:

Results are presented in Table 1. We have observed that in all basic medical sciences departments, the equipment was used optimally as the utilization coefficient was found to be more than 50.

Discussion:

Modern health care is mainly based on technology. Advancement in medical technology contributes to better patient care through fastening and increasing accuracy of diagnosis. Management gives more importance in upgrading the equipment in all departments for the benefit of students and faculty and to improve the quality of education. In the present study we have observed optimal utilization of all equipment selected for observation in three basic medical sciences departments. Optimal utilization of equipment's is essential for the organization to reduce the cost of working time. Further effective utilization coefficient indicates more profitable and well organized institution. We recommend regular surveys in all departments to assess the utilization for better maintenance of the equipments.

Table 1. Utilization coefficient of equipment in basic medical sciences

Sr no.	Equipment	Number of minutes the equipment is used	Number of minutes the equipment is functioning	Utilization coefficient	Results
1	Poly Ryte	50	90	55.5	Optimal utilization
2	Steriotaxic apparatus	58	96	60.41	Optimal utilization
3	Centrifuge	65	96	67.7	Optimal utilization
4	Autoclave	67	92	72.8	Optimal utilization
5	Spectrophotometers	53	90	58.88	Optimal utilization
6	Microscopes	140	160	87.5	Optimal utilization

Limitations:

The study included limited equipment for observation.

Conclusion:

Our study presents utilization coefficient of different costly equipments in three basic medical sciences departments. We recommend further detailed studies including all equipments.

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