

# A Study to Assess the Knowledge Regarding Effects of Radiation on Health, among the Staff Nurses Working in Radiology Department and Wards in Selected Government Hospital

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**Abstract:** Health workers working in the setting having radiations are prone to hazardous effects of radiation. Specially nurses who works in radiology department should have knowledge about hazardous effects of radiation and how to prevent them. A descriptive study to assess the knowledge of staff nurses regarding radiations was conducted. The sample size is 30 and samples are staff nurses in government hospital and sampling technique is probability sampling. Data is collected using self structured questionnaire. Data was analysed using descriptive and inferential statistics. The results of this study showed that 63.46% staff nurses has knowledge regarding radiation, hazardous effects of radiation and prevention of radiation. 36.53% of staff nurses unaware about the concept.

**Keywords:** Knowledge, Radiation, Hazards, staff nurses, Government Hospital

## 1. Introduction

Radiation is energy that comes from radioactive material and travels through space and may be able to penetrate through various material. Atoms with unstable nuclei are said to be radioactive, in order to reach stability these atoms gives off or emits the excess energy or mass. These emissions are called radiation.

‘RADIATION CAN HEAL AND RADIATION CAN HARM’

These concepts of nursing care has been identified from decades of clinical research as a concept is essential in delivery of safe and high quality of health care. Now a days most of the tertiary care hospitals used radioisotopes for diagnostic and therapeutic application.

## 2. Literature Review

A cross sectional survey was conducted among a stratified random sample of 1000 employees from 10 of 29 public hospital in Costa Rica to explore the relation between occupational and organizational factors and work related injuries. The results showed that workers exposed to chemicals and physical hazardous factors has higher rates of work related injuries than nonexposed workers. Low levels of safety climate and safety practices showed highest association with work related injuries.

A study was conducted by department of internal medicine, school of medicine university of California, San Francisco, USA. The results showed that women working in occupations with exposures to strenuous physical exertion, chemicals, ionizing radiations, heat, noise, vibration, infectious agents have risks of hazards during pregnancy and to their fetuses. The workers are disabled due to pregnancy can result in substantial financial burden to both employer and employees.

## 3. Problem Definition

‘A study to assess the knowledge regarding effects of radiation on health among the staff nurses working in radiology department and wards in selected government hospital.’

### Objectives

- 1) To assess the level of knowledge of staff nurses regarding radiation.
- 2) To assess the level of knowledge regarding hazardous effects of radiation on health.
- 3) To assess the level of knowledge regarding legal aspect related to radiation therapy.
- 4) To identify association between demographic variables and knowledge of staff nurses.

## 4. Methodology/Approach

This study is non experimental exploratory study. The study is quantitative with descriptive approach. The study was conducted in selected government hospital. The sample size is 30 are staff nurses in radiology department and wards. The sampling technique was probability sampling. Tools used for study is self structured questionnaire.

## 5. Results

Self structured questionnaire was used for data collection. The analysis was done with the help of descriptive and inferential statistics.

The data was analysed and is presented in following sections.

### Section I

It deals with the existing knowledge about radiation. This section has nine questions. The results shows that 83.33% of staff nurses has knowledge about meaning of radiation. 100%

Volume 8 Issue 5, May 2019

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staff nurses has knowledge about machineries which emits radiation.66.66% know about various radioactive substances.46.66% are aware of radiation safety act and 86.66 having knowledge regarding use of radiation therapy.53.33% knows about penetration of rays and 56.66% the types of rays emitted.63.33% aware of about unit of radiation measurement and40% knows the instrument used to measure radiation exposures.

### Section II

It deals with hazardous effects of radiation .the concept divided in seven questions. The results shows 76.66% staff nurses have knowledge about common complications of radiation.26.66%of staff nurses are aware of dose of radiation to affect CNS.63.33% know about toxic effects of radiation.

### Section III

It deals with the prevention of hazardous effect of radiation. The results shows that 90% staff nurses have knowledge about basic principles of protection from radiation exposure.

## 6. Discussion

The findings of the study were discussed with reference to the objectives and with the findings of the other studies in this section. The present study was undertaken to assess the knowledge of staff nurses about radiations and their hazards to health. Sample taken from selected government hospital and are staff nurses working in radiology department and wards. The study identified the need to improve the knowledge of staff nurses regarding radiation and also need of increase in safety measures to protect staff nurses from radiation hazards.

## 7. Conclusion

The main aim of the study is to assess the knowledge of staff nurses in selected government hospital regarding radiation and its hazardous effects. The study conclude that there should be increase in safety measures to prevent hazardous effects of radiation to health of staff nurses. There is need to improve the knowledge in some aspects regarding radiation.

## 8. Future Scope

The future scope of this study has implications in nursing practice, nursing education, nursing administration and nursing research.

### Nursing practice:

This study helps the staff nurses to be aware of their self knowledge regarding radiation.if they try to update it it will help them in nursing practice.

### Nursing education:

This study is a activity belonging to part of P.B.B.Sc nursing curriculum helped the group members to learn research. Students can refer this in nursing education .The study enhances the knowledge of students and also the knowledge of researcher also.

### Nursing administration:

This study can help the nursing administration to plan about staffing pattern in radiology departments and other departments dealing with radiation. Administration should continuously monitor health of the personnel in radiology department and should rotate the staff working in different departments with radiology department.

### Nursing research:

This study being nursing research in accordance with safety of nursing personnels is beneficial for nursing profession.such studies can be further carried out for awareness of nurses and safety regarding radiation and their hazards.

## References

- [1] Park K., "Preventive and social medicine",21<sup>st</sup> edition, Banarasidas Bhanot Publication, New Delhi.2011,Page no.744-76.
- [2] Sharma S., "Nursing Research and Statistics",1<sup>st</sup> edition ,Elsevier Publisher, New Delhi,2011,Page no,145-172.
- [3] Felknor S.A., "Organizational and Occupational risk factors associated with work related injuries among public hospital employees in Costa Rica",*Journal of occupational and environmental medicine*,62:337-343,Med 2005.
- [4] Steve Rayner, "Management of Radiation Hazards in Hospitals:PluralRationalitis in a single institution",*Social studies of science* November 1986 vol.16 no.4 573-591.
- [5] WhortonDonal, "Male occupational reproductive hazards",*Journal of occupational health*,137(6):521-524,December 1982.

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