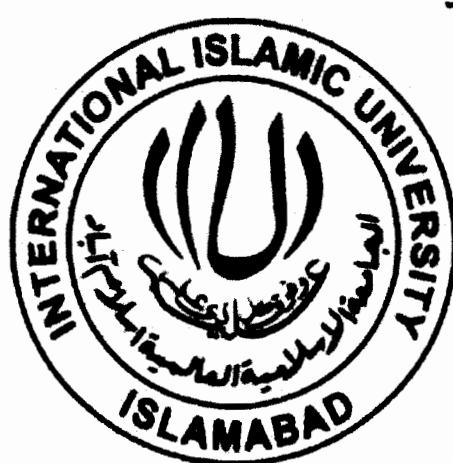


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THE STUDY OF PREVAILING OCCUPATIONAL HEALTH AND SAFETY MEASURES IN PIMS HOSPITAL



7239

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THE STUDY OF PREVAILING OCCUPATIONAL HEALTH AND SAFETY MEASURES IN PIMS HOSPITAL ISLAMABAD

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*A project submitted to international Islamic University Islamabad in partial
fulfillment of the requirement of degree of Master of Science in subject of
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Viva Voce Committee

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Dated: 31-08-2010.

DEDICATION

THIS PROJECT IS DEDICATED TO FIRST OF ALL ALLAH ALMIGHTY

&

We are conferring the project to our beloved parents and valued teachers, who had supported us till the closing stages, gave us courage, strengthen our belief and motivated us for the completion of this project. At this stage we can say that today what we are and where we stand is just because of them, secondly we would like to dedicate this project to our friends who were corporated during all this time.

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ABSTRACT

Occupational health and safety is concerned with health of workers at work place .In Pakistan thousands of workers are commonly exposed to hazards in hospitals but not been noticed by even themselves and authorities. In hospital workers mostly face hazards that are caused by different OHS(Occupational Health and Safety) factors, including improper use of protective equipments , job stress, continuous work(long duration of each work-shift).This report discusses the prevailing occupational health and safety measures taken by nurses, doctors and lab technicians to find out incidents rates, occupational diseases, and unhealthy working environments. Our report showed that most workers are less educated and do not know what protective measures should be adopted for their jobs. Most of the workforce is not prepared to cope with the hazards posed by chemical processes. The present study was designed to know the prevailing conditions of safety measure in General ward and Laboratory of hospital (PIMS). Random sampling technique were used to select the 80 permanent workers respondents between the ages 25-50 and few members of managerial staff respondent with at least five years job experience. Analysis shows a strong and positive association between work environment and health. 17.5% workers had been suffering from different infectious diseases. 78.75% employees indicated that guidelines were provided to them about the use of technical equipments. 70% of workers agreed that the tools of cleaning (Hand cleaner and towels) were provided in adequate quantity while 30% said that no such provision is available.

Our study concluded that protective tools and safety equipments are provided but they are not being used properly and consistently due to lack of awareness and a careless attitude towards occupational safety and health measures. But surprisingly 93.3% people properly dispose of the used needles, only 6.66% do not dispose of needles properly. This is because

people are aware about the hazards caused by the needles still the less percentage could not be ignored because it may carry a lot of infectious diseases to sanitary workers and other concerned staff. It means not only the provision of equipment and tools are enough but awareness of staff especially laboratory workers and other health care workers, is crucial to be raised through Trainings and workshops. The scheduled trainings and seminar must include the OHS sessions. The study of PIMS may become the yard stick to measure the OSH conditions in other hospitals of Pakistan especially in small towns and cities.

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LIST OF ABBREVIATIONS

OHS	Occupational health and safety
PIMS	Pakistan Institute of Medical sciences
ILO	International labour organization
WHO	World Health Organization

INTRODUCTION

INTRODUCTION

Environmental Health is the measurement, evaluation and control of factors within our environment that have an effect on the health and well being of the public. Occupational Health is that aspect of Environmental Health, which concerns itself with the interaction between the workplace and the health of the worker [1]. Hospitals are large, complex, system driven institutions having a large number of workers. Hospitals are potentially hazardous workplaces where workers are exposed to a wide range of biological physical, chemical, psychological, and hazards. Thus Occupational Health and Safety issues relating to the personal safety and protection from hazards at work place are a very important concern for hospitals. Hospitals also play an integral role in community protection through wider Public Health issues including injury and illness prevention, health surveillance and disease notification, and disaster management [2].

In 1950, the International Labour Organization (ILO) and the World Health Organization (WHO) defines occupational health as:"Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities and to summarize the adaptation of work to man and of each man to his job"[3].

Occupational health and safety is important because it helps

1. To reduce the risk of injury or death to an employee, or others associated with the working environment.
2. To reduce the cost that an organization may have to pay extra cost for poor occupational health and safety performance in the form of social security payments in case of death injury, costs for medical treatment and the loss of the moral of the worker.
3. Organizations to reduce costs required to compensate the effects of an incident at work.

For example as A result of incident at work an organization has to pay legal fees, fines, provide compensatory damages, loss of time in investigation, loss production, loss of moral of the workforce of customers and in the form of bad reputation in community [4].

1.1 Aims and objectives

This study is aimed to:

1. Find out prevailing conditions of occupational health and safety measures taken by
 - Doctors and nurses in general ward of hospital
 - Lab technicians in labs.
2. Provide an overview of occupational health and safety management in hospital.

1.2 Significance of study

This study provides information related to the work environment of health facilities, health education, occupational health and safety measures, occupational health and safety management, accident rates, hazards at work place, occupational safety training, and safety activities provided to workers. It provides ground basis to work for evaluating the occupational health and safety in hospitals of Pakistan.

LITERATURE REVIEW

LITERATURE REVIEW

Occupational hazards exist whenever health care is practiced. The greatest risks are usually run by the staff of hospitals and research centers. There are a number of consequences of occupational diseases and injuries among hospital workers. These include economic, physical, and psychological damage to the worker and their family [5]. Another important occupational health and safety problem is job stress which is the significant cause of economic loss. Job stress results in psychological and physical disabilities, personal well being and lost productivity [6].

It is difficult to estimate the economic cost of job stress it could be as higher as several hundred billion dollar per year. Main factors of job stress are high demand in a job and low amount of control over situation. In spite of this difficulty the issue of job stress is most important issue of the working community [7].

Job strain can be defined as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources or needs of the worker” [8].

In all over the world there is no job free from job stressing that creates responsibilities, problems pressures. Job stress has become an unavoidable part of working life. Workers are required to pay full attention to their work resulting in job stress. All Pressures are not negative, and workers can be kept motivated by providing them challenges and difficulties [9].

Most workers filed complaints of too much responsibility and too little authority, unfair practices, and no job descriptions. There should be a specific, written and clear job

description for every employee. For specific and clear job description employee's expectations should be considered. Employees can respond to these pressures by joining workers' unions, organizations, personnel offices or, more commonly, by direct contact with their immediate supervisors [10].

Kalimo and Mejman in 1987 showed that a multidisciplinary approach can be used to investigate the sources of job strain. This approach involves examining the whole spectrum of psychological, physiological, and sociological problems that make demands on an individual in their working environment. Multidisciplinary approach shows that job stress not only affects the physical and mental health but also the social and personal life. To study the sources of stress in a hospital (specific occupational group, e.g. personnel) awareness of the importance of extra-organizational sources of stress is important because that stress can affect the performance, mental and physical health of the individual at work place. At every work place there are several sources of job stress some of these are related to the job, whereas some are related to other factors [11].

The Tanzanian Ministry of Health is putting its efforts to identify and control risks associated with health at workplaces; to provide protective measures for workers who are at risks; to make situation of work places better that may contribute to reduce health risks; and to create awareness among employers, employees and the community on Occupational Health and Safety (OHS). Employers are required to provide information to employees to ensure that every worker knows the current legislative requirements, given knowledge should be up-to-date about all hazards and their control. In all hospitals in Tanzania, the healthcare workers are generally involved in daily contact with patients,

permanent contact with diseases and death, the use of specific techniques /equipments and chemicals, which leads to several occupational health problems [12].

The most common problems at work place are infection, accident, drug addiction radiation, psychological problems and exposure to noxious chemicals [5].

MATERIALS AND METHOD

METHOD AND MATERIALS

3.1 STUDY AREA

A survey was conducted in Pakistan institute of medical sciences Islamabad that was administered by federal government of Pakistan to provide health facilities to the community of Islamabad and Rawalpindi. Main focus of the study is on occupational health and safety measures taken by doctors and nurses in general ward and by lab technicians in labs.

3.2 DATA COLLECTION

As the study was of descriptive type so data was collected through questionnaire.

3.2.1 QUESTIONNAIRE

Questionnaire was developed by extensive review of literature, health care workers participation, and direct observation by regular inspection of place. The questionnaire was open-ended, divided into six parts. It provided information about history of workers, general health, training, use of equipments, hazard protection, and management. Detail of questionnaire is in annex 1.

3.2.2 INTERVIEW

Interviews were conducted to cross check the result of questionnaire. Third person was involved in interview process.

Secondary data was collected from; a) Demographic information (including age, sex, job category), b) Information from site of hospital, c) Caring attitude at work place, d) Knowledge about occupational health and safety and e) Education.

3.3 SAMPLING

The targeted areas of hospital were general ward (40-50 health care workers) and lab (25-30 workers). As the number of employees was small than 100 so all employees were selected for survey. Questionnaires were distributed among doctors and nurses in general ward and among lab technicians in lab. Questionnaires were distributed by going direct at place with the support of hospitals senior personnel.

3.4 DATA/ STATISTICAL ANALYSIS

Data was analyzed by creating a database in MS Access and MS Excel. The data was then transferred directly into SPSS data editor which provides both data and variable views. The data was processed by the analysis of descriptive statistics and focusing on percentages. The output contains graphical presentations (bar graphs) as well as tabulated information.

RESULTS

RESULTS

4.1 Background Information

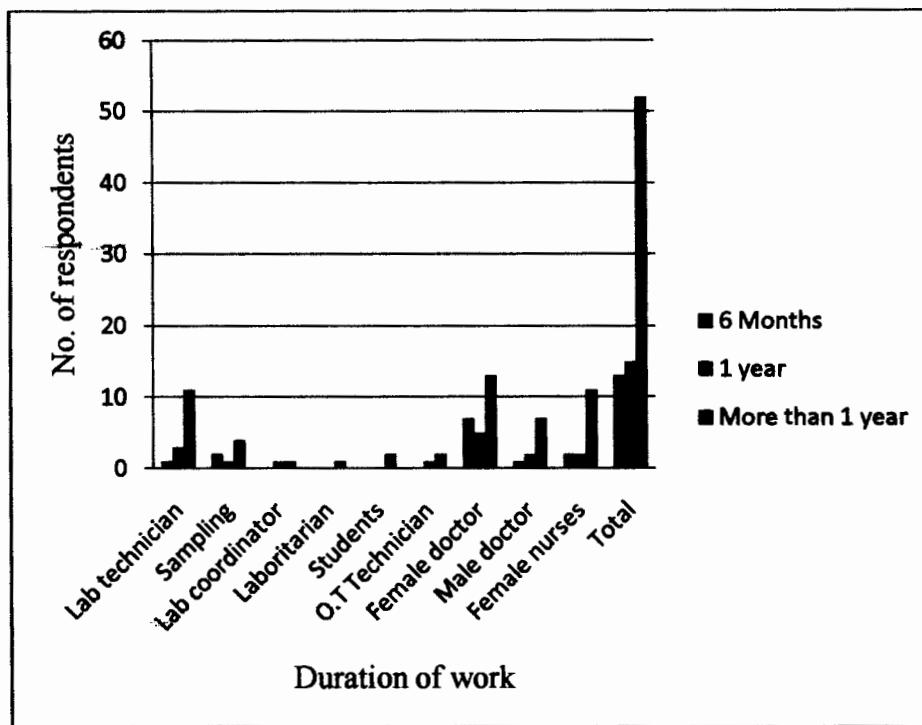


Fig.4.1 working duration of work in PIMS hospital.

Fig.4.1 shows the actual duration of work at work place. Out of 80 employees which were selected, 52 were working more than 1 year, 13 were working from 6 month and 15 were working from 1 year.

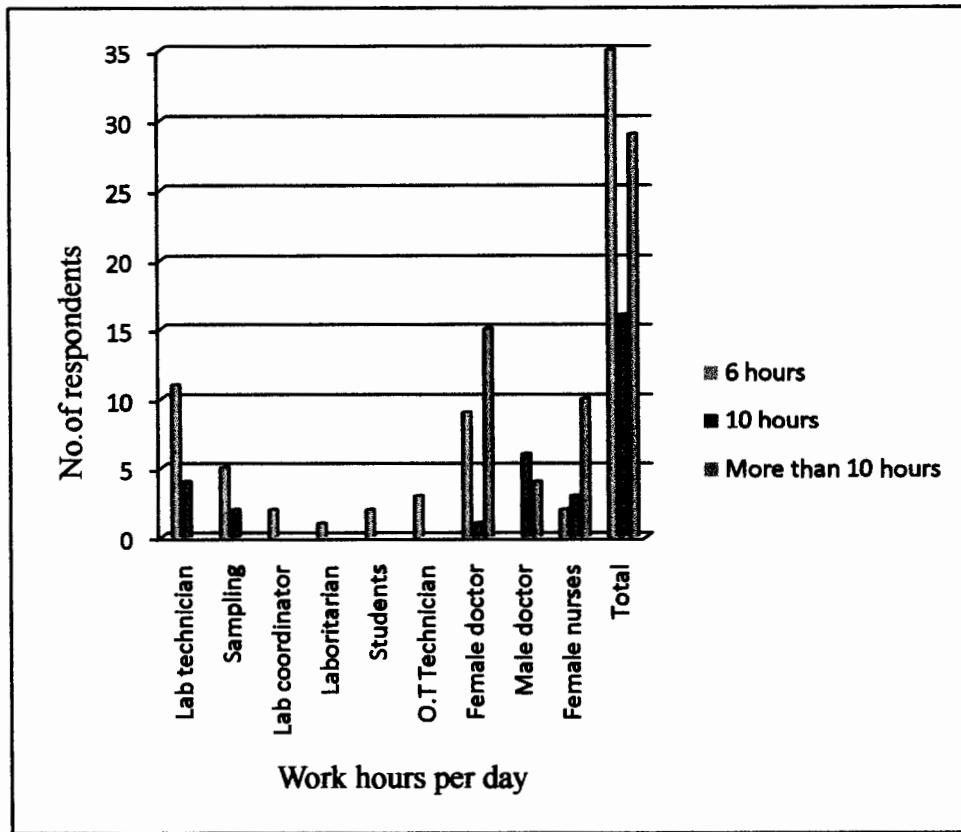


Fig.4.2 working hours per day of employees in hospital

Fig.4.2 shows the working mode of employees. Out of 80 employees who were selected, 35 were responded that they work 6 hours per day, 16 employees work 10 hours per day and 29 work more than 10 hours per day.

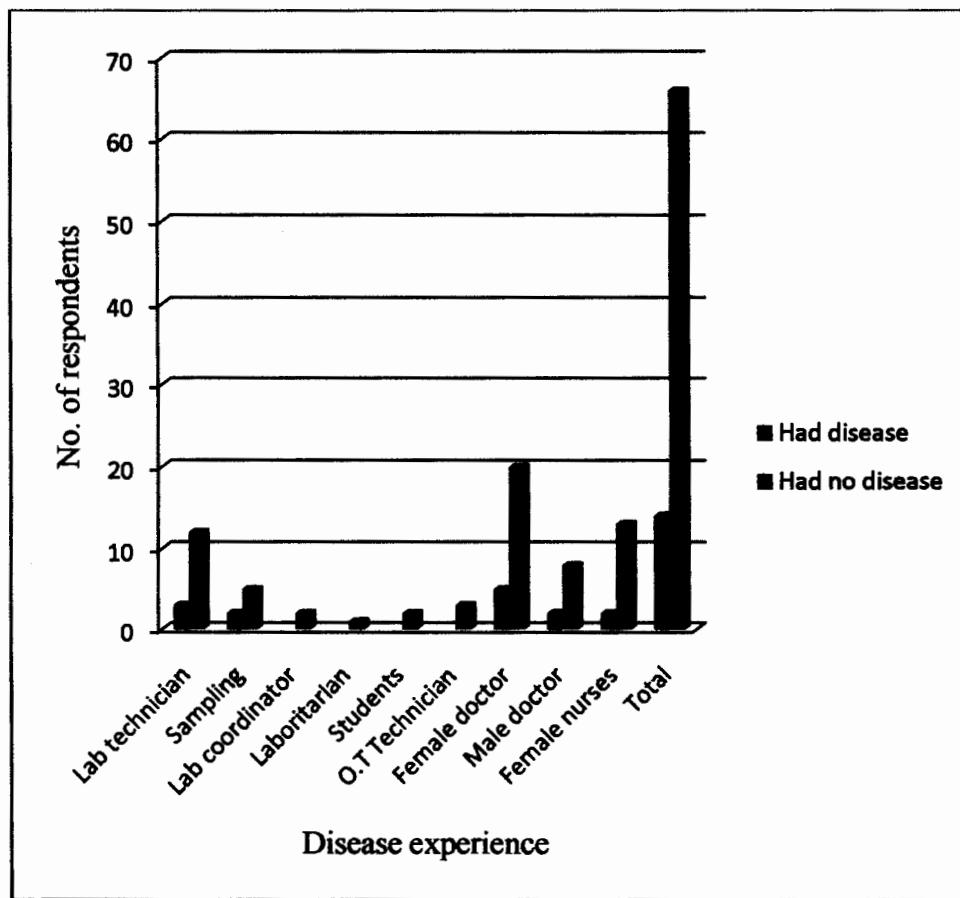


Fig.4.3 shows the disease occurrence during their work

Fig.4.3 shows that when workers were asked about any disease they experienced during their work, out of 80 employees which were selected, 12 had experienced disease and 62 had no experienced any disease during their work hours at work place.

4.2 CONDITION OF GENERAL HEALTH

In general the health of more than 30 respondents was very good.

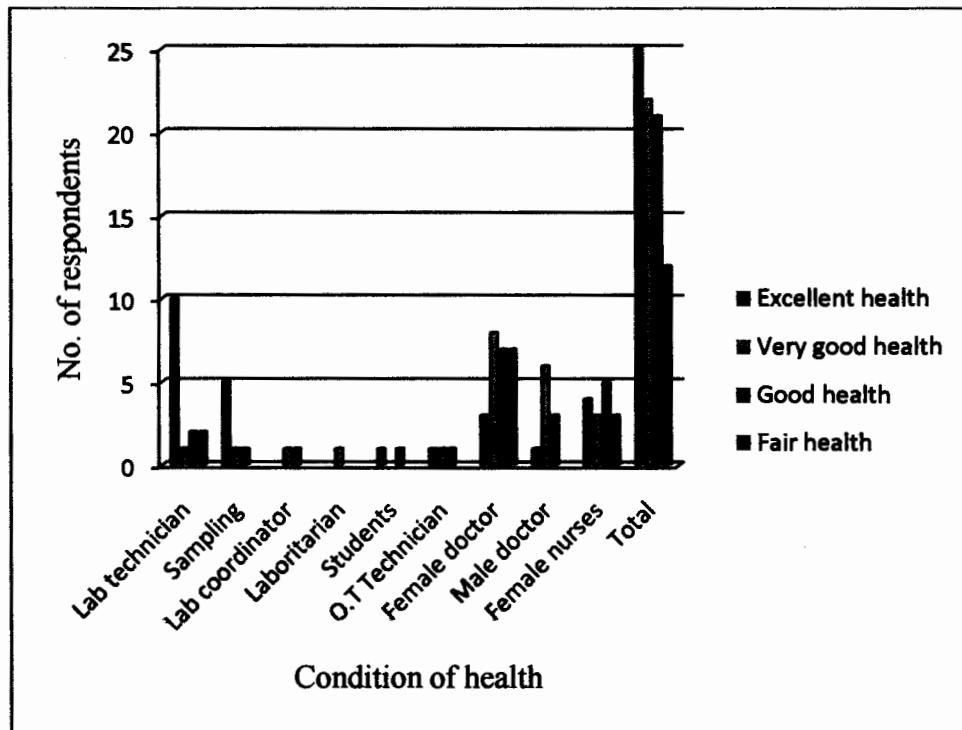


Fig.4.4 health condition of the staff

Fig.4.4 represents the health condition of employees, out of 80 employees which were selected, the health condition of 25 workers was excellent, 22 workers had very good health, 21 had good health and 12 had fair health.

4.3 TRAINING OF THE STAFF

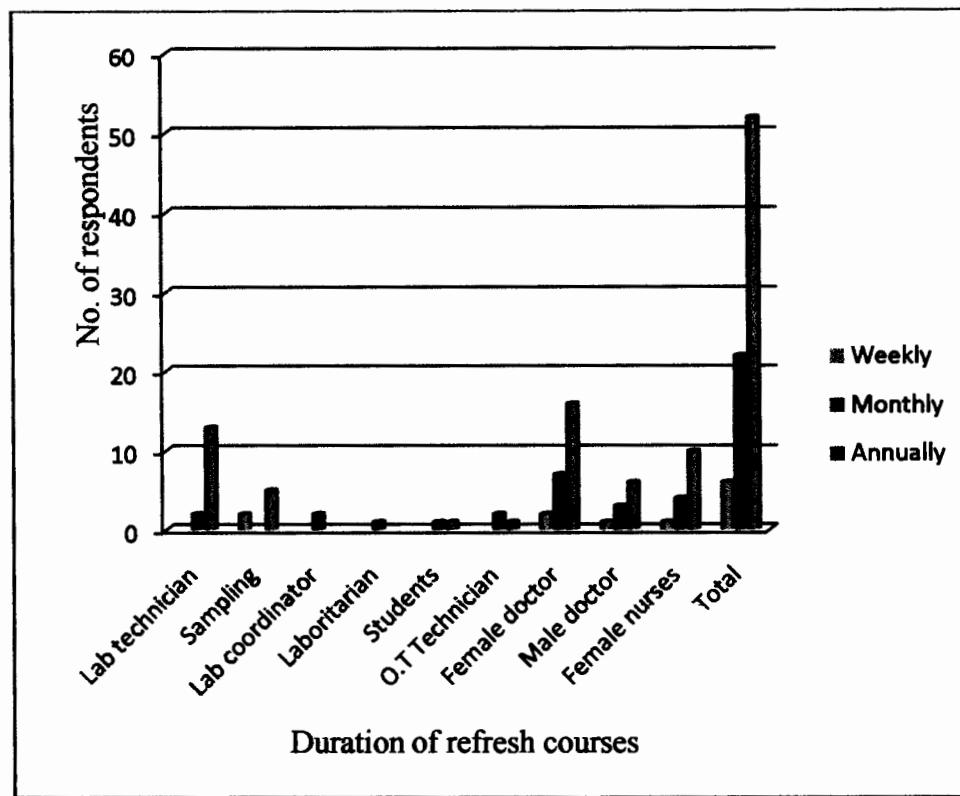


Fig. 4.5 Refresh courses provided by management to lab technicians during their job in hospital.

Fig.4.5 illustrates the response of workers about refresh courses provided by management to employees during their job in the hospital. Out of 80 employees which were selected 51 employees has provided annual training during their work, 21 employees received monthly training and 8 employees have received weekly refresh courses.

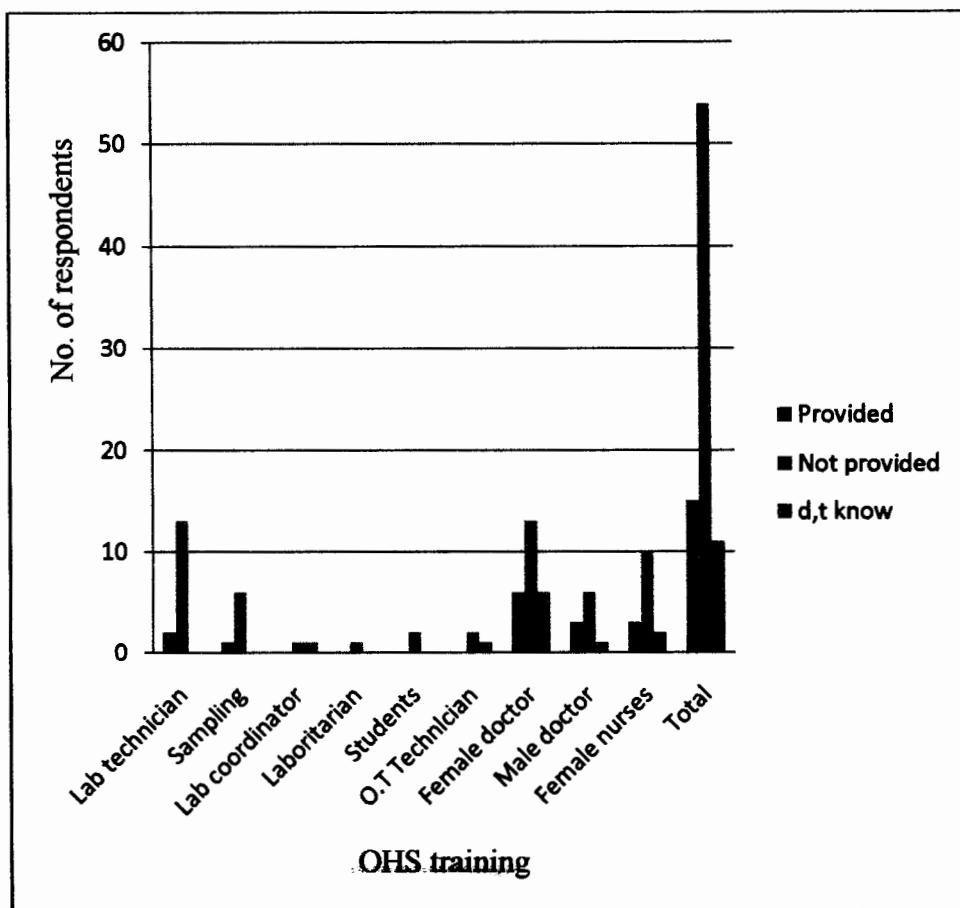


Fig.4.6 OHS training to employees.

Fig.4.6 shows Occupational Health and Safety (OHS) training to employees, when they were asked about OHS training. As to work safely at work place training of OHS(Occupational Health and Safety) is necessary. If employees are not trained they can not work efficiently. It effects not only their health but also their social life. At Pakistan Institute of Medical Science (PIMS) all employees were trained professionally but they gave very surprising responses to occupational safety training. Out of 15 female nurses 10 has not received Occupational Health and Safety (OHS) training, 3 female nurses has received Occupational Health and Safety (OHS) training And 2 female nurses do not know about OHS training. Out of 25 female doctors 12 has not received OHS training,

(7) received OHS training. And about 6 do not know about OHS training. Out of 15 lab technicians 12 has not received OHS training. 3 has received OHS training. Out of 7 employees who related to blood sampling, only 2 employees has received OHS training and 5 employees has not received OHS training. Whereas workers working at low pay scale, who work directly with equipments has not received OHS training.

4.4 PROTECTIVE MEASURES

As the work of hospital employees is critical they come in contact with patients, sharp needles, chemical, blood sampling, blood testing. So they need to be very care full to avoid disease contigence. Fore this they adopt different protective measures.

At PIMS employees take following measures.

4.4.1 TOOLS OF CLEANING

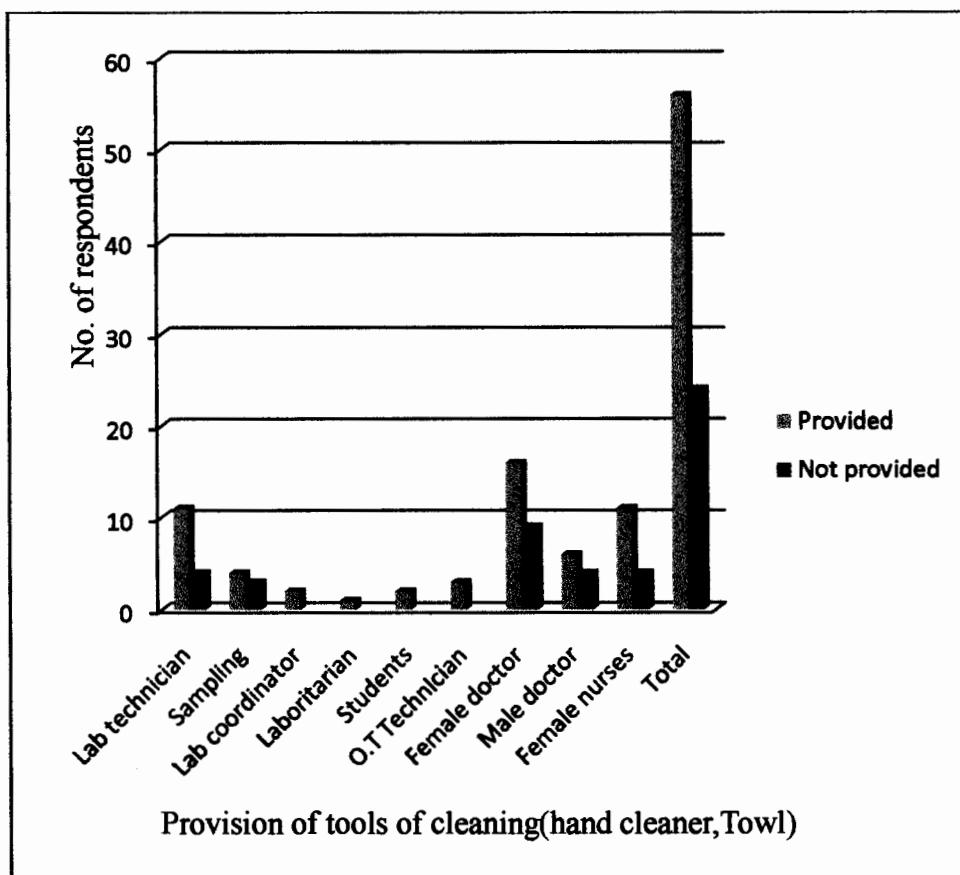


Fig.4.7 Tools they used for keeping them clean including towels and soap.

To protect individuals from any infection they need to be clean. For this purpose hand cleaner and towel should be available at work place. Fig show that out of 80 employees which were selected, 58 employees were agreed about the provision of hand cleaner and towel and 22 were disagreed about the provision of hand cleaner and towel.

4.4.2 GOGGLES PROVISION

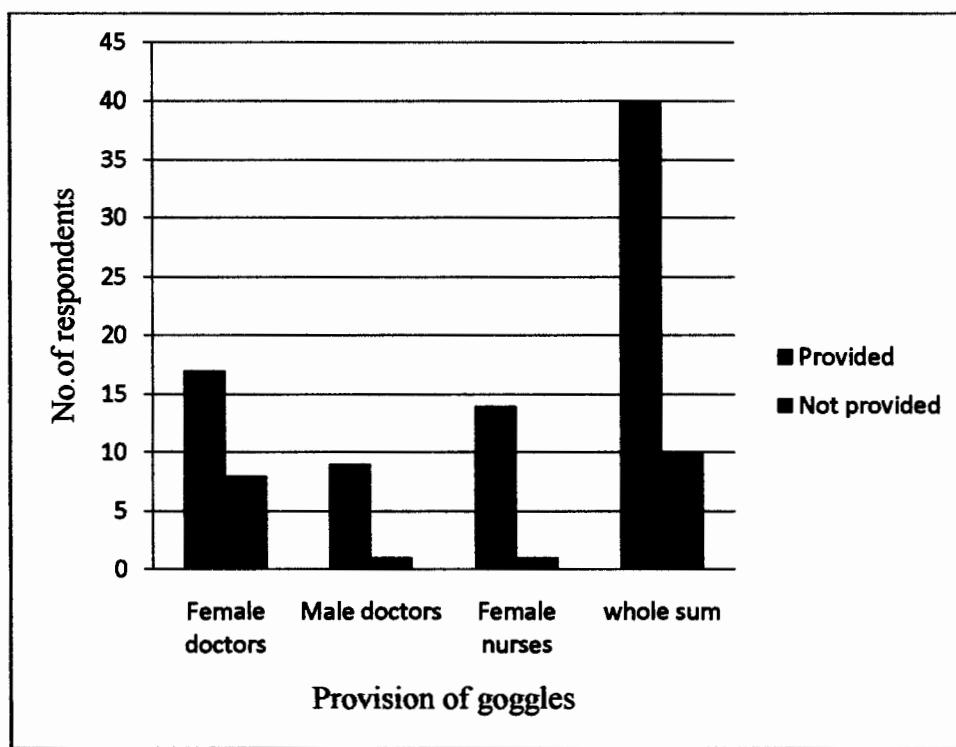


Fig.4.8 Showes the provision of goggles to employees

Fig 4.8 represents the provision of goggles to employees. Out of 50 employees which were selected 40 employees were agreed about the goggles provision and 10 employees were disagreed about the goggles provision.

4.4.3 GLOVES PROVISION

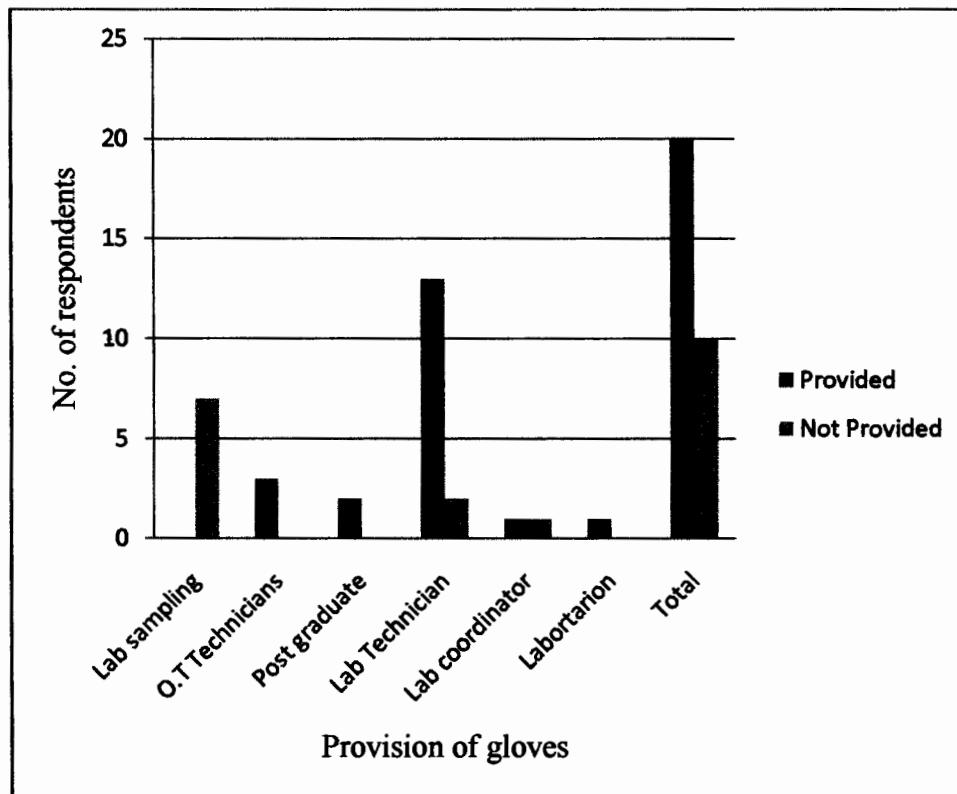


Fig 4.9 shows the provision of gloves.

Fig 4.9 illustrates the provision of gloves to employees, out of 30 employees which were selected, 26 employees were agreed about the provision of gloves and 4 employees were disagreed.

4.4.4 APRONS

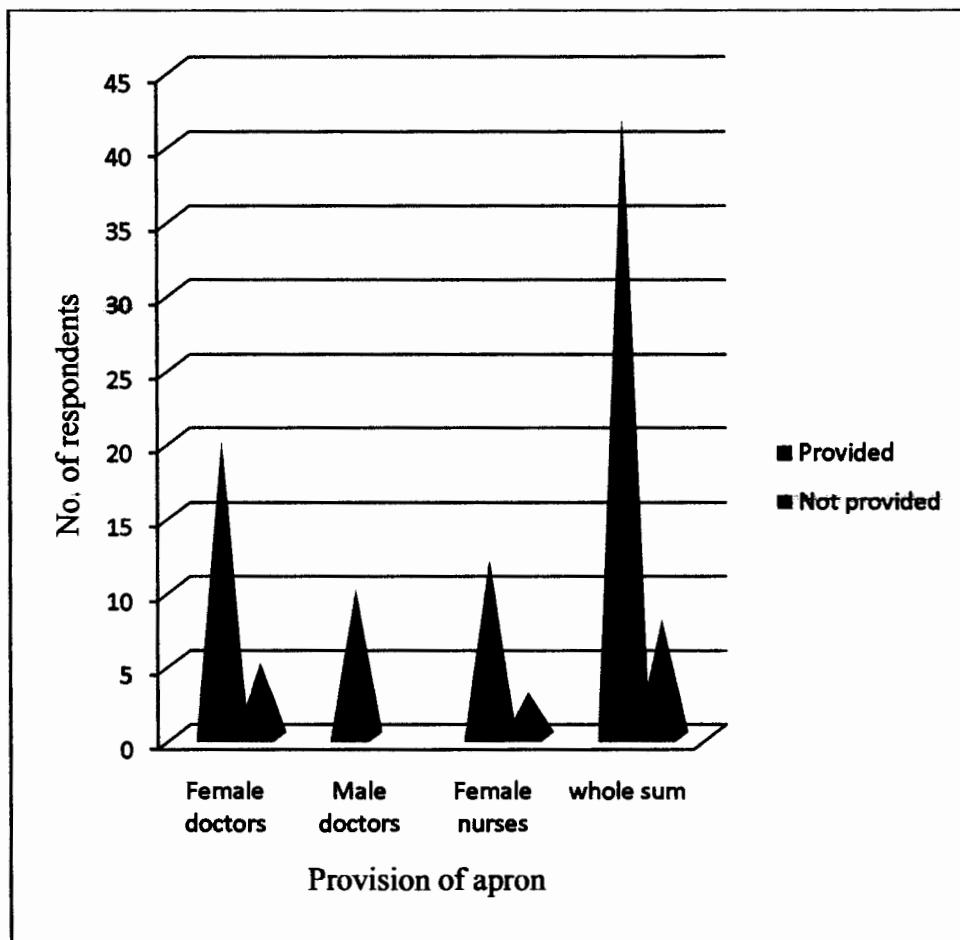


Fig.4.10 Shows the apron provision to employees in general ward

Fig 4.10 shows the responses of employees about the provision of aprons to employees in general ward. Out of 50 employees which were selected, only ----- employees were agreed about the provision of aprons and -----employees were disagreed.

4.4.6 BED SHEETS

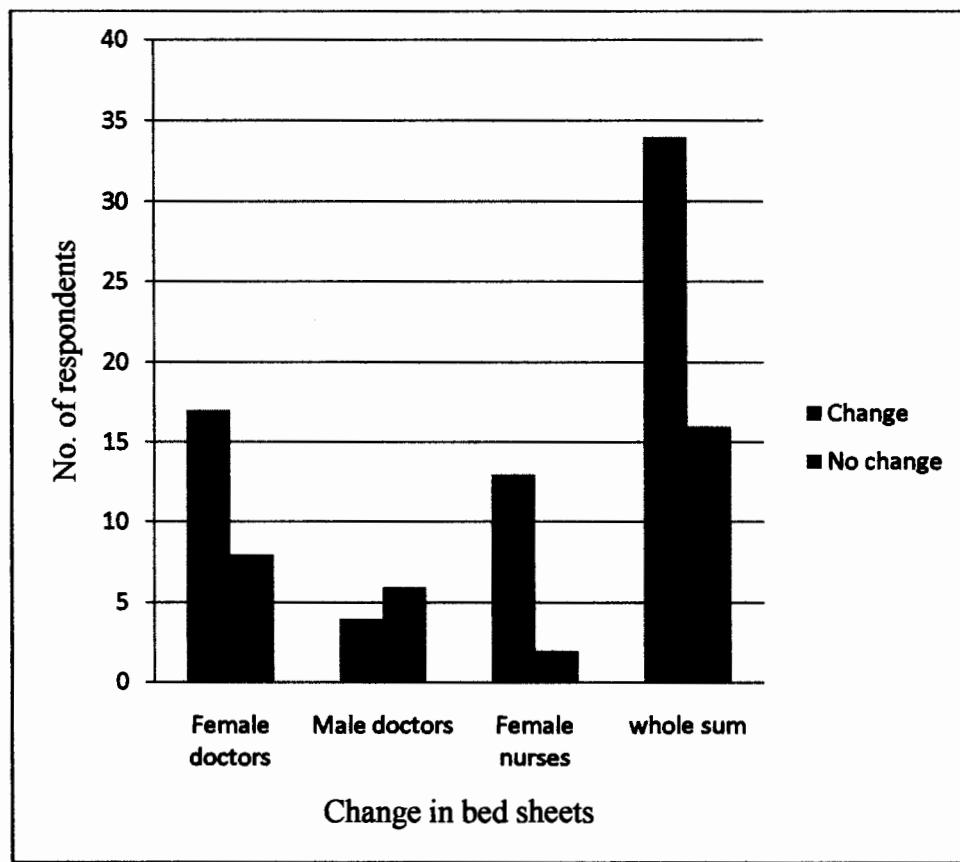


Fig.4.12 Shows weather bed sheets were changed regularly or not.

Fig 4.12 reports the change of bed sheet before the arrived of next patient. Out of 50 employeed which were selected, 34 employees were argued about the regular change of bed sheets and 16 employees disagreed.

4.4.7 NEEDLE DISPOSAL

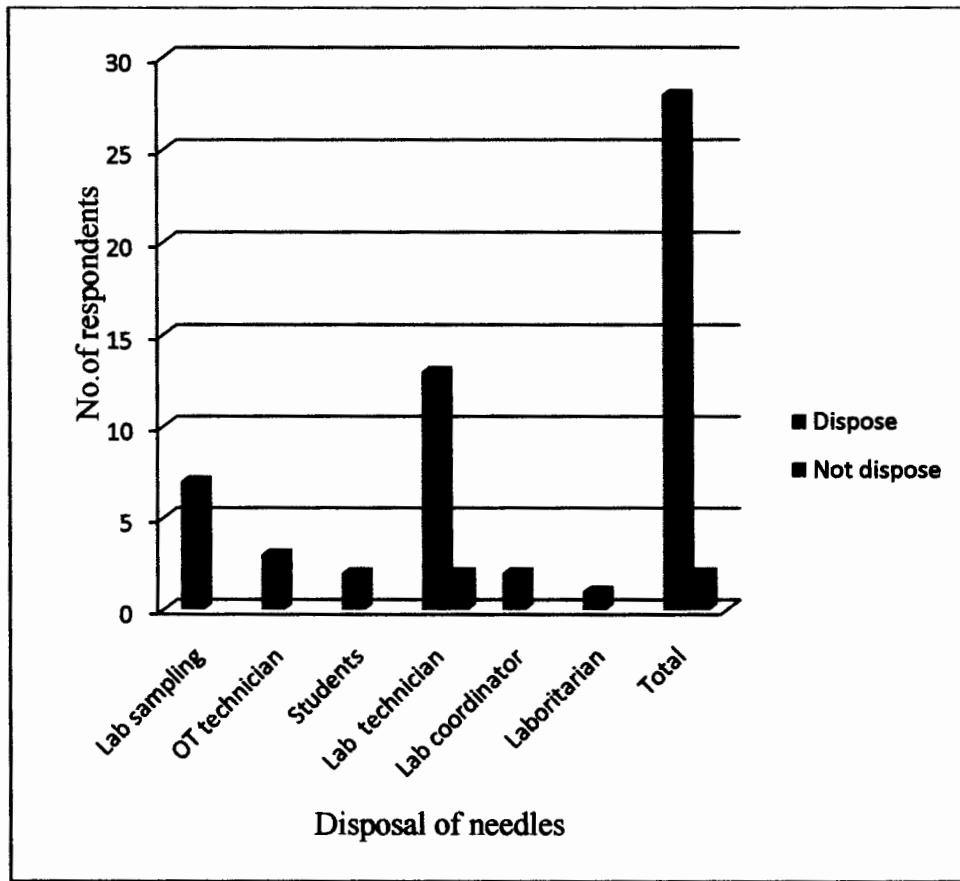


Fig.4.13 Represents that syringe were discarded or not

Fig. 4.13 represents the proper dispose of needles. Out of 30 employees which were selected, _____ employees properly disposed the used needles and _____ employees not properly disposed the used needles.

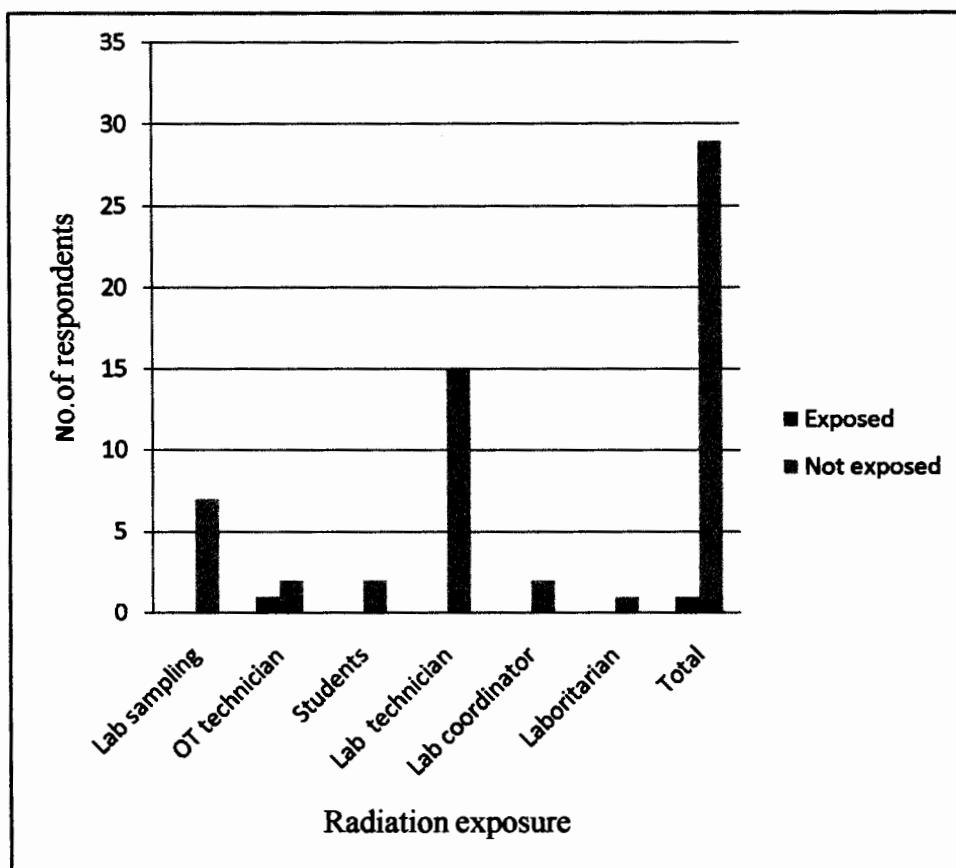


Fig4.14 employee exposure to radiations when working in lab

Fig.4.14 represent the radiation exposure while working in lab. Out of 30 employees which were selected, only one employee(who) works in operation theater was exposed to radiation.

4.5 Equipments

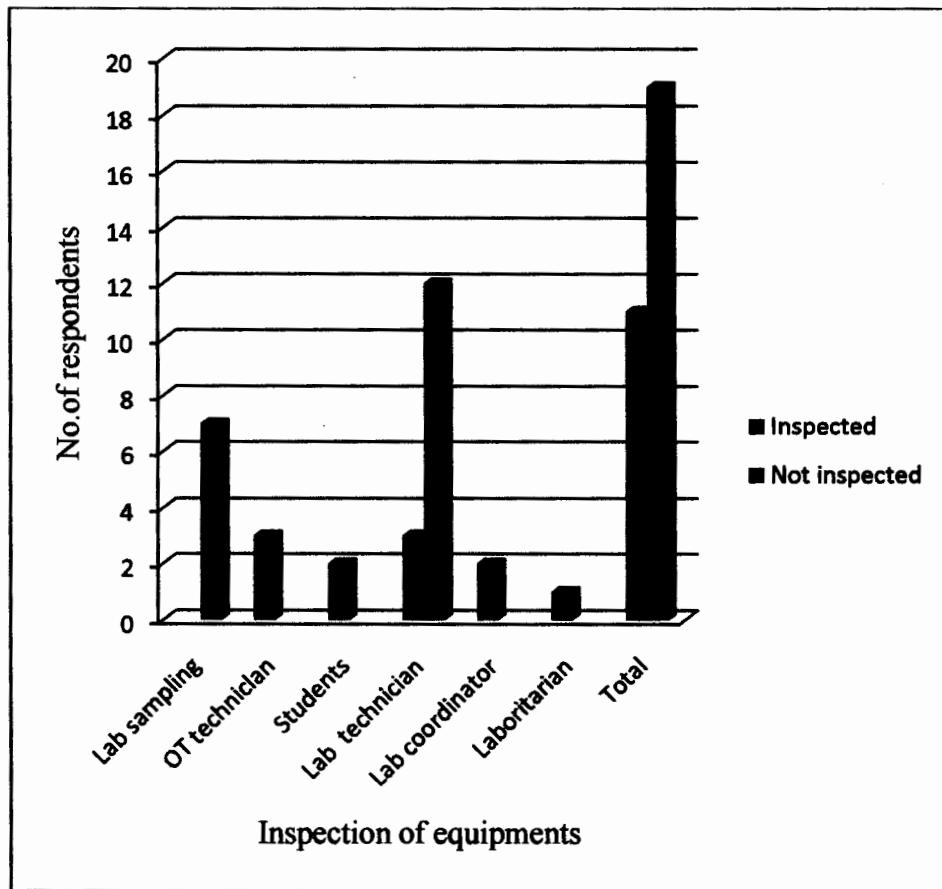


Fig.4.15 inspection of equipments.

Fig 4.15 shows the inspection of equipments in laboratory. Out of 30 employees which were selected, 19 employees were agreed about the inspection of equipments. 11 employees disagreed about the inspection of equipments

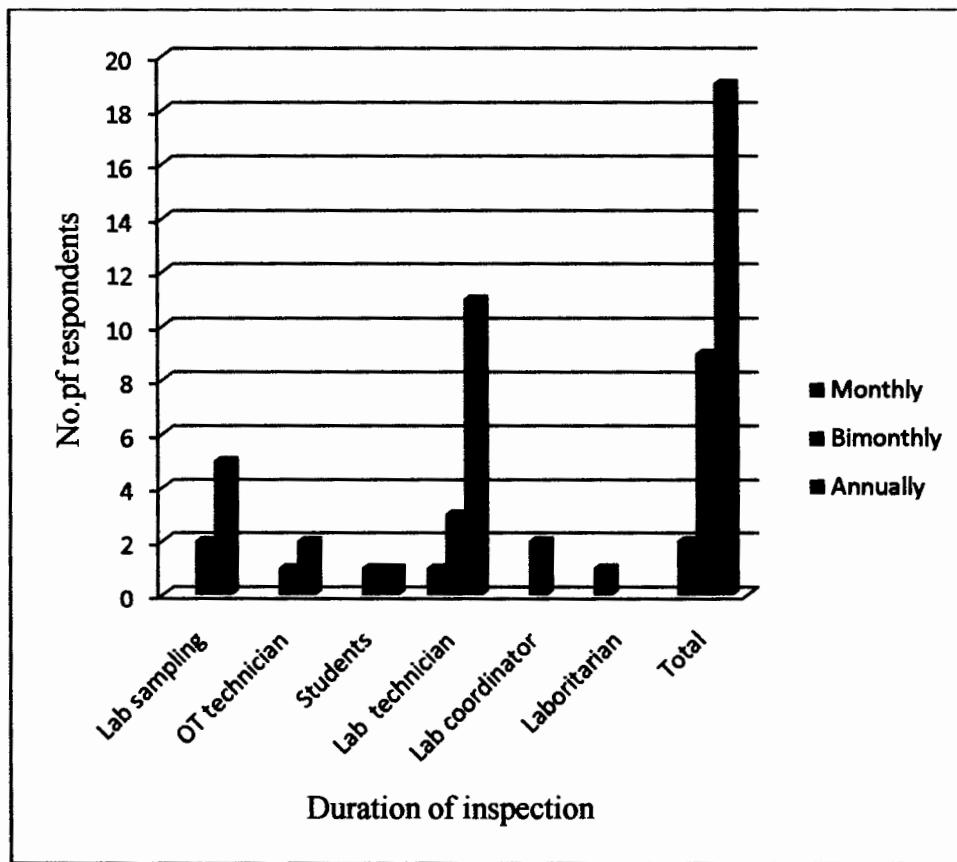


Fig.4.16 shows the trend of inspection of equipments in PIMS.

Fig 4.16. illustrate that the trend of inspection of equipment in PIMS. Out of 30 employees which were selected , 2 employees respond that equipments were inspected monthly, 9 employees responded with Bimonthly inspection of equipments and 19 employees responded with annual inspection of equipments.

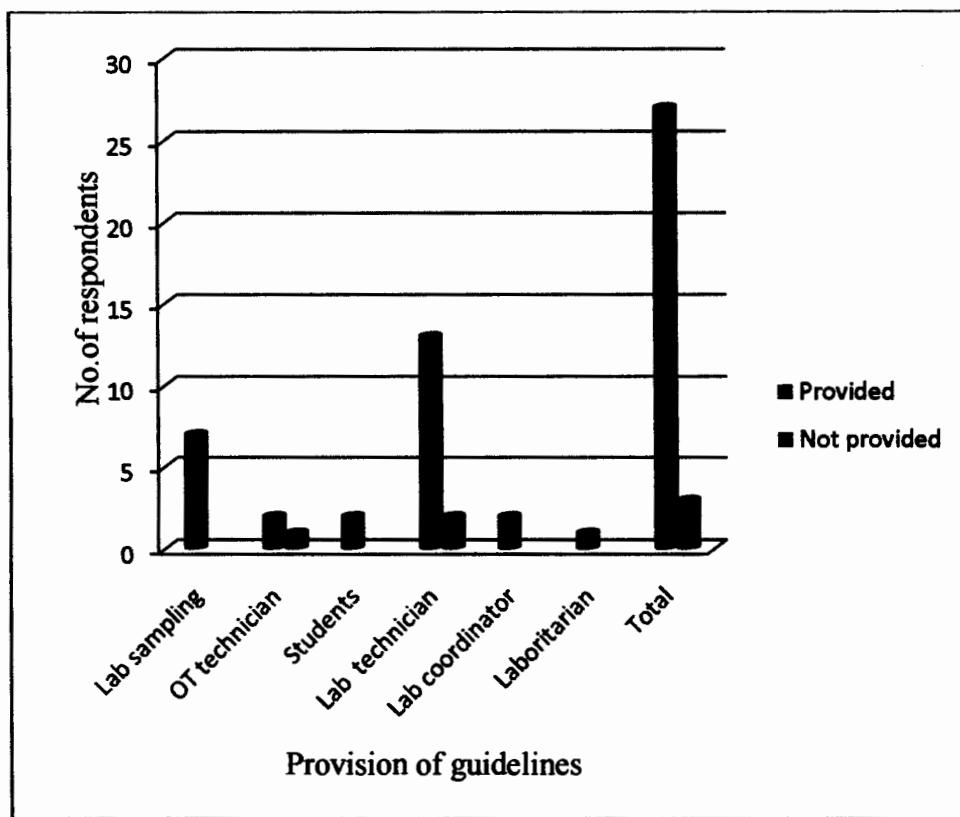


Fig.4.17 shows provision of guidelines to employees about the use of equipments.

Fig 4.17 shows the provision of guidelines to employees about the use of equipments. Out of 30 employees were selected, 27 employees were agreed about the provision of guidelines and 3 employees disagreed.

4.6 Management

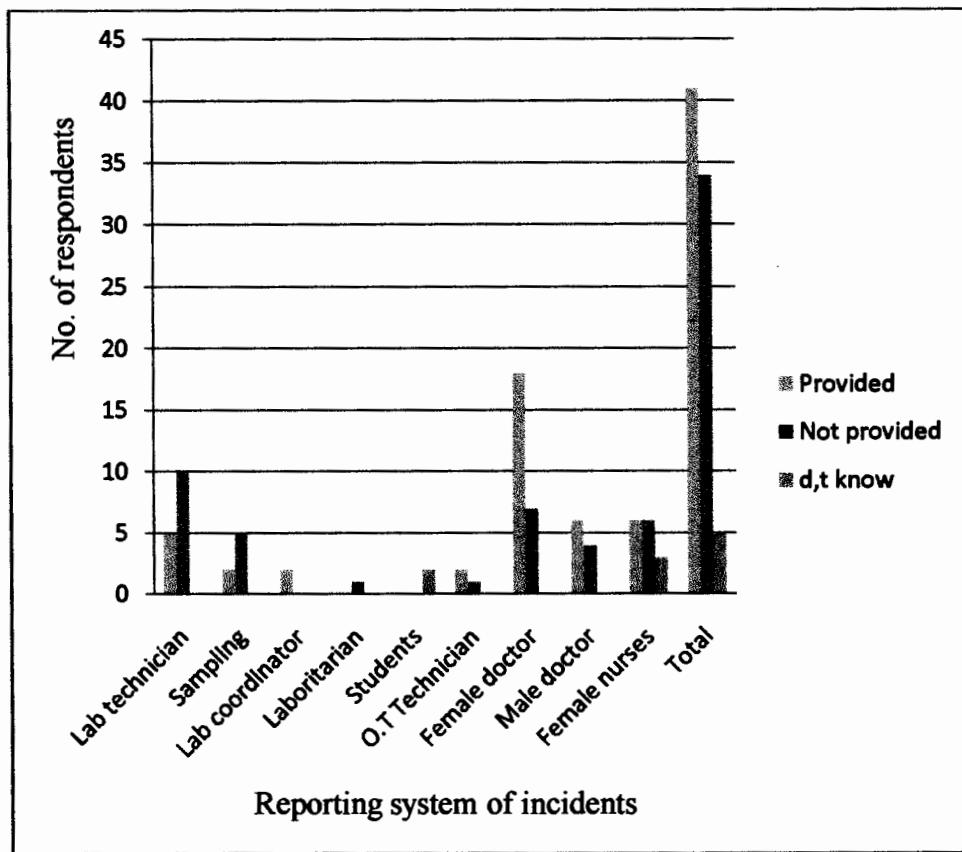


Fig4.18 Trend of reporting incidents in hospital.

Individual workers must be encouraged to report any relevant incidents to their supervisors on the appropriate incident report form, which are then forwarded to the hospital's WHS (worker's health safety) Officer for analysis, investigation and action.

Out of 80 employees which were selected, 41 employees responded that reporting system of incidents was provided by the management to employees, 34 employees responded that the reporting system of incidents was not provided by the hospital management.

DISCUSSION

DISCUSSION

There are numerous health and safety issues associated with healthcare facilities. They include blood borne pathogens and biological hazards, potential chemical and drug exposures, waste, gas exposures, respiratory hazards, laser hazards, hazards associated with laboratories, and radioactive material and x-ray hazards. The increasing awareness about occupational health and safety during the last decade has generated an important improvement in the quality and competitiveness of its workers in organizations and institutions. These workplace quality improvements include positive advancements in health and safety conditions [13].

The Ministry of Labor and Social Affairs is developing an important initiative for the fulfillment of effective laws and their principles for action. However, the results obtained from the Work Conditions Surveys in PIMS show that these efforts are not sufficient [14].

One possible reason for this undesirable situation is that prevention in Pakistan is still mainly focused on the risks, exclusively from an engineering point of view, and not on interaction of human, environmental, and organizational factors [15].

Safety behavior is explained by environment, people, and organization confluence and consequently intervention programs should be prepared to enhance safety behavior [16].

Most common personal protective equipment used in the hospital may include gloves (made of latex, vinyl, or other materials), goggles or other eye protection, face masks of various types, gowns, aprons, laboratory coats, and head and foot coverings. Lead shields are mostly used as protection from radiation in x-ray lab and laser goggles

or glasses to protect workers from laser burns, for hearing protection ear muff are used by those working in aircraft transport services, are other examples [17].

Our study showed that protective equipments (Gloves, Goggles, Aprons, hand cleaner and towel) were provided to workers but they did not use that just because of their attitudinal problem and carelessness due to lack of awareness about injury protection. The results of the survey conducted showed that there was no check and balance from management to make sure the use of protective equipment by the Health care workers. 63.66% employees responded that equipments are not inspected. While 36.3% employees responded that equipments are inspected.

There is a high risk of injury to nurses because of the use of needles in hospitals. The increasing rate of injury does not depend upon size of hospital either larger or smaller. The increased rate of injury is mostly due to the use of sharps [18].

When we surveyed about the living conditions and about the prevailing environment of the ward, 68% of the workers were of the view that the hygienic conditions of the ward are comfortable, while 32% responded that conditions are not comfortable. It means the working conditions are good but the transmission of diseases still prevails because our analysis shows that a few nurses in general ward suffered from hepatitis, cough and cold, due to direct contact with patients in last six months of the study duration. It is more alarming that about 4, Lab technicians caught Tuberculosis, which is mostly spread by blood transfusion and injury by sharp needles during blood sampling. It can be avoided by using protective equipment as gloves.

Nieto (2002) describes that there should be a training program on health and safety issues. Training program should be for managers, administration, and training for safety

officers, involving staff and union representative. Training should be designed to incorporate and identify risk associated with work and preventive measures [19].

Result of this study shows that most of lab technicians and nurses have professional training of their work but not OHS training which is important to work in a save ways at work places. In our survey results in PIMS no training for OHS is provided. 67.5% people are unaware about OHS, 18.75 people have awareness and 13.75 do not know about OHS.

There are two methods to Occupational hazards administrative control and engineering control. Essential components of administered control are establishment of safe procedures and practices at work place. Hazards related to chemical process can be reduced by limiting the exposure time to chemicals. This may require change in work shifts, assigning different tasks, dividing work projects into smaller ones to reduce time taken by large projects [20].

This study shows that hospital (PIMS) has reporting system but because of heavy fines levied due to making loss of lab equipment , workers were discouraged to report any incident. 51.25% employees responded that hospital have incident reporting system, 42.5% employees responded that hospital have no proper incident reporting system and 6.25 employees do not know about any system. Management has also provided guidelines but does not establish any programme to reduce chemical risk, limiting the exposure time.

RECOMENDATIONS

RECOMMENDATIONS

To improve occupational health and safety in hospital there should be;

1. Training program, refresh courses and workshops on OSH especially for low scale employees and worker.
2. Information should be provided for the safe use of equipments and chemicals (in the appropriate language).
3. Exit should be marked properly with warning signs in local language.
4. Two percent of income from every industry should be spent to provide OSH protection in industry.
5. There should be a law for categories of sign (warning, danger etc.) As it has been adopted in OSH laws of some countries. In Pakistan no such signs have been recommended under Health and Safety laws.
6. There should be a Health and Safety council at district, provincial and national level to handle issues related to occupational health and safety.
7. Noise standards should be formulated. This simple step may help in reducing the number of accidents and diseases at the work place.
8. All workers of the hospital should be protected by labor laws
9. Work environment should be free from stress to promote worker health through safe workplaces.
10. To assure quality productivity workers should have strong commitment to maximize patient protection against disease.

11. Management should keep check and balance through regular inspection, punishment to workers for not following procedures and practices.
12. Aiming for best practice in all these areas will result in happier, healthier and safer staff and patients; safer and healthier communities and a safer and greener environment.

CONCLUSION

CONCLUSION

In health care facilities occupational health and safety measures not only protect workers from risk of hazards and exposure to disease but also protect them from being suffering from mental and physical problems, injury caused by sharps, chemicals, burns and disturbance in social and personal life. At every work place standard for occupational health and safety are vary but an acceptable standard has been established from knowledge, understanding of diseases, injury caused by biological and chemical exposures.

As condition of occupational health and safety in PIMS is satisfactory however Pakistan need to develop a plan that includes precautionary measures and principles and maximum standards for good health its citizens. Without such plan it will not be possible to manage occupational health and safety in health care facilities. So all policies should be based on precautionary principles. Another important factor is implementation of laws. In Pakistan there is a list of rules and regulations but no implementation.

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ANNEXURE



INTERNATIONAL ISLAMIC UNIVERSITY ISLAMABAD

Faculty of Basic & Applied Sciences

Department of Environmental Science

I am a university student carrying out an investigation to find out prevailing occupational health and safety measures in hospital as a part of my post graduation degree (MSC). Help me by answering few questions.

Name: -----

Occupation: -----

Gender: -----

Age: -----

BACK GROUND

Q.No 1 You are working at hospital from

A) 6 Month B) 1 year C) more than 1 year

Q.No 2 You're working hour per day in hospital

A) 6 hours B) 10 hours C) 12 hours

Q.No 3 Do you experience any major disease during your work

Yes No

Q.No 4 Which disease you suffer most _____

Q.No 5 How many times you suffer a disease _____

GENERAL HEALTH

Q.No 6 In general would you say your health is

A) Excellent B) Very good C) Good D) Fair E) Poor

TRAINING

Q.No 7 Duration of refresh course

A) Weekly B) monthly C) annually

Q.No 8 Do you receive OHS training?

Yes No

HAZARD PROTECTION

Q.No 9 Goggles are provided by management of hospital

Yes No

Q.No 10 Aprons are provided

Yes No

Q.No 11 Hygienic condition of the ward is comfortable

Yes No

Q.No 12 Bed sheets and pillow covers are changed daily

Yes No

Q.No 13 Hand cleaner and towels are provided to you by hospital management

Yes No

Q.No 14 Do you properly dispose off needles?

Yes No

Q.No 15 Gloves are provided to you

