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# "A Study To Assess The Knowledge And Practices Regarding Oxygen Therapy Safety Precaution Among The Health Workers Of Selected Hospitals In State Of Maharashtra In View To Developed Information Booklet".

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**Abstract**

The present study was conducted to assess the knowledge and practices regarding Oxygen Therapy Safety Precautions among health workers in selected hospitals of Maharashtra State, with a view to develop an information booklet. Oxygen therapy is an essential lifesaving treatment, especially during the COVID-19 pandemic, but improper handling and inadequate safety measures may lead to serious hazards. A quantitative descriptive research design was adopted for the study. The sample consisted of health workers selected from hospitals in Maharashtra using appropriate sampling techniques. Structured questionnaires and observational checklists were used to assess knowledge and practices regarding oxygen therapy safety precautions. The study focused on areas such as oxygen cylinder care, central oxygen supply, prevention of oxygen hazards, and safety guidelines during oxygen administration. The findings revealed gaps in knowledge and practices among health workers regarding oxygen therapy safety precautions. The study concluded that regular training, awareness programs, and proper guidelines are necessary to improve safe oxygen handling practices. An information booklet was developed and distributed to enhance awareness and promote patient safety.

**HERE IS A SHORT AND CONCISE INTRODUCTION SUITABLE FOR YOUR RESEARCH STUDY:**

## I- INTRODUCTION

OXYGEN IS AN ESSENTIAL ELEMENT REQUIRED FOR THE NORMAL FUNCTIONING OF THE HUMAN BODY. IT PLAYS A VITAL ROLE IN MAINTAINING LIFE BY SUPPLYING ADEQUATE OXYGEN TO BODY TISSUES AND ORGANS. OXYGEN THERAPY IS A MEDICAL TREATMENT USED TO PROVIDE SUPPLEMENTAL OXYGEN TO PATIENTS SUFFERING FROM LOW OXYGEN LEVELS DUE TO VARIOUS RESPIRATORY AND MEDICAL CONDITIONS SUCH AS COVID-19, PNEUMONIA, CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD), TRAUMA, AND CARDIAC EMERGENCIES.

DURING THE COVID-19 PANDEMIC, THE IMPORTANCE OF OXYGEN THERAPY INCREASED SIGNIFICANTLY DUE TO THE HIGH DEMAND FOR OXYGEN SUPPORT AMONG CRITICALLY ILL PATIENTS. SAFE ADMINISTRATION, STORAGE, TRANSPORTATION, AND HANDLING OF OXYGEN ARE VERY IMPORTANT TO PREVENT HAZARDS SUCH AS FIRE ACCIDENTS, OXYGEN LEAKAGE, AND COMPLICATIONS RELATED TO IMPROPER OXYGEN USE.

HEALTH WORKERS, ESPECIALLY NURSES, PLAY A MAJOR ROLE IN MONITORING OXYGEN THERAPY AND ENSURING PATIENT SAFETY. ADEQUATE KNOWLEDGE AND PROPER PRACTICES REGARDING OXYGEN THERAPY SAFETY PRECAUTIONS ARE ESSENTIAL FOR PREVENTING COMPLICATIONS AND IMPROVING THE QUALITY OF PATIENT CARE. THEREFORE, THE PRESENT STUDY AIMS TO ASSESS THE KNOWLEDGE AND PRACTICES REGARDING OXYGEN THERAPY SAFETY PRECAUTIONS AMONG HEALTH WORKERS IN SELECTED HOSPITALS OF MAHARASHTRA STATE.

**AbbreviationsandAcronyms(Heading2)**

| SR. NO | ABBREVIATIONS | FULL FROM |
|---|---|---|
| 1 | O2 | Oxygen |
| 2 | CO2 | Carbon-dioxide |
| 3 | OT | Oxygen Therapy |
| 4 | SPO2 | Saturation of Peripheral Oxygen |
| 5 | PaO2 | Partial Pressure of Oxygen in the Arterial blood |
| 6 | FIO2 | fraction of inspired oxygen |
| 7 | PEEP | Positive end-expiratory pressure |
| 8 | HFNO | High-Flow Nasal cannula Oxygenation |
| 9 | HBOT | Hyperbaric Oxygen Therapy |
| 10 | TRALI | Transfusion Related Lungs Injury |
| 11 | COPD | Chronic Obstructive Pulmonary Disease |
| 12 | ARDS | Acute Respiratory Distress Syndrome |
| 13 | LCA | Life Cycle Assessment |
| 14 | ICU | Intensive Care Units |
| 15 | NICU | Neonate Intensive Care Unit |
| 16 | EMS | Emergency Medical Services |
| 17 | ICMR | Indian council of Medical Research |
| 18 | LMO | Liquid Medical Oxygen |
| 19 | PSA | Pressure Swing Adsorption |
| 20 | DCA | Drugs Control Administration |
| 21 | RRR | Rapid Response Report |
| 22 | WHO | World Health Organization |
| 23 | PESO | Petroleum and explosive safety Organization |
| 24 | et al. | And Others |

**3.1Population and Sample**

In this research study, population consisted of entire Health Workers working in hospitals in State of Maharashtra. 'Health Workers' refers to the Staff Nurses (GNM, BSc and MSc) working in selected hospitals. In the present context of the study the sample size was selected 100 Health Workers. The sample size was selected by Thumb rule method. Also researcher in review of literature found that, approximately same sample size was selected for the previous similar studies.

**3.2 Data and Sources of Data**

In this study, the sampling technique used by the researcher was Simple Random Sampling for collection of data from Health Workers working in hospitals in State of Maharashtra. The technique chosen as it is most reliable & unbiased method & free from sampling errors. This method works if there was equal chance that any of the subjects in a population was chosen. Simple random sampling to make generalizations about a population..

**3.3 Theoretical framework**

The conceptual framework of this study is based on Health Belief Model' Hoch Baum, Rosen stock & Kegels (1950) that explain and predicts the health behavior.

A model is a theoretical way of concept of understanding a concept or idea. This is done by focusing on attitude & belief of individual. Health beliefs are a person's ideas, conviction &attitudes about health and illness.

They are concepts about health which an individual believes to be true. They must be based on factual information or misinformation, myths or false expectations.

These health beliefs influence the health behavior & thus, can positively or negatively affect the client health status. So, the nurses while preparing a plan of care with an individual need to consider the persons health beliefs. Health behavior of the client is influenced by their health belief; People take actions to maintain the optimum health & prevent illness& reach their maximum physical and mental potential. There are two types of health behavior positive & negative health behavior. There are various factors which affect the health belief like intellectual background, perception, emotion, family practice, socioeconomic & cultural background.

In this study, the conceptual framework is based on Health Belief Model for to assess the Knowledge, and Practices regarding Oxygen Therapy Safety Precaution among the Health Worker in selected hospital state of Maharashtra.

## I. RESEARCH METHODOLOGY

In this Study methodology refers to how the research was done and its logical sequence. The focus of this research was to assess the Knowledge and Practices regarding Oxygen Therapy Safety Precaution among the Health Worker in selected hospital state of Maharashtra.

The literature reviews have assisted the researcher to focus on the type of research method that will be most suitable for this area of Study.

Variables of the study There are several types of variables represent the intent of a research questions. Independent variables, dependent variables, demographic variables and research variables are some common type of research variables studied in a research study. In this study, research variables are Knowledge regarding Oxygen Therapy Safety Precaution and Practices regarding Oxygen Therapy Safety Precaution. In this study researcher has included Health Workers Age, Gender, Year of experience, Area of working, previous training on Oxygen Therapy Safety Precaution, Reported incidence of oxygen leakage, If yes in which area.

### 3.4Statistical tools and econometric models

In this study instrument were selected based on:-

1. Review of literature in related field.
2. Consultation and discussion with nursing experts field of community health nursing.
3. Objective of the study.
4. This enabled the researcher to finalize the content matter and final tool preparation. Related literature reviews like books, journals, articles, periodicals, published research studies and unpublished research and dissertation studies were reviewed and opinions of subject experts were considered for the development of the tool.

Tool is a written device that a researcher uses to collect the data. Following research tool were developed and implemented for the proposed study.

Research Tool 1: Structured Questionnaire used to assess the Knowledge of Health Workers regarding Oxygen Therapy Safety Precaution.

Research Tool 2: Observational checklist to assess Practices of Health Workers regarding Oxygen Therapy Safety Precaution.

### 3.4.1 Descriptive Statistics

"Data analysis is conducted to reduce, or organize and give meaning to the data." The data was analyzed in terms of the objectives of the study using descriptive and inferential statistics: The plan for data analysis is as follows:

1) Consolidation and organizing the data in a master sheet on computer
2) Demographic data would be analyzing using frequency and percentage and presented in the form of tables and graphs.

3) Data obtained through questionnaire would be analyzed by frequency and Percentage.

Descriptive Statistics

1) Frequency and Percentage distribution to assess Knowledge, and Practices with selected demographic variables.

2) Mean and standard deviation is used to analyses the demographic data and also structured questionnaire, self-reported and practice Observational checklist.

Inferential Statistics

1) ANOVA test used to assess an association between Knowledge, Practices and demographic variables.

2) Karl Pearson's correlation coefficient is used to assess correlation of Knowledge with Practices.

**RELIABILITY OF RESEARCH TOOLS**

**Reliability of Structure Questionnaire**

**In this study, reliability of Structure Questionnaire was determined by Test- Retest method. The reliability value of Structured Questionnaire was r = 0.946. This indicated that, the research tool was reliable.**

**Reliability of Observational Checklist**

**In this study, reliability of Observational Checklist was determined by Rater-Interater method. The Coefficient of Correlation was calculated by using Kappa method formula of product moment coefficient. Reliability coefficient was (r) 0.727The result indicated that, the research tool was reliable.**

**IV. RESULTS AND DISCUSSION**

**4.1 Results of Descriptive Statics of Study Variables**

Study was conducted on 100 Health Workers of selected hospital state of Maharashtra. Who meet inclusive criteria. The sample size was determined by Thumb rule method. In this study, simple random Sampling technique used for the collection of data because the subjects are Health Workers of selected hospital state of Maharashtra. As a research tool researcher developed Structured Questionnaire and Observational checklist which was validated by experts. Reliability of Structure Questionnaire was determined by Test-Retest method. The reliability value of Structured Questionnaire was r = 0.946. This indicated that, the research tool was reliable. Observational Checklist was determined by Rater-Interater method. The Coefficient of Correlation was calculated by using Kappa method formula of product moment coefficient. Reliability coefficient was (r) 0.727 the result indicated that, the research tool was reliable. After the Pilot study researcher was further moved towards main data collection. Data analysis and interpretation was done by using Basic descriptive statistics such as Mean, Standard Deviation, Frequency and Percentage. Inferential statistical tests such as Pearsons test applied for finding correlation and ANOVA for finding association with demographic variables was used.

The study found that, , 77% of the Health Workers were having excellent Knowledge regarding Oxygen Therapy Safety Precaution. 15% had good Knowledge. Very few 7% Health Workers had average Knowledge and only 1% Health Worker showed poor Knowledge. Practices indicated that, majority 32% of the Health Workers showed average Practices, were 30% of them showed excellent practices, 21% were poor and 17% showed good practices regarding Oxygen Therapy Safety Precaution. The p value 0.001which was less than0.05 level of significance. The result indicated that, there was a positive correlation between Knowledge and Practices. There no significant statistical association between Knowledge and Practices with their demographic variables. Based on the information researcher developed Information Booklet on Oxygen Therapy Safety Precaution As per language preference booklets were distributed among Health Workers This booklet will disseminate the more information and create awareness regarding Oxygen Therapy Safety Precaution.

Table 4.1: Descriptive Statics

| Sr. No. | Part wise Practice mean | Max score | Mean score | Meanpercent (%) |
|---|---|---|---|---|
| 1 | Perform a focused respiratory assessment of client | 2 | 1.47 | 73.5 |
| 2 | Aspect to be checked before oxygen administration | 2 | 1.06 | 53.0 |
| 3 | Preventive Practices | 2 | 1.23 | 61.5 |
| 4 | Humidifier maintenance | 2 | 0.98 | 49.0 |
| 5 | Placement of cylinder in ward | 2 | 1.50 | 75.0 |
| 6 | Condition of gas cylinder storage area | 2 | 0.71 | 35.5 |
| 7 | Security the LMO facility | 2 | 0.96 | 48.0 |
| 8 | Check before handover | 2 | 1.25 | 62.5 |
| 9 | Awareness program for employee and public | 2 | 0.62 | 31.0 |
| 10 | Hospital audits records | 2 | 1.06 | 53.0 |

**Figure sand Tables**

**SECTION-I**

This section deals with analysis of demographic data, of Heath Workers under study.
It was analyzed and presented in terms of frequency and percentage table**.**

**Table No 4.1: Frequency and Percentage wise distribution of Heath Workers according to their Age**

n = 100

| Sr no | Demographic characteristic | Frequency | Percent (%) |
|---|---|---|---|
| **4.1** | **Age** | | |
| | 22yrs-32yrs | 20 | 20 |
| | 33yrs-43yrs | 63 | 63 |
| | 44yrs-54yrs | 13 | 13 |
| | Above 55yrs | 4 | 4 |
| | Total | 100 | 100 |

The Table No.4.1 and Figure No.3 indicated that, majority 63 % of Health Workers were belonged to age group 33-43 yrs followed by which 20% of them from age group 22-32 years, 13% were in age group 44-54 yrs, very few 4% of them were in age group 55yrs and above.

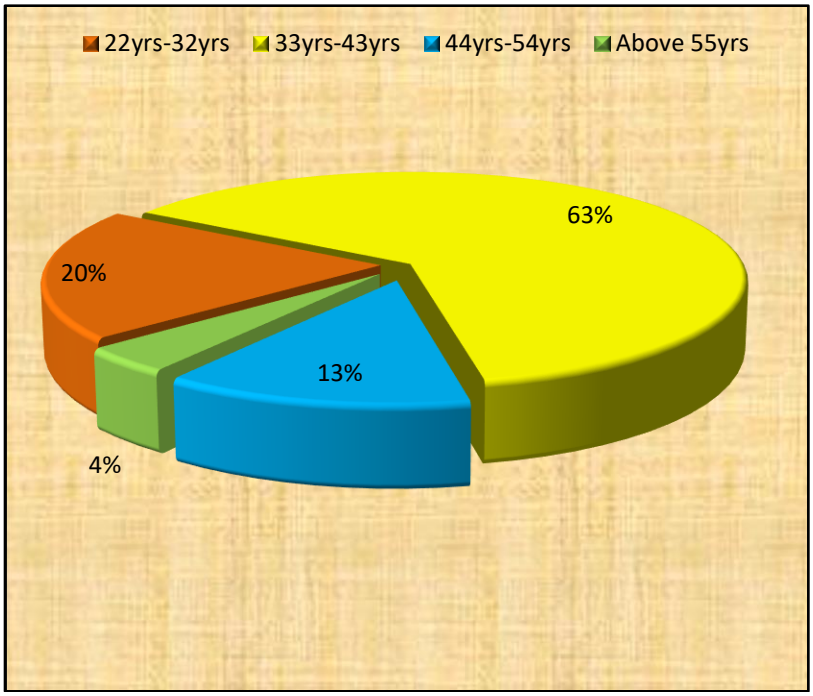


**Figure No-3: Percentage distribution of Health Workers according to their Age.**

**Table No-4. 2: Frequency and Percentage wise distribution of Heath Workers according to their Gender.**

n= 100

| Sr. no | Demographic characteristic | Frequency | Percent (%) |
|---|---|---|---|
| 4.2 | **Gender** | | |
| | Male | 6 | 6 |
| | Female | 94 | 94 |
| | Total | 50 | 100 |

Table No.4.2 and Figure No. 4 Majority 94% of Health Workers were females. Only 6% of theme males.

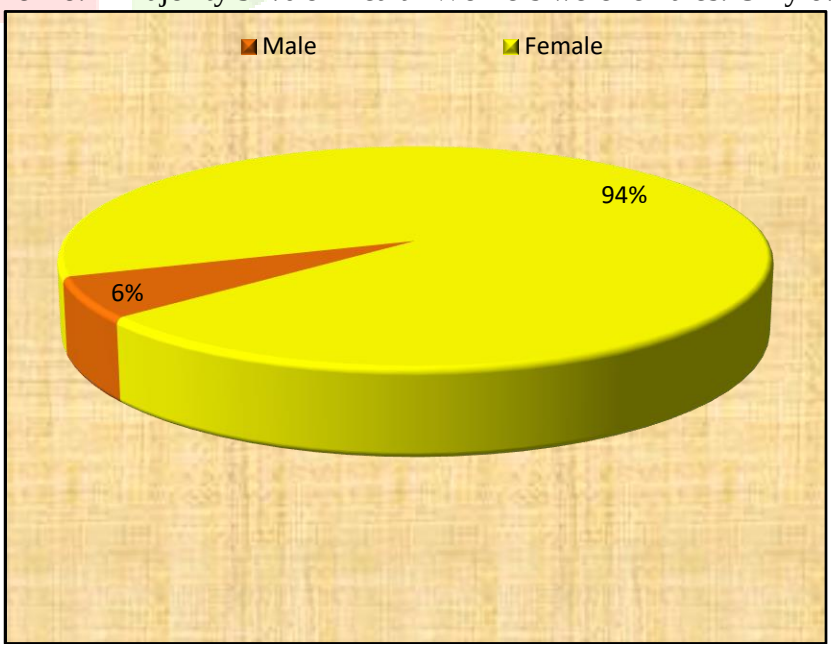


**Figure No-4:Percentage wise distribution of Health Workers according to their Gender**

**Table. No-4. 3 Frequency and Percentage wise distribution of Heath Workers according to their Years of Experience.**

n = 100

| Sr.No | Demographic characteristic | Frequency | Percent (%) |
|---|---|---|---|
| 4.3 | **Years of Experience** | | |
| | less than 5 yrs | 0 | 0 |
| | 5-10 yrs | 33 | 33 |
| | 11-16 yrs | 42 | 42 |
| | Above 17 yrs | 25 | 25 |
| | Total | 100 | 100 |

The Table No.4.3 and Figure No.5 highlighted that, majority 42% of Health Workers had experience of 11-16 years, 33% had experience of 5-10 years 25% of them had experience of 17 years and above years.

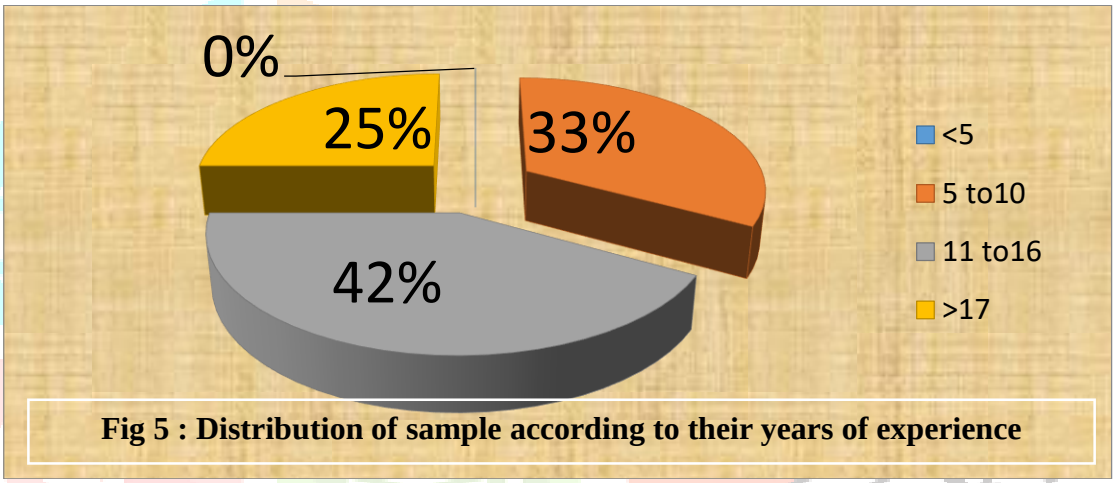


**Figure No-5: Percentage wise distribution of Health Workers according to their years of experience**

**Table No4. 4:-Distribution of Heath Workers according to their Professional Qualification.**

n = 100

| Sr.No | Demographic characteristic | Frequency | Percent (%) |
|---|---|---|---|
| 4.4 | **Professional** | | |
| | GNM | 69 | 69 |
| | Basic BSc Nursing | 8 | 8 |
| | PB BSc Nursing | 18 | 18 |
| | MSc Nursing | 4 | 4 |
| | PhD Nursing | 1 | 1 |
| | Total | 100 | 100 |

The Table No.3 and Figure No.6 shows that, majority 69% of Health Workers were educated GNM, 18% were completed PB BSc Nursing. 8% were Basic BSc Nursing. Few 4% of them completed MSc Nursing. Only 1% Heath Worker achieved PhD in Nursing.

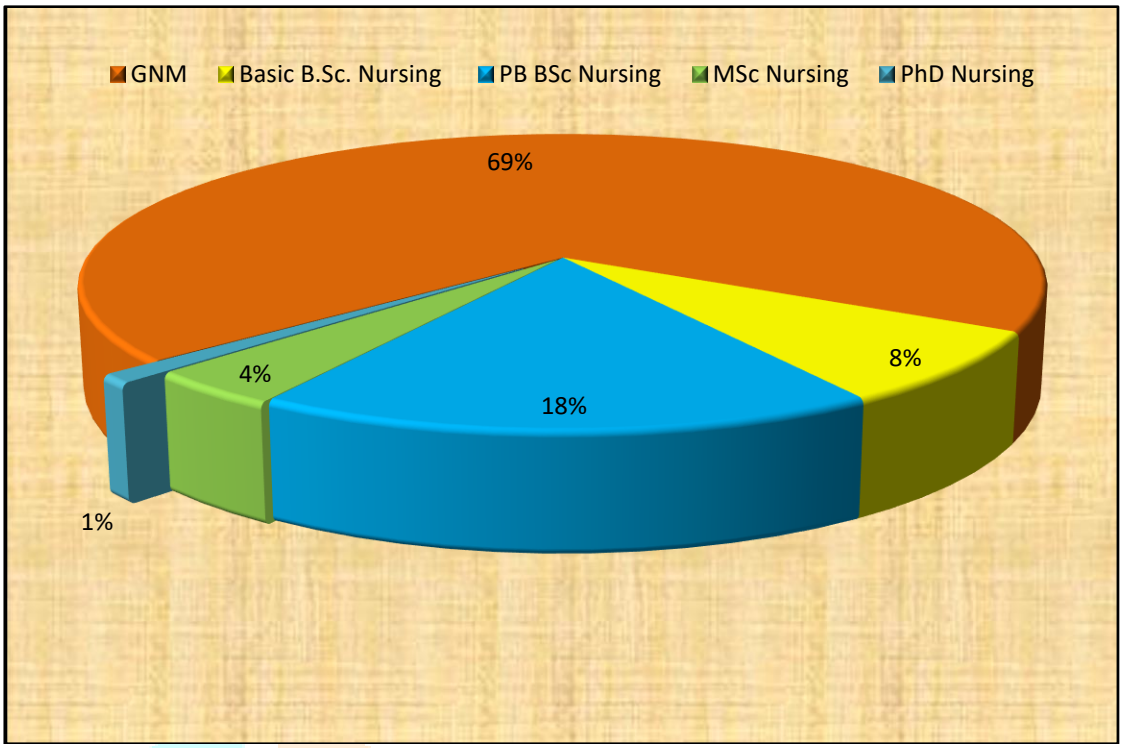


**Figure No-6: Percentage wise distribution of Health Workers according to their Professional qualification.**

**Table No 4.5: -Frequency and Percentage distribution of Heath Workers according to their Area of working**

n= 100

| Sr. No | Demographic characteristic | Frequency | Percent (%) |
|---|---|---|---|
| | **Areas of working** | | |
| 4.5 | ICU | 16 | 16 |
| | OBGY ward | 16 | 16 |
| | Med-Surge ward | 53 | 53 |
| | Paediatric ward | 5 | 5 |
| | Casualty | 3 | 3 |
| | Operation Theatre | 7 | 7 |
| | Total | 100 | 100 |

The Table No.4.5 and Figure No.7 indicated that, majority 53 % of Health Workers were working in Med-Surge ward,16 % of them were working in ICU & OBGY ward respectively, 7 % in Operation Theatre, 5 % were working in Pediatric ward, and 3 % were working in casualty department.

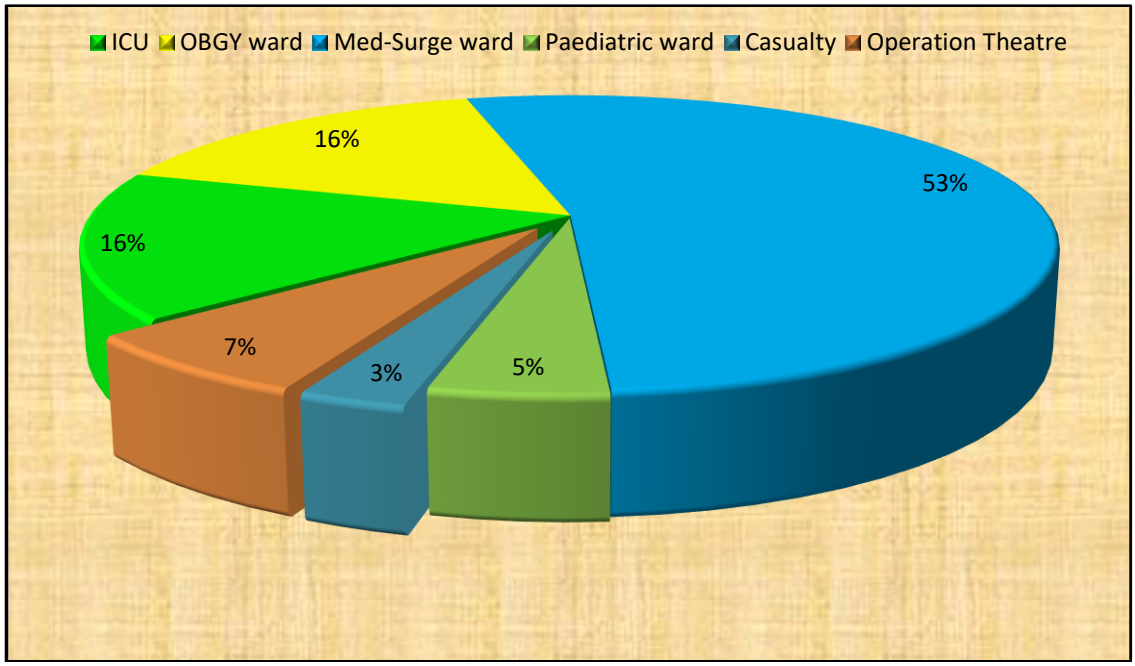


**Figure-7:Percentage wise distribution of Health Workers according to their area of working**

**Table No 4. 6:-Frequency and Percentage distribution of Heath Workers according to previous training on Oxygen Therapy Safety Precautions.**

n = 100

| Sr. No. | Previous training on Oxygen Therapy Safety Precautions. | Frequency | Percent (%) |
|---|---|---|---|
| 4.6 | Yes | 0 | 0 |
| | No | 100 | 100 |
| | Total | 100 | 100 |

The Table No.4.6 and Figure No.8 showed that, 100% Heath Workers did not received previous training on Oxygen Therapy Safety Precaution.

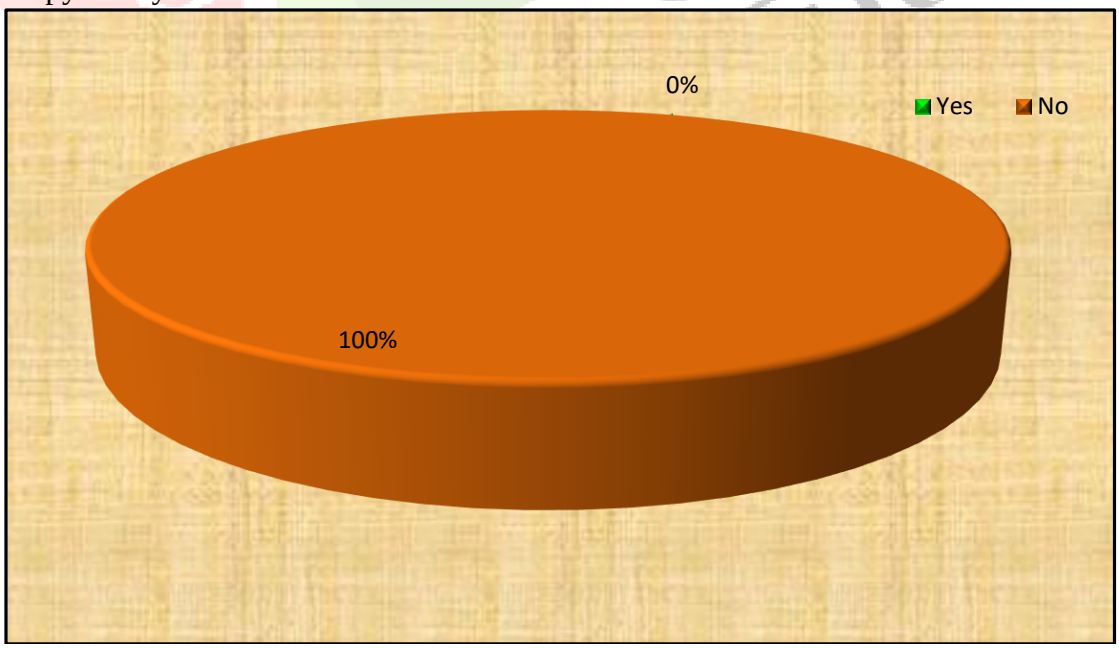


**Figure-8: Percentage wise distribution of Health Workers according to previous training on Oxygen Therapy Safety Precaution**

**Table.No-4.7Frequency and Percentage distribution of Heath Workers according to Reported incidence of Oxygen leakage.**

n = 100

| Sr No | Reported incidence of oxygen leakage | | Frequency | Percent (%) |
|---|---|---|---|---|
| 4.7 | Yes | | 25 | 25 |
| | No | | 75 | 75 |
| | If Yes , then which areas | ICU | 5 | 5 |
| | | Casualty | 0 | 0 |
| | | Operation Theatre | 5 | 5 |
| | | Ward | 15 | 15 |
| | | Any other | 0 | 0 |

The Table No.4.7 and Figure No.9 indicated that, majority 75% of Health Workers never reported incidence of oxygen leakage at hospitals. Followed by 25% of them reported incidence of oxygen leakage at hospitals. Among those who reported 15 % were from hospital ward, 5 % from ICU and Operation Theatre reported.

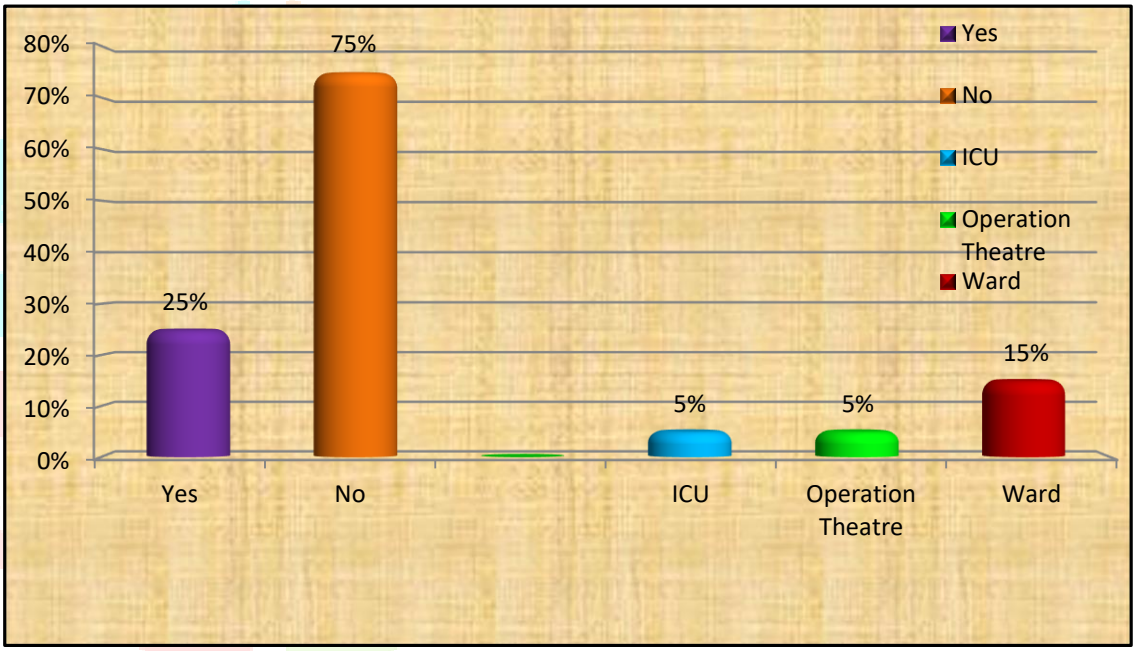


**Figure No-9: Percentage wise distribution of sample according to reported incidence of oxygen leakage**

## SECTION-II

This section deals with analysis and interpretation of data to assess the Knowledge of Health Workers regarding Oxygen Therapy Safety Precaution

**This section further subdivided in following parts;**

**Part- A** Part wise assessment of Knowledge of Health Workers regarding Oxygen Therapy Safety Precaution

**Table No 4. 8- Assessment ofpart wise mean Knowledge score regarding Oxygen Therapy Safety Precaution among Health Workers** n = 100

| Sr. no. | Area wise knowledge mean | Max score | Mean | Mean percent (%) |
|---|---|---|---|---|
| 1 | Concept of Oxygen | 5 | 3.60 | 72.0 |
| 2 | Administration of oxygen therapy. | 5 | 3.27 | 65.4 |
| 3 | Method of oxygen therapy | 6 | 4.64 | 77.3 |
| 4 | Care of Oxygen cylinder | 5 | 3.32 | 66.4 |
| 5 | Oxygen Therapy Safety Prevention. | 9 | 5.56 | 61.8 |

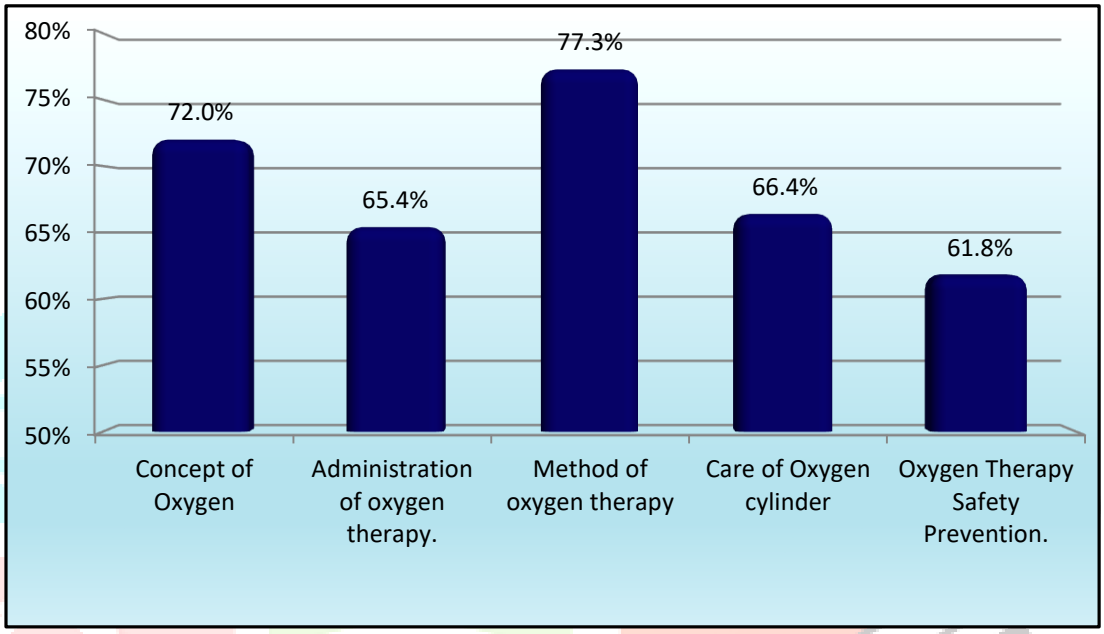


**Figure No-10 Assessment of part wise mean Knowledge score regarding Oxygen Therapy Safety Precaution.**

The table No.4.8 and Figure No. 10 illustrated that, mean Knowledge score was 4.64 (77.3%) regarding Method of oxygen therapy. Followed by which mean knowledge score was 3.60 (72 %) regarding Concept of Oxygen.

Mean Knowledge score of health workers was 3.32 (66.4%) regarding Care of Oxygen cylinder and mean knowledge score was 3.27 (65.4%) regarding Administration of Oxygen Therapy.

Health Workers showed mean Knowledge score 5.56 (61.8%) regarding Knowledge of Oxygen Therapy Safety Prevention.

## SECTION-II

**Part -B** Grade wise overall level of Knowledge of Health Workers regarding Oxygen Therapy Safety Precaution. It is presented in terms of frequency and percentage table

**Table4.9 - Assessment of overall Knowledge levels regarding Oxygen Therapy Safety Precaution among Health Workers**

n = 100

| Sr. No | Overall knowledge levels regarding Oxygen Therapy Safety Precaution | Percent Range | F | P (%) |
|---|---|---|---|---|
| 1 | Poor knowledge | 0 – 40% | 1 | 1.0 |
| 2 | Average knowledge | 41 – 50% | 7 | 7.0 |
| 3 | Good knowledge | 51 – 60% | 15 | 15.0 |
| 4 | Excellent knowledge | 61 – 100% | 77 | 77.0 |
| | Total | 100 % | 100 | 100 |

Table No.4.9 and Figure No.11 It shows that, 77% of the Health Workers were having excellent Knowledge regarding Oxygen Therapy Safety Precaution. 15% had good Knowledge. Very few 7% Health Workers had average Knowledge and only 1% Health Worker showed poor Knowledge.

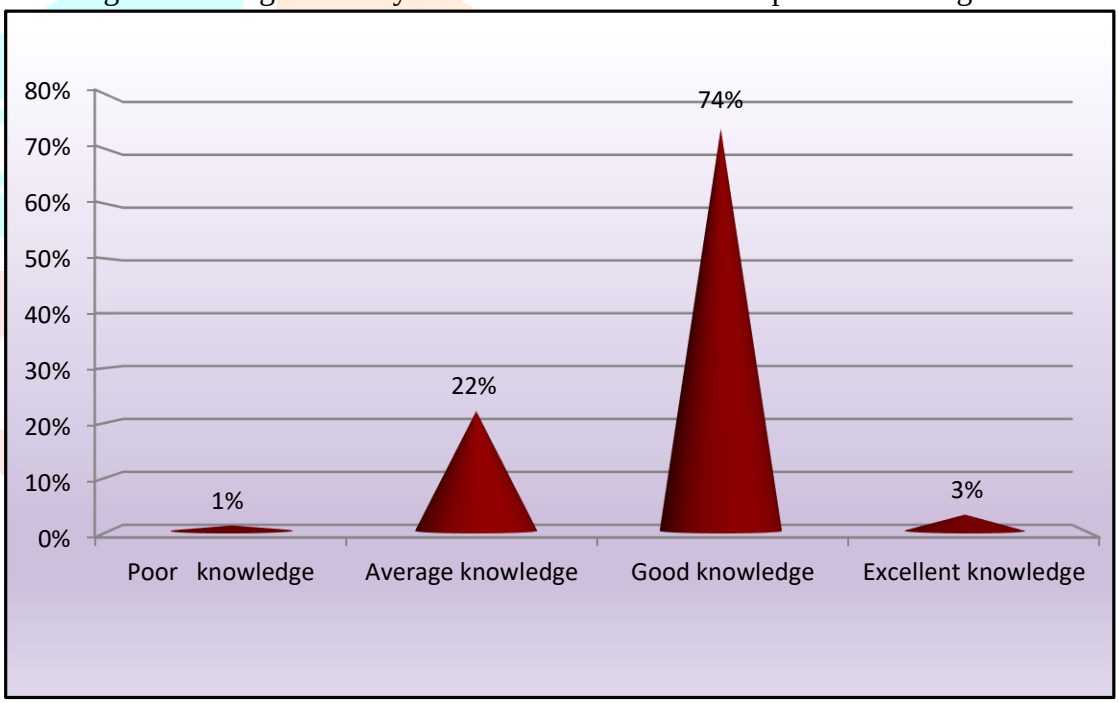


**Figure No-11: Assessment of overall knowledge levels regarding Oxygen Therapy Safety Precaution.**

## SECTION-III

This section deals with analysis and interpretation of the Practices of Health Workers regarding Oxygen Therapy Safety Precaution. It is presented in terms of frequency and percentage table.

**Part A -** Part wise assessment of Practices of Health Workers regarding Oxygen Therapy Safety Precaution It is presented in terms of frequency and percentage table**.**

**Table No.4.10- Assessment of part wise mean Practices score regarding Oxygen Therapy Safety Precaution among Health Workers**

n = 100

| Sr. No. | Part wise Practice mean | Max score | Mean score | Meanpercent (%) |
|---|---|---|---|---|
| 1 | Perform a focused respiratory assessment of client | 2 | 1.47 | 73.5 |
| 2 | Aspect to be checked before oxygen administration | 2 | 1.06 | 53.0 |
| 3 | Preventive Practices | 2 | 1.23 | 61.5 |
| 4 | Humidifier maintenance | 2 | 0.98 | 49.0 |
| 5 | Placement of cylinder in ward | 2 | 1.50 | 75.0 |
| 6 | Condition of gas cylinder storage area | 2 | 0.71 | 35.5 |
| 7 | Security the LMO facility | 2 | 0.96 | 48.0 |
| 8 | Check before handover | 2 | 1.25 | 62.5 |
| 9 | Awareness program for employee and public | 2 | 0.62 | 31.0 |
| 10 | Hospital audits records | 2 | 1.06 | 53.0 |

The Table No.4.10 and Figure No.12 depicted that, mean Practice score was 1.50 (75%) regarding Placement of cylinder in ward. Followed by which mean practice score 1.47(73.5%) regarding respiratory assessment of client.

Mean practices score was 1.25(62.5%) regarding Practices of Check before handover, 1.23 (61.5%) was regarding Preventive practices of Oxygen Therapy

There was equal mean Practice score i.e. 1.06 (53.0%) regarding Aspects to be checked before oxygen administration and Hospital audit records respectively.

Mean Practices score was 0.98 (49%) regarding Humidifier maintenance and 0.96 (48%) regarding security of LMO facility respectively.

Health Workers showed mean practice score 0.62 (31%) regarding Awareness program for employee and public.

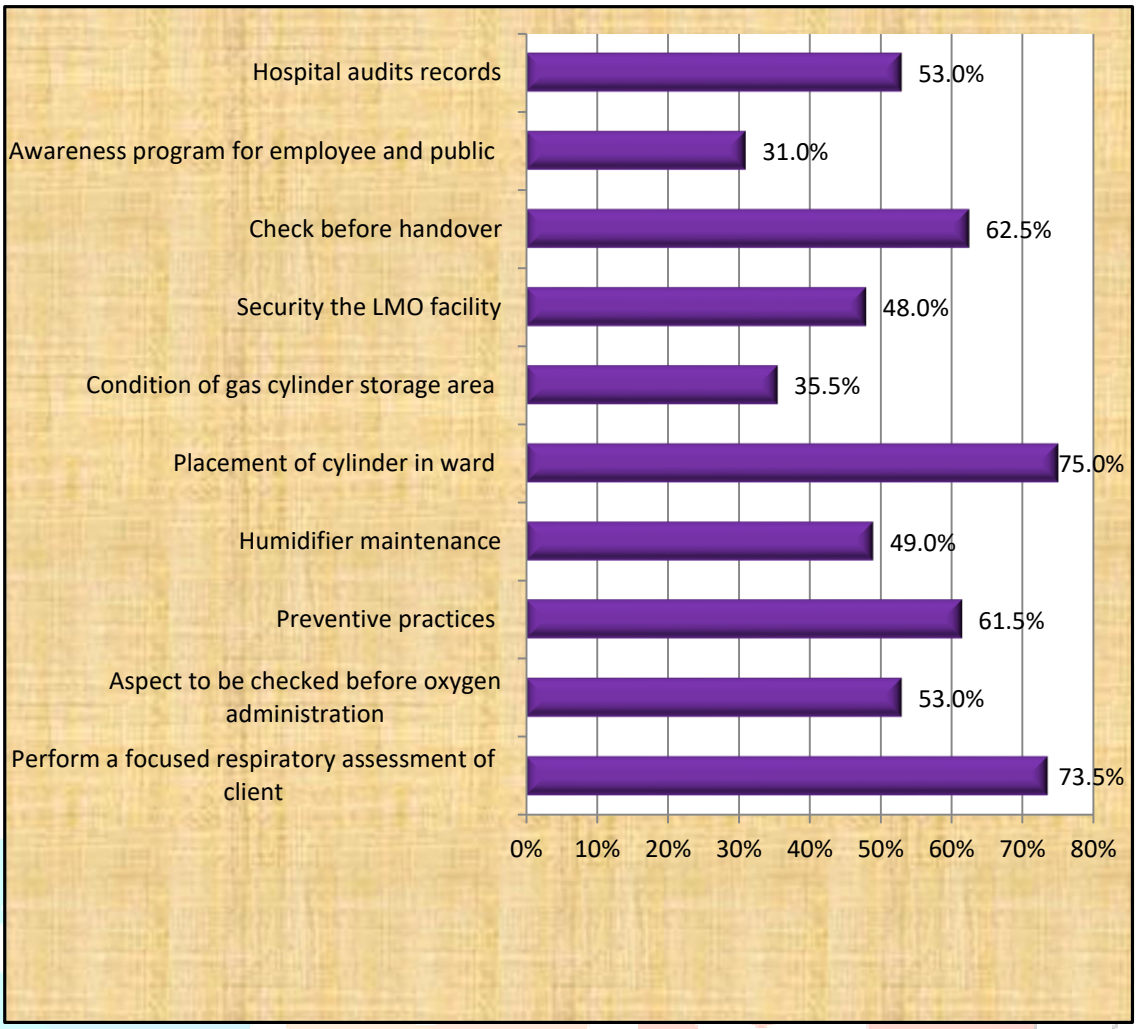


**Figure No-12: Assessment of area wise practice mean regarding Oxygen Therapy Safety Precaution**

**Part B** - Grade wise overall level of Practices of Health Workers regarding Oxygen Therapy Safety precaution. It is presented in terms of frequency and percentage table

**Table.4. 11 - Assessment of overall Practice levels regarding Oxygen Therapy Safety Precaution among Health Workers**

n = 100

| Sr. No. | Overall Practices levels regarding Oxygen Therapy Safety Precaution | Percent Range | Frequency | Percent (%) |
|---|---|---|---|---|
| 1 | Poor Practice | 0 – 40% | 21 | 21.0 |
| 2 | Average Practice | 41 – 60% | 32 | 32.0 |
| 3 | Good Practice | 61 – 80% | 17 | 17.0 |
| 4 | Excellent Practice | 81 – 100% | 30 | 30.0 |
| | Total | 100 % | 100 | 100 |

The table No.4.11 and Figure No.13 indicated that, majority 32% of the Health Workers showed average Practices, were 30% of them showed excellent practices, 21% were poor and 17% showed good practices regarding Oxygen Therapy Safety Precaution.

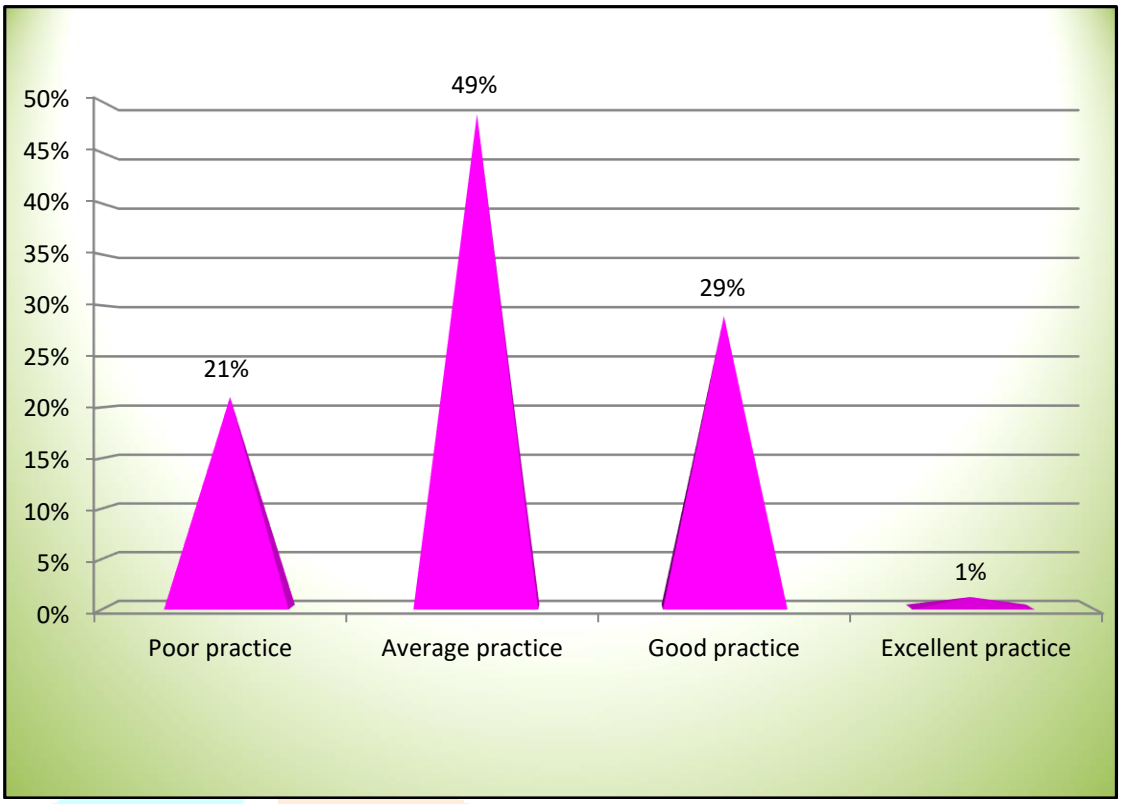


**Figure No-13 : Assessment of overall Practice levels regarding Oxygen Therapy Safety Precaution**

**SECTION-IV**

This section deals with analysis and interpretation of data to find out the correlation of Knowledge and Practices regarding Oxygen Therapy Safety Precaution among Health Workers.

To find out Correlation between knowledge and Practice following hypothesis was stated;

Ho – There will be no significant association between mean Knowledge and Practice scores regarding Oxygen Therapy Safety Precautions among the health workers.

The Pearsons correlation test was used To find out Correlation between knowledge and Practices

Steps for calculating Pearsons correlation test is mentioned below.

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \text{ x } Y^2}}$$

where

r= Pearsons correlation

x= difference of each Heath Workers score from mean of group X

y= difference of each Heath Workers score from mean of group Y

step 1- Add the results of all questions for each Heath Workers.

step 2- Calculate the difference of each Heath Workers score from its group mean

Step3– then calculate the product of both x and y and sum it

Step 4 – divide this by the square root of total of product of $x^2$ and $y^2$.'

**Table No. 4.12 –Correlation between Knowledge and Practice regarding Oxygen Therapy Safety Precaution among Health Workers.**

| Correlation | n | Pearsons correlation Value r | Pearsons table value R | p value | Significance P < 0.05 |
|---|---|---|---|---|---|
| **Knowledge** | 100 | 0.275 | 0.195 | 0.006 | significant |
| **Practice** | 100 | | | | |

Table No.4.12 and Figure no.14 indicated that, the Pearsons table ( r ) table value was 0.195 at 0.05 level of significance with no of pairs being 100. The calculated 'r' value was 0.275, which was more than the ( r ) table value of 0.195. The p value 0.001which was less than0.05 level of significance. The result indicated that, there was a positive correlation between Knowledge and Practices.
Hence, null hypothesis ($H_{01}$) was rejected and alternate hypothesis ($H_1$) was accepted.

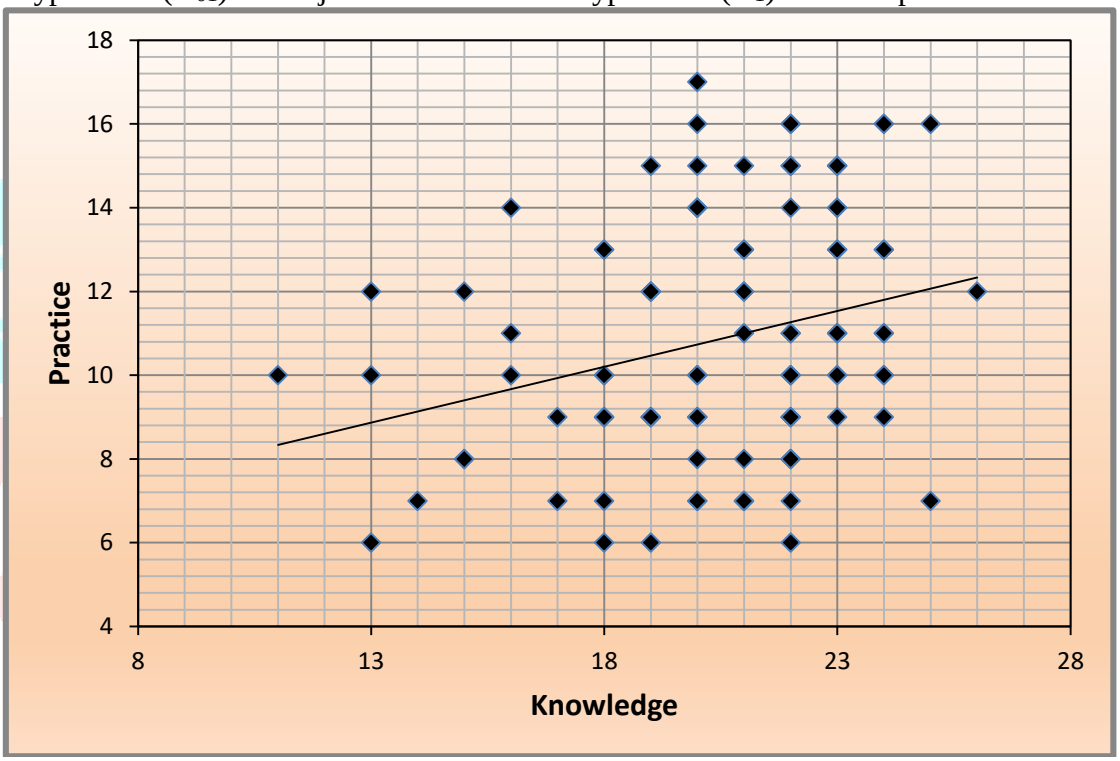


**Figure No- 14 : Correlation between Knowledge and Practice.**

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