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## Content

*Original Articles*



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# Determinants of the Choice and Retention of Nursing as a Career among Nurses

**Jinu K. Rajan*, Nalini Ramakrishnan****

**Abstract**

To understand profession's viability in the market, each profession must understand choice, retention, and attrition of its members; i.e. supply and demand of sufficient professionals to carry out the work of the profession. Many factors affect career choice and retention of nurses in the health sector. Despite the perceived efforts made by Hospitals Management Board in Karnataka State to retain nurses, there is still inadequate number of nurses to match the demand of care needed by patients in the hospitals. The main objective of this study is to determine factors responsible choice and retention of nursing as a career among nurses in Karnataka state, India. The study conducted in three geo-political zones of Karnataka state, India. The survey research method was used for this study. Survey according to Hardman and Marshall (2000) is to be use to determine current practice and opinions of a specified population on the status of one or more variables. This method is appropriate for this study which intends to find out' determinants of the choice and retention of Nursing as a carrier among Nurses in Karnataka state, India. A total of 570 ( 91 %) fully completed structured questionnaires was retrieved from the participants out of 600 distributed, which yaro Yamane formula used for determination of sample size. The result revealed that, there were several factors in choice of career and retention of nursing among nurses in Karnataka state, India. Increment in salary and allowances rated the best factor to address the problem.

**Keywords:** Determinants; Choice; Retention; Nursing; Career.

## Introduction

Career selection and retention is one of many important choices people make in determining future plans. This decision impacts them throughout their lives. Basavage (1996, p.1) in her thesis asked, "What is it that influences people in one way or the other?" "Work is one of our greatest blessings. Everyone should have an honest occupation" (Rosen stock & Steinberg ,as cited in O'Brien, 1996, p. 3). Carrier choice is one critical decision people are expected to make(Novakovis and Foaud, 2012) as the effective choice will have positive impact on their self concept development and fulfillment of one's life purpose. The image of both nurses and nursing profession are vital in the successful choice and retention of staff in the health care industry (Anne lie 2010).

Workforce studies were basic to understanding how occupations and professions function in the market (Barth, 2001).The study of supply and demand of sufficient professionals is necessary to understand a Profession's viability in the market Becker1993. Therefore, occupations and professions should study choice, retention, and Attrition of members. These market elements were in a systemic relationship, each of which affects the others in

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Varying degrees. Therefore, workforce studies regarding choice, retention, and attrition are individually, and collectively, important to a profession, and as such deserve rigorous analysis.

A major challenge in health care is the shortages in the healthcare workforce. Human resource crisis has shown to be a key factor influencing health outcomes and countries with the worst shortages of Health Human Resource (HHR) are also the ones with the worst health indicators and highest infant and child mortality( Annie Lie,2010). The main factors driving the human resource problem have been identified in Nigeria as insufficiently resourced and neglected health systems; Poor human resources planning and management practices and structures; unsatisfactory working condition among others (Becker,1993).

Nurses are described as veritable caregivers and the strength of every health system. Nursing represents the largest group of health professionals and has been experiencing persistent shortage. Since 2002, nursing shortage has been termed a global crisis where supply of nurses cannot meet the demand.

While the WHO recommends a nurse to a population ratio of 700, English-speaking Caribbean nations currently have 1.25 nurses for every 1000 people and around 3 in every 10 nursing positions remain unfilled. Zambia had nurse population ratio of 1 to 1500. In Malawi, there are only 17 nurses for every 100, 000 people. Nigeria currently has 148,129 nurses to cater for its population of above 150 million, with nurse population ratio of 1 to 1012 people. (WHO, 2010).

Evidence suggests that shortage of nurses is detrimental not only to quality of patient care, but also to staff morale, which in turn affects staff retention. Patients' mortality rates are higher where standards are weaker, nurse turn over and understaffing is persistent. High patient-to-nurse ratios have been shown to lead to frustration and job burnout, which is linked to higher turnover. Significant relationships among workplace incivility, stress, burnout, turnover intentions, total years of nursing experience, and RN education levels have also been reported in studies (WHO2010).

In the bid to find solution to the crisis of nursing shortage, the International Council of Nurses (ICN) initiated five priority areas, among which is the retention of nursing personnel. The retention of those nurses are major worldwide concern in today's nursing shortage environment and also for health policy-makers. Data from both developed and developing countries tend to indicate that nurses retention is a serious issue and organizations are having difficulty in handling it. (ICN2010). Many factors influence intention to stay once employed. These factors are either systemic or personal in nature. Systemic factors are constraints in hospital budget, remuneration, practice autonomy, work load, flexible shift, and opportunities for career advancement. Age of nursing work force, decline in the number of nurses graduating from the schools of nursing and many inexhaustible factors determine availability of nurses for employment. Vacancy positions and turnover rates are indicators of problems in recruitment and retention of nurses. Vacancies are reported in many countries, including developing countries such as South Africa, where an average of 40.3% of professional nurses' posts were vacant in 2008. Job turnover rate is also high in most countries. In countries such as the United Kingdom (UK) and the United States of America (USA), turnover rates are quite significant, as they are estimated to be around 20%. The performance and quality of a health care delivery system ultimately depend on the quality of the number, the turnover rates and motivation of the health human resources.

*General Objective*

The main aim of this study is to determine factors responsible for choice and retention of nursing as a career among nurses in Karnataka state, India.

*Specific Objective*

- To identify the determinants of choice of nursing as a career in Karnataka state, India.
- To identify factors influencing retention of nurses in Karnataka state, India.
- To determine the strategies put in place for nursing staff retention in Karnataka state, India.

*Research Question*

- What are the factors responsible for choice 0f nursing as career in Karnataka state, India.
- What are the factors affecting the retention of nursing as a career in Karnataka state, India.
- What are strategies put in place for nursing staff retention in Karnataka state, India.

*Hypothesis*

- There is no statistically significant relationship

between choice and retention of nursing as a carrier.

- There is no significant relationship between retention and turnover.
- Nurses who are motivated by personal interest, job satisfaction, employer encouragement are more likely to be retained than those that are not.

*Operational Definition*

*Choice:* The broad opportunities that exist for nurse's lifelong vocations.

*Retention:* Ability to keep a stable and adequate supply of nursing workforce.

*Nursing*: Profession of caring for patients/clients

*Carrier:* Work/occupation in Nursing done by a person to earn his/her living.

*Turnover:* Nurses quilting their job because of other factors.

## Methodology

*Research Design*

The survey research method was used for this study. Survey according to Hardman and Marshall (2000) is to be used to determine current practice and opinions of a specified population on the status of one or more variables. This method is appropriate for this study which intends to find out' determinants of the choice and retention of Nursing as a carrier among Nurses in Karnataka state, India.

*Research Setting*

This study was conducted at three geo-political zones of Karnataka state, India

*Population of Study*

The population of the study consists of six hundred (600) out of 1000 nurses in Karnataka state, India. About two hundred (200) nurses from each of the senatorial zones targeted for the study.

*Study Duration*

The total time period required for the completion of the study from the day of conception to submission of project based on series of activities is six (6) months. Activities involving drafting of concepts, drafting and revision of proposal, data collection and analysis, various corrections from co-guide and other researcher assistants. Activities commenced in the month of January 2016 to the month of June 2016.

*Sample Size*

The researcher used six hundred (600) nurses for the study.

*Sampling Method / Technique*

A convenient sampling technique was used to select six hundred (600) respondents as a sample size.

*Instrument for Data Collection*

A self developed-questionnaire was used to collect data for the study.

*Method of Data Collection*

An introductory letter was written to the head of the hospitals to obtain permission, 600 questionnaires administered 570 were retrieved

*Procedure for Data Analysis*

Mean and standard deviation were used for answering research questions while Chi-square test and one-way analysis of variance were used for testing the hypothesis. The entire hypotheses formulated were tested at 0.05 level of significance.

## Data Analysis and Results

Data were entered into an SPSS program by data entry personnel. In order to address the research question about relationship among study variables, i.e to find out determinants of the choice and retention of nursing as a career among nurses in Karnataka state, India. A variety of correlations were computed, appropriate to the level of data (Burns &Grove, 2009).

A total of 570 (91%) fully completed questionnaire was retrieved from the participants out of 600 distributed.

*Socio-Demographic Characteristics*

As shown on Table 1, out of the 570 participants,

93% were between the ages 41-50 years. Whereas (26.7%) were aged between 21-30 years. The minimum age was 21 and the maximum was 60 years. The mean age was 40.9 ± 6.4 years. 63.3% were females and 71.7 were married. Most of the respondents 62.2% were Muslims.

39.1% of respondents were Chief Nursing Officers, 34.1% Nursing officers, 12.4% senior officers, 8.4% Assistant Chief Nursing officers, 4.0% Others, while principal Nursing officers ( 2.0%). About 67.1% of the respondents had RN and RM, 19.3% had BSc or BNSc; 10,8% had only PBD; 2.4% had MSc.

**Table 1**: Socio-demographic characteristics of respondents

| | Age of Respondent | | | | |
|---|---|---|---|---|---|
| | **Age** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | 21-30 | 195 | 32.5 | 32.5 | 32.5 |
| | 31-40 | 128 | 21.3 | 21.3 | 53.8 |
| | 41-50 | 192 | 32.0 | 32.0 | 85.8 |
| | 51-60 | 85 | 14.2 | 14.2 | 100.0 |
| | Total | 570 | 100.0 | 100.0 | |

**Table 2:** Designation of nurses under study

| | | Designation of Nurses Under Study | | | |
|---|---|---|---|---|---|
| | | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | NO | 204 | 34.0 | 34.1 | 34.1 |
| | SNO | 74 | 12.3 | 12.4 | 46.5 |
| | PNO | 12 | 2.0 | 2.0 | 48.5 |
| | ACNO | 50 | 8.3 | 8.4 | 56.9 |
| | CNO | 234 | 39.0 | 39.1 | 96.0 |
| | Others | 24 | 4.0 | 4.0 | 100.0 |
| | Total | 598 | 99.7 | 100.0 | |
| Missing | System | 2 | .3 | | |
| | Total | 570 | 100.0 | | |

**Table 3**: Highest qualification of respondents

| | | Highest qualification of respondents | | | |
|---|---|---|---|---|---|
| | | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | RN | 396 | 66.0 | 67.1 | 67.1 |
| | PBD | 64 | 10.7 | 10.8 | 78.0 |
| | BSC/BNS | 114 | 19.0 | 19.3 | 97.3 |
| | MSC | 14 | 2.3 | 2.4 | 99.7 |
| | 11 | 2 | .3 | .3 | 100.0 |
| | Total | 590 | 98.3 | 100.0 | |
| Missing | System | 10 | 1.7 | | |
| | Total | 570 | 100.0 | | |

*Designation of Nurses under Study.* As per Table 2. (NO) Nursing officer on Grade Level 08, the entry level for fresh graduate or diplomat nurses.(SNO) Senior Nursing Officer in Grade Level 09, (PNO) Principal Nursing Officer in Grade Level 10 or 12, (ACNO) are Assistant Chief Nursing officer on Grade Level 13,( CNO) is the Chief Nursing officer on grade level14.

*Highest Qualification of Respondents.* Diploma represent nurses who have single basic qualification i.e. RN only. Post basic diploma represent nurses who have dual qualification i.e. RN and another specialization. BSc/BNSc represent with degree nursing while MSc represent nurses with masters degree.

*Factors Influencing Choice of Career.* Majority of respondents 67.7% strongly agreed that interest is a factor in choice of career, 27.9% also agreed. 4.0% disagree and 4% strongly disagree to these opion. Respondents 47.4% agreed to prestige as a factor in choice of career, 32.7% strongly agreed whereas 14.0% stand to disagree and 5.9% strongly disagree. 50.8% agreed that economic reason influences the choice of career, 26.6 strongly agreed. 19.6% disagree and 2.9% strongly disagree. The respondents of 44.1% agreed to uniform dressing influencing factor in career choice,34.5% strongly agreed, 16.0% disagree and 5.4% strongly disagree to the opinion. Respondents 51.7% agreed that role model contributed to the choice of career, while 29.4% strongly agreed. 15.3% disagreed and 3.6%

**Table 4:** Factors for retaining the staff

| Indicate factors that have retained | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| **Valid** | | 112 | 18.7 | 18.7 | 18.7 |
| | a humanitarian service | 2 | .3 | .3 | 19.0 |
| | a noble profession | 2 | .3 | .3 | 19.3 |
| | adequate staffing to reduce work load | 6 | 1.0 | 1.0 | 20.3 |
| | availability of job is easy | 4 | .7 | .7 | 21.0 |
| | better health care | 2 | .3 | .3 | 21.3 |
| | care for the patients | 2 | .3 | .3 | 21.7 |
| | care for the sick | 4 | .7 | .7 | 22.3 |
| | care of the pregnant women | 2 | .3 | .3 | 22.7 |
| | carering for patients | 2 | .3 | .3 | 23.0 |
| | carering for the sick | 2 | .3 | .3 | 23.3 |
| | carering of babies | 2 | .3 | .3 | 23.7 |
| | carering profession | 2 | .3 | .3 | 24.0 |
| | choice | 2 | .3 | .3 | 24.3 |
| | compassion for nursing service | 2 | .3 | .3 | 24.7 |
| | conducive environment | 2 | .3 | .3 | 25.0 |
| | economic factor | 4 | .7 | .7 | 25.7 |
| | financial benefit | 4 | .7 | .7 | 26.3 |
| | good environment and relationship | 2 | .3 | .3 | 26.7 |
| | good environment and good support | 2 | .3 | .3 | 27.0 |
| | good environment and good work | 2 | .3 | .3 | 27.3 |
| | good remuneration | 2 | .3 | .3 | 27.7 |
| | good salary | 2 | .3 | .3 | 28.0 |
| | good working condition | 2 | .3 | .3 | 28.3 |
| | human service | 2 | .3 | .3 | 28.7 |
| | humanitarian service | 2 | .3 | .3 | 29.0 |
| | interest to service | 6 | 1.0 | 1.0 | 30.0 |
| | interest to service | 2 | .3 | .3 | 30.3 |
| | interest the service | 2 | .3 | .3 | 30.7 |
| | interest to serve humanity | 2 | .3 | .3 | 31.0 |
| | interest to serve humanity and the environment | 2 | .3 | .3 | 31.3 |
| | interest to service | 32 | 5.3 | 5.3 | 36.7 |
| | interest to service and uniform dressing | 2 | .3 | .3 | 37.0 |
| | interest to the job | 2 | .3 | .3 | 37.3 |
| | interest to the service | 32 | 5.3 | 5.3 | 42.7 |
| | interest to the service | 2 | .3 | .3 | 43.0 |
| | interesting for the job | 2 | .3 | .3 | 43.3 |
| | interest to the service | 2 | .3 | .3 | 43.7 |
| | is very respective profession | 2 | .3 | .3 | 44.0 |
| | job opportunity | 2 | .3 | .3 | 44.3 |
| | job retardation | 2 | .3 | .3 | 44.7 |
| | job security | 8 | 1.3 | 1.3 | 46.0 |
| | lack man power | 2 | .3 | .3 | 46.3 |
| | lack of economic | 2 | .3 | .3 | 46.7 |
| | lack of man of power | 2 | .3 | .3 | 47.0 |
| | lack of man power | 8 | 1.3 | 1.3 | 48.3 |
| | mode of dressing | 12 | 2.0 | 2.0 | 50.3 |
| | mode of the dressing | 4 | .7 | .7 | 51.0 |
| | motivation and support | 2 | .3 | .3 | 51.3 |
| | nursing care to patients serving injection | 2 | .3 | .3 | 51.7 |
| | nursing ethics and mood of dressing | 2 | .3 | .3 | 52.0 |

| | | | | |
|---|---|---|---|---|
| nursing is noble and carering profession | 2 | .3 | .3 | 52.3 |
| opportunity to attend sponsorships workshop | 2 | .3 | .3 | 52.7 |
| parental influence | 2 | .3 | .3 | 53.0 |
| passion | 2 | .3 | .3 | 53.3 |
| passion and to serve humanity | 2 | .3 | .3 | 53.7 |
| prestige | 2 | .3 | .3 | 54.0 |
| prestige and good remuneration | 2 | .3 | .3 | 54.3 |
| prestige of the work | 2 | .3 | .3 | 54.7 |
| promotion | 2 | .3 | .3 | 55.0 |
| promotion as when due with financial benefit | 2 | .3 | .3 | 55.3 |
| proper job security | 2 | .3 | .3 | 55.7 |
| proper help | 2 | .3 | .3 | 56.0 |
| proper job security | 70 | 11.7 | 11.7 | 67.7 |
| provide care to the patients | 2 | .3 | .3 | 68.0 |
| provision of adequate materials | 2 | .3 | .3 | 68.3 |
| provision of good working environment | 2 | .3 | .3 | 68.7 |
| provision of good working environment | 14 | 2.3 | 2.3 | 71.0 |
| provision of opportunity for carrier development | 2 | .3 | .3 | 71.3 |
| provision of opportunity for carrier development | 2 | .3 | .3 | 71.7 |
| provision of opportunity for carrier development | 46 | 7.7 | 7.7 | 79.3 |
| provision of opportunity for carrier development | 2 | .3 | .3 | 79.7 |
| provision of good working environment | 2 | .3 | .3 | 80.0 |
| religion | 2 | .3 | .3 | 80.3 |
| role model | 2 | .3 | .3 | 80.7 |
| role model and prestige | 2 | .3 | .3 | 81.0 |
| service for humanity | 2 | .3 | .3 | 81.3 |
| service to humanity | 4 | .7 | .7 | 82.0 |
| service to people and motivation. | 2 | .3 | .3 | 82.3 |
| service yo humanity | 2 | .3 | .3 | 82.7 |
| serving of lives | 2 | .3 | .3 | 83.0 |
| sympathy | 8 | 1.3 | 1.3 | 84.3 |
| taken care of patients | 2 | .3 | .3 | 84.7 |
| taken good care of patients | 2 | .3 | .3 | 85.0 |
| taking care of patients | 2 | .3 | .3 | 85.3 |
| to care for the sick one | 2 | .3 | .3 | 85.7 |
| to give adequate care to patient | 2 | .3 | .3 | 86.0 |
| to give adequate care to patients | 2 | .3 | .3 | 86.3 |
| to help humanity | 10 | 1.7 | 1.7 | 88.0 |
| to help people | 2 | .3 | .3 | 88.3 |
| to help the nation | 2 | .3 | .3 | 88.7 |
| to save humanity | 6 | 1.0 | 1.0 | 89.7 |
| to save life | 10 | 1.7 | 1.7 | 91.3 |
| to save people life | 2 | .3 | .3 | 91.7 |
| to serve for humanity | 4 | .7 | .7 | 92.3 |
| to serve humanity | 44 | 7.3 | 7.3 | 99.7 |
| to work for the state | 2 | .3 | .3 | 100.0 |
| Total | 570 | 100.0 | 100.0 | |

strongly disagree. Majority of respondents 38.8% agreed that parents guidance choice considered factor in choice of career, 27.6% strongly agreed. While 23.3% disagree and 10.2 % strongly disagree. 42,9% agreed to others as a factor in career choice, 20.6% strongly agreed. 20.0% disagree and 15.9% strongly disagree to the opinion.

*Factors that Retained them in Nursing as Career*. The majority of respondents 7.7% identified an opportunity for career development. Whereas 7.3% acknowledged that service to humanity retained them in nursing as career. 0.3% also were of the opinion that passion for the career counted

**Table 5:** Factors responsible for nursing shortage what do you think is responsible for nursing shortage

| What do you Think is Responsible for Nursing Shortage | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| **Valid** | | 134 | 22.3 | 22.3 | 22.3 |
| | adequate staffing to reduce work load | 2 | .3 | .3 | 22.7 |
| | adequate qualify nurse | 2 | .3 | .3 | 23.0 |
| | adequate staffing to reduce work load | 28 | 4.7 | 4.7 | 27.7 |
| | educational background | 2 | .3 | .3 | 28.0 |
| | employment | 2 | .3 | .3 | 28.3 |
| | environment/job motivation | 2 | .3 | .3 | 28.7 |
| | environment | 2 | .3 | .3 | 29.0 |
| | financial problem | 2 | .3 | .3 | 29.3 |
| | financial problems | 2 | .3 | .3 | 29.7 |
| | good job security and good salary and allowances | 2 | .3 | .3 | 30.0 |
| | good leadership mentoring | 2 | .3 | .3 | 30.3 |
| | good leadership mentoring | 2 | .3 | .3 | 30.7 |
| | greater pasture | 2 | .3 | .3 | 31.0 |
| | hospital facilities | 2 | .3 | .3 | 31.3 |
| | hospital policies | 2 | .3 | .3 | 31.7 |
| | inadequate equipment | 2 | .3 | .3 | 32.0 |
| | inadequate retirement of nurses | 2 | .3 | .3 | 32.3 |
| | inadequate staff | 2 | .3 | .3 | 32.7 |
| | inadequate staff employment | 4 | .7 | .7 | 33.3 |
| | inadequate staffing | 2 | .3 | .3 | 33.7 |
| | inadequate staffs | 2 | .3 | .3 | 34.0 |
| | inadequate training | 4 | .7 | .7 | 34.7 |
| | inadequate training of nurses | 2 | .3 | .3 | 35.0 |
| | inadequate job opportunity | 2 | .3 | .3 | 35.3 |
| | inadequate remuneration | 2 | .3 | .3 | 35.7 |
| | incentive | 2 | .3 | .3 | 36.0 |
| | interest | 2 | .3 | .3 | 36.3 |
| | lack adequate staffing | 2 | .3 | .3 | 36.7 |
| | lack employment | 2 | .3 | .3 | 37.0 |
| | lack facility | 2 | .3 | .3 | 37.3 |
| | lack good environment | 2 | .3 | .3 | 37.7 |
| | lack man power | 4 | .7 | .7 | 38.3 |
| | lack man power and motivation | 2 | .3 | .3 | 38.7 |
| | lack medical personnel | 2 | .3 | .3 | 39.0 |
| | lack motivation | 4 | .7 | .7 | 39.7 |
| | lack of adequate staffing | 8 | 1.3 | 1.3 | 41.0 |
| | lack of adequate equipment | 2 | .3 | .3 | 41.3 |
| | lack of adequate facilities | 2 | .3 | .3 | 41.7 |
| | lack of admission into nursing school | 2 | .3 | .3 | 42.0 |
| | lack of concern by the government | 4 | .7 | .7 | 42.7 |
| | lack of employment | 48 | 8.0 | 8.0 | 50.7 |
| | lack of equipment | 2 | .3 | .3 | 51.0 |
| | lack of equipment | 10 | 1.7 | 1.7 | 52.7 |
| | lack of equipment and good environment | 2 | .3 | .3 | 53.0 |
| | lack of equipment and promotion | 2 | .3 | .3 | 53.3 |
| | lack of facilities | 4 | .7 | .7 | 54.0 |
| | lack of facility and man power | 4 | .7 | .7 | 54.7 |
| | lack of good environment | 2 | .3 | .3 | 55.0 |
| | lack of good salary payment | 2 | .3 | .3 | 55.3 |
| | lack of good working environment | 4 | .7 | .7 | 56.0 |
| | lack of government sponsorship to study nursing | 2 | .3 | .3 | 56.3 |
| | lack of graduate nursing | 2 | .3 | .3 | 56.7 |
| | lack of growth of the profession | 2 | .3 | .3 | 57.0 |
| | lack of inadequate staff | 2 | .3 | .3 | 57.3 |
| | lack of incentive | 2 | .3 | .3 | 57.7 |
| | lack of incentive | 12 | 2.0 | 2.0 | 59.7 |
| | lack of incentive and enumerator | 2 | .3 | .3 | 60.0 |
| | lack of interest in the job | 2 | .3 | .3 | 60.3 |
| | lack of job security | 2 | .3 | .3 | 60.7 |

| | | | | |
|---|---|---|---|---|
| lack of man and unemployment | 2 | .3 | .3 | 61.0 |
| lack of man power | 22 | 3.7 | 3.7 | 64.7 |
| lack of man power and adequate staffing | 2 | .3 | .3 | 65.0 |
| lack of man power and motivation | 2 | .3 | .3 | 65.3 |
| lack of medical equipment | 2 | .3 | .3 | 65.7 |
| lack of moral support | 2 | .3 | .3 | 66.0 |
| lack of more training of students | 2 | .3 | .3 | 66.3 |
| lack of motivation | 10 | 1.7 | 1.7 | 68.0 |
| lack of motivation and support | 2 | .3 | .3 | 68.3 |
| lack of motivation and training | 2 | .3 | .3 | 68.7 |
| lack of opportunity for carrier development | 2 | .3 | .3 | 69.0 |
| lack of promotion | 2 | .3 | .3 | 69.3 |
| lack of proper care | 2 | .3 | .3 | 69.7 |
| lack of proper coordination | 2 | .3 | .3 | 70.0 |
| lack of proper job security and promotion | 2 | .3 | .3 | 70.3 |
| lack of proper management | 2 | .3 | .3 | 70.7 |
| lack of proper training and employment | 2 | .3 | .3 | 71.0 |
| lack of salary been paid in time | 2 | .3 | .3 | 71.3 |
| lack of salary payment | 2 | .3 | .3 | 71.7 |
| lack of staff | 2 | .3 | .3 | 72.0 |
| lack of staff and equipment | 6 | 1.0 | 1.0 | 73.0 |
| lack of staffing | 4 | .7 | .7 | 73.7 |
| lack of staffs | 4 | .7 | .7 | 74.3 |
| lack of subsidy | 6 | 1.0 | 1.0 | 75.3 |
| lack of subsequent training | 2 | .3 | .3 | 75.7 |
| lack of support by the authority | 2 | .3 | .3 | 76.0 |
| lack of support | 4 | .7 | .7 | 76.7 |
| lack of training | 4 | .7 | .7 | 77.3 |
| lack of unemployment | 14 | 2.3 | 2.3 | 79.7 |
| lack of working equipment | 2 | .3 | .3 | 80.0 |
| lack staff and adequate welfare | 2 | .3 | .3 | 80.3 |
| lack of job security | 2 | .3 | .3 | 80.7 |
| lack of proper environment | 2 | .3 | .3 | 81.0 |
| leadership | 2 | .3 | .3 | 81.3 |
| less salary | 2 | .3 | .3 | 81.7 |
| low financial benefit | 2 | .3 | .3 | 82.0 |
| man power | 4 | .7 | .7 | 82.7 |
| no implementation of salary and equipment | 2 | .3 | .3 | 83.0 |
| no implementation of salary | 2 | .3 | .3 | 83.3 |
| no incentive | 2 | .3 | .3 | 83.7 |
| no security | 2 | .3 | .3 | 84.0 |
| non payment of salary on time | 2 | .3 | .3 | 84.3 |
| nurses are not been regretted | 2 | .3 | .3 | 84.7 |
| opportunity to attend sponsored seminars | 2 | .3 | .3 | 85.0 |
| poor condition of service | 2 | .3 | .3 | 85.3 |
| poor environment | 2 | .3 | .3 | 85.7 |
| poor leadership | 2 | .3 | .3 | 86.0 |
| poor management from the government | 2 | .3 | .3 | 86.3 |
| poor working environment | 2 | .3 | .3 | 86.7 |
| poor working environment | 2 | .3 | .3 | 87.0 |
| promotion as when due with financial benefit | 2 | .3 | .3 | 87.3 |
| promotion as when due with financial benefit | 2 | .3 | .3 | 87.7 |
| promotion as when due with financial benefit | 6 | 1.0 | 1.0 | 88.7 |
| promotion as when due with financial benefit | 2 | .3 | .3 | 89.0 |
| proper entry replacement | 2 | .3 | .3 | 89.3 |
| proper job security | 2 | .3 | .3 | 89.7 |
| proper job security and good financial benefit | 2 | .3 | .3 | 90.0 |
| provision of adequate equipment | 10 | 1.7 | 1.7 | 91.7 |
| provision of good working environment | 4 | .7 | .7 | 92.3 |
| provision of opportunity for carrier development | 4 | .7 | .7 | 93.0 |
| provision of adequate equipment | 10 | 1.7 | 1.7 | 94.7 |
| provision of advance studies | 2 | .3 | .3 | 95.0 |
| retirement | 2 | .3 | .3 | 95.3 |
| subsidy on medical expenses | 2 | .3 | .3 | 95.7 |

| | | | | |
|---|---|---|---|---|
| work load | 2 | .3 | .3 | 96.0 |
| work autonomy | 22 | 3.7 | 3.7 | 99.7 |
| work load and shifting of duties | 2 | .3 | .3 | 100.0 |
| Total | 570 | 100.0 | 100.0 | |

*Shortage in Nursing Work force.* The respondents of 10.0% submitted that lack of employment in the state had grossly contributed shortage in nursing work force. Similarly 9.5%possited that poor remuneration also accounted for shortage in Karnataka state. 7.0% opined lack of motivation. Whereas 1.7% observed lack of autonomy.

*Nurses' Perception on Factors Influencing Retention*

The respondents (28.8%) disagreed and (25.5%) strongly disagreed that their employers made deliberate effort to improve retention of nurses by organizing and funding continuing education. The respondents (33%) disagreed that their employers made deliberate effort to improve retention of nurses by ensuring re-imbursement for their conference fees.

*Association between Demographic Variables and Retention*

Age of nurses ($p < 0.05$), duration of qualification as a nurse ($p < 0.05$), have significant influence. Gender ($p > 0.05$) does not have significant influence on recruitment.

*Association between Demographic Variables and Retention*

Age of nurses ($p < 0.05$), duration of qualification ($p < 0.05$) and current designation ($p < 0.05$) were significantly associated with retention. However, Gender ($p > 0.05$) and professional qualification of nurses ($p > 0.05$) does not have significant influence on retention.

Testing the Hypothesis using ANOVAs $\alpha = 0.05$

- There is statistically significant relationship between choice and retention of nursing as a carrier ($p < 0.05$).
- There is also significant relationship between retention and turnover ($p < 0.05$).
- Nurses who are motivated by personal interest, job satisfaction, employer encouragement are more likely to be retained than those that are not ($p<0.05$).

## Discussion

Most of the respondents (64.9%) were between ages 41 -50 years, with mean age of $40.9 \pm 6.4$. This shows the aging workforce in nursing as majority of the respondents will be retiring within the next decade. The study, in line with vacancy situation in South Africa [18;21] revealed that majority of the nursing leadership positions in Karnataka state is vacant and this is as a result of their professional qualification. This gave room for administrators and medical practitioners at the helms of affairs in decision making regarding nursing. Respondents 63.3% were female and 36.7% made up male. This encourage discussion around nursing being a female profession. Findings from several studies on professional socialization have highlighted that nursing is viewed predominantly as a career for white, middle class women (Bough, 2001; Bough & Lentini1999; Hemsley-Brown & Foskett, 1999; Magnussen, 1998; Muldoon & Reilly, 2003 White head et al.).

For 81.1% (Role model) whose career choice was influenced by a person or event, the two main categories of responses were family members/ significant others and nursing-in-action. Family members/significant others consisted of family members (nurses and no nurses), friends, and teachers. Influential family members who were nurses included the following: grandmothers (n=3), mothers (n=2), other relatives and friends.

Other participants observed family members or significant others who were cared for by nurses. Most often, the grandmother or 'self' were listed as the ill family member.

Focus on others included helping people, caring for others, serving others, nurturing, and the ability to have an impact on others. Focus on self included statements about pay (economic reason) 50.8%, and an interest in health care 67.7%. People and experiences that were influential in their decision to enter nursing as a career included nurses, high school health career teachers, family members, friends (parents guidance 38.8%) and work experience in a health care setting.

An overwhelming number of participants reported that helping people and making a difference in peoples lives were the most positive aspects of

being a nurse. Several participants reported personal contact with people and the intimate involvement in another's life were the most positive aspects of nursing as a career. In addition, other participants 47.4%(prestige) described the high respect from society as the most positive aspect of being a nurse. Career opportunities were the most positive aspects of nursing as indicated by the following participant statements: "part of a growing profession," "flexible schedule," "many possibilities," "so many choices," and "a broad range of fields." These findings are consistent with those reported by Stevens and Walker (1993) and Boughn and Lentini (1999). The Karnataka state government hospitals have retention policies. However, it appears these policies were not usually utilized to the letter. Capacity building for nurses appears to be the priority of all health institutions in Karnataka state towards retention as reported by Karnataka state Civil service. Findings revealed that the Government engage in replacement of retired or exited nurses rather than increasing retaining efforts. This probably is due to the cost associated with turnover, which is line with a conducted on turnover intention among new graduate of nurses as reported by Bee croft p, Dorey, F, & Wenten, M (2008).

The study suggests understaffing exists in Karnataka state hospitals as reported all over the world as findings from this study revealed that nurses perceived understaffing as existing in their hospitals and some have once committed an omission in the line of duty as a result of workload. This supports the findings from researches conducted by the Agency for Healthcare Research and Quality where shortage of registered nurses, in combination with an increased workload found to pose a potential threat to the quality of care (AHRQ 2007).

The study revealed a wide gap between the efforts of employers towards ensuring retention and what nurses perceived is being done towards retention.

The best factor that influences the nurses to keep working in their hospitals according to this study was increment in salary and allowance as it ranked first among other factors. This finding clearly corroborates the finding by Prescott and Bowen that salary and benefits are leading factors influencing nurses to stay in a workplace and also the supply and demand curves of labor market where when the wages increase (P axis), more people are willing to be employed (Q axis) (2009). Findings from the study revealed that sense of job security, Opportunities for career development, good working environment and opportunities for training and workshops were major factors influencing retention. This finding corroborates that there is no single key retention strategy but a multifaceted approach is necessary to create milieu and an environment that retains nurses. As reported by Sourdif, job satisfaction was the most consistent predictor of nurses' intentions to remain employed.

Also, the salary scale used at the Federal level is more robust than that of the State level in Karnataka state. Interestingly this increase the turnover rate. Statistical significant association was found between age and retention of nurses. This indicates that retention efforts should focus on nurses within the age bracket 20-30 years and 51-60, as young nurses tend to leave their job for a better one and experienced nurses plan to leave as a result of retirement.

Duration of qualification post RN was found to be significantly associated with retention agreeing with the study of Oyeleye et al.(2009) where significant relationships was found among turnover intentions, total years of nursing experience, and RN education levels. Additional professional qualification in nursing is usually not equivalent to promotion or increase in pay in the clinical setting, except for rising above the bar of Grade level 14, it was therefore not surprising that there is no statistically significant association between highest professional qualification of respondents and retention. While monetary incentives influences retention of nurses, Work autonomy does not. Nurses' feeling of job security in respect to the reputation of their hospital and the buoyancy of their salary seems to influence their retention than work autonomy.

## Conclusion

Nursing workforce is essential to quality health care. The strategies for choice and retention of nurses in Karnataka state were explored to explain the dwindling work force in nursing. Although the factors influencing choice and retention of nurses are multifaceted and vary from one health organizations to the other, the strategy for retention compare to what to obtain in other places however retentions was largely dependent on financial factors. This may be a product of poor and uneven circulation of resources in India that predispose to the search for a greener pasture.

The knowledge of these influencing factors provides nurse managers with evidence-based

information from which they can develop policies and engage best practice management, which is expected to enhance positive patient' health outcomes and nurses' well-being, hence improve retention efforts.

The concern about the well being and retention of nurses is relatively new, hence, the major strength of this study is that it is one of the few studies in Karnataka state on choice and retention of nurses.

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# Knowledge on Newborn Care among Primigravida Mothers at Selected Village, Kancheepuram District

**M. Hemamalini*, A. Bhuvaneswari**, Mahalakshmi*****

**Abstract**

*Introduction*: Newborn care is the care which is given immediately after the birth. Newborn care includes, warmth, cord care, eye care, breasting feeding and immunization. *Objective:* To assess the knowledge on newborn care among primigravida mothers. *Materials and Methods:* Quantitative research approach and descriptive research design was adopted. A total of 50 samples were selected by using non probability purposive sampling technique in SRM Rural Health Center at Mamandur village. Structured knowledge questionnaire was used to assess the level of knowledge on newborn care. The collected data was analyzed by using descriptive and inferential statistics. *Results:* The results of the study revealed that 36(72%) mother had moderately adequate knowledge, 14 (28%) mother had adequate knowledge and none of them had inadequate knowledge on newborn care. and there is a significant association on the level of knowledge among primigravida mothers with their demographic variables of family income and type of family. *Conclusion:* Most of the primigravida mothers had moderately adequate knowledge, Hence it is necessary to enhance their knowledge through an educational approach .

**Keywords:** New Born; Primigavid; Mothers; Breast Feeding.

## Introduction

The birth of an infant is one of the most awesome inspiring and emotional events that can occur in one's life time. After 9 months of anticipation and preparation, the neonate arrives amid a flurry of excitement. The new human being affects the lives of the parents and families adjust easily to the necessary changes in their life style, where as others find it difficult to cope with these changes and feel varying degrees of turmoil and anxiety. This is especially true if the neonate is not the robus, healthy, lovable infant who was expected [1].

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The birth of the baby is one of life's most wondrous moment. A healthy adult emerges from a healthy infant. Newborn baby has amazing abilities, yet are completely depend on others for every aspect of such as feeding, warmth and comfort [2].

WHO (2001) states that, based on the data collected, causes of neonatal deaths, infections (tetanus, sepsis, pneumonia, diarrhea) 32%, complication of prematurity 24%, birth asphyxia 29%, congenital anomalies 10% and others 5%. Newborn mortality is one of the world's most neglected health problems. It is estimated that globally four million newborn die before they reach one month of age and another four million are still born each year. Deaths during the neonatal period (the first $24^{th}$ days of life) accounts for almost two-thirds of all deaths in the first year of life and 40% of deaths before the age of five [3].

Darmstadt (2000) mentioned, the vast majority of neonatal deaths occur during the first months of life, when a child's risk of death is nearly 15 times greater than at any other time before his or her first birth. Reduction in neonatal mortality have

been less in the developing countries. A study conducted in Bangladesh, Mali, Nepal and Pakistan, to assess the knowledge of mothers regarding effective care of neonate among mothers ages ranged 15-35 years 82% women were illiterate with minor criteria of being able to read and they have not an adequate knowledge regarding neonatal care [4].

Most of neonatal deaths could be prevented through cost-effective interventions, such as tetanus toxoid immunization or exclusive breast feeding. The saving newborn lives initiatives is designed to reduce neonatal mortality and morbidity by strengthening and expanding these and other interventions in , Asia, Africa, and Latin America. The guide is intended to discuss behavior change within the context of essential newborn care and to provide guidelines on how to plan, manage, and use qualitative research and design a patient information booklet strategy [5].

The problems of poor health indicators are compounded by poor education. In a demographic and health survey 2001– 2002, the median number of years of formal education amongst females was 5.8 urban and 2.0 in rural Zambia, while the neonatal mortality rate was 31 per 1000 for urban births and 35 per 1000 for rural births. Research has also shown that the neonatal mortality rate for women without education was 39 per 1000 as compared to 34 per 1000 for those with primary education, and 27per 1000 for those with secondary education [6].

Two third of the baby's in our country are born at home and are at higher risk of developing sepsis. Babies born in hospital may also develop infection at home after discharge from the hospital. The commonest sources of infection in the community are unhygienic practice during delivery at home which include delivery in dark dirty room, cord cut with any available sharp instrument and the baby wrapped in old dirty cloths and other practices that increase the risk of infection include harmful applications to the cord, discarding colostrums and use of prelacteal feeds numerous visitors, who could be carries of infection are another source of infection for the babies. Unhygienic practices at birth are also responsible for infections and deaths both of the baby and mother. The introduction of five cleans at delivery which include clean surface, clean hands, clean blade, clean cord tie and clean cloths have contributed to the reduction of neonatal infections [7].

Newborn care is of immense importance for the development and healthy life of a baby. The newborn care takes place immediately following birth, in the transition period, and during the postnatal period. This care may be shared with the parents in the maternity unit of a hospital or in an alternative birth centre or assumed by parents in the home [8].

So the investigator felt that mothers of newborn children should possess knowledge about newborn care, because they are the primary care takers. If they possess adequate knowledge, they can able to take care of their newborn and take precaution. It is the nurse's responsibility to impart knowledge about newborn care.

## Methodology

Quantitative approach and Descriptive research design was adopted for this study.Variables includes demographic variables and study variable . Demographic variables comprises of Age, education, occupation, family income, type of family, religion, type of marriage and duration of marriage and the study variable was Knowledge on newborn care .The study was conducted in the antenatal outpatient department of SRM Rural Health center in Mamandur village. The setting was chosen on the basic of feasibility in terms of availability of adequate samples on co-operation extended by the authority. Accessible population consists of primigravida mothers who were attending antenatal outpatient department in SRM Rural Health Center at Mamandur village. The sample consists of primigravida mothers those who fulfills the inclusion criteria, who were attending antenatal outpatient department in SRM Rural Health Center at Mamandurvillage. 50 primigravida mothers was selected by adopting Non probability purposive sampling technique.The inclusion criteria were Primigravida mothers with any weeks of gestation, Women who were able to understand Tamil or English. The Exclusion criteria were Primigravida mothers who had mental illness and mothers those who were not co-operative. The tool comprises of 2 sections. Section-A deals with demographic details of primigravida mothers such as age, education, occupation, family income, type of family, religion, type of marriage, duration of marriage and Section B was structured knowledge questionnaire includes 20 questions to assess the knowledge on newborn care among primigravida mothers.Each questions was given four options. Each correct answer was awarded score 1. Each incorrect answer was awarded score '0'.

Content validity obtained from the Dean of SRM

college of nursing , Vice principle of college of nursing and experts from the department of nursing and medical. Based on the suggestion given by the experts, a few modification were made after getting consent from all experts. Reliability of the tool was established by retest methods 'r' value was 0.08 and it was found to be reliable, hence the tool was considered reliable for proceeding the main study.

*Ethical Consideration*

The study was approved by dissertation committee of SRM college of nursing, SRM University, Kattankulathur, Kancheepuram District. Permission was obtained from the Dean, SRM College of Nursing and informed consent was obtained from each participant for the study before starting data collection. Assurance was given to the subjects that anonymity of each individual would be maintained and they are free to withdraw from the study at anytime.

*Data Collection Procedure*

After obtained formal approval from the in charge staffs of SRM rural health centre at Mamandur village. The investigator explained the objectives and methods of data collection to the antenatal mothers. Data collection was done in the antenatal outpatient department and in antenatal mothers who satisfied the inclusion criteria were selected using non probability convenient sampling technique.The investigator communicated with Tamil language, introduced self to the antenatal mothers, initially the antenatal mothers were made comfortable at the outpatient department and structured questionnaire tool was given to them.

The investigator collected information regarding section-A [demographic data] and section-B knowledge assessment tools and the responses marked simultaneously.

It took around 15 minutes from each sample to obtain the necessary data. The investigator thanked the antenatal mothers, nursing personnel for extending their fullest co-operation. Both descriptive and inferential statistics were used to make the analysis and interpretation.

## Results

*Description of Demographic Variables*

Among 50 primi gravida mothers 12 (24%) mothers were below the age of 20, 30 (60%) were in the age group of (20-30) and 8 (16%) mothers were above 30 years.Considering the educational status of mothers, 12 (24%) have undergone primary level of education, 10 (20%) completed middle level, 16 (32%) have undergone high school level and 12 (24%) had intermediate level of education.Considering the occupation of the primi gravida mothers, 27 (54%) are un employed; 10 (20%) are un skilled worker, 2 (4%) are semi skilled workers, 4 (8%) are skilled workers, 4 (8%) are clerical level and 3 (6%) are semi professionals. Considering the family income, 7 (14%) mothers family income was between (Rs1590-Rs4726),18 (36%) mothers were in between (Rs4727-Rs7877), 20 (40%) were in between (Rs7878-Rs11876) and 5 (10%) were in-between (Rs15754-Rs31506).Considering the type of families of the gravida mothers, 31 (62%) belongs to nuclear family, 18 (36%) belongs to joint family and 1 (2%) belong extended family.Considering the religion of primi gravida mothers, 43 (86%) wer Hindus, 4 (8%) were Christians and 3 (6%) were other religions. Considering the type of marriage, 13 (26%) had consanguineous marriage, 26 (52%) had non

**Table 1:** Assessment of level of knowledge on newborn care among primi gravid mothers.

N=50

| Level of Knowledge | Frequency | Percentage |
|---|---|---|
| In adequate knowledge | 0 | 0% |
| Moderately adequate knowledge | 36 | 75% |
| Adequate knowledge | 14 | 28% |

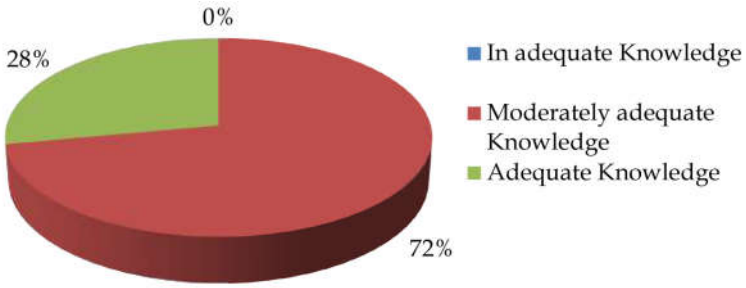


**Fig. 1:** Percentage distribution of level of knowledge on newborn care among primi gravida mothers

**Table 2:** Association between the level of knowledge on newborn care among primi gravida mothers and with their demographic variables N = 50

| Demographic Variables | | Level of knowledge | | | | | | Chi square test |
|---|---|---|---|---|---|---|---|---|
| | | In adequate | | Moderately adequate | | Adequate | | |
| | | N | % | N | % | N | % | |
| Age | <20 years | 0 | 0 | 10 | 27.8 | 2 | 14.3 | $X^2 = 1.22$ |
| | 20-30 | 0 | 0 | 20 | 55.6 | 10 | 71.4 | P = 0.542 |
| | >30 years | 0 | 0 | 6 | 16.7 | 2 | 14.3 | Non significant |
| Education | Primary | 0 | 0 | 10 | 27.8 | 2 | 14.3 | $X^2 = 6.336$ |
| | Middle | 0 | 0 | 9 | 25.0 | 1 | 7.2 | P = 0.149 |
| | High school | 0 | 0 | 11 | 30.6 | 5 | 35.7 | Non significant |
| | Intermediate | 0 | 0 | 6 | 16.7 | 6 | 42.9 | |
| Occupation | Un employed | 0 | 0 | 19 | 52.8 | 8 | 57.1 | $X^2 = 10.418$ |
| | Un skilled | 0 | 0 | 8 | 22.2 | 2 | 14.3 | P = 0.064 |
| | Semi skilled | 0 | 0 | 2 | 5.6 | 0 | 0 | Non significant |
| | Skilled | 0 | 0 | 3 | 8.3 | 1 | 7.2 | |
| | Clerical | 0 | 0 | 4 | 11.1 | 0 | 0 | |
| | Semi professional | 0 | 0 | 0 | 0 | 3 | 21.4 | |
| Family Income | Rs 1590-4726 | 0 | 0 | 6 | 16.7 | 1 | 7.2 | $X^2 = 7.85$ |
| | Rs 4727-7877 | 0 | 0 | 14 | 38.9 | 4 | 28.6 | P = 0.05 |
| | Rs 7878-11816 | 0 | 0 | 15 | 41.7 | 5 | 35.7 | Significant |
| | Rs 15754-31506 | 0 | 0 | 1 | 2.8 | 4 | 28.6 | |
| Type of family | Nuclear | 0 | 0 | 20 | 55.6 | 11 | 78.6 | $X^2 = 6.99$ |
| | Joint | 0 | 0 | 16 | 44.4 | 2 | 14.3 | P = 0.05 |
| | Extended | 0 | 0 | 0 | 0 | 1 | 7.1 | Significant |
| Religion | Hindus | 0 | 0 | 32 | 88.9 | 11 | 78.6 | $X^2 = 1.127$ |
| | Christians | 0 | 0 | 2 | 5.6 | 2 | 14.3 | P = 0.569 |
| | Others | 0 | 0 | 2 | 5.6 | 1 | 7.1 | Non significant |

*Significant at P=0.05

consanguineous marriages

The above table reveals that 36 (72%) mothers had moderately adequate knowledge, 14 (28%) mothers had adequate knowledge and none of them had inadequate knowledge.

Table 3 reveals that there is significant association between the level of knowledge among primi gravida mothers and with their demographic variables of family income and type of family at P< 0.05 level. There is no association with respect to other variables.

## Discussion

Among 50 samples, 36 (72%) mothers have moderately adequate knowledge,14 (28%) mothers have adequate knowledge and non of them have inadequate knowledge.

Rama R,et al (2014) also conducted a similar study on assessment of knowledge regarding newborn care among mothers in Kancheepuram district. This community based cross sectional study was done in Kancheepuram district, using a sample size of 100 mothers arrived based on the expected number of pregnancies in the area. The participants were selected by simple random sampling and data collected regarding the knowledge on new-born care among the mothers, using a structured interview schedule. The study result showed that mean age of mothers was 25 years and mean weight of babies was about 3 kg. Regarding the education status, 67% studied up to 10th standard and 18% studied up to plus two levels. Majority of them got information on new born care from health workers (44%) and family members (36%). The level of adequate knowledge regarding new-born care was present only in 15%, feeding practices in 39%, various components of immunization in 8%, growth and development in 42% and about new-born illness in 33% of the mothers. The knowledge regarding new born care was found to have a significant association with the educational status of the mothers [9].

The present findings also revealed that there was a significant association between the level of knowledge among primi gravida mothers and with their demographic variables of family income and type of family at P< 0.05 level. This may be due to

the accessibility of media and also due to the economic and educational status. There was no association with respect to other variables. Hence, the null hypothesis stated that there will be no significant association between knowledge on newborn care among primi gravida mothers and their demographic variables was not accepted for type of family, income and accepted for other demographic variables.

## Conclusion

The findings of the present study revealed that only 28% of primi gravida mothers in the group had adequate knowledge. The study also shows that the higher income groups, and those who are from nuclear families have adequate knowledge on newborn care. Hence the knowledge on newborn care can be enhanced by providing health education regarding newborn care in all the aspects in the hospitals, in certain outpatient departments like pediatric OPD and maternity OPD, the students need to be utilized to teach the mothers about newborn care.

## Acknowledgement

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# Assess Knowledge and Practices about Waste Management among People

**Anit V. John*, Monali Chaskar*, Durga Das*, Tejasvi Davne*, Shrikant Gadhave*, Kavita Kelkar****

**Abstract**

Waste management is the collection, transport, disposal, processing, managing and monitoring of waste materials. The term usually relates to materials produced by the human activity and the process generally undertaken to reduce their effect on health, the environment or aesthetics. All waste materials, whether they are solid, liquid, gaseous or radioactive fall within the remit of waste management.

**Keywords:** Waste Management; Community.

## Introduction

Adopting best waste management practices can help to maintain the proper environment sanitation and also help to reduce the pollution. Waste management practices can differ for developed and developing nations, for urban and rural areas, and for residential and industrial producers. Waste comes in many form i.e. agricultural waste, animal by products, biomedical waste, chemical waste, gaseous waste, food waste, consumable waste, kitchen waste, nuclear waste, packaging waste, solid waste, hardous waste, plastic waste. Domestic waste management is important; waste that is not properly managed can create serious health or social problems in community.

*The Statement of the Study*

"A study to assess the knowledge and practices about waste management among people residing in selected slums of PCMC area of Pune City."

*Objectives of Study*

1. To identify the existing knowledge about waste management among people.
2. To identify the existing practices about waste management among people.
3. To find a correlation between the level of knowledge of waste management among people with selected demographic variables.

*Hypothesis*

**$H_o$-** There will be no significant difference in the knowledge score before and after assessing the knowledge and practices of people regarding waste management.

**$H_1$-** There will be an increase in knowledge before and after assessing the people knowledge and practices regarding waste management among peoples.

## Methodology

The present study is on descriptive approach.

*Sample:* Sample size of the study was 100 samples residing in Gowlimatha slum, Pimpri, Pune .

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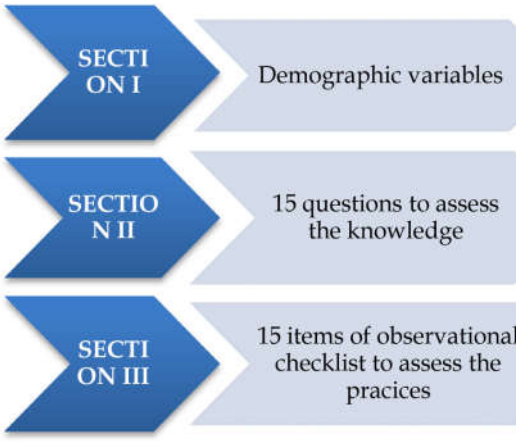
*Tool and Technique*

The tool is consisting of three sections:




*Major Study Findings*

1. 41.6% of people were among the age group of 31 to 40 years. 63.3% them were female.
2. 41.6% of people have completed their secondary education.
3. 86.6% of people were belongs from Hindu religion.
4. 53.3% were working as housewives.
5. 58.3% of people were from Nuclear family.
6. 40% of people were having monthly income of family Rs.5000/- and above.
7. 30 people were having excellent knowledge about waste management, 25 people were having good knowledge about waste management and 6 people were having poor knowledge about waste management.
8. 28% of people always followed the proper waste management. 31% of people sometimes followed the proper waste management. 41% people never followed the proer waste management.
9. There was significant relationship at p value and between the levels of knowledge of waste management.

***Section I**: Analysis and interpretation of data regarding demographic variables.*

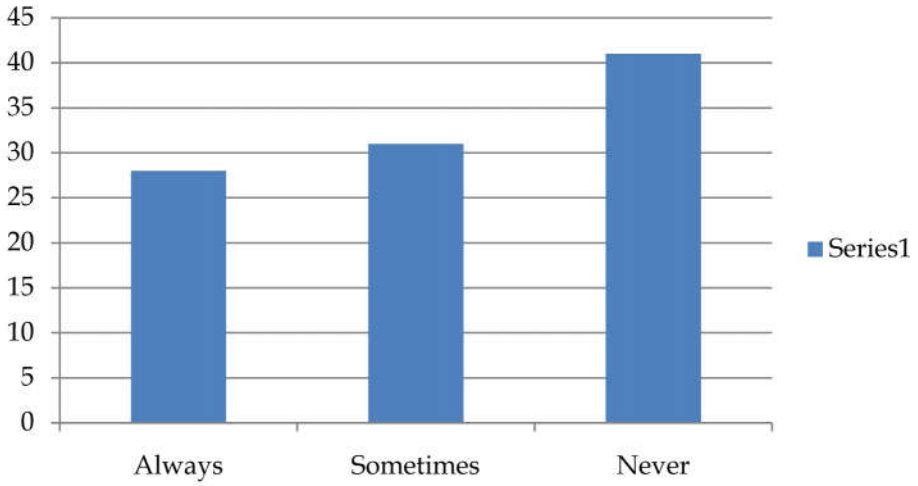
**Table 1:** Frequency and percentage of demographic variables N=60

| Sr. No | Demographic Variables | Characteristics | Frequency | Percentage |
|---|---|---|---|---|
| 1 | Age | Below 20 years | 4 | 6.6% |
| | | 21-30 years | 23 | 38.3% |
| | | 31-40 years | 25 | 42% |
| | | 41years and above | 8 | 13.3% |
| 2 | Gender | Male | 19 | 32% |
| | | Female | 41 | 68.3% |
| 3 | Types of family | Nuclear | 35 | 58.3% |
| | | Joint | 24 | 40% |
| | | Extended | 0 | - |
| | | others | 1 | 25.00% |
| 4 | Education | Primary | 20 | 33.3% |
| | | Secondary | 25 | 42% |
| | | Higher Secondary | 11 | 18.3% |
| | | Graduate and above | 4 | 6.6% |
| 5 | Occupation | Housewife | 32 | 53.3% |
| | | Service | 20 | 33.3% |
| | | Business | 6 | 10% |
| | | Labourer | 2 | 3.3% |
| 6 | Religion | Hindu | 52 | 87% |
| | | Muslim | 5 | 8.3% |
| | | Christian | 1 | 1.6% |
| | | other | 2 | 3.3% |
| 7 | Monthly income | Rs2001-3000 | 9 | 15% |
| | | Rs3001-4000 | 14 | 23.3% |
| | | Rs4000-5000 | 13 | 22% |
| | | Rs 5001-& above | 24 | 40% |

Table 1 showed that 40% of the people were from the age group of 31 yrs to 40 yrs, 68.3% participants were females , 58.3% of people were from Nuclear family, 42% of people belongs to Hindu religion, 45% of people were completed their secondary education, 53.3% of people were from house wives, 87% of people were belongs to Hindu religion, 40%of people were having monthly income between Rs5001/- and above.

***Section II:*** *Analysis and interpretation of data related to knowledge score regarding waste management*

**Fig.1:**




Data represent in Figure 1 showed that 30 people were having excellent knowledge about waste management, 25 people were having good knowledge about waste management, 6 people were having poor knowledge about waste management.

***Section III*** *: Analysis and interpretation of data related to practice score regarding waste management.*

**Fig. 2:**

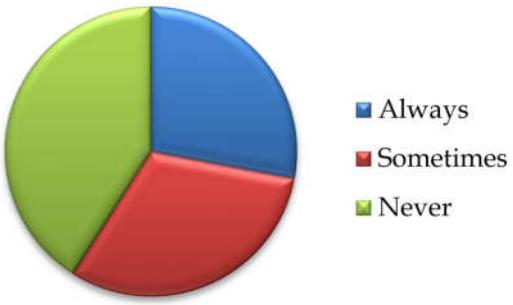



Figure 2 Showed that 41% of people never following the practices, 31% of people following the practices sometimes and only 28% of people always following the practices.

***Section IV*****:** *Analysis and interpretation of data related to relation between level of knowledge and selected demographic variables*

**Table 2:** Analysis and interpretation of data related to relation between level of knowledge and selected demographic variables

| Sr. No. | Demographic Variables | CHI- Square | Degree of Freedom | P value | Conclusion |
|---|---|---|---|---|---|
| 1 | Age | 14.4 | 3 | 0.001 | No Significant |
| 2 | Gender | 3.4 | 1 | 0.05* | Significant |
| 3 | Family Type | 9.0 | 3 | 0.02* | Significant |
| 4 | Education | 13.9 | 3 | 0.001 | No Significant |
| 5 | Occupation | 14.4 | 3 | 0.001 | No Significant |
| 6 | Religion | 16.5 | 3 | - | No Significant |
| 7 | Monthly Family Income | 13.6 | 3 | 0.001 | No Significant |

Table 2 shows that Family type and Gender were having significant relationship at p value 0.05 and 0.02 between the lsevel of knowledge of waste management.

## Conclusions

The conclusions drawn from the findings of the study as follows, The study was done to assess the knowledge and practices regarding waste management among people. The people were actively participated and were cooperative. While assessing knowledge it shown that the sample of age group 31-40 yrs had more knowledge regarding waste management.

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# Effectiveness of Lemon Juice in Reduction of Blood Pressure among People with Essential Hypertension in Peelamedu, Coimbator

**Rinu David**

**Abstract**

Hypertension is the leading risk factor for mortality. There is growing evidence that non pharmacological interventions like Diet Therapy, Music, Yoga, Breathing and other relaxation techniques lower high blood pressure. *Objectives of the Study:*1. Identify the prevalence of hypertension in the selected urban area. 2. Assessment of contributing factors for hypertension.3. Assessment of blood pressure among hypertensive clients. 4. Determine the effect of lemon juice in reduction of blood pressure among hypertensive clients. *Methods:* The research design adopted was pre-test post-test design with comparison group-a type of quasi experimental design. The sample size was 30 which included 15 for experimental and 15 for comparison group. Results: In the experimental group, the mean systolic blood pressure was 145.8 mmHg on the 1st day, 135.8 mmHg on the 30th day and reduction of blood pressure was 10 mm Hg. In the comparison group, the mean systolic blood pressure was 145.6 mmHg on the 1st day, 146 mmHg on the 30th day and mean difference was 0.66mmHg.The paired 't' test value of systolic and diastolic blood pressure in the experimental group (t=17.8, 8.4) was greater than the table value at p=0.001 level. This showed that there was a significant reduction in blood pressure among the experimental group. The paired 't' test value of systolic and diastolic blood pressure in the comparison group (t=2.7, 3.7) was less than the table value at p=0.001 level. This showed that there was no significant difference in blood pressure among the comparison group. The independent 't' test value of systolic, diastolic (t=4.5, 4.6) was greater than the table value of p=0.001 level. This showed that there was a significant result

**Keywords:** Hypertension; Effectiveness; Lemon Juice; Blood Pressure.

India is experiencing a rapid health transition with large and rising burden of chronic non-communicable diseases especially Hypertension, Diabetes Mellitus, Cancer, Stroke and Chronic lung diseases (Park, 2009).

Hypertension is an important medical and public health issue. It exists worldwide at epidemic rates affecting an estimated 1 billion people. Two third of hypertensive patients do not have their blood pressure controlled. Individuals who remain undiagnosed and untreated for hypertension present the greatest challenge and opportunity for health

A study reviewed in CSIRO report showed a diet high in citrus fruit provide a statistically significant effect in lowering blood pressure, protecting against some types of cancers, against stroke, cardiac arrhythmias. The flavonoid found in citrus fruit identified as having protective cardiovascular effects (Common Wealth Scientific and Industrial Research Organization, 2004) Lemon is an inexpensive, easily available citrus fruit, popular for its culinary and medicinal uses. It contains large amount of vitamin C and potassium which necessarily helps in lowering the blood pressure.

*Need for the Study*

Hypertension is called as silent killer, because it

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does not have any symptoms and most of the people do not know they are suffering from it.

In India, the prevalence rate of hypertension was done in the 10 regions between the age group of 28-69. Among them 28% were suffering with hypertension and the prevalence rate increased about 30% in urban population and 10% among rural inhabitants (Hezarika, et al, 2009).

In Tamil Nadu, Chennai stands prior in the prevalence of hypertension. One fifth of the urban population that is 20% of the adults was suffering with high blood pressure (Deepak, K., 2009).

A Survey was done in Coimbatore to assess the prevalence of blood pressure and result indicated 11.3 lakh individuals are suffering with hypertension (Mohan, 2010).

Hypertension is a risk factor and is three times more prevalent in urban areas as compared to rural; this may be because of different lifestyles in two populations. Prevention of hypertension provides an attractive alternative to the costly cycle of managing hypertension and its complications. Current recommendations for primary prevention are based on lifestyle modifications that have been shown to prevent or delay the expected rise in blood pressure in susceptible people (Lewis, et al.,2009).

Hypertension management was very challenging due to the life dependent on regular medication which is very expensive and visit to doctors for regular check up. The most commonly, naturally, easily available rich source of Vitamin C is the lemon.

There are some natural ways to control hypertension. The best way is to control through the diet. Dietary modification requires active participation of individuals. Dietary factors have an important influence on blood pressure regulation in individuals with changing life styles (Manmohan, 2009).

Lemon is rich in Vitamin C and Bioflavonoids. Bioflavonoids are the bioessential for preventing capillary fragility, therefore people with high blood pressure need to take them since they are in risk of rupture of blood vessels. This natural cure helps in lowering blood pressure by decreasing the cholesterol level and by maintaining the body immune system. Vitamin C is the cement of the artery wall and optimum amount of Vitamin C stabilizes the arteries. Vitamin C encouraged the conversion of cholesterol into bile acids, which are then eliminated from the body in the feces.

Lemon juice has an antioxidant, antimetabolite and numerous other functions which have an effect on high blood pressure. Therefore the present situation demands a study on effectiveness of lemon juice in reduction of blood pressure among hypertensive clients.

## Statement of the Problem

Effectiveness of lemon juice in reduction of blood pressure among people with essential hypertension in Peelamedu, Coimbatore.

### *Objectives*

- Identify the prevalence of hypertension in the selected urban area.
- Assessment of contributing factors for hypertension
- Assessment of blood pressure among hypertensive clients
- Determine the effect of lemon juice in reduction of blood pressure among hypertensive clients.

*Assumption*

Lemon juice helps in reduction of blood pressure in hypertensive clients

*Hypothesis*

There will be a significant reduction in blood pressure after administration of lemon juice.

*Operational Definitions*

- *Effectiveness*

It refers to the extent to which the administration of lemon juice has achieved the desired effect in reduction of blood pressure

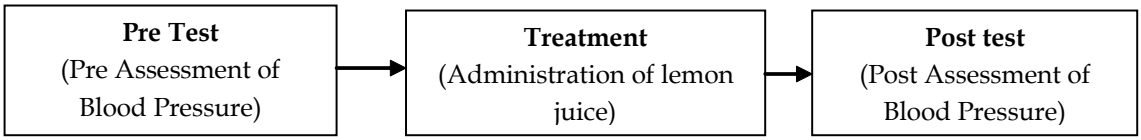
- *Essential Hypertension*

It refers to persistent elevation of systolic blood pressure above 140mmHg and diastolic above 90 mmHg from an undefined cause among the people.

- *Pre Hypertension Stage:* Systolic blood pressure is 120-139 mmHg and diastolic blood pressure is 80-89 mmHg.
- *Stage 1 Hypertension*: Systolic blood pressure is 140-159 mmHg and diastolic blood pressure is 90-99 mmHg.

- *Stage II Hypertension*: Systolic blood pressure is more than 160 mmHg and diastolic blood pressure is more than 100 mmHg.The present study is designed to determine the effectiveness of lemon juice in reduction of blood pressure among hypertensive clients. This chapter includes the research design, setting, population and sampling, sample size determination, criteria for selection of samples, instruments and tools for measuring variables, techniques of data collection, methods of data analysis and the report of pilot study and the changes incorporated for the main study.

**Experimental Group**




**Comparison Group**

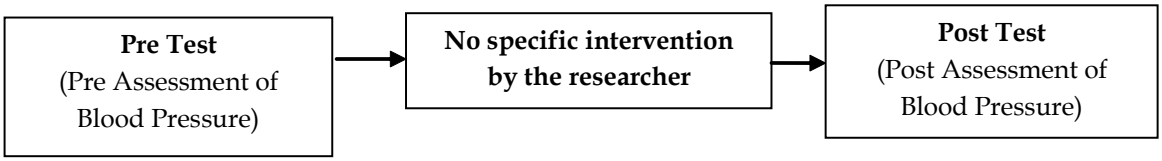



**Fig. 1:** Pre test and post test design with a comparison group

Prevalence of hypertension was assessed for the entire population above 40 years through survey. Baseline information and contributing factors for hypertension was collected from the samples. Pre assessment of blood pressure was done among the both experimental and comparison group. Lemon juice was administered for 30 days among experimental group where as no specific intervention by the researcher for the comparison group. Post assessment blood pressure was done among experimental and comparison group once in 7 days to analyze the variation in blood pressure.

*Settings*

The study was conducted in non slum residential urban area namely Ellaithottam street. This urban area is situated around 1km away from PSG hospitals and this area consists of 65 families, which includes 112 males and 120 females.

***Population and Sampling***

Population of the study was 80 adults above 40 years residing in Ellaithottam Street. Survey was done to identify hypertensive clients. The survey results indicated that 35 had hypertension. Among them two were suffering with diabetes mellitus and three were on calcium channel blockers. Through inclusion and exclusion criteria 30 hypertensive clients were selected for the study. From the 30 samples, 15 clients were included for experimental group and 15 were selected for comparison group.

## Methodology

*Pretest and Post Test Design with A Comparison Group*

Pre test and post test design with a comparison group is a type of Quazi experimental design. It is developed to explain relationships and examine causality between selected dependent and independent variable (Burns, N. 2007). In this study this research design was selected to explain the relationship and causality between lemon juice and reduction of systolic and diastolic blood pressure.

***Criteria for Selection of Samples***

*Inclusion Criteria*

Clients with the diagnosis of essential hypertension.

*Exclusion Criteria*

- Clients with hypertension secondary to other pathology that is endocrine disorders and renal pathology.
- Client with peptic ulcers.

- Clients who are on calcium channel blockers.

***Variables of the Study***

- *Independent Variable:* The independent variable is the administration of lemon juice
- *Dependent Variable*: Dependent variable in this study refers to systolic and diastolic blood pressure.

*Instruments and Tools for Data Collection*

The tool used for data collection was questionnaire, to collect the baseline information, contributing factors and information related to hypertension. Sphygmomanometer was used to assess blood pressure.

• *Questionnaire to Assess the Prevalence of Hypertension and Base Line Information*

The questionnaire framed had 4 sections. Contents included in this section were: The section I included the demographic profile, section II included the contributing factors for hypertension, section III included information related to hypertension, section IV included blood pressure recording sheet.

• *Sphygmomanometer*

It is the standard instrument used to measure blood pressure. It composed of an inflatable cuff and a mercury to measure the pressure The lowest level in the scale is 0 and the highest level is 300 mmHg.

*Techniques of Data Collection*

Population of the study was 80 adults above 40 years. The prevalence of hypertension was assessed among 80 adults. Data was collected with the help of the questionnaire, observation and from medical records. In the first two days survey was done for the entire population above 40 years, data was collected by distribution of questionnaire section I and II, section III was given to hypertensive clients alone. As per exclusion and inclusion criteria samples were selected for the study. After the explanation of intervention, informed consent was obtained from hypertensive clients. Pre assessment of blood pressure was done among experimental group and comparison group. After the initial assessment, 250 ml of Lemon juice was administered to experimental group whereas routine care was provided for the comparison group. Continous blood pressure monitoring was done at 7 days interval for a period of 30 days.

***Intervention***

• *Preparation of Lemon Juice*

Add 2 table spoon of lemon juice into 220ml of warm water. No sugar or salt was added.

• *Administration of Lemon Juice*

Lemon juice was administrated to the samples 30 minutes prior to breakfast. It is given once in a day for a period of 30.

*Method of Data Analysis*

Both the descriptive and inferential statistics were used to analyze the data. Data is presented in tables. Statistical analysis of 't'test is applied to test the effectiveness of lemon juice in reduction of blood pressure between experimental and comparison group.

**Data Analysis and Interpretation**

Data analysis is the systematic organization and synthesis of research data and testing of research hypothesis using those data. Interpretation is the process of making sense of the result of a study and examining their implication (Denise P.F.2004) .

In this study effectiveness of lemon juice in reduction of blood pressure was assessed. The data was collected, assembled, analysed and tested individually and described. The findings based on the statistical analysis are presented in this topic.

**1. *Baseline Data of Essential Hypertensive Clients***

*Age:* Among the 30 samples selected the age of essential hypertensive clients ranged between 40 yrs and above.2 clients were in the age group between 40-50 years and 12 clients were in the age group between 51-60 years and 16 clients were in the age group >61 years (Table 1 & figure 1).

*Gender and Marital Status*: Among the 30 samples majority of them ie 23 were females and only 7 were males (Table 1) In case of the marital status 19 were married and 11 were widows (Table 1 & Figure 3).

*Educational Qualification*:14 clients were uneducated,8 had primary school education,7 clients

had high school education and only one client had higher secondary education (Table 1 &Figure 4).

*Occupational Status:* Among the 30 samples, majority of them ie 23 were unemployed and only 7 clients were employed (Table 1 & Figure 5).

*Family Income:* 11 clients had family income <5000, another 11 clients had family income between 5000-7500 and only 8 clients had family income >7500. (Table 5)

*Family History of Hypertension*: 7 clients in the experimental group and 5clients in the comparison group had a family history of hypertension (Table 2 & Figure 6).

### *2. Factors Contributing to Hypertension*

*Life Style Factors*

- *History of Exercises:* Six clients each in the experimental and comparison group were practicing exercises. All the clients who were practicing exercises in experimental group and comparison group were going for walking (Table 3, Figure 7).
- *Duration of Exercises*: Two clients in the experimental group and 2 clients in the comparison group practiced exercise for a duration of more than 20 minutes**.** Three clients in the experimental group practiced exercise for a period of 20-40 minutes where as only one client in the experimental group and 4 clients in the comparison group practiced exercise for a duration of 40-60 minutes.
- *History of Regularity of Exercises*: Among the experimental group 4 clients practiced exercise daily, whereas one client done the exercise once in a week and another client done it twice in a week only (Table 3).
- *Habits*: Data regarding the habit revealed that, among the experimental group 6 clients were tobacco chewers, one takes alcohol, no one reported habit of smoking and 8 clients had none of these habits where as among the comparison group 5 were tobacco chewers, 2 clients were alcoholic, 2 had the habit of smoking and 6 clients had none of these habits (Table 4, Figure 8).
- *Amount and Frequency*: Regarding the amount of alcohol intake, both the groups reported the same quantity that is 30 ml and frequency of intake was occasional. About the habit of smoking, none had the habit of smoking in the experimental group where as in the comparison group the amount is 3-5 cigarettes per day. About the habit of tobacco chewing, 3 clients uses tobacco 1-3 times per day and other 3 uses 3-5 times per day where as in the comparison group one client uses tobacco 1-3 times per day, other 3 uses 3-5 times per day (Table 4).
- *History of Watching T.V:* Among the experimental group 12 clients and in the comparison group 11 clients had the habit of watching T.V. Regarding the duration of watching T.V, among 12 clients in experimental group 6 had the habit of watching T.V half an hour,8 watches 1-2 hours. Where as in comparison group 3 watches half an hour, 4 watches 1-2 hours and 6 watches more than 2 hours. Data regarding the type of programme showed that majority of people in both groups watches serials. Regarding the time of watching TV, 5 clients each in the experimental and comparison group watches T.V before going to bed. About the type of serials, majority of clients watches 3-5 serials, mostly emotional type (Table 5, Figure 9).

**Table 1:** Demographic Details of Hypertensive clients

| S. No. | Characteristics | Experimental group | | | Comparison group | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | n=15 | M | F | n=15 | M | F | n=30 |
| **1** | **Age in years** | | | | | | | |
| | 40-50 years | 1 | 0 | 1 | 1 | 0 | 1 | 2 |
| | 50-60 years | 5 | 0 | 5 | 7 | 2 | 5 | 12 |
| | Above 60 years | 9 | 1 | 8 | 7 | 4 | 3 | 16 |
| **2** | **Marital status** | - | - | - | - | - | - | - |
| | Married | - | 9 | - | - | 10 | - | 19 |
| | Widow | - | 6 | - | - | 5 | - | 11 |
| **3** | **Educational status** | - | - | - | - | - | - | - |
| | Uneducated | - | 8 | - | - | 6 | - | 14 |
| | Primary | - | 6 | - | - | 2 | - | 8 |
| | High school | - | 1 | - | - | 6 | - | 7 |
| | Higher secondary | - | 0 | - | - | 1 | - | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **4** | **Occupation** | - | - | - | - | - | - | - |
| | Employed | - | 3 | - | - | 4 | - | 7 |
| | Unemployed | - | 12 | - | - | 11 | - | 23 |
| **5** | **Income** | - | - | - | - | - | - | - |
| | Rs.2500-Rs.5000 | - | 8 | - | - | 3 | - | 11 |
| | Rs.5000-Rs.7500 | - | 5 | - | - | 6 | - | 11 |
| | Above Rs.7500 | - | 2 | - | - | 6 | - | 8 |

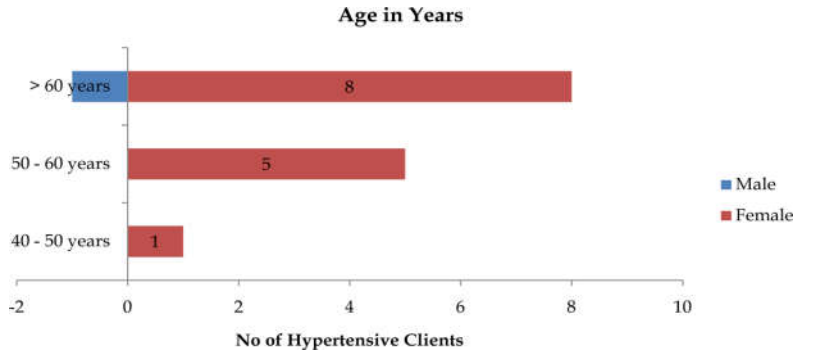



**Fig. 2:** Age Sex Status of Hypertensive client in experimental group

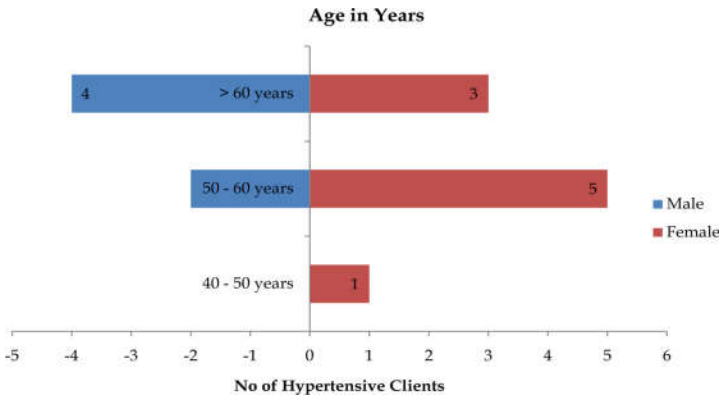



**Fig. 3:** Age Sex Status of Hypertensive Clients in Comparison Group

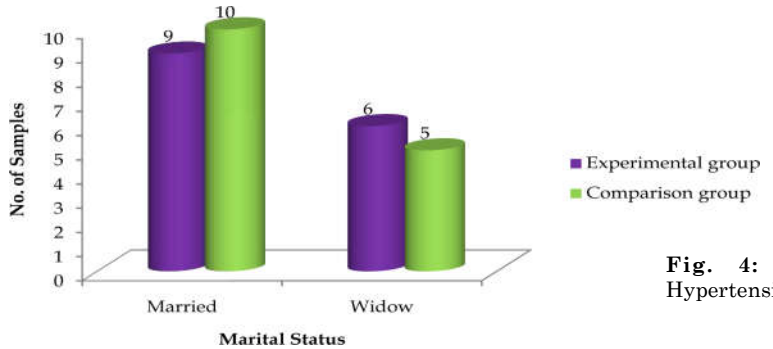



**Fig. 4:** Marital status of Hypertensive clients

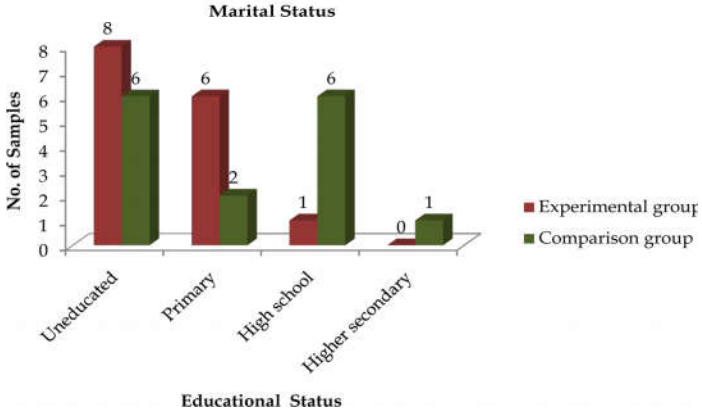



**Fig. 5:** Educational Status of Hypertensive Clients

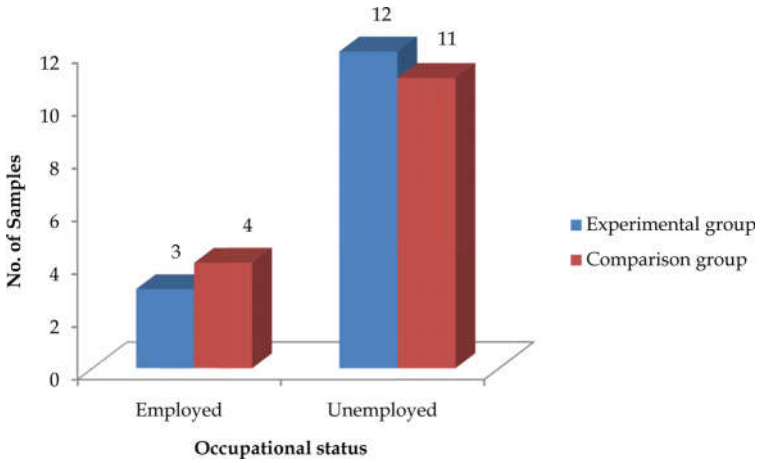



**Fig. 5:** Occupational Status of Hypertensive clients

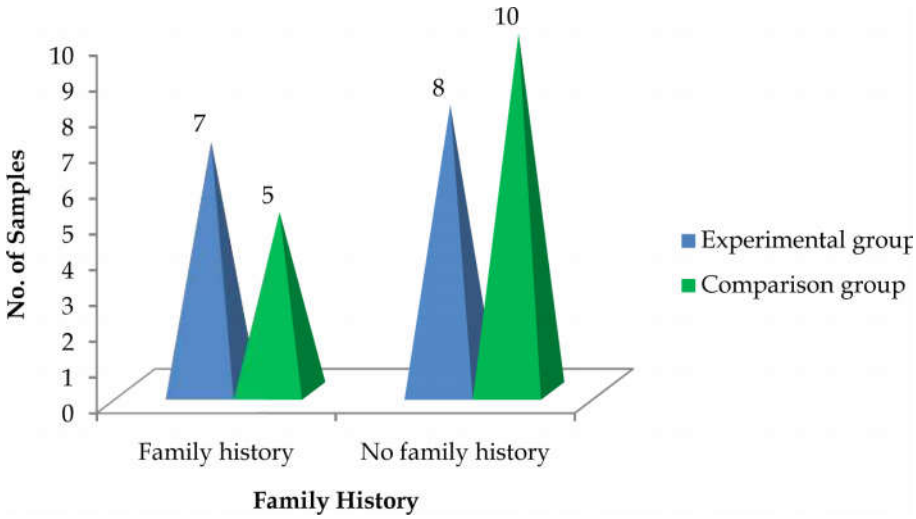



**Fig. 6:** Family history of hypertension among Essential Hypertensive clients

**Table 2:** Family history of hypertension among Essential Hypertensive clients N=30

| S. No. | Family history of hypertension | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| 1 | Family history | 7 | 5 | 12 |
| 2 | No family history | 8 | 10 | 18 |

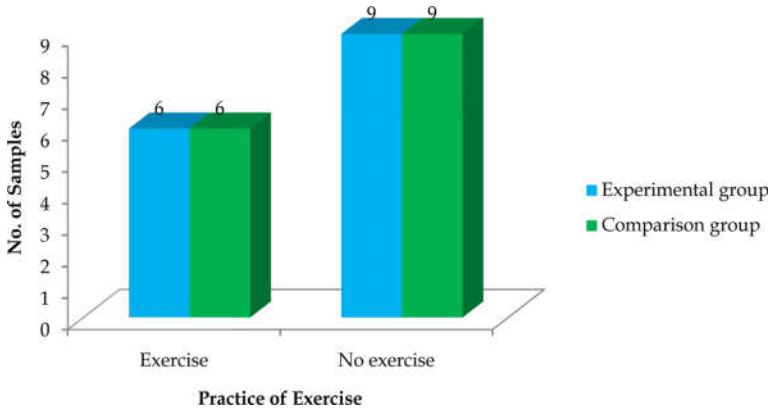



**Fig. 7:** History of Exercises among Hypertensive Clients

*Dietary Factors*

- *Extra Salt in the Diet*: Among the experimental group 2 clients and 3 clients in the comparison group were using extra salt in their diet. (Table 6,Figure 10).
- *Type of Cooking Oil*: Among the experimental and comparison group 20 clients were using sunflower oil for the purpose of cooking (Table 6).
- *Intake of Snacks:* Four clients in the experimental group and 7 clients in the comparison group had the habit of taking snacks (Table 6).
- *Habit of Coffee and Tea Intake*: Out of 30, 11 clients in experimental group and 12 clients in comparison group had the habit of coffee intake. Regarding the frequency of intake, majority of them (9) takes coffee more than 2 times in a day. Ten clients in the experimental group and 9 clients in the comparison group had the habit of tea intake. Regarding frequency of intake, majority of them (9) takes tea more than twice in a day (Table 7 and 8)

*Emotional Factors Contributing To Hypertension Among Hypertensive Clients*

Among the experimental group and comparison group, majority of them (14 and 13) get upset easily. Regarding the sleeping pattern, among the experimental group 7 of them often have the problem of sleeping difficulty and 2 of them rarely complaint of the same problem. In case of comparison group 10 clients suffer with the problem of sleeping difficulty. About the status of worry, among the experimental group 8 clients are not having the problem of worry where as 5 clients often and 6 clients rarely worries. Among the comparison group 8 clients often and 2 clients rarely the worries. Regarding the measures taken to solve the emotional problems, 12 clients among the experimental group and 11 clients among the comparison group watches T.V whereas 3 clients each in the experimental group and comparison group listens to music (Table 9) .

**Table 3:** History of Exercises among Hypertensive Clients N=30

| S. No. | Characteristics | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| **1** | **Practice of exercise** | | | |
| | Exercise | 6 | 6 | 12 |
| | No exercise | 9 | 9 | 18 |
| **2** | **Duration in minutes** | | | |
| | Less than 20 minutes | 2 | 2 | 4 |
| | 20-40minutes | 3 | 0 | 3 |
| | 40-60 minutes | 1 | 4 | 5 |
| | None | 9 | 9 | 18 |
| **3** | **No. of practice in a week** | | | |
| | Daily | 4 | 5 | 9 |
| | Once in a week | 1 | 1 | 2 |
| | Twice in a week | 1 | 0 | 1 |
| | No practice | 9 | 9 | 18 |

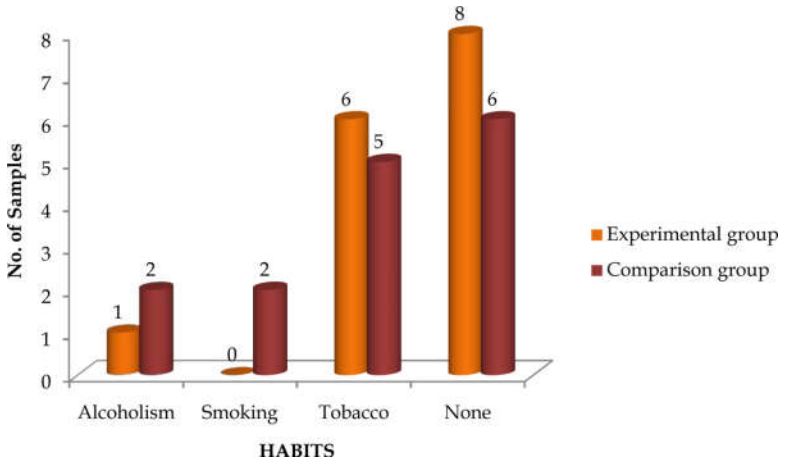



**Fig. 8:** Habits among Hypertensive Clients

**Table 4:** Habits among Hypertensive Clients N=30

| S. No. | Characteristics | Experimental Group n=15 | Comparison Group n=15 | Total |
|---|---|---|---|---|
| 1 | **Habits** | | | |
| | Alcoholism | 1 | 2 | 3 |
| | Smoking | 0 | 2 | 2 |
| | Tobacco | 6 | 5 | 11 |
| | None | 8 | 6 | 14 |

### *3. Information Related to Hypertension*

• *Duration of Hypertension*

Among the experimental group 6 clients and comparison group 7 clients had the duration of hypertension for 1-3 years where as 4 clients each in the experimental group and comparison group had the duration of 3-5years. Five clients in the experimental group and 3 clients in the comparison group had the history of hypertension more than 5 years. No client in the experimental group and only one in the comparison group had the history of hypertension for less than 1year (Table 10, Figure 11).

• *History of Medication*

About history of medication intake, among the experimental group 4 clients and comparison group 5 clients had duration of medication intake for 1-3 years where as 4 clients in the experimental group and 3 in the comparison group had the duration of 3-5years.5 clients in the experimental group and 4 clients in the comparison group had the history of medication intake more than 5 years. Two clients in the experimental group and 3 in the comparison group had the history of intake of medication less than 1year (Table 11).

**Table 5** History of Watching TV among Hypertensive Clients N=30

| S. No. | Characteristics | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| 1 | **Habit of watching TV** | | | |
| | Present | 12 | 11 | 23 |
| | Absent | 5 | 2 | 7 |
| 2 | **Duration** | | | |
| | Half hour | 6 | 3 | 9 |
| | 1-2 hours | 4 | 4 | 8 |
| | More than 2hours | 0 | 6 | 6 |
| 3 | **Type of programme** | | | |
| | News | 1 | 3 | 4 |
| | Music | 1 | 1 | 2 |
| | Serial | 8 | 9 | 17 |
| 4 | **Before going to bed** | | | |
| | Present | 5 | 5 | 10 |
| | Absent | 7 | 6 | 13 |
| 5 | **No. of serials** | | | |
| | 1-3 | 6 | 6 | 12 |
| | 4-5 | 2 | 3 | 5 |
| 6 | **Type** | | | |
| | Comedy | 3 | 4 | 7 |
| | Emotional | 5 | 5 | 10 |

**Table 6** Dietary Factors Contributing To Hypertension among Hypertensive Clients

| S. No | Characteristics | Experimental group n=15 | Comparison Group n=15 | Total |
|---|---|---|---|---|
| 1 | **Extra salt in diet** | | | |
| | Present | 2 | 4 | 6 |
| | Absent | 13 | 11 | 24 |
| 2 | **Type of oil** | | | |
| | Ground nut | 8 | 2 | 10 |
| | Sunflower | 7 | 13 | 20 |
| 3 | **Habit of snacking** | | | |
| | Present | 4 | 7 | 11 |
| | Absent | 11 | 8 | 19 |

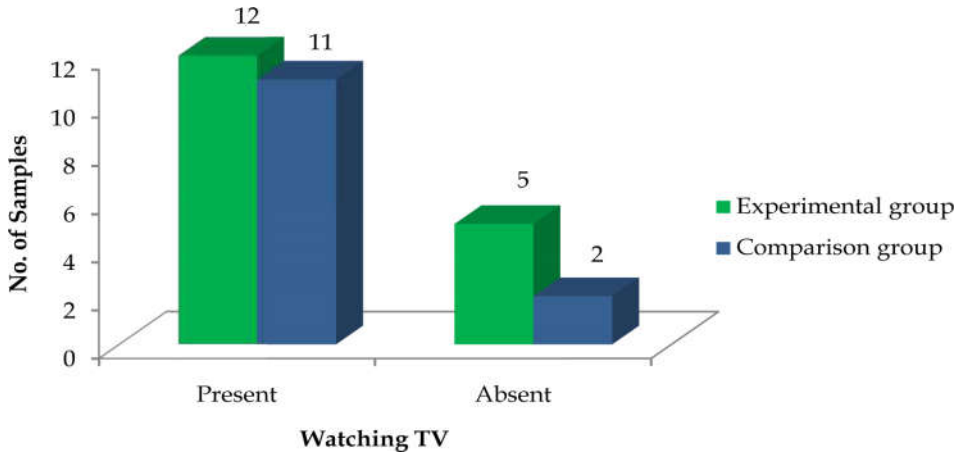



**Fig. 9:** History of Watching TV among Hypertensive Clients

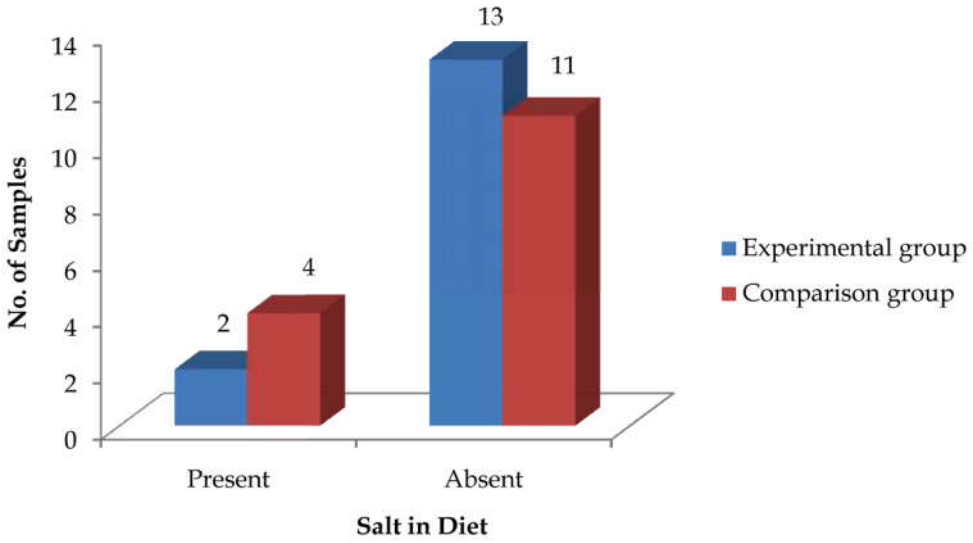



**Fig. 10:** Dietary Factors Contributing To Hypertension among Hypertensive Clients

**Table 7:** Habit of Coffee Intake among Hypertensive Clients N=30

| S. No. | Characteristics | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| **1** | **Habit of coffee intake** | | | |
| | Present | 11 | 12 | 23 |
| | Absent | 4 | 3 | 7 |
| **2** | **No. Of times in day** | | | |
| | Once a day | 4 | 4 | 8 |
| | Twice a day | 2 | 4 | 6 |
| | More than twice a day | 4 | 5 | 9 |

**Table 8:** Habit of Tea Intake among Hypertensive clients N=30

| S. No. | Characteristics | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| **1** | **Habit of tea intake** | | | |
| | Present | 10 | 9 | 19 |
| | Absent | 4 | 7 | 11 |
| **2** | **No. of times in day** | | | |
| | Once a day | 3 | 3 | 6 |
| | Twice a day | 1 | 3 | 4 |
| | More than twice a day | 4 | 5 | 9 |

**Table 9:** Emotional factors among hypertensive clients N=30

| S. No. | Characteristics | Experimental group N=15 | Comparison group N=15 | Total |
|---|---|---|---|---|
| **1.** | **Easily upset** | | | |
| | Present | 14 | 13 | 27 |
| | Absent | 1 | 2 | 3 |
| **2.** | **Difficulty in sleeping** | | | |
| | Not at all | 6 | 4 | 10 |
| | Rarely | 2 | 1 | 3 |
| | Often | 7 | 10 | 17 |
| **3.** | **Worried** | | | |
| | Not at all | 8 | 1 | 9 |
| | Rarely | 6 | 2 | 8 |
| | Often | 5 | 8 | 13 |
| **4.** | **Measures** | | | |
| | T.V | 12 | 11 | 23 |
| | Music | 3 | 3 | 6 |
| | Others | 0 | 1 | 1 |

**Table 10:** Duration of hypertension among hypertensive clients N=30

| S. No. | Duration of Hypertension | Experimental Group N=15 | Comparison Group N=15 | Total |
|---|---|---|---|---|
| 1 | Less than 1year | 0 | 1 | 1 |
| 2 | 1-3years | 6 | 7 | 13 |
| 3 | 3-5years | 4 | 4 | 8 |
| 4 | More than 5years | 5 | 3 | 8 |

**Table 11:** History of Medications among Hypertensive Clients N=30

| S. No. | Characteristics | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| **1** | **Duration of medication** | | | |
| | Less than1 year | 2 | 3 | 5 |
| | 1-3 years | 4 | 5 | 9 |
| | 3-5 years | 4 | 3 | 7 |
| | More than 5 years | 5 | 4 | 9 |
| **2** | **Type of antihypertensive medications** | | | |
| | Beta blockers | 11 | 11 | 22 |
| | ACE inhibitors | 4 | 4 | 8 |

• *Type of Antihypertensive Medications*

Regarding the type of antihypertensive usage 11 clients each in the experimental group and comparison group used beta blockers whereas 4 clients each in the experimental group and comparison group used ACE inhibitors (Table 11).

• *Adherence To Dietary Modification Among Hypertensive Clients*

About the adherence to the dietary modification, majority clients (14) among the experimental group and all the clients in the comparison group had the history of adherence to the modification of diet whereas only one client in the experimental group and no one in the comparison group reported dietary modifications (Table 12).

### *4. Influence of Contributing Factors with Systolic Blood Pressure*

*Hypothesis:* There will be a significant association between contributing factors like life style, dietary, emotional factors and Hypertension.

$$x^2 = \frac{(ad \quad bc)^2 \times N}{(a+b)\,(c+d)\,(a+c)\,(b+d)}$$

Chi-Square test

$$X^2 = \frac{N\left[|ad-bc| - N/2\right]^2}{(a+b)(c+d)(a+c)(b+d)}$$

Modified Chi-Square test

**Table 12:** Adherence to Dietary Modification among Hypertensive clients N=30

| Sl. No | Adherence to Dietary Modification | Experimental group n=15 | Comparison group n=15 | Total |
|---|---|---|---|---|
| 1. | Adherence | 14 | 15 | 29 |
| | No Adherence | 1 | 0 | 1 |

In the study result showed, among the life style factors, only the practice of exercise indicated the significant association whereas no other factors showed association with systolic blood pressure (Table 13).

### *5.Influence of Contributing Factors with Diastolic Blood Pressure*

*Hypothesis:* There will be a significant association between contributing factors like life style, dietary,emotional factors and hypertension .

$$\chi^2 = \frac{(ad \quad bc)^2 \times N}{(a+b)\,(c+d)\,(a+c)\,(b+d)}$$

Chi-Square test

$$X^2 = \frac{N\left[\left|ad-bc\right| - N/2\right]^2}{(a+b)(c+d)(a+c)(b+d)}$$

**Modified Chi-Square test**

The result of the study showed that lifestyle factors like bad habits and dietary factors such as intake of snacks and usage of cooking oil had significant influence on diastolic blood pressure whereas, presence of emotional factors were not identified to have association with diastolic blood pressure (Table 14).

**Table 13:** Level of Blood Pressure among Hypertensive Clients **N=30**

| S. No. | Level of Hypertension | Systolic | | | | Diastolic | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Experimental | | Comparison | | Experimental | | Comparison | |
| | | Pre-test | Post test | Pre Test | Post test | Pre-test | Post test | Pre Test | Post test |
| 1 | Pre hypertension | 1 | 10 | 1 | 0 | 8 | 15 | 8 | 8 |
| 2 | Stage I | 14 | 5 | 14 | 14 | 5 | 0 | 5 | 6 |
| 3 | Stage II | 0 | 0 | 0 | 1 | 2 | 0 | 2 | 1 |

### *6. Level of Blood Pressure among Hypertensive Clients*

- *Assessment of Systolic Blood Pressure:* In the experimental group the mean systolic blood pressure was 145.8 mmHg on the 1st day, 135.8 mmHg on the 30th day and the mean difference was -10 mmHg, whereas in comparison group the mean systolic blood pressure was 145.6 mmHg on 1st day, 146 mmHg on 30th day and the mean difference was 0.66 mmHg. This assessment shows there was a reduction of systolic blood pressure among the experimental group than the comparison group (Table 13).
- *Assessment of Diastolic Blood Pressure:* In the experimental group the mean diastolic blood pressure was 92.4 mmHg on the 1st day, 82.8 mmHg on the 30th day and the mean difference was 9.6 mmHg, whereas in comparison group the mean diastolic blood pressure was 89.4 mmHg on 1st day,90.2 mmHg on 30th day and the mean difference was .93 mmHg. This assessment showed that there was a difference in reduction of diastolic blood pressure in experimental group than comparison group (Table 13).

### *7. Comparison of Pre-systolic Blood Pressure between Experimental and Comparison group through Independent 't'test*

*Hypothesis:* There will not be a significant difference in presystolic blood pressure between experimental group and comparison group.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{SD\sqrt{1/n_1 + 1/n_2}}$$

t=0.0009

The calculated value of t is 0.0009 which was

less than the tabulated value at p<0.001, which indicated that there was no significant difference in pre systolic blood pressure between experimental and comparison group before the administration of lemon juice (Table14).

### *8. Comparison of Pre-diastolic Blood Pressure between Experimental and Comparison Group through Independent 't'test*

*Hypothesis:* There will not be a significant difference in pre-diastolic blood pressure between experimental group and comparison group.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{SD\sqrt{1/n_1 + 1/n_2}}$$

t=0.15

The calculated value of t is 0.15 which was less than the tabulated value at p<0.001.This showed that there was no significant difference in pre diastolic blood pressure between experimental and comparison group before the administration of lemon juice (Figure 18).

**Table 14:** Comparison of Pre-Systolic and Pre-Diastolic Blood Pressure through Independent 't' Test

| S. No. | Blood pressure | Experimental group Mean | Comparison group Mean | SD | 't' value | Level of significance |
|---|---|---|---|---|---|---|
| **1** | Systolic blood pressure | 146.1 | 145.2 | 2634.9 | 0.0009 | 0.001 |
| **2** | Diastolic blood pressure | 92.4 | 96.2 | 68.1 | 0.15 | 0.001 |

### 9. Comparison of Post-systolic Blood Pressure between Experimental and Comparison group through Independent 't'test

*Hypothesis:* There will be a significant difference in post systolic blood pressure between experimental group and comparison group.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{SD\sqrt{1/n_1 + 1/n_2}}$$

t=4.5

The calculated value of t is 4.5 which was more than the tabulated value at p<0.001,this indicated that there was a significant difference in post systolic blood pressure between experimental group and comparison group after the administration of lemon juice (Table 15).

### *10. Comparison of Post-diastolic Blood Pressure between Experimental and Comparison group through Independent 't'test*

*Hypothesis:* There will be a significant difference in post diastolic blood pressure between experimental group and comparison group.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{SD\sqrt{1/n_1 + 1/n_2}}$$

t=4.6

The calculated value of t is 4.6 which was more than the tabulated value at p<0.001.This showed that there was a significant difference in post diastolic blood pressure between experimental and comparison group after the administration of lemon juice (Table 16).

**Table 15:** Comparison of Post-Systolic and Post-diastolic blood pressure through Independent 't' Test

| S. No | Blood pressure | Experimental group Mean | Comparison group Mean | SD | 't' value | Level of significance |
|---|---|---|---|---|---|---|
| **1** | Systolic blood pressure | 135.8 | 146.2 | 6.3 | 4.5 | 0.001 |
| **2** | Diastolic blood pressure | 82.8 | 90.2 | 4.4 | 4.6 | 0.001 |

### *11.Comparison of Systolic Blood Pressure among the Experimental group through Paired 't' test*

*Hypothesis:* There will be significant difference in systolic blood pressure among experimental group.

$$t = \frac{|\bar{d}|}{SD/\sqrt{n}}$$

$$t = \frac{|10|}{2.19/\sqrt{15}} \quad =17.8$$

The calculated t value is 17.8 which was more than the tabulated value at p<0.001.This indicated that there was a significant difference in the systolic blood pressure among the experimental group after the administration of lemon juice.

### *12. Comparison of Systolic Blood Pressure among the Comparison group through Paired 't' test*

*Hypothesis:* There will not be a significant difference in systolic blood pressure among comparison group.

$$t = \frac{|\overline{d}|}{SD/\sqrt{n}}$$

$$t = \frac{|0.66|}{0.94/\sqrt{15}}$$

= 2.7

The calculated t value is 2.7 which was less than the tabulated value at p<0.001.This indicated that there was no significant difference in the pre-test and post test blood pressure among the comparison group (Table 16).

### *13. Comparison of Diastolic Blood Pressure among Experimental group through Paired 't' test*

*Hypothesis:* There will be significant difference in diastolic blood pressure among the experimental group.

$$t = \frac{|\overline{d}|}{SD/\sqrt{n}}$$

$$t = \frac{|9.6|}{4.3/\sqrt{15}}$$

= 8.4

The calculated 't' value is 8.4 which was more than the tabulated value at p<0.001. It indicated that there was a significant difference in the diastolic blood pressure between pretest and post test among the experimental group.

**Table 16:** Comparison of Systolic Blood Pressure between Experimental and Comparison Group through paired't' test

| S. No | Systolic blood pressure | Pre test assessment Mean | SD | Post test assessment Mean | SD | 't' value | Level of significance |
|---|---|---|---|---|---|---|---|
| **1** | Experimental group | 145.8 | 6.9 | 135.8 | 7.2 | 17.8 | 0.001 |
| **2** | Comparison group | 145.6 | 3.4 | 146.2 | 5.3 | 2.7 | 0.001 |

**Table 17:** Comparison of Diastolic Blood Pressure between Experimental and Comparison Group through paired 't' test

| S. No. | Diastolic blood pressure | Pre test assessment Mean | SD | Post test assessment Mean | SD | 't' value | Level of significance |
|---|---|---|---|---|---|---|---|
| **1** | Experimental group | 92.4 | 6.8 | 82.8 | 3 | 8.4 | 0.001 |
| **2** | Comparison group | 89.4 | 5.8 | 90.2 | 7 | 3.7 | 0.001 |

### *14. Comparison of Diastolic Blood Pressure among Comparison group through Paired 't' test*

*Hypothesis:* There will not a be significant difference in diastolic blood pressure among the comparison group.

$$t = \frac{|\overline{d}|}{SD/\sqrt{n}}$$

$$t = \frac{|0.93|}{0.96/\sqrt{15}}$$

=3.7

The calculated 't' value is 3.7 which was less than the tabulated value at p<0.001. It indicated that there was no significant difference in the diastolic blood pressure between pre-test and post test among the comparison group (Table 17).

## Summary and Conclusion

### *Major Findings of the Study*

- Among the total 30 samples 23 were females and 16 clients were above the age group of 60 years. The youngest age for male in the study was 40 years and 42 years for females.
- Regarding the duration of hypertension 13 clients were between 1-3 years and 22 of them were in use of beta blockers.
- In relation to factors contributing to hypertension, about lifestyle factors 11 clients had the habit of tobacco chewing.
- In case of dietary factors 20 clients used sunflower oil for cooking and 23 clients had the habit of coffee intake.
- About the emotional factors, 27 clients were getting upset easily and among them 23 used to watch T.V as a measure to solve it.
- Regarding the association of factors contributing to hypertension Among the life style factors, the practice of exercise alone indicated the significant association with systolic blood pressure, whereas in relation to diastolic blood pressure, only the lifestyle factors and dietary factors had significant association.
- In the experimental group the mean systolic blood pressure was 145.8 mmHg on the Ist day, 135.8 on the 30th day and the reduction of blood pressure was about 10 mmHg.
- In the comparison group the mean systolic blood pressure was 145.6 mmHg the 1st day 146 mmHg on the 30th day and the mean difference was .66 mmHg.
- The paired t test value of systolic and diastolic blood pressure in the experimental group (t=17.8, 8.4) is greater than the table value at the level of P=0.001.This showed there was a significant difference in blood pressure among the experimental group.
- The paired t test value of systolic and diastolic blood pressure in the comparison group (t=2.7, 3.7) is lesser than the table value at the level of P=0.001.This showed there was no significant difference in blood pressure among the comparison group.
- The independent t test value of systolic, diastolic (t=4.5, 4.6) is greater than the table value at the level of P =0.001. This showed there was a significant difference in blood pressure between experimental group and comparison group.

*Limitations*

Findings cannot be generalized to all population due to small sample size.

### *Suggestions for Future Study*

- A similar study can be replicated in a larger sample.
- A similar study can be performed in hospital settings.
- A similar study can be tried with other vitamin C rich foods.

## Recommendations

In-service education can be organised to the health workers to make the public aware about the health benefits of Lemon juice.

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# A Study to Evaluate the Effectiveness of Nutritional Education Programme on Knowledge Regarding Importance of Protein among People Residing at Paravai in Madurai

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**Abstract**

Good nutrition is an important part of leading a healthy lifestyle. Diet can help to reach and maintain a healthy weight, reduce the risk of chronic diseases Protein is an important component of every cell in the body. This study is to evaluate the effectiveness of nutrition education programme regarding importance of protein among people residing at paravai, Madurai. The study revealed that after nutritional education program majority of the subjects had adequate knowledge about importance of protein, nurses can educate and encourage the people about significance of Protein and implications of importance of Protein and to out-reach his/her community to foster a Healthy Citizen and so a Healthy Nation.

**Keywords:** Nutritional education programme; Protein; knowledge; Rural.

## Introduction

*"Healthy nation develop from healthy citizen", Healthy citizens develop from healthy children", so the health of nation is in the hands of the people!*

Good nutrition is an important part of leading a healthy lifestyle. Diet can help to reach and maintain a healthy weight, reduce the risk of chronic diseases (like heart disease and cancer), and promote overall health. Protein is an important component of every cell in the body. Hair and nails are mostly made of protein. Human body uses protein to build and repair tissues, also use protein to make enzymes, hormones, and other body chemicals. Protein is an important building block of muscles, bones, cartilage, skin, and blood.

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Protein is a "macronutrient," meaning that the body needs relatively large amounts of it. Vitamins and minerals, which are needed in only small quantities, are called "micronutrients." But unlike fat and carbohydrates, the body does not store protein, and therefore has no reservoir to draw on when it needs a new supply.

The protein energy (PE) ratio is a measure of dietary quality, and has been used in the 2007 WHO/FAO/UNU report to define reference requirement values with which the adequacy of diets can be evaluated in terms of a protein quality corrected PE ratio. It is likely that about one third of this sedentary rural population is at risk of not meeting their requirements. These levels of risk of deficiency are in a population with relatively low BMI populations, whose diets are also inadequate in fruits and vegetables. Therefore, while the burden of enhancing the quality of protein intake in rural India exists, the quality of the diet, in general, represents a challenge that must be met.

### *Statement of the Problem*

A study to evaluate the effectiveness of nutritional education programme on knowledge regarding importance of protein among People residing at paravai in Madurai.

*Objectives*

1. To assess the level of knowledge regarding importance of protein among people residing at paravai in Madurai.
2. To evaluate the effectiveness of nutrition education programme regarding importance of protein among people residing at paravai, Madurai.
3. To associate the pretest and post test level of knowledge on importance of protein among people with their selected demographic variables.

*Hypotheses*

*H1:* There is a significant difference between the pretest and post test level of knowledge on importance of protein among people residing at paravai in Madurai.

*H2:* There is a significant association between the level of knowledge on importance of protein among people residing at paravai in Madurai, with their selected socio demographic variables.

*Assumptions*

The people may have varying level of knowledge about importance of protein.

*Data Collection Procedure*

A formal approved was obtained from Samayanallur medical officer. The study were identified are selected based on the inclusion criteria and using non probability convenient sampling technique. A total of 30 rural people were selected residing at paravai, Madurai. Purpose of the study was explained to the subjects and confidentially was mentioned.

*Data Analysis and Interpretation*

*Section I: Description of socio-demographic variables of the people residing at paravai, Madurai*

**Table 1:** Description of socio-demographic variables of the people residing at paravai, Madurai N=30

| S. No | Socio-Demographic Variable | Description | F | % |
|---|---|---|---|---|
| 1 | Age | 15-25 | 5 | 16.6% |
| | | 25-35 | 10 | 33.3% |
| | | 35-45 | 9 | 30.0% |
| | | Above 45years | 6 | 20.0% |
| 2 | Gender | Female | 26 | 86.66% |
| | | Male | 4 | 13.33% |
| 3 | Religion | Hindu | 26 | 86.66% |
| | | Muslim | 2 | 6.66% |
| | | Christian | 2 | 6.66% |
| | | Others | 0 | 0% |
| 4 | Educational Qualification | Primary | 5 | 16.66% |
| | | Middle | 15 | 50.0% |
| | | Degree | 10 | 33.33% |
| | | No formal education | - | 2.9% |
| 5 | Marital Status | Yes | 22 | 73.33% |
| | | No | 8 | 26.66% |
| 6 | Number of Children | 1 | 2 | 6.66% |
| | | 2 | 18 | 60% |
| | | 3 | 7 | 23.33% |
| | | 3 above 3 | 3 | 10% |
| 7 | Occupation | business | 6 | 20.0% |
| | | House wife | 16 | 53.33% |
| | | private | 6 | 20.0% |
| | | Government | 2 | 6.66% |
| 8 | Family Income | <RS 3000 | 0 | - |
| | | RS3000-5000 | 5 | 16.66% |
| | | RS5000-10000 | 15 | 50.0% |
| | | Above 10000 | 10 | 33.33% |
| 9 | Type of Food Habits | Vegetarian | 3 | 10% |
| | | Non vegetarian | - | - |
| | | mixed | 27 | 90% |

*Section II: Distribution of Knowledge on Importance of Protein among People Residing in Kamban Street at Paravai, Madurai.*

The table revealed that pretest knowledge on importance of protein in pretest level among 30 samples majority of them had 17(56.67%)inadequate knowledge, 13(43.33%) of them adequate knowledge. In post test level among 30 subjects 11(36.69%) were inadequate knowledge, 19(63.33%) of them were adequate knowledge.

**Table 2:** Frequency distribution of level of knowledge on importance of protein among people residing at paravai.

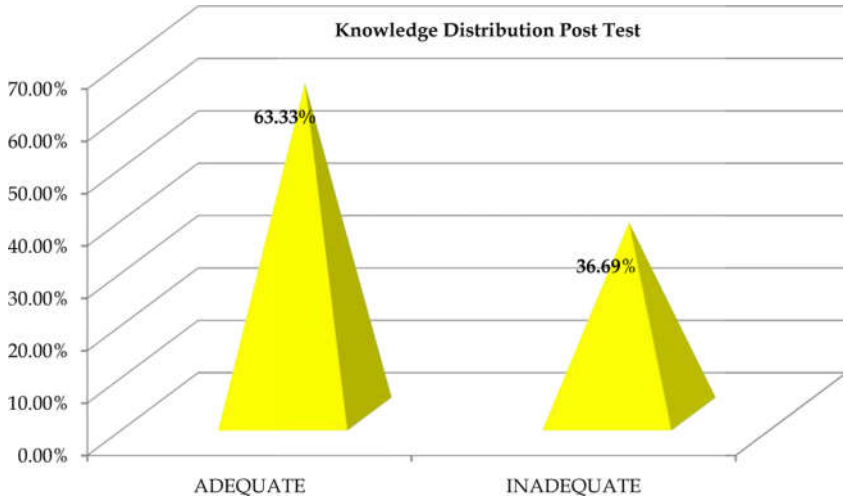
N=30

| S. No. | Level Knowledge | Pretest | | Post Test | |
|---|---|---|---|---|---|
| | | f | % | f | % |
| 1 | Inadequate 0-11 | 17 | 56.67 | 11 | 36.69 |
| 2 | Adequate 12-21 | 13 | 43.33 | 19 | 63.33 |

*Section III: Distribution of Post test Level of Knowledge on Importance of Protein*

Figure 1: The cone diagram shows that the posttest level of knowledge among subjects 63.3% had adequate knowledge and 36.69% had inadequate knowledge .

**Fig. 1:**




## Conclusion

Majority of the subjects had adequate knowledge about importance of protein among people residing at paravai in Madurai. A nurse can educate and encourage the people about significance of Protein and implications of importance of Protein and to out-reach his/her community to foster a Healthy Citizen and so a Healthy Nation.

*Recommendations*

- The study can be regenerated in urban population
- It can be done among mothers of under five children, nursing mothers.
- The study can be introduced to larger population.

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# Health: A Complete Wealth of the Population

**Reshma Bodhak*, Dhiraj Salve***

**Abstract**

The Constitution of India makes health in India the responsibility of state governments, rather than the central federal government. It makes every state responsible for "raising the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties". Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The Twelfth Five Year plan covering 2012-2017 [35] was formulated based on the recommendation of a High Level Experts Group (HLEG) and other stakeholder consultations. The long term objective of this strategy is to establish a system of Universal Health Coverage (UHC) in the country.

**Keywords:** General Health Status; Population in Urban Community.

## Introduction

Health is determined not only by medical care but also by determinants outside the medical sector. Public health approach is to deal with all these determinants of health which requires multi sectoral collaboration and inter-disciplinary coordination. Although there have been major improvements in public health since 1950s, India is passing through demographic and environmental transition which is adding to burden of diseases. There is triple burden of diseases, viz. communicable, non-communicable and emerging infectious diseases. This high burden of disease, disability and death can only be addressed through an effective public health system. However, the growth of public health in India has been very slow due to low public expenditure on health, very few public health institutes in India and inadequate national standards for public health education [4].

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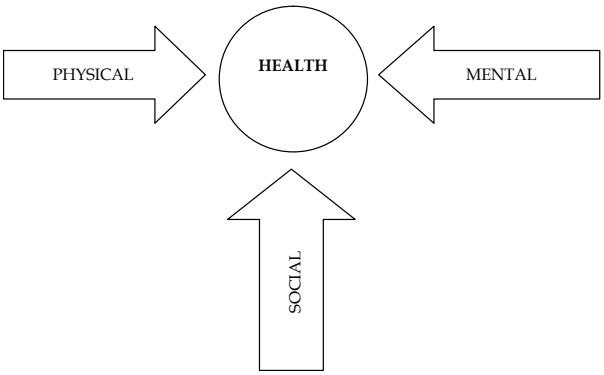
*Health*

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

-W.H.O




Health of the population significantly affects both social development and economic progress. Given the relevance of health for human well being and social welfare, it is important to ensure equitable access to health care services by

identifying priority areas and ensuring improvements in quality of healthcare services. However, the Implementation of such measures requires a regular availability of district specific information on the varied dimensions of health, healthcare access and service delivery. In the absence of vital data for the district level is likely to affect effective planning and action, particularly among districts requiring special attention.

## Materials and Methods

The tool consists of the:

*Section I:* Consent form

*Section II*: The tool will comprise of self reporting questionnaire which will comprise of demographic data of the people (Age, gender, education, occupation, Income)

*Section III:* Modified checklist

## Results

The data was analysed as per the objectives of the study.

1. To assess the general health status of population.
2. To associate study findings with selected demographic variables.

*Section 1*

Distribution of subjects in relation to demographic data

**Table 1:** Distribution of subjects according to Age (N=150)

| Sr. No. | Demographic Variable | Frequency {f} | Percentage % |
|---|---|---|---|
| | **Age** | | |
| 1 | 12-14 Year | 47 | 31.33 |
| 2 | 15-17 Year | 69 | 46.00 |
| 3 | 18-20 Year | 27 | 18.00 |
| 4 | 21 and above | 07 | 4.66 |
| | **Total** | **150** | **100%** |

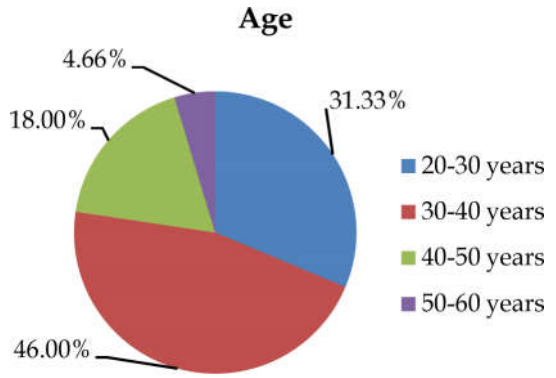



**Fig. 1:** Distribution of the subjects according to age

The Figure 3 shows the distribution of demographic data of subjects according to Age. Majority of 46% of the subjects belongs to 12-14 years, 31.33% of subjects belong to 15-17 years, 18% of subjects belong to 18-20 years and 4.66% of the subjects belong to 21 and above years.

The Figure 2 shows the distribution of demographic data of subjects according to gender. Majority of 72.66% of subjects belong to males, 27.33% of subjects belong to females.

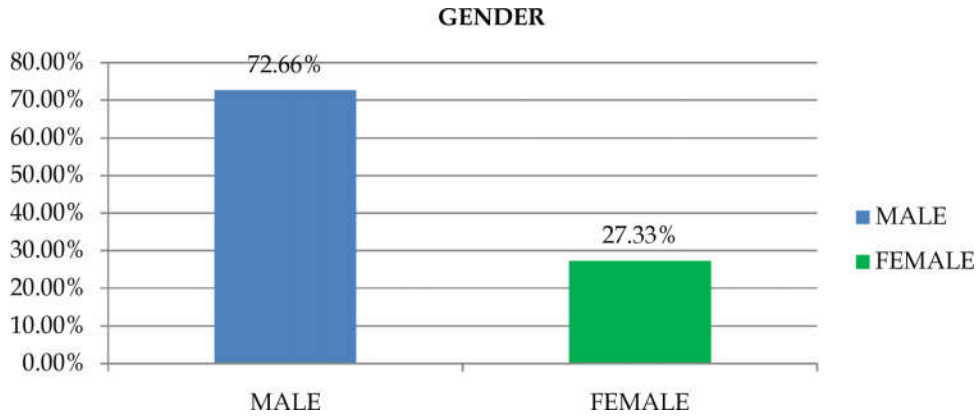



**Fig. 2:** Distribution of the subjects according to gender

**Table 2:** Distribution of the subjects according to Gender (N=150)

| Sr. No. | Demographic Variable | Frequency {f} | |
|---|---|---|---|
| | **Gender** | | |
| 1 | Male | 109 | 72.66 |
| 2 | Female | 41 | 27.33 |
| | **Total** | **150** | **100** |

**Table 3:** Distribution of the subjects according to Educational Qualification (N=150)

| Sr. No. | Demographic Variable | Frequency {f} | Percentage % |
|---|---|---|---|
| | **Educational Qualification** | | |
| 1 | Illiterate | 107 | 71.33 |
| 2 | Primary Education | 32 | 21.33 |
| 3 | Secondary Education | 04 | 2.66 |
| 4 | Higher Secondary | 04 | 2.66 |
| 5 | Graduate and above | 03 | 2 |
| | **Total** | **150** | **100** |

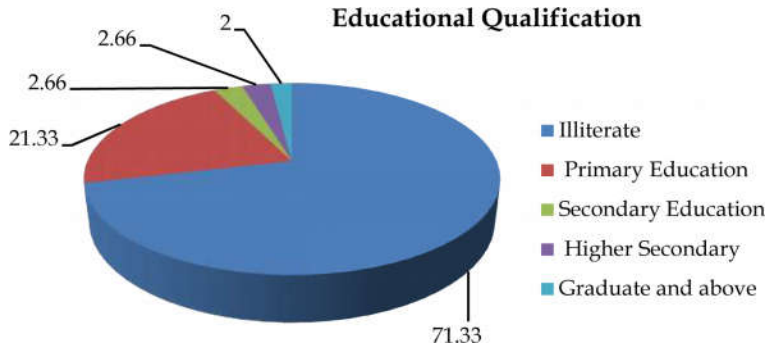



**Fig. 3:** Distribution of the subjects according to Educational Qualification.

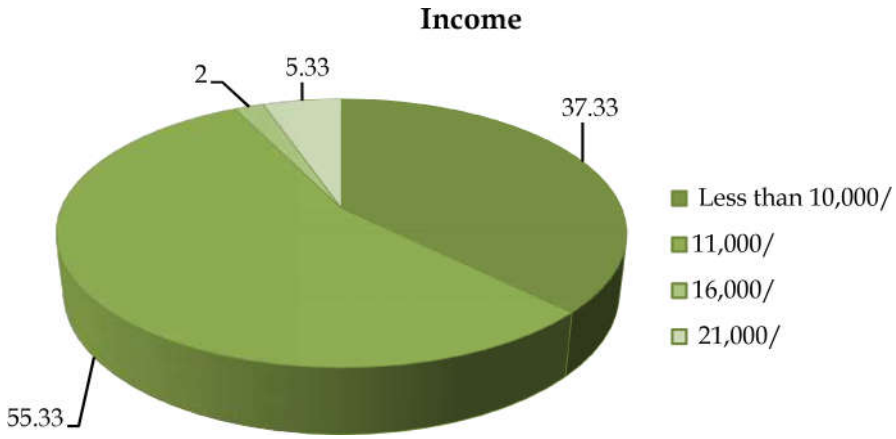



**Fig. 4:** Distribution of the subjects according to Income (N=150)

Figure 3 shows the distribution of demographic data of subjects according to Educational Qualifications. Majority of 71.33% of subjects belong to Illiterate, 21.33% of subjects belong to Primary Education, 2.66% of subjects belong to Secondary Education, 2.66% belongs to higher secondary, and 2% belongs to graduate and above.

Figure 4 shows the distribution of demographic data of subjects according to Income. Majority of 37.33% of subjects belong to Less than 10000, 55.33% of subjects belong to 11000, 2% belongs to 16000, and 5.33 belongs to 21000.

Figure 5 shows the distribution of demographic data of subjects according to Occupation. Majority of 40% of subjects belong to Service, 14% of subjects belong to Business, 16% of subjects belong to Labour and 31.33% of subjects belong to unemployed.

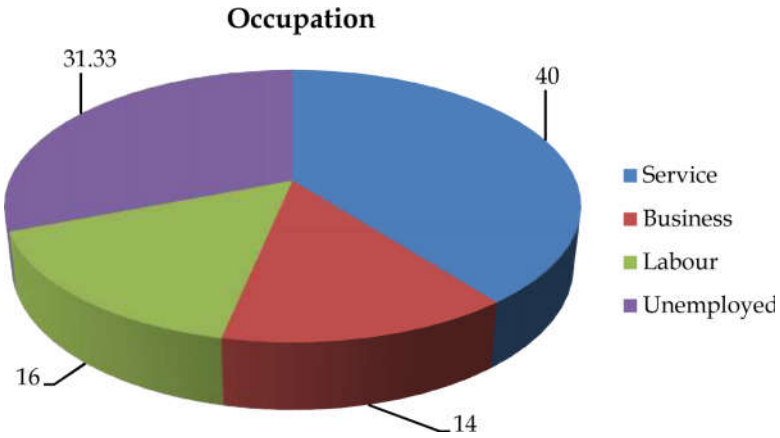



**Fig. 5:**Distribution of the subjects according to Occupation

**Table 4:** Distribution of the subjects according to Income (N=150)

| Sr. No | Demographic Variable | Frequency {f} | Percentage % |
|---|---|---|---|
| | **Income** | | |
| 1 | Less than 10,000/ | 56 | 37.33 |
| 2 | 11,000/ | 83 | 55.33 |
| 3 | 16,000/ | 03 | 2 |
| 4 | 21,000/ | 08 | 5.33 |
| 5 | **Total** | **150** | **100** |

**Table 5:** Distribution of the subjects according to Occupation (N=150)

| Sr. No. | Demographic Variable | Frequency {f} | Percentage % |
|---|---|---|---|
| | **Occupation** | | |
| 1 | Service | 60 | 40 |
| 2 | Business | 21 | 14 |
| 3 | Labour | 24 | 16 |
| 4 | Unemployed | 47 | 31.33 |
| | **Total** | **150** | **100** |

*Section 3*

**Table 6:** By overall, analysis frequency and percentage distribution of the samples according to modified checklist to assess the general health status among study samples

| Sr. No | Grading | Score | Frequency {f} | Percentage % |
|---|---|---|---|---|
| 1 | Poor | 0-3 | 05 | 3.33% |
| 2 | Average | 4-7 | 122 | 81.33% |
| 3 | Good | 8-12 | 23 | 15.33% |
| | **Total** | | **150** | **100** |

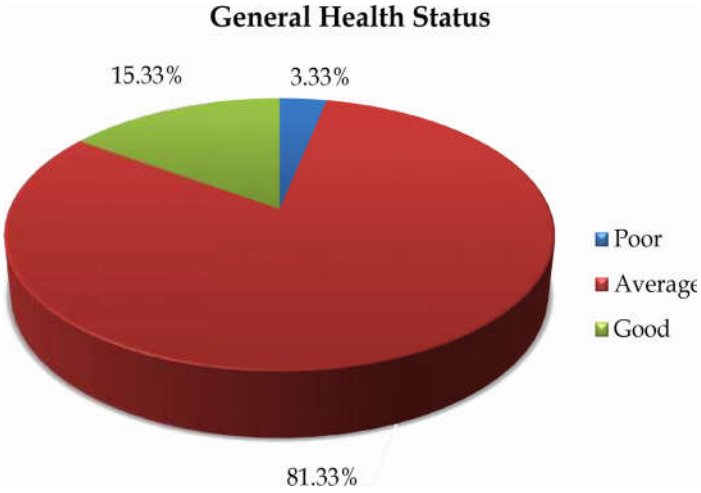



**Fig. 6:** Distribution of the subjects according to General Health Status

**Table 7:** Significance association of General Health Status among population and Demographic variables (N=150)

| Sr. No. | Selected Variables | Calculated Value ($X^2$) | Degree of freedom | P Value 0.05 | Significant |
|---|---|---|---|---|---|
| 1 | Age | 0.81 | 6 | 12.59 | NS |
| 2 | Gender | 0.065 | 4 | 9.49 | NS |
| 3 | Educational qualification | 0.90 | 8 | 15.51 | NS |
| 4 | Income | 0.29 | 6 | 12.59 | NS |
| 5 | Occupation | 0.05 | 6 | 12.59 | NS |

Figure 6 shows the distribution of subjects according to General Health Status. Majority of 81.33% of subjects belong to Average, 15.33% of subjects belong good and 3.33% of subjects belong to Poor Health status.

Table denotes that calculated $X^2$ value of age, gender, Educational qualification, income, occupation is lesser than tabulated P value (0.05). Thus there is no significant association of General Health status among Population residing in kondwa with regards to above demographic variables.

## Discussion

This study will be useful for the population residing in selected area of kondwa, the study finding suggest that there is no any significant association with general health status and selected demographic variables.

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# A Study to Assess the Level of Awareness and Attitude Regarding Traumatic Brain Injury among Non Medical Male Students in Selected College, Bangalore

**B. Venkatesan*, Jayavel ****

**Abstract**

*Introduction:* Traumatic brain injury (TBI) is the leading cause of death and disability in children and young adults in the world. TBI is also a major concern for elderly individuals, with a high rate of death and hospitalization due to falls among people age 75 and older. According to report said a majority (54.1 per cent) of those killed in road accidents during 2015 were in the age group of 15-34. Thirteen States, including Tamil Nadu, Maharashtra, Madhya Pradesh, Karnataka, Kerala and Uttar Pradesh, accounted for the highest number of accidents. Among cities, while Mumbai had the highest number of accidents (23,468), Delhi saw the most number of deaths (1,622) in road accidents. *Objectives:* 1. To assess the awareness and attitude regarding traumatic brain injury among non medical male students. 2. To associate the awareness and attitude regarding traumatic brain injury among non medical male students with selected demographic variables. 3. To find the correlation between the awareness and attitude regarding traumatic brain injury among non medical male students. *Methodology: Research Design*: Descriptive research design. *Setting of Study*: Padmashree Institute management sciences. *Population:* Non medical male students. *Sample*: 61 Art students. *Sampling Technique*: Non probability Conveniences sampling technique. *Description of the Tool*: A. Demographic variables B. Structure questionnaire Used to assess the awareness C) Liker scale used to assess the attitude. *Data Analysis:* Descriptive and inferential statistics were used. *Major Findings of the Study:* 1. Majority of the subjects (49.18%) in the age group of 21-23 years. 2. The majority of the subjects 23(37.70%) had adequate awareness, 21(34.43%) had moderately awareness and 17(27.87%) had inadequate awareness on TBI. 3. Regarding attitude majority of subject had favorable attitude 59 ( 96.72% ) and 2 ( 3.28% ) had neutral attitude. 4. There was positive and weak correlation between awareness and attitude. *Conclusion:* The present study revealed that majority of the subjects had adequate awareness on traumatic brain injury. Regarding the attitude most of the subjects had favorable attitude. Study concluded that the non medical male students for improving awareness on traumatic brain injury the awareness programme can conducted.

**Keywords:** Traumatic Brain Injury; Non Medical Male Students; Non Probability Conveniences Sampling Technique.

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**Recived on** 11.07.2017, **Accepted on** 22.07.2017



## Introduction

Traumatic brain injury (TBI) is the leading cause of death and disability in children and young adults in the world. TBI is also a major concern for elderly individuals, with a high rate of death and hospitalization due to falls among people age 75 and older. Depending on the severity of injury, TBI can have a lasting impact on quality of life for survivors

of all ages – impairing thinking, decision making and reasoning, concentration, memory, movement, and/or sensation (e.g. vision or hearing), and causing emotional problems (personally changes, impulsivity, anxiety, and depression) and epilepsy [1].

Annually, TBI injuries cost an estimated $76 billion in direct and indirect medical expenses. The U.S.Centres for Disease Control and Prevention (CDC) statistics for 2010 alone (when the survey was last taken) state:

- TBIs were a factor in the deaths of more than 50,000 people in the United States.
- More than 280,000 people with TBI were hospitalized.
- 2.2 million People with TBI visited an emergency department.

Today, we understand a great deal more about the healthy brain and its response to trauma, although science still has much to learn about how to reverse damage resulting from head injuries.

*New Delhi*

An official report, released by Union Road Transport and Highways Minister NitinGadkari on Thursday, said 1.46 lakh people were killed in road accidents in India in 2015 – an increase of five per cent from 2014 [6]. Road accidents as a whole rose 2.5 per cent during 2015 to 5.01 lakh or 1,374 accidents every day, claiming 400 lives, the report said.

*Indian Senior about TBI*

The report said a majority (54.1 per cent) of those killed in road accidents during 2015 were in the age group of 15-34. Thirteen States, including Tamil Nadu, Maharashtra, Madhya Pradesh, Karnataka, Kerala and Uttar Pradesh, accounted for the highest number of accidents. Among cities, while Mumbai had the highest number of accidents (23,468), Delhi saw the most number of deaths (1,622) in road accidents.

The investigator interested to conduct the study among non medical students regarding traumatic brain injury knowledge and attitude, and also providing information regarding traumatic brain injury through Self instructional module order to improve their knowledge .

*Statement of the Problem*

A study to assess the level of awareness and attitude regarding traumatic brain injury among non medical male students in selected college , Bangalore.

*Objectives of the Study*

1. To assess the awareness and attitude regarding traumatic brain injury among non medical male students.
2. To find the correlation between the awareness and attitude regarding traumatic brain injury among non medical male students.
3. To associate the awareness and attitude regarding traumatic brain injury among non medical male students with selected demographic variables.

*Section A: Frequency and Percentage Distribution of the Demographic Variables.*

**Table 1:** Frequency and percentage distribution of age, course of study, family income, marital status, birth order, domicile and locality among non medical male students N=61

| S. No. | Demographic Variables | Frequency | Percentage |
|---|---|---|---|
| 1. | **Age in Years** | | |
| | 18-20 | 4 | 6.5% |
| | 21-23 | 30 | 49.18% |
| | 24-26 | 27 | 44.26% |
| 2. | **Course of studying** | | |
| | Under graduate | 10 | 16.39% |
| | Post graduate | 51 | 83.60% |
| | P. G Dip course | 0 | 0% |
| 3. | **Monthly family income** | | |
| | <5000 | 1 | 1.63% |
| | 5001-10,000 | 6 | 9.83% |
| | 10,001-15,000 | 12 | 19.67% |
| | Above 15000 | 42 | 68.85% |
| 4. | **Marital status** | | |
| | Married | 2 | 3.27% |
| | Unmarried | 59 | 96.72% |
| | Divorced | 0 | 0% |

| | | | |
|---|---|---|---|
| 5. | **Birth order** | | |
| | First Child | 21 | 34.42% |
| | Second Child | 25 | 40.98% |
| | Others | 15 | 24.59% |
| 6 | **Locality** | | |
| | Rural | 13 | 21.31% |
| | Urban | 33 | 54.09% |
| | Semi urban | 15 | 24.59% |

The data presented in table 1 depicts the frequency and percentage distribution of age, course of study, family income, marital status, birth order, domicile and locality.

Regarding age 4(6.50%) belongs to 18-20 years of age group, 30(49.18%) of them belongs to 21-23 years of age group, and 27(44.26%) of them belongs to 24-26 years of age group.

Regarding course of study 10(16.39%) of them belongs to Under graduate, 51(83.60%) of them belongs to Post graduate and 0(0%) belongs to P.G Dip course.

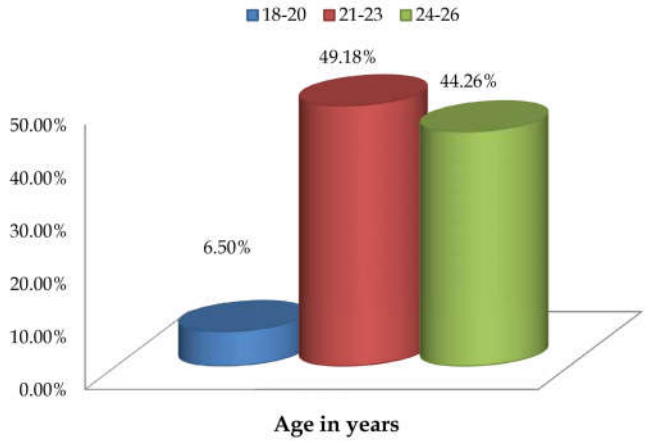
With regard to family income 1(1.63%) of them had income of <5000, 6(9.83%) of them had income of 5001-10,000, 12(19.67%) of them had income of 10,001-15,000 and 42(68.85%) of them had income of above 15,000.

Regarding marital status 2(3.27%) of them belongs to married, 59(96.72%) of them belongs to unmarried and 0(0%) belongs to divorce.

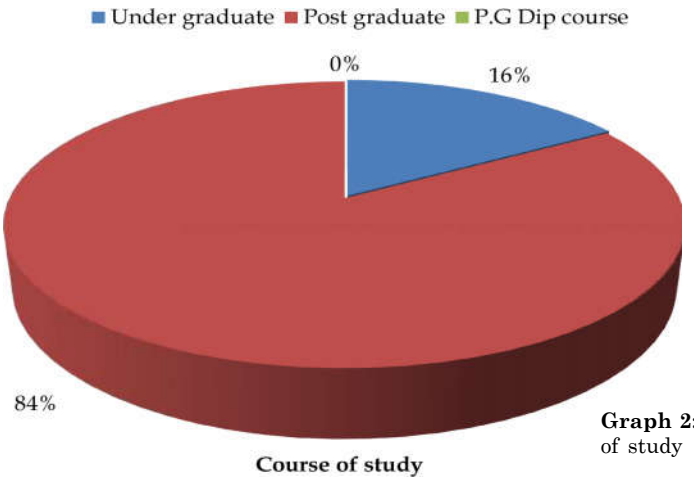
Regarding birth order 21(34.42%) of them belongs to first child, 25(40.98%) of them belongs to second child and 15(24.59%) of them belongs to others.

Considering the domicile 43(70.49%) of them belong to urban and 18(29.50%) of them belong to rural.

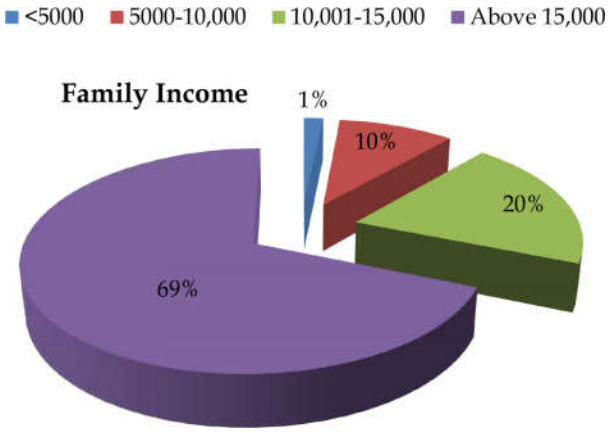
Regarding the locality 13(21.31%) of them belong to rural area, 33(54.09%) of them belong to urban area and 15(24.59%) of them belong to semi urban area.



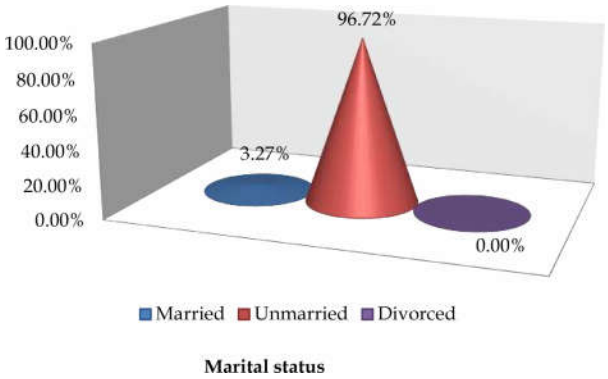

**Graph 1:** Percentage distribution of age in years



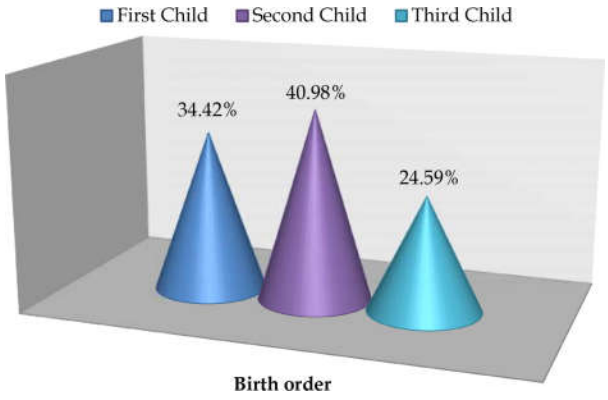

**Graph 2:** Percentage distribution of course of study



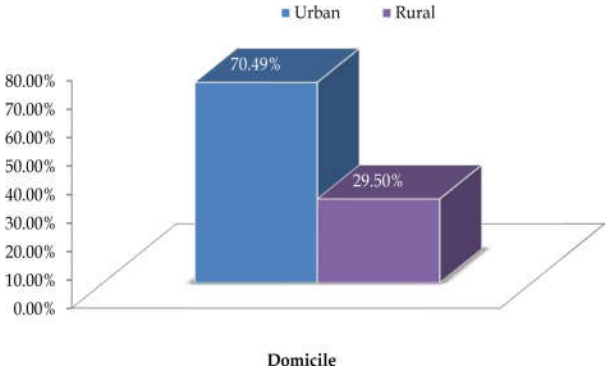

**Graph 3:** Percentage distribution of family income



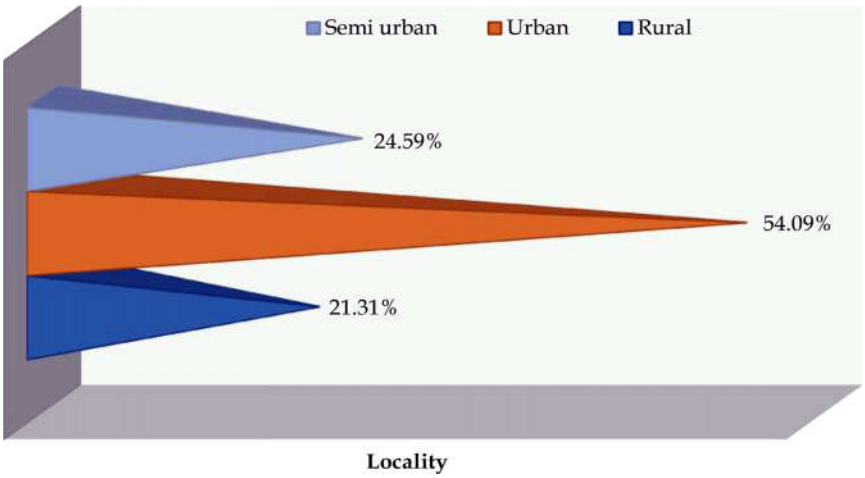

**Graph 4:** Percentage distribution of marital status




**Graph 5:** Percentage distribution of birth order




**Graph 6:** Percentage distribution of domicile



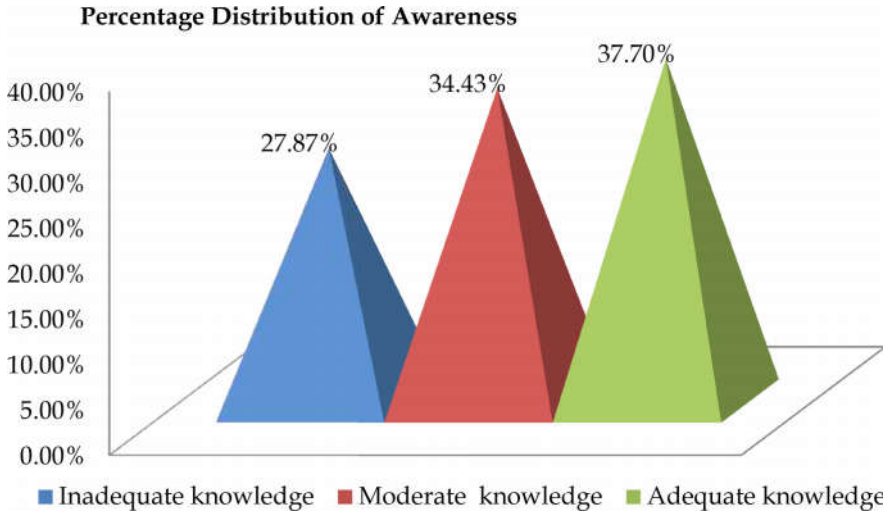

**Graph 7:** Percentage distribution of locality

*Section B: Frequency and Percentage Distribution of Level of Awareness Regarding Traumatic Brain Injury among Young Adults.*

**Table 2:** Frequency and percentage distribution of level of awareness regarding traumatic brain injury among non medical male students N= 61

| Level of Awareness | No | Percentage |
|---|---|---|
| Inadequate awareness | 17 | 27.87 |
| Moderate awareness | 21 | 34.43 |
| Adequate awareness | 23 | 37.70 |
| **Overall** | **61** | **100** |

The data presented in Table 3, shows frequency and percentage distribution of awareness regarding traumatic brain injury among young adults. Regarding this, 17(27.87%) of them have inadequate knowledge, 21(34.43%) of them have moderate knowledge and 23(37.70%) of them have adequate knowledge regarding traumatic brain injury among young adults.




**Graph 8:** Percentage distribution of level of awareness regarding traumatic brain injury among young adults

**Table 3:** Range, Mean, standard deviation and mean percentage regarding traumatic brain injury among non medical male students N=61

| S. No. | Aspects of awareness | Max. score | Range | Mean | Standard Deviation | Mean Percentage |
|---|---|---|---|---|---|---|
| 1 | General information on traumatic brain injury | 4 | 1-4 | 3.03 | 1.06 | 75.75 |
| 2 | Cause and types of traumatic brain injury | 5 | 0-5 | 3.34 | 1.22 | 66.8 |
| 3 | Symptoms and diagnostic evaluation of traumatic brain injury | 6 | 0-6 | 3.70 | 1.62 | 61.66 |
| 4 | Management and prevention of traumatic brain injury | 5 | 0-5 | 2.90 | 1.57 | 58.0 |
| | **Overall** | **20** | **2-19** | **13.18** | **3.92** | **65.9** |

The data presented in the table 4, shows the range, mean, standard deviation and mean score percentage of awareness regarding traumatic brain injury among young adults.

With regard to general information regarding traumatic brain injury, out of maximum score 4, the range was 1-4, and the mean score was found to be 3.03, with standard deviation of 1.06 and the mean score percentage was 75.75%.

In context with the cause and types of traumatic brain injury, out of maximum score 5, the range was 0-5, the mean score was found to be 3.34, with standard deviation of 1.22 and the mean score percentage was 66.80%.

With regard to symptoms and diagnostic evaluation of traumatic brain injury, out of maximum score 6, the range was 0-6, the mean score was found to be 3.70, with standard deviation of 1.62 and the mean score percentage was 61.66%.

In context with the management and prevention of traumatic brain injury, out of maximum score 5, the range was 0-5, the mean score was found to be 2.90, with standard deviation 1.57 and the mean score percentage was 58.0%.

On overall awareness regarding traumatic brain injury among young adults, out of maximum score 20, the range was 2-19, the mean score was 13.18, with standard deviation of 3.92 and the mean score percentage was 65.90%.

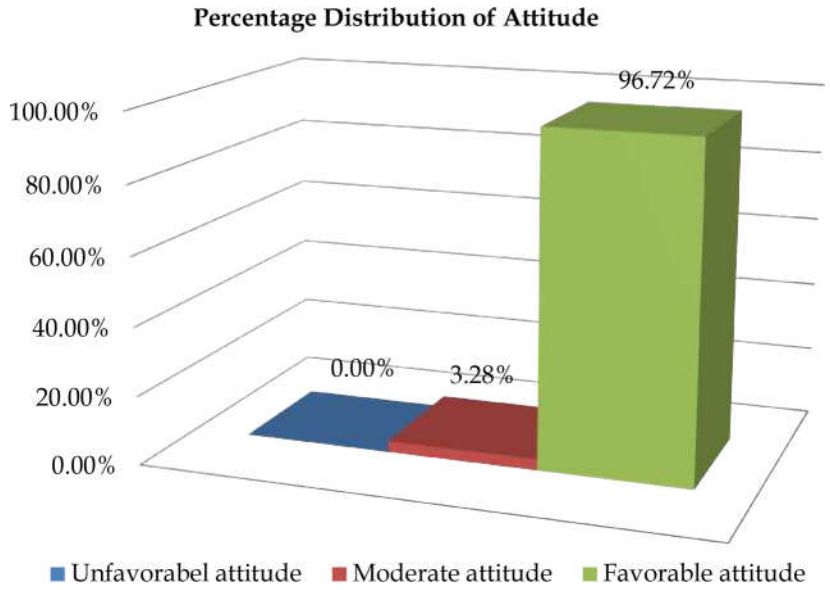
**Table 4:** Frequency and percentage distribution of attitude regarding traumatic brain injury among non medical male students N=61

| Level of Attitude | No. | Percentage |
|---|---|---|
| Unfavorable attitude | 0 | 0 |
| Neutral ( moderate attitude ) | 2 | 3.28 |
| Favorable attitude | 59 | 96.72 |
| Overall | 61 | 100 |

The data presented in Table 5, shows the attitude regarding traumatic brain injury among young adults. Regarding this, 0(0%) of young adults have unfavorable attitude, 2(3.28%) of them have moderate attitude and 59(96.72%) of them have favorable attitude.

The data presented in the table 6, depicts the range, mean, standard deviation and mean percentage of awareness regarding traumatic brain injury among young adults.

It revealed that in attitude regarding traumatic brain injury, out of maximum score 30, the range was 15-30, the mean was found to be 24.31, with standard deviation 2.91 and mean percentage was 81.0%.




**Graph 9:** Percentage distribution of level of attitude regarding traumatic brain injury among young adults

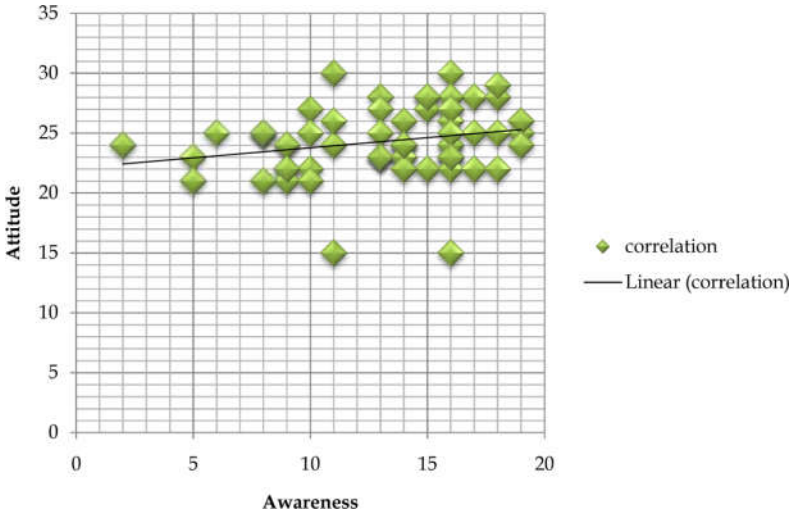
**Table 6:** Range, Mean, Standard deviation and Mean percentage regarding traumatic brain injury among non medical male students N=61

| Domain | Max score | Range | Mean | Standard deviation | Mean percentage |
|---|---|---|---|---|---|
| Level of attitude | 30 | 15-30 | 24.31 | 2.91 | 81.0 |

*Section C: Assessment of Correlation between the Awareness and Attitude Regarding the Traumatic Brain Injury among Non Medical Male Students*

**Table 7:** Correlation between the awareness and attitude regarding the traumatic brain injury among non medical male students N=61

| Variables | Mean | Standard Deviation | Correlation | P value |
|---|---|---|---|---|
| Awareness<br>Attitude | 13.18<br>24.31 | 3.92<br>2.91 | 0.13 | P<0.05 |




**Graph 10:** Scattered graph of correlation between awareness and attitude regarding traumatic brain injury among young adults

The above table 9, shows the correlation between the awareness and attitude regarding the traumatic brain injury among young adults. Regarding this, it shows there was weak positive correlation i.e. 0.13 between awareness and attitude regarding traumatic brain injury among young adults.

## Discussion

The findings of the study showed that the majority of the subjects had moderate and adequate awareness only 27% of subjects had inadequate . Majority subjects favorable attitude. Correlation shows there was positive weak correlation.

The similar study was conducted on "traumatic brain injury knowledge and perceived competence among practicing school psychologist" sample size of 229 participants who are school psychologists and graduate school psychology interns. Results suggest that most practicing school psychologist demonstrate an understanding that there was a need for behavior interventions and that counseling and social – skills training are often effective treatment strategies for children preventing brain injuries.

## Conclusion

Study results shows majority of subjects had adequate awareness and only 27% of subjects inadequate awareness. TBI is fatal of form of condition it can prevented by education public and at risk population in order to prevent incidence and death rate in India.

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# Hand Hygeine Steps and Moments

**Reshma Salve*, Komal Phalke**, Santosh Uttarde**, Vikas Rathod**, Sonu Garade**, Monika Zade****

**Abstract**

Hand hygiene is a core element of patient safety for the prevention of Health Care Associated Infection (HAIs) and spread of anti-microbial resistance. Its promotion represents a challenge that requires a multimodal strategy. Hand hygiene prevents cross infection in hospitals, but Health Care Workers (HCWs) adherence to hand hygiene guidelines is Easy, timely access to both hand hygiene and skin protection is necessary for satisfactory hand hygiene behaviour. Healthcare worker's hands are the most common vehicle for the transmission of healthcare-associated pathogens from patient to patient and within the healthcare environment. Hand hygiene is the leading measure for preventing the spread of antimicrobial resistance and reducing healthcare-associated infections (HCAIs), but healthcare worker compliance with optimal practices remains low in most settings.

**Keywords**: Hand Hygiene; Steps and Moment.

## Introduction

Hand hygiene is the most simple, most effective measure for preventing HAIs. Average compliance with hand hygiene recommendations varies between hospital wards, among professional categories of HCWs, and according to working conditions, as well as according to the definitions used in different studies. Compliance with hand hygiene recommendations is the most important measure in preventing health care-associated infections. Transmission of microorganisms from the hands of healthcare workers is the main source of cross-infection in hospitals and can be prevented by hand washing.

Hand washing with soap and water has been considered a measure of personal hygiene for centuries and has been generally embedded in religious and cultural habits. Nevertheless, the link between hand washing and the spread of disease was established only two centuries ago, although this can be considered as relatively early with respect to the discoveries of Pasteur and Lister that occurred decades later.

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## Materials and Methods

*Problem Statement*

" Effectiveness of planned health teaching on the knowledge and practice regarding hand hygiene steps and its moments among the 1st year basic bsc nursing students of selected nursing college of pune city."

*Objective*

1. To assess the pre-test knowledge and practice regarding hand hygiene steps and its moments in selected college of Pune city.
2. To assess the post-test knowledge and practice regarding hand hygiene steps and its moments in selected college of Pune city.
3. To compare the pre-test and post-test knowledge regarding hand hygiene steps and its moment in selected college of Pune city.
4. To find association between pre-test and post-test knowledge and practice with selected demographic variables of students in selected area in Pune city.

*Operational Defination*

1. *Effectiveness:* Measures the result of plan teaching on knowledge of hand hygiene.
2. *Hand hygiene*: Its act of cleaning ones hand with or without use of water or another liquid for the purpose of removing soil dirt and microorganism
3. *Health teaching:* its and lecture and demonstration on hand hygiene steps and moment

## Research Methodology

*Research Approach*

Quantitative research approach

*Research Design*

Experimental research design

*Sample Technique*

The sampling technique use in this study will be sample random sampling technique

Tool consist of the -

*Section I:* Consent form.

*Section II:* The tool will be comprise self reporting questionnaires (age and gender) and semi structure questionnaire (pre test) related hand hygiene and its movement.

*Section III:* Planned health teaching and demonstration of hand hygiene step and movement.

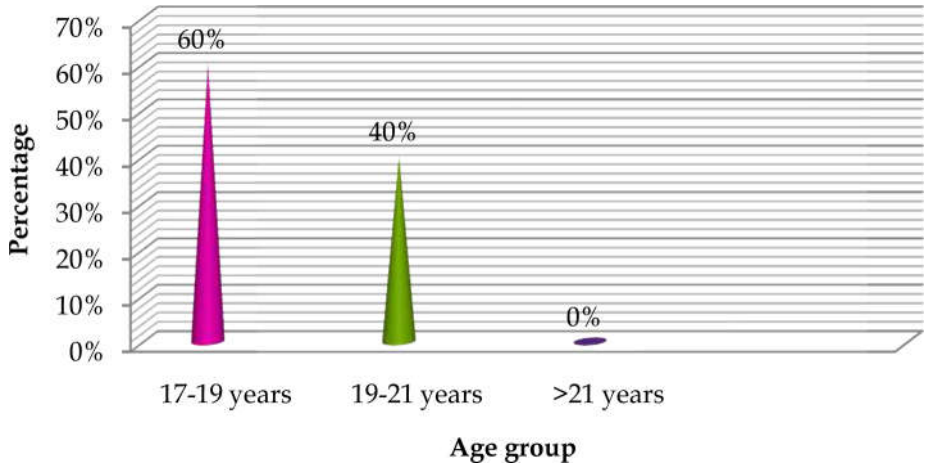
*Section IV:* Semi structure questionnaires (post test) and check list .

## Result

The analysis was done as per the objectives of the study.

**Table 1:** Demographic description of sample by frequency and percentage (N=40)

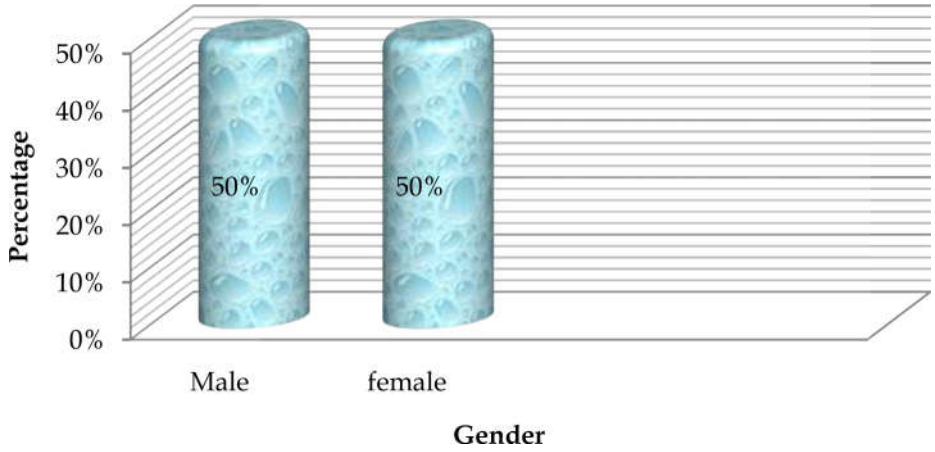
| Sr. No. | Sample Characteristics | Frequency | Percentage |
|---|---|---|---|
| 1. | **Age Group** | | |
| | 17-19 years | 24 | 60% |
| | 19-21 years | 16 | 40% |
| | >21 years | 0 | 0% |




**Graph 1:** The cone deficit that 40 sample 60% are 17-19 years, 40% are 19-21 years and 0% are >21 years

**Table 2:** Demographic description of sample by Gender

| 1. | **Gender** | | |
|---|---|---|---|
| | Male | 20 | 50% |
| | Female | 20 | 50% |

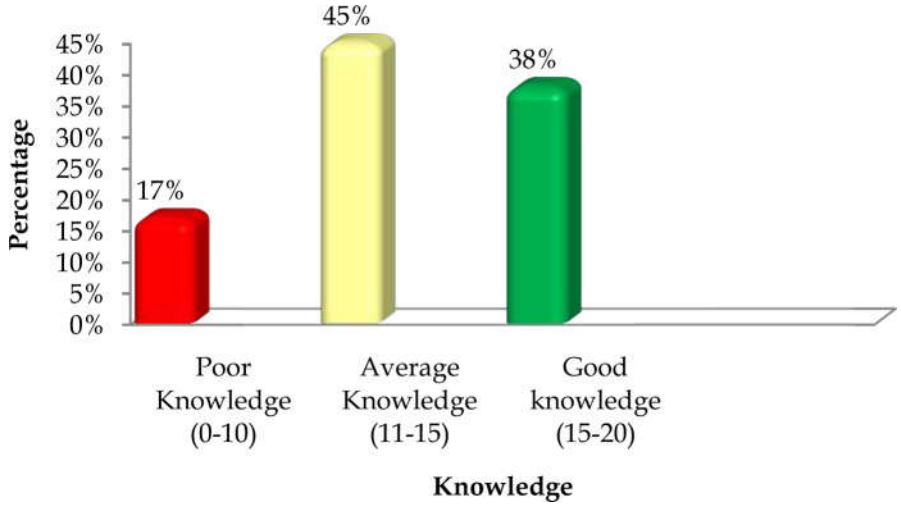



**Graph 2:** The bar deficit that 40 sample 50% are male, 50% are female.

This section deals with the analysis of data related to pre-test and post-test knowledge score of students nurse about hand hygiene and moments.

**Table 3:** Assess the pre-test knowledge regarding hand hygiene steps and its moments (N-40)

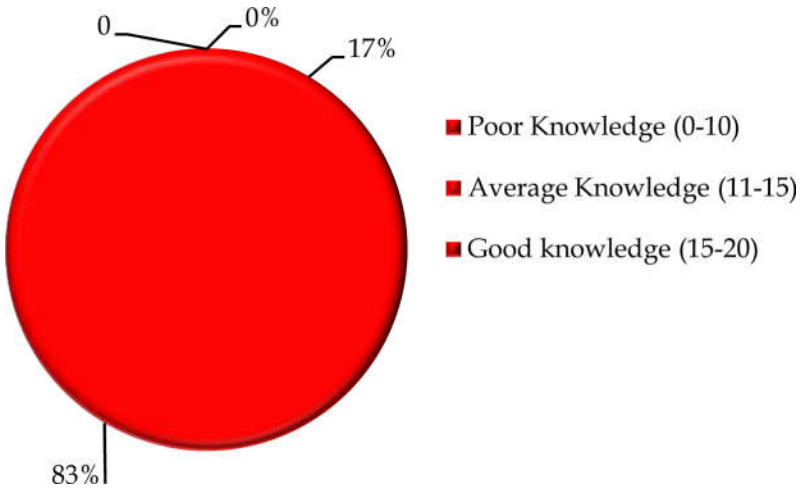
| Sr. No. | Knowledge Score | Frequency | Percentage |
|---|---|---|---|
| 1 | Poor Knowledge (0-10) | 7 | 17% |
| 2 | Average Knowledge (11-15) | 18 | 45% |
| 3 | Good knowledge (15-20) | 15 | 38% |




**Graph 3:** The column deficit that 40 sample 17% are having poor knowledge, 45% are having average knowledge and 38% are having good knowledge.

**Table 4:** Assess the post-test knowledge regarding hand hygiene steps and its moments.

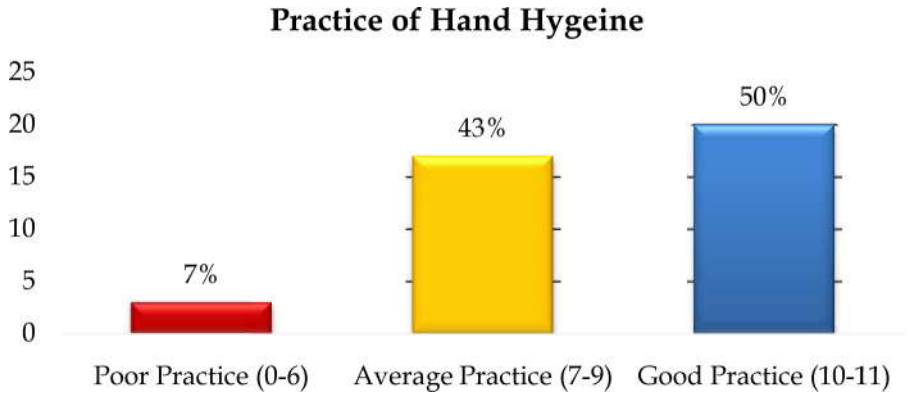
| Sr. No. | Knowledge Score | Frequency | Percentage |
|---|---|---|---|
| 1 | Poor Knowledge (0-10) | 0 | 0% |
| 2 | Average Knowledge (11-15) | 7 | 17% |
| 3 | Good knowledge (15-20) | 33 | 83% |




**Graph 4:** The Pie deficit that 40 sample 10% are having poor knowledge, 17% are having average knowledge and 83% are having good knowledge

**Table 5:** Assess the practice regarding hand hygiene steps (N=40)

| Sr. No. | Practice Score | Frequency | Percentage |
|---|---|---|---|
| 1 | Poor Practice (0-6) | 3 | 7% |
| 2 | Average Practice (7-9) | 20 | 50% |
| 3 | Good Practice (10-11) | 17 | 43% |




**Graph 5:** The column deficit that 40 sample 7% are having poor knowledge, 43% are having average knowledge and 50% are having good knowledge.

**Table 6:** Association between the demographic variables

| Sr. No. | Demographic Variables | Calculated Value | Table value | DF | Remark |
|---|---|---|---|---|---|
| 1 | Gender | 9.76 | 5.99 | 2 | NS |
| 2 | age | 24.16 | 9.49 | 4 | NS |

NS- non significant S - significant

## Discussion

The study will be useful for the student residing in selected area, the study finding suggest that there is significant difference in the student knowledge and practice regarding hand hygiene step and movement after planned health teaching .

## Conclusion

After the detail analysis, and based on the finding of the study the following conclusion can be drawn-

Student does not have adequate knowledge about hand hygiene and its moments which leads to many problems during their professional practice and leads

to increase in nosocomial infections.

They require knowledge about hand hygiene and its moments. It shows that significant increase in the knowledge after the administrating planned teaching.

Thus it was concluded that the planned health teaching on hand hygiene and its moments was effective.

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# Nursing Contribution in Improving Health Status through Health Education in Rural India

**Satish Kumar Avasthi*, Rishi Dutt Avasthi****

**Abstract**

Nursing profession as a health educator has a vital importance in rural health education up gradation. This profession maintain inter sector co-ordination with each & every sector of health for any health programs planning & implementation is essential component. Health education is mandatory to increase awareness among population, but in rural India it is a really a challenge due to lack of resources, man power & illiteracy. In health science system Nurses form a major work force of man power. In rural India all the units of healthy care delivery system majority of manpower in rural health centres comprise with nurses only. The main reasons of failure of health education is that we assume that only illiterate people stay in rural areas and we utilize pamphlets, newspaper, magazine, conferences & seminars for health education. But we neglect unfortunately about the illiterate population. As such Illiteracy is still remaining in rural India so we should develop the new methods of health education. In health science system Nurses form a major work force of man power. In rural India all the units of healthy care delivery system majority of manpower in rural health centres comprise with nurses only.

**Keywords:** Health Education; Nursing; Rural India; Nurse Role; Audio-Visual Aids.

## Introduction

The nurses play a vital role to improve health status through health education. Because they work at root level of community and with keen observation they can improve the health by effective method of health education. The method which we should highly emphasize is folk media, folk Play. Because rural India is rich cultured, rituals, heritage, customs in which puppets, Role play, drama, story telling and folk music provide an effective means for health education.

For educative persons we should use seminars, panel discussion, symposium, small conference with culture programme, group discussion. In all methods they should have active role to make sure there participation. To increase there active participation utilize there resources at optimum level. Other than that we can use pamphlets, newspaper, magazine & books.

Use of mass media in rural is most effective but we should consider as per group. Educative technical programme for youth generation such as drama, skit on that for illiterate people or children.

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## The Nurse's Contribution in Method of Health Education

1. The health education should be according to the group of population which method will be suitable for particular group .
2. Utilize effective technical knowledge and skills

while provide health education which will be motivated the population & ensure their participation.

3. Use of principal of "learning by doing" so use demonstration, simulation, model presentation on various health problem solution & steps.
4. Continue reinforcement on health topics is essential for population on particular problem of the health education to make more effective.
5. The topic should be need based according to need of population and create interest of population & make awareness of population.
6. Always try to go for simple to complex & known to unknown.

**Nurses Contribution in Role in Policy Making**

Nurses should contribute & take active participation in the organizing health education complaining & policy making because they are the only sources of health education, where as policies & procedures organized by top level of management as such they do not aware about the need of the population. Than what is the use if we will give health education on open field defecation in area where people already use latrines from last 10 years. So health education should be need based.

Organization of Health Education.

- Defining a population for health education.
- Assessment the need and demand ratio of the population by:-
  - Key informants.
  - Health surveys and keen observations.
  - Review of records & reports.
- Prepare the goals, objectives, polices, programme & procedure according to their prioritize need.
- Check the availability of resources.
  - Manpower: work force to health education
  - Money (Financial resources)
  - Material (Audio visual aids)
  - Method.
  - Minute. (Time)
- *Method Selection*: it should be suitable to group, there level of understanding. Check the effectiveness, efficient, accessible & acceptable by population & ensure by population active participation.
- Take prior permission of group leader (such as Sarpanch, Panch, other officiating body in areas, panchayati) to conduct the programme, fix the venue & time.
- Implement the health education programme in distinct setting & timing to effective awareness & greater coverage of population with population active involvement of group or individual.
- Evaluate the health education programme on the basis of feedback by follow up of team and beneficiaries.
- Analysis the achievement put strength & weakness.
- Progressive evaluation of effected of health education programme.

**Research Work Finding in Making Health Education**

This is innovative, advance and extended area of the health education. Where we can do effective appraisal of our work and practise and utilize best innovative scientific technique by evidence based practise, experiences. In other words we can say that what we have done our job work take lesion from that, assess the mistakes & use effective method in next stages.

Evidence based practice in that we should use distinct method of health education. When we select particular area & assess method of health education according to distinct group, which is most the effective & useful to identify that effectiveness of the method in particular area. Nurses can play important role in that research work to identify effective method in selected areas of population.

**Area of Research in Health Education for Evidence Practise**

- Area of health education:-subject topics, there need and priority.
- Methods, innovative techniques, its implementation, its impact on group.
- Degree of acceptance and accessibility by group.
- Effective utilization of resources.
- Practice adapted as a result & response.
- Use of modern technology & scientific approach is possible through evidence based practice.

Preparing the Health Team for Health Teaching

Health team for health education based on

multisectorial approach in which the combination of the nurses of distinct position, social welfare team, trainees of medical & paramedical & other professionals to effective approach & total coverage.

**Team Consist With**

- Nursing educator.
- Nursing administrator.
- Field visitor.
- Media person.
- Auxiliary nurse midwifery's.
- Health workers male & female.
- School teachers.
- Technological persons.
- Leader of particular areas. {Sarpanch, member of gram panchayati, MLA & MP}
- Youth clubs of particular areas.
- IV class workers.

**Advance Technology in Health Education**

As a manner of fact technology are reckoned as the software and the equipment as the hardware of the technology. Industrial revolution & technical advancement, sophisticated instruments, mass media, education material. It brought to use of radio, television, computer etc. in the field of health education.

**Advantages**

1. It is helpful in make health education more productive and innovative,
2. it can make health more individualistic,
3. It provides scientific base and evidence based.
4. It makes health education more powerful & impactful.
5. It helps to make health education more immediate and concurrent.
6. It makes health education more effective & efficient.
7. But it should be transmitting information, serve as a role model, assisting the practice of specific skills.

**Papering & Practise of Audio Visual Aids**

- Audio visual aids are device which can be used to make the learning experience more effective, concrete & dynamic.
- Audio visual aids prove effectiveness only when they suit the health education aims, objectives & unique characteristic if the special group of learner.
- They are used as a supplementing the health teaching method not a complete health education.
- Audio visual aids should be cost effective. It should be prepare by using locally available resources.
- The health education programmed should be organized & administer that the A.V. aids material must be function as an integral part of the health education.
- Visual instruction should not be distract the population with off mode entertainment.
- The A.V. aids material should be adequate check before administration. Health educator should be confident in handling the all aids.
- The aids should be displayed properly.
- And use of A.V. aids should be evaluated continuously.

**Emphasis on Trainees for Planned & Incidental Health Teaching**

- Prepare the nursing curriculum & syllabus which can prepare them for incidental & planned health teaching.
- It should be training based while working in clinical / field areas. During clinical experience of students health education incidental & planned should include as a part of assignment.
- This should be assessed by the nurse educator with effective evaluative tool.
- Especially in community health nursing experience mainly put focus on the family or individual health teaching as well as group health teaching.
- Provide special training for role play, dramas, skits, puppets shows, lecture & seminars techniques.

**The Objectives should be**

- To prepare the trainees for any incident to provide health education with effective manner with utilize of available resources.

- To ensure fully active participation of all the health team members & as well as community groups.

### Instruction for Health Education Documentation

- There should be written format of health education for any health teaching while performing the bed side clinics or community setting.
- There should be prior checking by two expertises before actual presentation & demo presentation in front of expertise.
- The health educator trainees should fully confident & known to language of beneficiaries.
- The health teaching always should be two way process.

### Organising Workshops, Conferences, Seminars for Advance Updates Staff or Health Education Activities

This is essential to organize the conferences, work shops, & seminars to all the staffs and health education activist to provide effectives knowledge, enhance new advance technology of methods of health education. This improve there knowledge as well the evidence based practice. Discuss in the all the conference about all the research with their effective out comes & try to implements these evidences in practice to improve their status of health education.

### Conclusion

Nursing profession is always contribute there essentials towards improving health status not only through health education but also by direct care, to manage different health camps as a vital team component. In health education, understanding the basic facts of rural population is mandatory for their successful outcome. Nurse always helps to understand their basic problems and need of rural population.

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