CHAPTER - III
METHODOLOGY

This lesson will throw a light on methodology implemented for research problem. It guides the basic method of arranging the process and collecting correct and realizing information for research undertaken. (Polit and Beck)

This comprises the approach of the study, research design, the setting of study, population, samples and sampling method, formulation and describing the tools, pilot study and collection of information and method of data collection and plan of statistical analysis.

The present study aimed to “assess bio-psycho-social problems, coping strategies and life quality in women reaching climacteric phase living in rural community in Dharawad district, Karnataka”

3.1 Research Approach

The research approach indicates the basic procedure for conducting research. (Polit and Beck) Based upon the condition of research title and the objectives of the study, the research approach chosen for the study is quantitative approach. A deductive reasoning procedure is used by quantitative approach to generate predictions and to test them in the real world. This approach was considered as appropriate to assess bio-psycho-social problems, coping strategies and life quality in women reaching climacteric phase living in rural community in Dharawad district, Karnataka

3.2 Research Design

Research design denotes the comprehensive plan of researcher to collect the response for the research questions and it explains the strategies used to formulate the data which is authentic, objective and interpretative (Polit and Beck)

It is adopted to the proposed research design was descriptive survey design to assess bio-psycho-social problems, coping strategies and life quality in women reaching climacteric phase living in rural community in Dharawad district, Karnataka

Descriptive survey design aims to observation, description and documentation of aspects of a naturally occurring situation and for hypothesis generation or development of theory sometimes it serves as a starting point.
To explain the percentage of incidence of phenomena, behavior or conditions descriptive studies are undertaken many times.

From the field of epidemiology, here it is worth to note two types of descriptive studies i.e. the studies carried out to find out the rate of presence of some conditions at one particular point of time known as **prevalence studies** and studies are made to measure the frequency of new case development called as **incidence studies.** *(Polit and Beck)*

**Schematic representation of research process is presented in next page**

**3.3 Variables of the Study**

In quantitative studies, concepts are usually referred to as variables which may be qualities of a person or subject, personal characteristics or properties, conditions, situations or things that can vary or change. *(Polit and Beck)*

Variables are attributes, distinctive features of any individual or of any matter or circumstances which creates changes in the process of any research. There are many types of variables. These types are depending upon the type of research study, the type of work in the study and what result is presented by that particular research.

Independent and dependant variables—these are related to each other. These variables often seen in experimental research studies, co relational research studies, research studies in which any mediation is done or any intervention is done. Independent and dependent variables are also used where manipulation of independent variable such as quasi experimental study and also in experimental research designs.

**An independent variable**—is the one which arouses or make the researcher to do something and that is creating changes by the researcher then make the changes which is the result of an action or other cause on the variable which is called dependent variable.

**A dependent variable**—is the one which is resulted out of the effect which is by independent variable, where investigator want to explain or forecast.
For example—in a quasi experimental research on effectiveness of Information, Education, Communication (IEC) package on knowledge of adults regarding diabetes mellitus in a rural community. In this particular research IEC is an independent variable and knowledge of adults is dependent variables.

**Research variable**—are the one where independent variable is not made any changes or not manipulated. And also cause and effect relation is not examined.

Research variables are used in quantitative research studies, descriptive studies, comparative studies and in exploratory research studies. Here variables are watched carefully or assessed in the natural situation. However they are their without making any changes or without any treatment.

For example—in an exploratory research study on the factors contributing to lifestyle related diseases among middle age group people in selected urban area. Here factors contributing life style related diseases is research variable which is observed as it is occurring and no any change is made here.

**Demographic variables**—These are the personal characteristics of the study subjects which are being studied by the researcher and presenting them in the results of the study. Researcher can also find out the relationship between demographic variables of the study subjects with research variables. Some of the demographic variables usually considered in the research studies are- age of the study subject, their gender, educational preparation, their economic condition, housing condition,, their nutritional practices like vegetarian or mixed diet, married or single, any habits and source of information etc.

**Extraneous variables**- these are the components which will not be the part of the research but these will alter the measurement of the variables in the research study. Here, the researcher in the quasi experimental study and experimental study finds out them and curbs them. Therefore the researcher uses exclusion and exclusion criteria to curb the extraneous variables.
The variables of the study were –

**Active variables:** Bio-Psycho-Social problems, Coping strategies and life quality in post menopausal females.

**Extraneous variables:** Age, religion, education, occupation, marital status, type of family, dietary pattern, years after menopause, family income, suffering with any chronic disorders and type of menopause.

![Fig 2: Schematic Representation of Research Process](image-url)
The above figure illustrates the schematic representation of research process and it describes how the researcher is going to study the variables of the study in a systematic manner. It includes the setting, target population, size of samples, sampling technique, instruments used in study and analysis of collected data.

3.4 SETTING OF THE STUDY

Introduction about Setting of The Study

Dharwad is a one of the administrative district of Karnataka state, in India and is located in southern part of the India. The headquarter of district Dharwad is also headquarters of culture in North part of Karnataka state. The Dharawad is also known as Dharwad is an administrative headquarters of the district. The town Dharwad is located northwest of state capital Bangalore about 425 km and about 421 km from Pune at south on the national highway between Pune and Bangalore. Circuit bench of high court of Karnataka is also located at this place.

Etiomogicaly the word Dharawad literally means a place of rest during a large distance travel or a short habitat. The Dharawad acted as entrance for the area of Malenadu and the place of the plains from many centuries. It was a place of resting for travelers.

The district Dharwad is situated in the Western part of the north half of state Karnataka. This district covers an area of 4263 km$^2$. The north side of the district bounded by the Belgaum district, Gadag on the East side, Haveri on south side and Uttara Kannada on West side of district. All other districts which surrounds the Dharwad district belongs to state of Karnataka itself.

The district Dharwad is divided into 5 subdivisions (Taluka’s) namely, Dharawad, Hubli, Navalgund, Kundgol and Kalghatgi.

The geographical setting of Dharawad district contributes for the health and adoptable climate conditions, as it is situated about 800 metre above the sea level. The district also classified in 3 geographical conditions as Malenadu, Semi-Malenadu and Maidan. These all region have a on an average good rainfall and have vegetation type of forest. Particularly Alnavar and kalghatagi areas of Dharwad district receive more rainfall than other area of the district.
Black soil in the district helps to cultivating the crops like cottonseeds, Wheat, Jowar, Ragi and sun flower oil seeds and the presence of red soil in some part of district suitable of growth of paddy.

With the presence of many famous educational centers and institutions, universities Dharawad has been a famous place of students for study to from long time. The city of Dharawad is known to be the place of goddess Saraswathi because of presence of many academic institutions, philosophers and the presence of pleasant environment for education.

From all the surrounding districts students come to Dharawad for the purpose of education. It has kannada, Urdu, Hindi and English medium schools and colleges. It has three famous universities in the state of Karnataka Namely, Karnataka University, Agricultural University and Law University.

Hubli is a twin city of Dharwad. Transport facilities are excellent between twin cities as well as other parts of the district and state. The Hubli is a zonal Headquarter of South Western Railways of Indian Railway. Many passenger and express trains runs between the hubli to several parts of state and country. Hubli is one of the important railway junction in the state of Karnataka. It also have facilities of air transportation.

As per census of done in 2011,Dharwad district has a population of 1,846,993. It is 256th rank among all 640 district in country. The density of population in the district is about 434 per square kilometre. The rate of growth of population in the district is about 15.13 percent over the decade of 2001 to 2011. There are 967 females for every 1000 males and literacy rate is about 80.3%.

The Dharawad has blessed with many of the eminent and famous personality of Hindustani musioc namely, Mallikarjun Mansur, Sawai Gandharva, Bhimsen Joshi, Kumar Gandharva, Basavaraj Rajaguru and Gangubai Hangal.

The most prestigious award in the literature the Jnanpith award winners namely D.R. Bendre, V.K. Gokak and Girish Karnad trace their origins from Dharwad.

The most spoken language in the district is Kannada. Dharwad Kannada is the name given to unique style of speaking Kannada in the
district, this slightly varies from southern Karnataka style of speaking Kannada.

The main crops grown in the districts are Jowar, wheat, maize, onions, cottons and rice. The district also famous for growth of mangoes, papaya and bananas as products of horticulture. It also has many subsidiary industries related to forming and agriculture namely production of beaten rice, puffed rice and edible oils.

The twin city Hubli is the capital trading centre for the industrial as well as agricultural products in north Karnataka. It has largest APMC place market yard located between Dharawad and Hubli cities. It is a capital market centre for the onions, red chillies, cotton, jowar and so on. Twin cities have many numbers of small and large scale industries for auto engineering, electrical items and articles and appliance of agriculture. It houses for many cotton ginning and spinning mills.

Dharawad and Hubli cities are managed under the municipal corporation namely Hubli-Dharwad Muncipal Corporation (HDMC) was enrolled in 1962 by joining both cities separated by a 20 KM. This corporation covers the area of 181.66 km² and comprises over 45 city connected rural places. Total population of the twin cities is around 15 lakhs.

**HEALTH AND HEALTH INFRASTRUCTURE OF DHARWAD DISTRICT:**

The health climate of Dharwad district is normal usually. In 1818 the occurrence of incidence of cholera and reappearance of it in second half of 1858 and appearance of Malaria frequently since 1862 were the epidemics of dangerous nature affected the people of the district earlier. Plague caused many number of mortalities after 1898.

It was in this district that the maximum number of deaths occurred in whole of Bombay Presidency due to plague. The Dharwad district suffered lot of loss of lives due to severe famine along with water and food shortage and malnutrition in the year 1876-77. In addition to all above mentioned widespread communicable diseases like cholera and fever the district also affected and suffered from disease of guinea worm frequently in many parts of district. The locally popularly know disease Guddavan Bene (Influenza) was affected the all over the district in the year 1918.
Depending on the health status and emerging health problems health service is been a changing phenomenon from time to time. Communicable diseases like Plague, smallpox, cholera, malaria and so on are such other serious epidemics which were dominating about 4-5 decades ago have been completely eradicated or brought under control in the district.

The new turning points like modernization, industrialization, urbanization and other such new phenomena are creating new problems that are affecting general health of public in different forms. The diseases like heart problems, diseases relating to blood pressure, accidents, cancer, lung diseases, infant malnutrition, blindness, diarrheal diseases, tuberculosis, HIV infections and other such diseases still continue to be major health hazards. To achieve the target of health to all in the nation by 2010 Government is continuing all its efforts.

Dharwad district was coming under the British rule earlier. Traditional medicines like Ahurveda and Unani system of medicine were prevalent widely in district. Along with these side by side, a local native medicine system known as Naativaidya was also developed along with the civilization and it was well known for the root of all other systems of medicines.

Rural doctors and Hakims were very skilled, sharp and experienced even though they were illiterate and they use to prescribe the medicines made of roots, plants, herbs and barks of trees. They were very skilled in treating common health problems by using the above said herbal medicines in resisting, curing and preventing health ailments. For the causes like insectibits, snakebites, migraine and other such problems which requiring emergency care and surgery these practitioners of medicine administered medicines and also advised people to wear Yayitha, chanted manthras and other such traditional treatments which also gave relief.

The allopathy system of medicine was introduced first time for treating the British soldiers first time in cantonment areas of districts and to take care of soldiers health. Slowly it spread all over the district. Allopathic system was introduced by British Government by opening state run allopathic hospitals and health centers.

During the period of post independent in India, the Government has been opening many types of health units and health centers to take care of
health of peoples and render primary health care in rural areas in the district. As such, Maternity homes, Primary health centers, sub centers and small health units are established and to expand minimum required maternity related health services for backward classes like scheduled castes and scheduled tribes areas many other programmes are running.

At sub divisional level by opening more and more community health centers medical service is made available to all population. By the time of reorganization of state Dharwad district, a many number of state run hospitals and the local bodies like Taluk and District boards had already been running dispensaries in district.

**Subsidiary Medical Practitioners (SMP) Centers:**

To provide medical services to underdeveloped and rural areas Government of India started Subsidiary medical Practitioners centers under the first five year plan. These centers had already started their functioning since 1934 and they were working under the district local board, Dharwad. These centers were working in rural areas of many Talukas of Dharwad district.

**Vital Statistics:**

The people residing in rural areas and towns were unaware of the utilitarian value of the vital statistics of births and deaths. Even today in many cases it is true and because of this satisfactory statistical data is not available to publish. Due to very old method of collection of information and data which was un scientific, recording of facts and figures could not be very accurate.

The birth and death registration was the duty of police patil in the rural areas and municipalities in municipal areas of town. Information which was collected was submitted to the concerned Tahasildar of area every month. The deputy commissioner of the district is the district registrar for deaths, births and marriages. And additional district registrar is district statistical officer. Village accountants in the rural areas will do registration of births, deaths and marriages and by the town panchayats and municipalities in urban areas.

**Sample Registration System:**

The Sample registration system is introduced in India by registrar general for births and deaths and marriages to collect the facts and figures related to
births, deaths and marriages. The SRS system include the following functions: 1) to register the birth and death numbers in rural areas regularly, 2) to ascertain the facts and figures so obtained, 3) to help the people to understand the reason for the death rate variations and 4) to help the various departments to design health improvement programmes.

Corresponding to rural and urban areas separate statistical figures would be arrived at both state and national levels, depending on the numerical data collected by including various statistical methods and formulae.

**Epidemics:**

Serious epidemics may occur due to consumption of impure water, contaminated food, lack of personal hygiene affect the health of people and make them ill. Due to reasons like environmental pollution, mosquitoes and flies causes serious diseases to spread all over and make public life miserable.

Cholera, plague, malaria, tuberculosis, small pox and other such epidemics once become fatal and many fell prey to such epidemics. Since from government is implementing various measures and programmes to control and prevent many of such problems by taking various measures like spraying disinfectants, cleaning the villages, administering inoculation and such many other measures regularly. Complete control of some of such diseases could be achieved by implementing these programmes by government. Certain widespread epidemic diseases in the Dharwad district are discussed here under.

**Malaria:**

A variety of mosquito known as female anopheles spreads this disease. About 3,484 people died due to disease of malaria in the year 1933 and before that, the available statistical data was stated as death due to fever.

In the year 1949, it was reported that there were only 129 deaths due to this epidemic disease. Spraying of DDT in the district since 1946 was the reason for the change in situation. In the district the areas comprising less than 40,000 population, were brought under these DDT spray programme.

The town municipalities like Dharwad, Hubli, Gadag were supplied with DDT free of cost. The national malaria eradication programme which was started in 1953 envisaged destroying the sources of infection and ultimately
eradication of the malarial disease. State malaria institute conducted malaria survey in the district in the year 1945-46.

**Plague:**

Plague is well under control in recent years. It made its appearance in 1987 and took a heavy toll in the period of second half of 1898. Plague spread to 320 towns and villages in that year and rural areas of the district affected 37,990 and due to this 30,802 people died in that year.

Between 1901 and 1905 it was very severe and gradually reduced. But again in the year 1911 – 12 the epidemic of disease became fatal in this area. The disease resulted in heavy toll and tormented people due to speedy infectious trend of disease. After 1978 no such instances of epidemic of plague is reported in the district.

**Small pox:**

Since from very long time small pox had been affecting the district and by 1830 itself the British government had taken measure to vaccinating the people to ward off the epidemic and they were called as Devi, Maili, Daaku etc. due to contaminated food, environmental pollution and lack of cleanliness this disease spreads to people.

In 1872 and 1987 the victims to this fatal disease were 2653 and 2612 respectively. Between 1866 to 1893 an average of 143 people died annually due to this disease as per the data available from a report.

**Cholera:**

Cholera is an infectious and contagious disease and it would turn fatal if not treated on time. Usually contaminated food, contaminated water and lack of cleanliness are the main causes for the spread of this disease form one to other person. Being a very serious health problem it has been many ailments and mortality among the general public.

Several British soldiers who came to Hubli became victims to this serious epidemic during 1818. The year 1866 witnessed maximum number of mortality totaling 11,172 this was 33.87% of total population. Gradually the severity of the disease got decreased as inoculation and other such preventive measures were implemented. As per recent statistical data, cholera is not affecting so often in recent years indicating that the disease is under well control.
**Tuberculosis:**

The well known disease TB has become a serious health problem and it is caused due to tubercle bacillae. In the year 1952 the mortality due to disease was 1335 in Dharwad district itself as per report. By opening district TB centers and appointing trained physician and other health care staff the Government has implemented the national tuberculosis control program in all the districts.

For the purpose of identifying the tuberculosis and to give treatment to patient, in Hubli TB center was opened, district TB specialist is the head of the centre who is assisted by four senior health assistants, one X-ray technician, two lab technicians and other staff members to carry out the functions of programme. Taking X ray, examination of sputum, arranging TB control camps and treating TB patients are the few of functions of this centre, all other tuberculosis units in health centers, work under the supervision and guidance of this centre.

**Leprosy:**

Leprosy is continuing to be a big social and public health problem in the country. As detected in 1991-92 leprosy level in Karnataka is of moderate level and rate of prevalence of this disease was 1.6 per 1000 population. Dharwad district accounts for 2.4 prevalence rate and hence needs focused attention to eradicate the problem.

As early as 1982 the eradication programme was started and district leprosy officer being the head of the centre, supervises other centers in the district. Hospital for handicapped crippled in Hubli is functioning like the leprosy eradication centre.

**Guineaworm disease:**

This disease is known as Naaruhunnu locally and its eradication programme was taken up as a centrally sponsored scheme which was started in 1982 by 50:50 funding by central and state government. Many schemes brought into force to control this disease, appeared here and there. With the aim of ensuring total eradication the central government has achieved the target in 1992.

Surveys on the prevalence of guineaworms are conducted every year during April, June and December months in every village by each primary
health centre in the district. Measures like super chlorination of drinking water sources, drilling bore wells in both urban and rural areas, safe drinking water facility, health education about hygiene and to avoid using water directly from the open sources were some of the measures undertaken to prevent the disease.

**AIDS:**

In the year 1987 AIDS control programme was brought in to force. Evil effects of this disease are made known to people by giving health education and arranging health awareness programmes.

In Karnataka Medical college hospital Hubli AIDS preventive centers and blood test centers are opened. No patient with AIDS was traced out in 1990 and in 1991-92 one patient was identified with disease from Naragund taluk and awareness is created among the public by health education messages and awareness programmes.

**Health Institutions in Dharwad district:**

**District Hospital, Dharwad**

It is established in early 1830 and is one of the oldest hospital in the district. It was a civil hospital formerly and it was later shifted to the new building in 1881. It treated 5,276 outpatients and 356 in patients in that year. All other government and aided hospitals in district was managing by this hospital.

By increasing bed strength from 170 to 250 the government upgraded the hospital in 1994. At present the hospital provides all types of modern medical facilities like general medicine, surgery, gynecology, anesthesia, pediatrics, orthopaedics, anesthesia, ENT, skin and other facilities. The hospital has other facilities like TB centre, Family Planning Centre, division of leprosy and maternity ward.

**Karnataka Medical College Hospital and research centre**

In the year 1957 KMC hospital was established and started its functioning from 1960. It had a capacity of 150 beds during starting of hospital. At present there are 790 beds and hospital and housing complexes are constructed over the land area of 110 acres. Presently it is known as Karnataka Institute of Medical Sciences (KIMS)
The hospital has got all facilities and is equipped with Blood bank, X-ray unit, Pharmacy, Intravenous fluid production unit, Nursing centre and such other facilities needed for the care of patients. Dialysis, Endoscopy, Ultrasound, Plastic and Thoracic Surgery, and such other special clinical facilities needed are also available in this hospital.

The hospital has a large team of expert physicians, modern equipments, and modern laboratories with its own drug unit functioning in its premises. The hospital is extending all faculties of medical services to district and has grown into a large Grade-I hospital in the district. There are 20 beds in Leprosy ward and 40 beds in Tuberculosis patients ward in the hospital.

Karnataka Mental health Institute

It was started in Dharwad in 184 and initially it was a lunatic asylum. Segregating and protecting the mentally unsound from the general public was the objective for this hospital and British government confined they up in one place and taken work from them after providing medical care and food. The asylum was renamed as mental hospital in 1943 and it was under the supervision of the district civil surgeon till 1960.

This hospital has its own health care members needed as medical staff, experts team and other clinical facilities. Now this institute in known as Dharwad institute of mental health and neuro sciences and is being a teaching hospital it is imparting education to post graduate medical students and nursing students. On an average 110-120 patients are being treated per day here.

Cancer Hospital:

As a result of the sincere efforts of an expert doctor like B.R.Patil the Karnataka cancer therapy and research institute was established in Hubli to overcome the lack of facilities of cancer therapy in north region of Karnataka. It become an autonomous body in 1986 and is one of the nine regional institutions.

At present it has 150 bed capacity and aim of this hospital is to treat cancer patients and to educate the general public regarding cancer. It has all sophisticated equipments and 1060 cancer patients were treated initially and at present 15,816 patients are getting post treatment care and follow ups.
Other notable hospitals in this area are chitaguppi hospital, Hubli co-operative hospital, vivekanand Hospital, Tatvadarshi Hospital, Railway Hospital, SDM dental and Multispeciality hospital and so on.

Rural Health Programme

Under the guidance of government of India the state Government, took up massive health related programmes and activities to be implemented through various Primary Health Units and Primary Health Centres with the objectives of increasing availability of all medical facilities in backward areas, rural areas, upgraded medical checkups facilities, to improve quality of treatment, maternity health care facilities, protecting and promoting the health of children and prevention and control of all types of epidemic diseases by undertaking various types of preventive measures. The other notable functions also include making the good the lack of health care services and promoting health of people and family welfare measures.

Community Health Centres

In taluk level the Community Health Centres are established usually for a population for one lakh and it covering four Primary Health Centres in rural and urban areas. Usually, community health centre include thirty to fifty beds.

These centres functions is to act as referral hospitals for other medical centres in the area and health centres, hospitals those are located under its jurisdiction. It also provides various types of specialist services to different types of patients. Hirekerur, Byadgi, Naragund, Shiggaon, Bankapura, Mundaragi, and Hangal in the Dharwad district have Community Health Centres.

Primary health centres:

With the objective of providing medical aid and health care to rural population primary health centres are established. These centres are ensuring prevention of diseases and providing basic primary medical care besides organising public health programmes and other many health care services, such as state and national health programmes like malaria eradication, tuberculosis and leprosy control programmes, immunisation to pregnant women and children and control of epidemic diseases.

These health centres are attended by family planning programmes. There were two types of primary health centres prior to this, viz. Indian
government type centres and Mysore type of primary health centres. Indian type of centres were established after 1957 and each of these centre would cover the health care of almost 30,000 people.

Each of these centres is supplied with medicines and drugs of rupees worth 30,000 every year. The health care team of these centres included one medical officer, four nurses, one compounder, one health visitor, one junior medical examiner and other medical staff. Additional activities in these centres increases gradually as the health programmes increased. The staff members were also enhanced. In 1992-93 in the district there were 85 Primary Health Centres witha total of 646 bed strengths and there are about 600 Sub-Centres under the control of these Primary Health Centres in the district.

Primary Health Units:

Drugs centres, local fund dispensaries, composite dispensaries, taluk board dispensaries, ayurveda, municipal dispensaries, government clinics and homeo dispensaries which were functioning earlier in the rural areas were identified and named as primary health units in the year 1978. Similar to primary health centres these primary health units take care of health needs of the population and their health progress.

These centres also participate in national and state health care programme and health projects. 15 to 20 thousand population is generally served by these units. The health programmes undertaken in their areas is reported to primary health centres by these units. The health care team in these unit comprises of medical officer and to assist him there will be nurses, compounders, midwives and menial staff. Each unit is attached with a maternity ward. In the year 1991-92 there were 35 units, but at present there are 33 units in the Dharwad district.

Family Planning:

Under the slogan health for all by 2000 the national family welfare programme has become an inevitable part of the public health. To reduce the net progeny ration to one child family planning programme adopted the policy of 2 kids per family by the year 2001 has been the motto of the government.

The main objective of this programme is to reduce the present rate of birth 27.9 to 21 and infant mortality rate from 70-60 and to increase eligible
couple safety ration from 47 to 60. In 1949 the Indian family planning
association was established with the concept of family planning was
recognised officially as a national programme in India in 1952 and is aimed at
that the nation is able to achieve economic and social development through
this programme.

In the second five year plan this programme was applicable to the
entire population. The objective of the national family planning programme is
not only to control growth of population but also to ensure living quality of
population in general. It is laying emphasis on small family norms and well
being of children and mother and also aims at securing and quality life to
people and conveying message of benefits of adopting small family norms to
general public.

**Family Welfare Committees:**

At the taluk level, sub division level and district level family welfare
committees are functioning in the district. Every month these committees
meet to review the progress of the programme and to submit a report to their
official superiors. A bureau of family welfare is situated in the premises of the
district health and family welfare officer’s office under the direct supervision of
district health and family welfare officer.

This division constitutes division of health education, a unit of infertility
surgery and a division of statistics. In the sterilization unit a surgeon, a nurse
and one assistant are working. These staff members assist the expert
surgeons and conduct minor surgeries and also in the operation camps.

In the health education section the field health teachers and the district
health instructors organise and manage education training camps about
family welfare, advertisements and such other programmes. In Dharwad
district there are 10 urban family welfare centres.

**School Health programme:**

It came in to effect in 1978 after the system of appointing multipurpose
health workers in primary health centres, all the primary health units and
primary health centres to conduct health examination to school children. This
programme provides them with appropriate medicine and medical check up of
the school students. Apart from this it also provides the all types of
immunizations necessary for children of particular age.
Integrated child Development Project:

At the national level in the year 1975 this programme was started. The purpose of this programme is to all round development of child and this is a multifarious programme. Women in the age group of 15 to 44, pregnant women, nursing mother and children of below six years of age are the beneficiaries of this programme. To improve the health status and longevity of those suffering with malnutrition, good food with all nutrients are provided through Anganawadis.

Medical officer of primary health centres and anganwadi workers are responsible for the health check up and other components of this programme. They record all the necessary health data cards and give education according to needs. In case of additional necessity of treatment for major problems, they advise the patients to go to primary health centres, taluka hospitals or to district hospitals. Children up to age of 6 years, pregnant women, infants and mothers are administered vaccines like DPT, BCG and so on.

Drugs Control:

For the protecting the health of consumers as a overall objective the process of manufacture of medicines their sale and their quality are regulated by the drugs and cosmetic act 1940. With a view to secure quality of medicine to the people the office of the inspector was established in Dharwad under the provisions of this act. This office works under the drugs controller, Belgaum division, Belgaum. The inspectors of drug inspect the premises of the manufacturing units of the drugs and the cosmetics in the district.

As mentioned above in detail about the Dharwad district the setting selected for the present study is-

Selected rural community of Dharwad district, Karnataka.

The rationale for selecting this setting was as follows:

- Familiarity with this setting
- Availability of study samples
- Expected co-operation from the post menopausal women of selected areas

3.5 POPULATION

A definition of population says that, it is the total sum of subjects in which a researcher is intended to conduct research. Population is not
restricted only to human beings.

It comprises all the data maintained by particular hospital, the samples of various types like body fluid samples which are taken from the patients to diagnose the disease in any health care organization and so on. Whatever may be the fundamental part, the population includes entire aggregation of all elements in which the researcher is intended for the study.

The combining of subjects that reform to formulate eligibility and those are reachable as population for a study are known as accessible or source population.

The all total number of cases of cases about which findings can be generalized by the researcher is known as target population. Polit and Beck

This under taken research title population comprises female who attained menopause living in rural community.

**Brief description of health care system of rural population:**

Today’s world our nation India is drawing the attention of the world not only due to explosion of its population but due to other reason such as its already existing as well as day today emerging profile of health problems and large scale transformations of its political, economical and social situations.

After 7 decade of getting independence a majority of urban and growth related developmental activities have been implemented and nearly 716 million of rural population which is around 72% of total national population, and among these half are still below the poverty line and continuing to fight for a hopeless and always losing the battle for survival and health.

The all the policies which are implemented till time are concentrating only on the growth and development of economy and not on the equity and equality, they have again increased the gap between the rural and urban area. Around 70% of all the deaths which occur in nation among them 92% are recorded from the cause of communicable diseases and these deaths are more commonly occurred among the 20% of the poorest population.

Some development has been done since independence of Indian in the area of health status of its population and this is shown in the change in the some indicators of health. Due to all measures cumulative impact and a launching of national health programs for the life, in the areas of nutrition and
shelter the population life expectance increased from 33 years in the year of 1947 to 62 years in the year 1998.

The indicators like infant mortality rate decreased from 146 per thousand live births in the year 1961 to 72 per thousand in the year 1999. The under 5 years rate of mortality decreased from 236 per thousand live births in the year 1960 to 109 per thousand in 1993. But these indicators remain high among the different states, different regions, among different socio economic classes and with regard to different gender. Even these improvement appears significant then also these can be only comparable even today only with the poorest countries like sub Saharan Africa.

The population who lives in rural area of nation who are main victims of the policies of government work in most dangerous conditions and live in very pathetic conditions of living. Birth practices which are unsafe and unhygienic, unclean drinking water, poor nutritional status, poor human habitats and poor sanitary and degraded environments are the big challenges to public health systems in India.

Most of the population who live in rural areas are small stack holders, labourers and artisans who are having limited resources that they use mainly on food and basic necessities such as clothing and shelter. They are limited resources to spend on their health needs. The rural daily wage worker who works hard in adverse environmental conditions to produce food for the others is most of the time first victim of epidemic diseases.

**Practices and problems related to health in rural India**

Indian rural population in general and in particular tribal population of nation have their own beliefs and practices regarding health. Some tribal groups still have a belief that a disease is always caused by evils, curse of god or by the breach of some taboo. They therefore find remedies in the form of magic or religious practices. On the other side some people of rural area have continued to use rich, traditional and undocumented system of medicine such as ayurvedic medicine, siddha, unani and naturopathy to maintain positive health and remain free from diseases.

But the socioeconomic, cultural and political situations which are arising partly from increased exploitation of human and other material resources have caused danger to the naturally healthy environment. The basic nature of rural
health problems are also related to lack of health knowledge and health consciousness, inadequate child and maternal health services and hazards related to particular occupation.

The most of the deaths which occurs in rural area are preventable in nature and are generally occurs due to infections and communicable diseases, respiratory and parasitic diseases. First major cause for morbidity pattern in rural areas is infectious diseases. Waterborne infections which cause around 80% sickness in India and are responsible for majority of morbidity in world and India. Per year around 1.5 million deaths and loss of 73 million workdays are due to waterborne diseases. There are 3 groups of infections are commonly spread among the rural population in India. These are as follows-

a. Diseases relate to gastrointestinal tract such as diarrhoeal diseases, enteric fever, amoebiasis, hepatitis, worm infestations and poliomyelitis. And about 100 million people suffer from these gastrointestinal related diseases like diarrhoea and cholera every year.

b. The diseases those are carried in the air through respiratory tract by coughing, sneezing or through breath and these include measles, tuberculosis, pneumonia and whooping cough. At present there are about 12 million tuberculosis cases. And about 1.2 million cases are every year added and around 37,000 cases of measles are added every year.

c. Some infections which are more difficult to treat include malarial diseases, filariasis and kala azar. These are many times results of the change and development. The development irrigation brings with malaria and filarial diseases. The over use of pesticide has leaded a resistant strains of malaria and other similar diseases. Of about 45 million people are carriers of microfilaria, among them around 19 million are active cases and remaining 500 million people are at risk of developing the disease filaria.

With regard to disease leprosy every third person who is suffering from the disease leprosy is a Indian person. Nearly 1.2 million cases which are existing about 500000 cases are added to these existing cases every year. The problem malnutrition is one of the dominant health related problem which is prevailing in the rural India. The problem is very widespread and prevalence rate of some nutritional diseases like protein energy malnutrition, vitamin A
deficiency disorder, anaemia related problems and deficiency disorder of iodine are more compared to other disorders related to nutrition. According to one estimation there are nearly 100 million of children’s do not get their two times meals in a day. Approximately 85% of children residing in rural areas are undernourished and due to this more than 150000 children die every year.

A very recent research survey which was conducted by rural medical college, Loni shows that, in the rural areas of state of Maharashtra which is one among the developing state diseases and mortality rates those are related to pregnancy and childbirth are more and these are especially predominant in the rural areas of state because of following reasons-

- Childhood marriages or very early years of marriage: In the state incidence of early marriage is high about 72.5% of female aged 25 to 49 years marry before the age of 18 years and this is found in the well literate areas of state (i.e. literacy rate 80%)
- Getting pregnant in early age: about 75% of married women will have their 1st pregnancy before they reach 18 years of age
- All women without any discrimination do hard work till third trimester of their pregnancy
- 51% of home deliveries occur in most of the areas those are conducted by traditional birth attendant and most of these conducted in unhygienic conditions.
- Antenatal check up is very less among these women and only 28% of women will attend antenatal check ups before the 16 weeks of their pregnancy.
- The completion of antenatal check up are also minimal and only 67% of pregnant women complete their all antenatal check ups.
- The postnatal check up rate is also low and it is about 30%

Above all these problems the injuries and illnesses related to agriculture and environment are also quiet common in rural side of nation, these injuries may include agricultural accidents, poisoning of pesticides, animal injuries like snake bite, dog bite and insects bite, animal related diseases, respiratory and dermatological diseases, problems of oral health, social and psychological
related problems, population specific problems like old age and adolescents problems and overall the disorders related to addiction of substances.

The high growth of population in the rural areas nullifies the all efforts which are taken for development of area. The population of rural area which was about 299 million in the year 1951 has increased 750 million in the year 2001. Since independence the state is taking all the efforts through many health related programs to deal with all health related problems of rural areas. The new national population policy 2000 has given a new holistic approach to deal with all these problems. For example improvement in quality of life for all without having bias, on the basis of gender, socio economic status and so on.

Two different types of status of health have been in evidence. The rural and urban health status and when rural health status is compared with urban one rural area stand below compared to their counterparts.

**Difference in health related indicators**

<table>
<thead>
<tr>
<th>Health related Indicators</th>
<th>Rural areas</th>
<th>Urban areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>716 million</td>
<td>286 million</td>
</tr>
<tr>
<td>Mortality rate</td>
<td>9.70</td>
<td>6.50</td>
</tr>
<tr>
<td>Infant mortality rate</td>
<td>80</td>
<td>72</td>
</tr>
<tr>
<td>Maternal mortality rate</td>
<td>438</td>
<td>378</td>
</tr>
<tr>
<td>Still birth rate</td>
<td>10.80</td>
<td>5.30</td>
</tr>
<tr>
<td>Deliveries by untrained people</td>
<td>71.0</td>
<td>27</td>
</tr>
<tr>
<td>Deaths attended by untrained people</td>
<td>60</td>
<td>22</td>
</tr>
<tr>
<td>Total rate of fertility</td>
<td>3.80</td>
<td>2.80</td>
</tr>
<tr>
<td>Vaccination rate</td>
<td>31</td>
<td>51</td>
</tr>
</tbody>
</table>

**Health infrastructure and policies for rural areas:**

The health related intervention which was dominated during the colonial period has resulted inequality of medicine system among the rural and urban areas of the nation. The modern medicine which was chosen by states after independence was highly selective in nature, which was centralized and given focus more on the urban areas than the rural areas.

This system failed to concentrate needs and requirement of majority of people that is to say people of rural areas who are poor and indigenous. The traditional indigenous health system such as ayurveda, homeopathy, unani,
Siddha, naturopathy and fold medicine system have been neglected by the people of policy makers and plan makers for the nation. Even after the launch of new national health policy 2001 these systems of medicines have gained less attention and low importance. The old concept of a family physician with social accountability has its roots in traditional system of medicines and this was accepted by majority of rural population of the country is become less popularised due to modern policies and plans related to health system.

The present system of medicine which have its roots in western medicine system is hospital based health system with education and training is supported by policies of state with funding has proved that the new doctors of this system are not concentrating and are not capable to meet the needs and requirements of health of the majority of public residing in rural areas where these services are mainly required.

A recent research study which was conducted by rural medical college by involving the general practitioners have shown that following important facts about the health system of the country-

- More than 80% of general practitioners follow the western system of medicine without having proper training in this area
- Most of the general practitioners i.e. about 73% consider health cost is most important factor than any other when prescribing the medicines without taking in to account of these medicines pharmacological properties.
- Most of the people i.e. about 75% were having knowledge of the state run primary health centres or sub enters those are situated at village level without having awareness regarding names of the medical offices or health workers in their own rural area.
- Majority of people were aware about different national health programs run by state but only few people were taken services and participated in them.
- Very few people 28% received health related information through staffs of public health system and majority of the people 68% received health related information through the channels of media and other means.
- Majority of general practitioners i.e. about 74% give family planning services to people and most commonly these include oral contraceptives
and condoms, and these general practitioners also provides services to antenatal mothers but very few women were registered with them.

- All the general practitioners will treat the cases of diarrhoea routinely but only few of these general practitioners were knowing the exact composition of oral rehydration therapy and very surprisingly none of them were knowing exact method of preparation of oral rehydration solution.

The present situation needs of the rural areas is manpower i.e. medical and paramedical manpower and these includes the public physicians, public health nursing and midwives and other paramedical workers like sanitation workers, laboratory technicians, public health educators, health guides of community and so on. The state is struggling lot to produce doctors in speciality areas.

Many of the rural health services which are provided are inappropriate to name some are oral rehydration packets instead of locally available water and boiled cereals, solution of sugar and salt and tea prepared by herbals these are culturally accepted by people of rural community.

The concept of primary health care which is appropriate in rural areas is remained sound only in paper because of the lack of interest and lack of attempts by the health care workers and professionals. The present system of services are not having the scope of involving the community people in the planning the execution of these programs to reach all people. These programs are having draw backs like no grassroots level health workers are to take the ownership of these programs and not integrating these programs with overall development.

**Health inequality and inadequacy among rural and urban areas:**

**Difference of health infrastructure:**

- Hospitals: Rural area 31%, Urban areas 69%
- Bed strengths: Rural area 20%, urban area 80%
- Dispensaries: Rural area 40%, urban area 60%
- Physicians: Rural area 4,40,000, urban area 6,60,000

The needs of health care services and incidence of all illnesses are two times greater in rural areas than urban area but the opposite situation is seen in distribution of heath related infrastructures and facilities in these areas compared to urban areas. The rural people are denied to access the needed
health care facilities as these are mostly focused on less percentage of people.

The urban middle class people in the country have ready to get health care services that compare best with other countries of world, but even minimum health care related facilities are not available to majority of rural and tribal population.

The health care services for the people of urban area is given by variety of clinical facilities, mega hospitals and many dispensaries run by the private, corporate sectors, voluntary and public sectors organisations on the other hand health services for the rural population mainly immunisation services and family planning services are provided by ill equipped hospitals of rural area, primary health centres and sub centres at village level.

Lot of improvement is seen in health care sector in the last 54 years. The first policy related to health services is the landmark in official health policy India after independence was the acceptance of the recommendation of Bhore committee in the year 1946 and which laid the foundations of comprehensive health services in rural area through the health concept of primary health care.

From the year 1952 onwards primary health centres were established in the rural areas of the country. These primary health centres covers 30,000 populations in the rural area and one sub centre at village level covers 5000 population at rural area. These centres cover the basic health services needed for the rural population. In the December 2000 their were 2935 community health centres, 22,975 primary health centres and 137,271 sub centres were available to give health services to rural population of country.

People of rural are unfortunate to note that due to imbalances in regions in country, the quality and type of health service which are being given, inadequacy and lack of motivation of the staff and less supplies in these centres have leading to less utilization of the infrastructures given to these centres.

It is noted here that there is an increased concentration of health care personnel to manage the heavy infrastructures in the urban areas. Among the 1.1 million registered medical practitioners who belong to various systems of medicine over 60% of them are located in urban areas of country. And when
we take modern system of medicine alone among registered these practitioners over 75% are practicing in urban area. As a result of these differences a more number of unqualified medical practitioners have been practicing in rural areas and this is leading pressure on the health sectors of urban facilities.

Secondary health care which is having main demand in rural areas has been ignored in respect to infrastructure investment and allocation of budget and facilities. Due to this the percentage of share of infrastructure in health care sector for rural areas has been decreased from the year 1951 to 1993.

**Less Public health expenditure and allocation of public money:**

The spending of money on the health care sector in India is estimated as 5.2% of gross domestic product of country and public health sectors investment is only 0.9% and is in not meeting the needs of the public health care demands of the country especially poor and needy people of rural areas.

All the five year plans allocate very less and less budget to health care sector in terms of percent of total countries budget. A lot of money from this less allocation is only spent on services related to family planning and welfare services. As is noted more than 75% of Indian population lives in rural areas and the health budget allocated for this area is very less and about 10% of total health budget.

In the rural areas the health budget which is allocated the most of it diverted toward the family welfare services and other national programs related to this through the channel of primary health care. According to one study more than 85% of allocated budget to the primary centres is spent on the salaries of staffs working in these sectors.

Inadequate health care services is due to lack of commitment for providing health care services is reflected in the inadequate infrastructures of health sector and low level of budgeting and also decreased support for the many health care services, decreased demands of the people and so on.

In the areas of grants for the research in medical sector more than 20% grants are given to studies conducted on the cancer and it is only responsible for death of the people 1% and less than 1% grant is given for the research on diseases of respiratory tracts and which accounts for the more than 20% of deaths especially for children and in rural areas.
Increasing commercialisation of health services:

The growing ineffectiveness of the public sector is slowly making poor people to depend on private sector for their health needs hence making them to spend large amount of money to these private sector or they have to depend only on mercy of quacks.

Also it depends on different regions the government most probably spend no more than 20 to 30% of total health spending. At the same time the shares of spending of private sector has increased from 14% in the year 1976 to 67% in the year 1993. Of about 67% of corporate hospitals, 63% of all clinics and 78% of all physicians in the country are working in private or corporate sector of health services.

A recent research study conducted by undergraduate medical student on the topic of pattern of expenditure among the families of rural people has revealed following facts about the spending pattern-

- Around 60% of income is spent on health related issues by 70% of the families
- Among the health care issued the money spend on secondary and emergency health services is about 93%
- About 56% of expenditure of money is done on men's health it means men receive treatment preferentially.
- Neglected portion of health expenditure is adolescents and elderly peoples
- Higher percentage of expenditure is done by poor families than the rich people according to their income because of inadequate services what they get at public sector force them to spend on private health sector
- Many of health insurance packages are available to urban population when compared with rural population. The people of unorganised sector in rural area do not have any insurance coverage

Concept of Primary Health Care

The world Health Assembly implemented a programme known as Rural Health Scheme. This programme was adopted by Government of India in May 1977. The main purpose of launching of this programme is to sensitize the people of India to have self efforts to have healthy and a better life. So that is,
placing the people’s health in people’s hands. This programme has three elements of the health care delivery system in rural areas of the country. These three elements are according to the suggestions of Shrivastav Committee (1975). In the year 1978 Alma–Ata Conference by World Health Organization and UNICEF together implemented Primary Health Care strategy. This strategy is known as Health For All by 2000 AD. To achieve Health For All Primary Health Care is believed to be important.

**History Of Primary Health Care**

The idea of primary health care was initiated in India by Bhore Committee in 1947. The Bhore Committee otherwise known as Health Survey and Development Committee was setup in 1943. The purpose of this committee was to study and to give suggestions to improve the health care services. The committee in its final report suggested in the year 1946. The Chairman of this committee was Sir Joseph Bhore.

This committee suggested to government of India that their must be integration of preventive and curative services at all levels of health care delivery system. This committee proposed that if people’s health is to be improved preventive services are to be given importance along with curative services and also had a opinion that the developments in other sectors of life also will be a stepping stone towards health development.

For ex- improvements in sanitation, education, housing, food, employment generation, provision of safe water to the public. Another proposal of this committee was establishment of Primary Health Centers for every forty thousand (40,000) population in rural areas. To supervise thirty (30) primary health centers there must be a Primary Health Unit (PHU). Primary health unit must have hospital of 650 beds. The patients can not be treated at the primary health centers should be referred to District Hospital for specialty services. But these proposals were not implemented that time satisfactorily because of lack of resources.

The essential qualities of primary health care are as follows- the primary health centre services should be provided to all people irrespective of their cast, religion, economic status. The primary health services should be acceptable by all sections of the community and people must actively participate in these health services. Primary health strategy needs efforts by
other sectors of the society like education, housing, agriculture, social agencies because development in life will lead to healthy life as these are dimensions of health.

**Challenges of primary health care in India:**

Provision of quality primary health services to a large population in India is a challenging task. In India the most important challenges of primary health care are communicable diseases, mother and child health care issues, deficiency of nutrition such as quashiorkor, marasmus, Vit A deficiency, problems related to poor environmental sanitation, population problems and inequality in providing services to urban and rural population.

There are also non communicable diseases like heart diseases, diabetes, cancers of different type, mental disorders, diseases of respiratory system and accidents are increasing. Life expectancy of people is increasing therefore population of elderly increasing. This made to necessity of increasing health care services to elderly. On the other hand urban population is increasing like anything where services are limited. These gave rise to development of urban slums and related health problems. These all are challenges to primary health services.

The another challenge is providing client oriented services. The primary health care services should be client oriented. In India, where many types of cultures, different practices providing health care services according to their culture is really a difficult task. If services are not according to client’s needs, client satisfaction will not be their and this leads to poor utilization of services. Primary health care services are also facing the problem of poor infrastructure and poor man power. When we solve this problem we are able to provide client oriented services and according to Indian Public Health Standards (IPHS).

**What are the solutions to this?**

The existing primary health services can be made successful by some of the solutions such as

- Make the primary health care services flexible but not too rigid.
- Develop the services according to local needs and according to acual and potential health problems of the people.
• Develop resources of all types at all levels.
• Investigate why people opt for private health services but not government services.
• Stress on interpersonal relation between service provider and clients.
• Have strong referral services.
• Increase the morality of the health care providers.
• Develop and sustain proper system of evaluation.
• Adequate budget from the government.
• Ensure the commitment of policy makers.
By these strategies we can certainly improve the primary health care services.

3.6 SAMPLE AND SAMPLING METHOD

A subset of cases under study is known as sample and these are chosen for a research title under study. Selection of part of cases that represents the total population so that the inference depends upon findings of the study about the population can make is known as sampling.

or

Sampling is phenomena of segregating the part of population which have the characteristics of entire population, facts about study can analysed

The most lower and fundamental element about which data is gathered is known as element. In nursing research studies the elements are usually human beings.

The important consideration in any quantitative research in assessing a sample is its representativeness. A sample whose key features are closely related to entire cases is known as representative samples. (Polit and Beck)

Sampling is a procedure of choosing typical number or group of people from the whole population of the research study. Sampling is used in all fields and in day to day activities. Sampling is done in the research study because it is not possible and not feasible to study whole population. Therefore a part of whole population is selected in the research study.

Population means all people in the particular area. Population depends upon the type of research study. Generalization of the research results can be made to the whole population. For example — The researcher wants to study the job satisfaction of nurses of Karnataka. In this particular research study,
population will be all the nurses who are working in Karnataka.

Target population is the one which comprises total number of study samples who meet the criteria of the research study. For example—A researcher is conducting a study on job satisfaction among nurses who went to United Kingdom (UK) from India. In this situation the researcher selects the target population are all the nurses who went to UK from India only. The nurses who went to UK from other country will not be the target population.

Accessible population: are the one who will available at the time of data collection. For example—a researcher wants to conduct the study on prevalence of anaemia among pregnant women who meet the criteria, but data will be collected only from pregnant women who are present at the time of data collection. The pregnant women who went to field or out of station at that time is not considered because these women are not accessible for data collection.

Sample: means the people who are representing the target population and among them researcher conducting the study. In other words sample means representing members of whole population who are chosen by the researcher to take part in the research.

There are some of the purposes of the sampling, those are as follows

- Economic purpose- this helps the researcher to save the resources such as money, man power, material and time. It is not possible and also not feasible to study the whole population. Therefore the researcher can make sampling to save the resources so it is economic purpose/
- Quality of data—if the entire population is taken for study one can not maintain quality of data. There will be lacunas in data collected. Therefore this is the another purpose of sampling.
- With sampling we can find out the research study results fast. But it is not possible in studying whole population.
- Accessibility will be easy when we do sampling.

Sampling process—sampling process has fallowing steps.

1. Find out target population and describing it- target population is the total number of study population on whom the researcher does the generalization of the study results. Target population meets the criteria of
the research study. Therefore target population of the research study should be found out and describe its attributes. This is important step in sampling process.

2. Give detail information of the population who are accessible for the study and decide the method/technique of sampling. This is important because it is not possible to have accessibility with every one from the target population.

3. From the inclusion criteria and exclusion criteria for taking the particular sampling. These criteria help the researcher to have clear idea of samples and their will not be any confusion.

4. Decide on the sampling technique- this depends on the type of research the researcher doing, which kind of population included in the research, what are the factors are studying in the research, what resources are available and also knowledge level of the researcher. This step in the research process is important. Here researcher decides whether to use probability or non probability sampling technique.

5. Find out sample size to conduct the research smoothly. Size of the sample depends upon many factors like kind of research, place of research, risk involved in research and resources available.

6. Determine the sampling plan to reduce the further problems.

7. Final step is selecting the sample from accessible population. The researcher can start the data collection.

**Important aspects which supports sampling—aspects which are related to the researcher.**

a. If the researcher not having appropriate knowledge/experience of research and its methodology it becomes difficult in sampling process.

b. If the researcher not interested in research work and its results then sampling will not be correct.

c. Honesty also important in sampling process. The researcher must be honest otherwise their will be problems in entire research. The researcher must honestly take part in each step of research.

d. More workload for the researcher affects the sampling process. Their must be adequate facilities.
e. During the sampling and conducting entire research their should be proper supervision by the skillful supervisor. This helps in conducting research effectively and also doing the sampling.

Aspects related to samples
a. If the sampling technique what the researcher follows is not correct then it will be problem in the sampling process.

b. Their must be appropriate sample size- sample size should not be too small or too large. It should be adequate according to the type and nature of the research study.

c. The researcher must select the appropriate sampling frame.

Other aspects
a. Inadequate time- to conduct the research study effectively their must be adequate time. Otherwise research study will be disturbed. Researcher can not give proper results.

b. Sampling process also get altered if the study area (location) is too big, because large wide location need more of resources and time. If the large area is included, it makes the researcher tired of his job and sampling process also alters.

c. Their must be cooperation from various authorized people to conduct the study. Cooperation must also be their from study participants otherwise sampling will be not appropriate.

d. Sometime disasters whether those may be natural or man made will hamper the sampling process.

Techniques of sampling- there are many method or technique of sampling. But for convenience these are classified in to two wide ranging groups, those are probability and non probability sampling techniques.

1. **Probability sampling technique**—this technique is according to the theory of probability, means quality of being probable or likely to happen. In this technique researcher selects the study population randomly. Here every sample from that study population has equal chance to participate as sample in the study. This method increases the importance of samples in a study. In this method their will be no difference of opinions because samples are selected randomly.
Characteristics of probability sampling

1. In probability sampling technique there is equal chance to every individual from the population to get selected in the study.
2. This technique involves randomization.
3. The individual (sample) who is selected for the study will be acting as on behalf of the whole population.

The probability sampling technique divided in to five steps

1. **Simple random sampling technique**—in this method the investigator will make a list of all individuals from the accessible population. This is known as sampling frame. From the sampling frame samples are chosen by following methods.
   - Lottery method—this is one of the old method. Here for all members of the population, one number is allotted. All the numbers are put into a bowl and mixed well. Then numbers are chosen from the bowl by following blind-folded method. The chosen number individuals will be selected as samples to participate in the study. Lottery method can be followed by replacement or non replacement method.
   - Using the random number tables—this method is common and accurate. In this method the researcher first prepares the list of individuals / members of the population. Next researcher chooses number by blind-fold from random table till reach to sample size.
   - Using the computer—if study population is large the researcher uses computer to select the samples.
     Simple random sampling method is easy to collect the samples, free from biases, accurate( inaccuracy is minimum), fair method, it requires some knowledge of population prior to the study. But this method also has some of the disadvantages such as full list of all members of population needed and this list is to be accurate. If the study area is large, this method is not feasible. Knowledge about the population for the researcher is not fully required, and finally this method requires lots of resources in the form of money and time.

2. **Stratified random sampling**—I this method the researcher makes the different strata of the whole population. These strata are homogenous. Afterwards picking up the study subjects from each strata proportionally.
Further the strata are classified as per personal characteristics of the study population such as age, sex, education, religion, occupation, economic status, nutrition etc.

Based on the subject’s proportion and weightage stratified random sampling method again classified as proportionate and disproportionate stratified random sampling.

Advantages of stratified random sampling—this methods includes subjects from all representative groups of the population, researcher when they want to find out the relationship between groups this method is better because comparison can be made. Even smallest groups for the population can be included. Some of the disadvantages are—this method need information which is accurate from every stratum, needs large population for the study, their will be risk of wrong classification.

3. **Systematic random sampling**—In this method every \( k^{th} \) person from the list should be selected. For example every \( 10^{th} \) patient from the list of patients in a hospital, systematic random sampling is convenient, simple, samples are evenly distributed in the whole population, less resources like time and money is enough. But some of the disadvantages are—sample may be biased at some time. If sampling frame is not appropriate it become difficult for selecting the samples.

4. **Cluster multistage sampling**—this method is used when study area is large. For example- a study on attitudes of Indian nursing students, then divide the whole Indian nursing students into clusters.(cities).cluster sampling method is convenient for larger population, it is economic, fast and easy method, researcher need to make list of all members, study area already available as districts, states etc. But some of the disadvantages are – representativeness of the samples will be least. This method is inappropriate for smaller study area.

5. **Sequential sampling**—in this method researcher selects the sample in sequence, means selecting sample not at once, because in this method sample size is not fixed. The researcher first take the small sample and study and make the conclusion. If researcher unable to conclude the results then take more samples. This will continue till researcher draws the conclusion.
**Non-probability sampling**

In non-probability sampling there is no equal chance to participants for each subject. Here subjects are chosen by choice. Therefore their will be no proper generalization of the study results. Study subjects are selected by purposive or according to the accessibility of subjects. This method can be used when researcher not having adequate resources like man power, money, material and time.

**Types** - non probability sampling types are as follows.

1. **Purposive sampling**—researcher selects the study subjects based on the purpose of the study. Therefore this method is known as judgmental or authoritative sample. The way the researcher chooses according to the means some subjects are not fit to be the part of the study. purposive sampling is appropriate method in exploratory studies. It does not require much of resources but the researcher should have adequate and complete knowledge of study population. Bias may occur because generalization is not done, it limits generalization.

2. **Convenience sampling**—it is common method. Subjects are available readily. It is easy technique and fast. The researcher selects the samples because they are available conveniently. Their accessibility is easy. This technique is less time consuming. But does not include whole population. Results can not be generalized.

3. **Consecutive sampling** - this technique includes selection of all accessible subjects in the study as sample. This technique offers an opportunity to draw the generalization in a better way because it includes all population. But the samples must be fit into inclusion an exclusion criteria. But in this method researcher can not have a fixed sample size, there is no guarantee to selection of representative sample. Inferences will not be appropriate.

4. **Quota sampling**--- in this method researcher selects the samples who are proportionately representative. In this method any trait is included as basis of quota such as personal variables of study subjects like age, gender, cast, religion, economic condition, social status etc. Example- the basis of
quota is B Sc nursing level, the researcher includes 100 sample means he/she should select 25 students from first year, 25 from second year, 24 from third year, and 25 from fourth year. But there is no random process.

5. **Snow ball sampling**—this technique is used to identify the potential individuals in the study. Because subjects difficult to find out. This type of sampling is done in rare studies. Example – prostitutes. This technique functions as a chain or referral. Here the researcher takes the help of first subject to identify next subject of similar characteristics. The researcher study the first sample till he gets the next sample then continue.

The sample of present study comprises post menopausal women of selected rural community of Dharwad district, Karnataka. Five hundred (500) post menopausal women’s were selected for study.

### 3.7 SAMPLING TECHNIQUE

The act of scrutinizing a small part of the population that express feature of entire original population is called sampling. Sampling techniques are generally classified as either probability or non probability sampling techniques.

Random selection of study elements is included in probability sampling technique. In this technique researchers can specify the probability of an each element from the population that can be included in the study as a sample. This sampling technique is the more respected among two sampling technique because it has greater confidence can be placed in the representativeness of the type of samples.

When elements are selected by non-probable methods is known as non-probability sampling technique. This technique has no way to estimate the chanceof each subject is included into the study. In this technique all subject does not have a probability of inclusion into the study. (Polit and Beck)

The **probability cluster sampling (3 stage)** technique was used in the present study.

Cluster sampling technique consists of random sampling of units successively, i.e. the first unit is large groupings or clusters. Selecting samples successively from general population to small units such administrative units as state, district, talukas, villages and so on. This
approach is often called as multistage sampling. The resulting design of sampling can be described in terms of the number of stages used for the process.

By simple or stratified methods the clusters can be selected. The final selection from within the cluster can be done by using simple or stratified random sampling technique.

Than any other types of probability sampling techniques sampling by cluster method is more cost effective and realistic method especially when the population is more and largely scattered.

3.7.1 The sampling technique followed for present study is as follows -

Dharawad is the administrative centre for entire district in Karnataka state of India, Situated in southern part India. Dharawad had population about 1847023; male comprises about 937206 and female about 909817 shown in census of 2011.

Dharawad district accounts for 3.0 percent of the total population of the State. Five Sub Divisions of District (Taluka’s) are – Dharawad, Hubli, Kundgol, Navalgunj and Kalghatgi.

Stage I: Among five sub divisions (Taluka’s) of Dharwad district 2 Taluks’s, i.e. Hubli and Kundgol were selected at first stage by probability random sampling technique.

Names of all the talukas is written in different chits. All these chits are put into a bowl and randomly two chits were taken out for the selection of the two talukas for the study.

• Hubli Taluka: According to 2011 census, Hubli Taluka consist of 58 villages with total rural population of 1,42,807, among this males and females are 72,980 and 69,827 respectively.

• Kundgol Taluka: According to 2011 census, Kundgol Taluka consist of 87 villages with total rural population of 1,46,842, among this males and females are 75,383 and 71,459 respectively.

Stage II: At this stage total 10 villages (i.e.5 villages from each Taluka) were adopted to gather the data by simple casual (random) sampling technique.
The simple probable sampling process which is followed to elect the name of two taluka in first stage was used to select the villages at this stage. The name of the villages and population is as follows:

### Table 1: Population statistics of Hubli and Kundagol Taluka

<table>
<thead>
<tr>
<th>Taluka</th>
<th>Name of the village</th>
<th>Total population</th>
<th>Males</th>
<th>Females</th>
<th>Post menopausal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hubli</td>
<td>Byahatti</td>
<td>11,384</td>
<td>5,705</td>
<td>5,679</td>
<td>639</td>
</tr>
<tr>
<td></td>
<td>Hebsur</td>
<td>6,245</td>
<td>3,152</td>
<td>3,093</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td>Kirasur</td>
<td>3,842</td>
<td>1,921</td>
<td>1,921</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>Ingalhalli</td>
<td>4,917</td>
<td>2,485</td>
<td>2,432</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td>Bhandiwad</td>
<td>4,079</td>
<td>2,116</td>
<td>1,963</td>
<td>233</td>
</tr>
<tr>
<td>Kundagol</td>
<td>Devanur</td>
<td>3,111</td>
<td>1,631</td>
<td>1,480</td>
<td>208</td>
</tr>
<tr>
<td></td>
<td>Betadur</td>
<td>4,497</td>
<td>2,307</td>
<td>2,190</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>Hanchinal</td>
<td>2,110</td>
<td>1,100</td>
<td>1,010</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Inamkoppa</td>
<td>1,175</td>
<td>609</td>
<td>566</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Bilebal</td>
<td>1,333</td>
<td>694</td>
<td>639</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>42,693</td>
<td>21,720</td>
<td>20,973</td>
<td>2,412</td>
</tr>
</tbody>
</table>

**Stage III:** At this stage, list of post menopausal women were prepared from Byahatti and Hebsur villages as these villages had more number of postmenopausal women (639 & 352 respectively) than other villages.

And 500 samples were selected by proportionally from Byahatti (322) and Hebsur (178) according to following formula by lottery method of probability simple random sampling technique.
No. of Samples from Byahatti

\[
\text{No. of Samples from Byahatti} = \frac{\text{No. of Post menopausal women of Byahatti}}{\text{Total post menopausal women of Byahatti & Hebsur}} \times \text{Samples required}
\]

- No. of Samples from Byahatti = \(\frac{639}{991} \times 500 = 322\)
- No. of Samples from Hebsur = \(\frac{352}{991} \times 500 = 178\)

**Brief Information about Byahatti and Hebsur villages:**

**Byahatti:**

Byahatti is a village located in Dharwad district and it comes under Hubli Tehsil of Karnataka state. It has 6551.21 hectares of a total geographical area and comprises the total population of 11,384 according to 2011 Census of Government of India. The village have about 2,395 houses and it is nearest village to town city Hubli and is about 16 KM away.

The village code of Byahatti village is 602389 as per the information of Census of 2011. It has facilities like public and private bus services, near railway station and other required facilities.

**An overview about the village:**

- Gram Panchayat: Byahatti
- Block / Tehsil: Hubli town
- District Headquarter: Dharwad
- State: Karnataka
- Total area of village: 6551.21 hectares
- Total population: 11,384
- Total houses: 2,395
- Near town place: Hubli

**Facilities:**

**Gram Panchayat:** The village has gram panchayat office

**Schools:** this village has one government primary and high school and apart from this it has 1 private school.

**Transport:** this village has good transport facilities from nearest town and district head quarter. Private as well as government bus facilities is available and small passenger vehicles are also available for the purpose of transport
Sanitation: The village sanitation is maintained in good condition and environment is clean

**Health facilities:** There are private medical practitioners are available in the village to give the services related to health. People also follow the indigenous system of medicine for their health needs.

**Hebsur:**

The village Hebsur is located in Dharwad district and Hubli taluka. It is 32 km away from the district place Dharwad and the distance between taluka place Hubli to Hebsur is 22 km. It is a medium-sized village of population size about 6,245 according Indian Census 2011. It covers 2946 hectares of total geographical area in the district and has about 1,276 houses in it. The nearest town of the village is Navalgund and is about 1.6 km away from the village.

**An overview about the village:**
- Gram panchayat office: available
- Taluka place: Hubli
- District place: Dharwad
- Nearest town: Navalgund
- State: Karnataka
- Total area covered: 2946.59 hectares
- Total population: 6,245
- Total houses: 1,276

**Other facilities:**

**Schools:** Village have one primary government school

**Transport:** The village is located in state highway and it has a good transport facility from government and private sector.

**Sanitation:** Village has clean environment and sanitation is good

**Health facilities:** Private and indigenous medical facilities are available
Schematic representation of sampling process is presented as follows:

1. **Stage I:** Simple Random sampling
   - **Dharwad District**
   - **2 Taluka’s** (Hubli and Kundagol)

2. **Stage II:** Simple Random sampling
   - **10 Villages**
     - Population: 42,693
     - Post Menopausal women: 2,412

3. **Stage III:** Proportional samples by Simple Random sampling
   - **500 Samples**
     - From Byahatti and Hebasur

*Fig 3: Schematic Representation of Sampling Technique*
3.8 CRITERIA FOR SAMPLING

Among the defined population whom is included in the study is to be specified by the researcher is known as eligibility criteria. An inclusion criterion specifies the characteristics of the population that to be included in the study. Sometimes population is specified in terms of those characteristics that people may not possess is known as exclusion criteria.

The criteria of eligibility in any research study may indicates one or other of the following factors-

**Costs:** Cost constraints are reflected b some criteria’s.

**Practical constraints:** These are the difficulties in including people in the study because of various practical constraints.

**Ability of people in the study participation:** Characteristics or conditions of people that may allow or may not allow participating in the study.

**Consideration in the design:** This is related to design selected for the study and internees and extraneous sustainability of the study. *(Polit and Beck)*

The study samples were selected keeping in view the following predetermined criteria.

### 3.8.1 Inclusion criteria:

- understand, comprehend and respond in English / Kannada
- of age 45-55 years
- inclining to be involved into study
- Present at time of collection of data.

### 3.8.2 Exclusion Criteria:

- Post menopausal women who were having any behavioral problems as reported by their health care workers/family members

3.9 DATA COLLECTION TECHNIQUES AND INSTRUMENT

**Data collection Technique:** Structured Interview technique

Structured interview technique is a method of data collection by asking questions to the sample orally in either face to face interview by using structured instrument. This method has following advantages-

- The response rate is to be high in interview which is conducted face to face than other methods.
The people who cannot fill out a questionnaire for them it is a very suitable method for collection of data.

For ambiguous or confusing questions it offers some protection. Whether is there any misunderstanding of the questions by the people is determined by interviewer and can clarify matters there itself.

In depth information can be obtained by this method.

Samples are less likely to leave a question unanswered in an interview method.

By considering all above points a structured interview method is selected for the study to collect necessary data.

**Selection and development of data collection tool**

Instrument in a research study is the device used to collect data. By literature review it is found that following tools are better suits for the data collection. Therefore the tools which were developed and used in the study are as below.

- **Structured Menopause Rating scale,**
- **Menopause Coping Strategies scale and**
- **Quality Of Life Interview Schedule.** (Annexure –G)

### 3.9.1 Development of Structured Menopause rating scale, scale of Menopause coping strategies and Interview Schedule for life quality

Steps mentioned below are followed for development of structured menopause rating scale, coping strategies and interview schedule for quality of life.

- Review of research and non research literature related to post menopausal bio-psycho-social problems, coping strategies and quality of life among women.
- Expert’s opinion and suggestions to decide on the areas to be included
- Preparation of first draft of tools
- Content validity and reliability
- Preparation of final draft of tools

### 3.9.2 Description of the structured Menopause rating scale, Menopause coping strategies scale and quality of life Interview Schedule

It consisted of four sections —
3.9.2.1 Section I: Socio-demographic Variables

It included the personal and socio-demographic data which includes Age, religion, education, occupation, marital status, type of family, dietary pattern, years after menopause, family income, suffering with any chronic disorders and type of menopause.

3.9.2.2 Section II: Menopause Rating Scale

Through the thorough review of literature structured menopause rating scale was prepared for the present study. Scale of rating menopause comprises of 14 items divided into 2 domains i.e. biological symptoms and psychosocial symptoms. There are two alternative responses YES and NO, from which the participants have to say one best option to the investigator and each item again includes degree of severity i.e. mild, moderate and severe. The participant who say YES for any responses then they have to say degree of severity also. Analysis is done for each response wise and domain wise for presence of symptoms and severity. i.e.in terms of frequency and percentage.

The items used in menopause rating scale are as follows-

**Biological domain:**
- Hot flushes and sweating i.e. sweating episodes
- Discomfort in heart i.e. awareness regarding heart beat unusually, skipping of heart, increased heart rage, chest tightness
- Problems with sleep i.e. experiencing difficulty in getting sleep, difficulty in sound sleep, early waking up
- Sexual problems i.e. sexual desire changes and activity and satisfaction with sexual act
- Problems of urinary bladder i.e. urinating difficulty, increased frequency of urination, incontinence of urine
- Vaginal dryness i.e. burning and dryness sensation in vagina, difficulty in sexual intercourse
- Muscle and Joint discomfort i.e. joint pain, rheumatoid symptoms

**Psycho – Social domain:**
- Depressive mood i.e. feeling sad and down, lack of drive in any activity, swings in mood etc
- Irritable mood i.e. nervousness, aggressive feeling and inner tension
Anxiety i.e. feeling panic and inner restlessness
Mental and physical exhaustion i.e. decrease in performance in general, memory impairment, forgetfulness and decreased concentration
Wanting to be alone like feeling
Lack of interest in any social activity

3.9.2.3 Section III: Menopause Coping Strategies Scale

A modified menopause coping strategies scale was prepared after extensive review of literature. A Menopause coping strategies scale consisted of 16 statements regarding coping strategies adopted by women to cope with post menopausal symptoms. There are two alternative response columns; YES and NO. Among 16 statements, 11 positive statements are scored as; 1 score Yes and 0 score for No responses. The remaining 5 statements are considered as negative and scored as; 0score for Yes and 1 score for No responses.

The items used in menopause coping strategies scale are as follows-

- I talk to someone to find out more about the situation
- I went on as if nothing had happened
- I restricted emotions to myself only
- I slept more than usual
- I got professional help
- I tried to get away from it for a while by resting
- I generally tried to be with people
- I refused to think too much about it
- I came up with different solutions to the problems of menopause (home remedy, ayurveda, traditional medicines etc)
- I accepted the situation, since nothing could be done.
- I tried to keep my feelings about the problem by involving myself in other activities (praying, exercise, diversional activities etc)
- I adjusted myself with changes of menopause
- I regularly consult health care workers for physical problems
- I try alcohol and drugs to manage myself through it
- I take Nutritious diet to meet needs of menopause
I go for morning walk to keep myself healthy

The total score range from 0 to16. This is further divided arbitrarily as follows;

- **Poor coping**: 0 – 05 score
- **Moderate coping**: 6 – 10 score
- **Good coping**: 11 and above

### 3.9.2.4 Section IV: LIFE QUALITY SCALE

A life quality scale consisted of 21 statements regarding life quality of females after menopause. Five alternative responses were in columns; strongly agree, agree, uncertain, disagree and strongly disagree. Among 21 statements, 04 positive statements are scored as; 5 score for strongly agree, 4 score for agree, 3 score for uncertain, 2 score for disagree and 1 score for strongly disagree. The remaining 17 statements are considered as negative and scored as; 1 score for strongly agree, 2 score for agree, 3 score for uncertain, 4 score for disagree and 5 score for strongly disagree.

**The items used in quality of life scale are as follows**-

**General Health Domain**

- I am not happy with my appearance
- Most of the events that happen to me,were of my control
- I feel physically well
- I am Feeling a lack of energy
- I am Feeling tired or worn out
- I am satisfied with my health
- My stamina is decreased

**Physiological Domain**

- I am experiencing Hot flushes or flashes
- I am experiencing flatulence or gas pains
- I am experiencing aching in muscles, joints, neck and back
- I am experiencing difficulty in sleeping
- My skin is drying
- My weight is increasing
- I am experiencing frequent urination

**Psychological Domain**
I frequently experience anxiety
My mood is generally depressed
I am experiencing poor memory
I am feeling of wanting to be alone
I lost control over my emotions

Social Domain

I maintain normal interpersonal relationship with others
I am able to attend social gatherings
The total score of quality of life scale range from 21 to 105.

The score is further divided arbitrarily as follows;

<table>
<thead>
<tr>
<th>Classification</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor QOL</td>
<td>21 – 49</td>
</tr>
<tr>
<td>Quite well QOL</td>
<td>50 – 77</td>
</tr>
<tr>
<td>Good QOL</td>
<td>78 – 105</td>
</tr>
</tbody>
</table>

3.10 CONTENT VALIDITY AND RELIABILITY OF TOOLS

Validity:

The term validity refers to at what degree an selected tool or instrument measured what actually is supposed to measure. Each question to which extent or element in the tool absolutely expresses the original content of measured concept is known as content validity.

How far the results of a research study can be generalized general population from a sample is called External validity. External validity for a tool can be established from the sampling. The total population may not be available so sample should be an accurate representation of a population. The tool which is externally valid helps to obtain generalization to population or extent which a simple represents the population.

With respect to validity two terms are commonly used and they are-

External validity: It means that at what level or extent the founded results of a particular study can be made generalization from selected samples to a overall population. It follows directly from selected sampling when eternal validity is established. One condition for establishing this validity is the samples should be taken from population or there should be accurate
representation of a population because it is not possible to study the total population. Once any tool valid externally it helps to get generalization of finding to population or how much or degree to which a selected sample represents the population.

Content Validity: It means that how appropriate the content of selected tool or instrument. To say in other words, whether questions, observations or any items measure accurately what is supposed to measure. This type of validity is especially important when someone is constructing achievement tests.

Various Aspects of the validity:

Generally four types of validity are used to come to conclusion or judge the accuracy of an instrument.

1. Face validity or Validity of face
2. Content validity or Validity of Content
3. Criterion Related validity or Validity of criteria
4. Construct validity or Validity of construction

1. Face validity: the meaning of face validity is how much or what extent a constructed test is viewed subjective manner as how it covers the concepts what is planned to measure. In other words is the transparency or relevant of any test as it is made to test the participants.

2. Content validity: It is how much or what extent different questions in the tool or instrument measure the character or any phenomenon they were supposed to measure. Or in other words it is the degree to which an tool or instrument has an appropriate sample of questions for the situation or construct being measured.

If test items accurately represent the character being measured it indicates that high level of content validity. For example a questionnaire which is prepared to assess the anxiety is said to be high in content validity when it covers the all the questions related to known symptoms of anxiety such as tension of muscle and increased rate of pulse.

3. Criterion related validity: It is the ability of a test to measure to predict or hypothesize any individuals future behavior related to same aspect but in different situations. A test which is having high level of criterion related validity is capable of making accurate predictions of behavior of future. If test
measure very little in predicting the future behavior then it is known to have low predictive validity.

4. **Construct validity:** a psychological construct which is theorized is known as construct. It refers to ability of a scale or test to measure the involved construct adequately. Is defined empirically such as personality trait can be measured theoretical construct to level of extent.

**Reliability:**

When a stability and consistency in any situation is same then it reflection of reliability of an instrument. Or when any instrument or tool gives same results when measured in same situation multiple times is also known as reliability. It is also a characteristics of an measurement tool or instrument which shows the degree to which instrument makes consistent responses.

**Common type of reliability;**

Generally there are four different types of reliability estimates are used and each of which founds the reliability in a different manner. These methods are described as follows-

1. **Inter rater or inter observer reliability:**

   This type measurement of reliability is used to find out the degree to which different observers or raters comes to same opinion or give consistent estimation of the same situation.

   It is one type of reliability measurement technique and is used to find out or assess the degree to which different observers or raters or judges give same opinion in their assessment decisions. This technique is useful for one reason that human observers will not normally gives opinion or interpret answers in the same way, some time raters may disagree to decide how well some responses or tool demonstrate knowledge of the situation or practice being measured.

   A coefficient of correlation can be measured or any other statistical or non statistical methods can be used to find out the values of correlation.

   This type of reliability method may be used when various observers or evaluators are assessing the which situation meets the some standards. This technique is useful especially when evaluation can be considered relatively subjective in nature. Hence this type of reliability technique is most probably
most effective when judging the work of art like situations as opposed to problems of math.

### 2. Test Retest reliability:

This technique of reliability is used to measure the consistency of a measurement from one time to another. This type of measurement of reliability is taken by giving the same test two times over a period of time to a group of people. It is a type of reliability test which is obtained by taking the same test two times to a one group of individuals. After the taking the results a correlation coefficient is obtained to find out how participants results closely matches on the second time with comparison to first time results.

For example a test is constructed to find out the students learning in sociology can be given to a group of student two times and second time administration of test coming a week after the first time administration of test. The calculated correlation coefficient value will indicates the stability of the scores of test.

### 3. Parallel forms of reliability:
This technique is used to determine the consistency of the test results of two tests which are constructed in the same manner by taking same area of content.

It is a one type of reliability which is obtained by giving two different versions of an evaluation tools to same group of people. The obtained scores from the two different versions are compared in order to evaluate the results consistency of results among the two different versions.

For example when evaluating the reliability of a tool of critical thinking assessment the assessor can create a more number of items that all related to area of critical thinking and then splitting randomly all the questions up into two sets that will represent the two parallel forms.

4. **Internal consistency reliability:**

   This test is used to find out the consistency of results among the items within a one test.

5. **Split half method of reliability:**

   This type of reliability test is conducted to find out internal consistency of items. By splitting in half all the items in the test the process of getting split half reliability starts and is intended to probe the same area of knowledge in order to form two sets of questions or items. The whole test is given to a group of individuals and the total scores for each set of items is calculated and finally the reliability is calculated by using split half method and using correlation between the total scores of two sets.

   Any tool can be assessed for its internal consistency by using the technique of split half method or by finding out the alpha coefficient of correlation or by using the formula of Kuder Richardson formula.

   The instruments appropriateness with regard to content is known as Content validity. This is particularly important with achievement tests. In other words the tool adequately measures what we want to measure is content validity.
Stability and consistency of an instrument within a given context refers to reliability of an instrument. It is the consistency of measurement over time, whether it gives the same results on repeated trials or times. It is also defined as a instrument characteristic that reflects the degree to which the instrument gives a consistent responses. \textbf{(Polit and Beck)} It is concern to emotional measures and mental measures.

The structured Menopause Rating scale, structured menopause coping strategies scale and structured quality of life scale were content validated by giving to Eight experts from nursing field and one obstetrician and gynecologist (Annexure –E). There was 100% agreement by all experts on all the items. However there were few suggestions to modify some of the questions and those were incorporated in final tool.

Reliability of the tools was tested by repeated experiment by using Karl Pearson’s Co-efficient of Correlation method. The reliability of Menopause Rating scale, structured menopause coping strategies scale and structured quality of life scale were $r = 0.81$, $0.78$ and $0.83$ respectively. This indicates that tool were reliable.

\textbf{3.11 FEASIBILITY (PILOT) STUDY}

Feasibility study is trial research process or experimental run, done in preparation of a main research process. Feasible trail are not only a studies by taking small number of participants and these are not brief experimental trials such studies as may be conducted among small number of population. Pilot studies serve many important functions as follows-

- It helps to find out adequacy of study procedures and methods
- Helps to find out likelihood of success of a recruitment strategy of study participants.
- Quality and appropriateness of data collection tools
- Shows strength of relationships between important variables so that how many participants are needed for the study can be estimated
- To find out confounding variables that needs to be controlled
- To find out appropriateness and adequacy of training materials for research staffs and members.
• To find out potential problems such as loss of participants during the course of the study

A feasible trial was carried out from 01st May 2017 -- 15th May 2017 in selected rural areas of Dharwad district after taking administrative approval (Annexure –A). The intention of feasible trial was to pre test the data collection instrument, to find out the viability about conducting the research and also to decide upon the trap of statistical process. Sums of 50 subjects were chosen by using probability sampling process. The data was collected by investigator by interview method.

The conclusion drawn from the results of the pilot study are as follows –

• Researcher got good cooperation from study participants and all the participants shown interest in the study and given their genuine response.
• It was found that data collection for each sample took more time than previously planned so it was decided to recruit two research assistants for the collection of data for main study
• Some terminologies used in data collection instruments were not understood by the study participants so i was modified depends on the observations of trial study.
• Overall findings of the pilot study indicated tools and study design were found to be feasible.

3.12 DATA COLLECTION PROCEDURE

After making necessary modification in the in recovery of the information pivotal and overall procedure the data collected for the main study by following steps-

Obtaining administrative Permission from authority:

Study was approved by the institute ethical committee. Formal administrative permission was obtained by district health administration. A permission letter is written to District Health Officer by explaining about the research project and objectives of the study. Researcher personally met the district health officer and explained in detail about research project and objectives. After clarifying the all the questions and doubts to district health officer regarding project permission was granted for the study.

Appointment and training of research assistants:
As per difficulty faced by the researcher for the data collection during pilot study it was decided to appoint two research assistants for the purpose of data collection for main study. According to this two research assistants with qualification of post graduation in nursing and experience of research project during their post graduation course were appointed by investigator and trained them for the data collection procedure by interview method. After training re-demonstration of data collection was taken by investigator by research assistants.

**Data collection:**

- Data was collected from 1st June 2017 to 30th June 2017 by investigator and two research assistants.
- Samples were selected as per the sampling criteria.
- The intention of the research title has been cleared and co-operation required of the respondents was explained to them. Confidentiality was assured.
- Written agreement to involvement to undertaken research title has been taken from each sample (Annexure-D).
- The data was collected by interview technique and it took 20-30 minutes to collect data by each sample.
- Each day data was collected from 20-25 subjects by investigator and research assistants. Totally it took 30 days to collect data from all 500 samples.
- The samples given their genuine responses for question asked to them and same time they asked some doubts regarding menstrual problems all these doubts are clarified by investigator there itself.
- Data collection process is ended by thanking each respondents for their cooperation and interest shown towards the study.
**Researchers experience about data collection**

Data collection is really a process of mixed experiences to the researcher. The some of the experiences, problems, challenges, difficulties and opportunities the researcher faced are as below.

When researcher went in the selected rural community for data collection with research assistants, the study participants welcomed. This was possible as the researcher is familiar with people in rural area for her community health nursing services. First I went to area Panchayat and explained the purpose of my visit to this area. Explained them the purpose of conducting this research study with this particular topic. Male members of the Panchayat are surprised because they never thought menopause is a matter of concern. However now they came to know the importance of this subject. The official permission which was obtained from District Health Officer and Medical Officer of the particular Primary Health Centre was shown to them. Then they agreed.

After obtaining permission from area Panchayat I went in the community and as per my sampling criteria I met the study participants. As I thought post menopausal women initially not comfortable to talk about this matter. Because they also thought that menopause is a natural phenomena so what is the matter to make a research in that. But when I started to talk to them about this then they seem to be relaxed. Many of the study subjects started to reveal their problems. They expressed that now they can comfortably talk to me and find out some solutions if they have some problems related to their menopause. The study participants who were not having problems of their stopping of menses understood that life is not an end here. They can still maintain their health, health promotion is very important for them. Some women experienced that they are that old. They perceived that aging is for the body but not for the mind.

Collection of information from them was also not an easy job. Some of the study participants were reluctant to give the information especially information related to sensitive matter such as sexual life. Therefore it took some days to convince them. Some of the study participants were introvert so exploring information from them was really a challenge.
Time of the data collection also was the matter of adjustment. I have to adjust my time of data collection according to the convenient time of the study participants usually rural women goes to fields by 10 am. So I with my research assistants must be their before they go to their fields. Transportation to these areas also I had to arrange as their was no facility of state road transport according to my time. The opportunity during data collection was I explained them about menopause and the adjustment and management it requires. This was an Information, Education and Communication (IEC) session for them. Even though IEC is not included in my research study but as a nursing faculty I have to utilize every opportunity to educate the population according to their needs. This is one of the principal of community health nursing so I followed that. Study participants also asked many of their problems because women of this age will not usually be cared for in the family as stopping of menses is considered as natural thing and women are also not comfortable to talk to their family members especially if the women is single.

Anything which is to be dealt in private is the matter of doubt same thing I experienced. Some of the study participant’s family members felt uncertain. They thought researcher get benefits from government but study participants will not get anything out of spending their time with the researcher. In this situation I have to explain them the purpose of research study. It took one or two days to convince them. I maintained good professional inter-personal relationship with them. Finally I was able to win their heart and mind and my data collection became an easy job. Then it went on systematically.

3.13 PLAN OF DATA ANALYSIS

It was planned to use both descriptive and inferential statistics for analysis of the data.

- Master data sheet will be prepared according to socio demographic variables and scores of different instruments.
- Data will be analyzed based on objectives of the study
- Frequency and percentage distribution is used to analyze the selected personal variables.
- Percentage, mean, median and standard deviation is computed to analyze the menopause rating, menopause coping strategies and quality of life scores.
• Karl Pearson’s co-efficient of correlation is used to analyze correlation between bio-psycho-social problems and quality of life scores.

• Chi square is used to analyze association among life quality with personal variables under study.

• Findings will be interpreted by using tables, graphical presentation and explanation of each finding.

3.14 EQUATIONS TO BE USED IN THE STUDY

1. Karl Pearson’s co-efficient of correlation:

\[ r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}} \]

2. Spearman’s brown prophecy formula:

\[ r^1 = \frac{2r}{1+\frac{r}{3}} \]

3. Mean:

\[ X = \frac{(\sum X)}{n} \]

4. Median:

\[ M = \frac{(n+1)}{2} \]

5. Mode:

\[ \text{frequently repeated item} \]

6. Standard deviation:

\[ SD = \sqrt{\frac{\sum(X-\bar{X})^2}{n}} \]

7. Chi Square:

\[ \chi^2 = \sum \frac{(O-E)^2}{E} \]
**SUMMARY**

The completed lesson has discussed the research approach, settings, population, sample and sampling technique, data collection tool and technique, pilot study, procedure for collection of information and process for statistical analysis.

Title incorporated descriptive survey design to achieve the aims of the study. Study was conducted in rural areas of Dharawad district where representative samples were present. Post-menopausal women of age between 45 to 55 years were selected in the research title under taken and samples were selected by probability multistage random sampling technique (3 stages).

Tools adopted to gather the information for under taken study were Structured Menopause Rating scale, Menopause Coping Strategies scale and Quality Of Life Interview Schedule. Validity of tools was obtained by taking opinions from the experts in the field and reliability were obtained by test retest method of reliability. Tools were found valid and reliable for the study.

Feasible trial was carried out to find out the feasibility of the study and results of the pilot study showed study is feasible.

Data was collected by the principle investigator and two research assistants and plan is made about the analysis of the collected data.