Chapter III

METHODOLOGY
CHAPTER-III
RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. The various steps that are adopted by a researcher are studied along with the logic behind them. It is necessary for the researcher to know not only the research methods/techniques but also the methodology. Researchers not only need to know how to develop certain indices or tests, how to calculate the mean, the mode, the median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques are relevant and which are not, and what would they mean and indicate and why.

Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not. All this means that it is necessary for the researcher to design the methodology for the problem as it may differ from problem to problem. The scope of research methodology is wider than that of research methods. Thus, research methodology includes not only research methods but also the logic behind the methods used in the context of the research study and explains why the particular method or technique has been used and why the others are not used. So that research results are capable of being evaluated either by the researcher himself or by others.

The importance of research methodology is that different research methods are compatible with different situations, and therefore it is important to know which method is best suitable for use with a particular hypothesis or question. In fact, if an
unsuitable research method is used, it could render the research useless. Research methods are a mix of concepts and ideas utilized to determine through neutral observation and analysis the truth of a situation.

This chapter presents the methodology of the study. It describes the study design, the settings and the site selection. It also describes the target population, the sample size as well as the sampling procedure. The inclusion and exclusion criteria were explained followed by a brief description of the development of tool, content validity, reliability, pilot study procedure for data collection process and data analysis.

3.1 Research design

A quasi experimental research design is selected for the study

Schematic representation of Pre & Post- Test Design

<table>
<thead>
<tr>
<th>Study group</th>
<th>PRE TEST</th>
<th>INTERVENTION</th>
<th>POST TEST</th>
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</thead>
<tbody>
<tr>
<td>Knowledge test</td>
<td>Structured teaching programme</td>
<td>Knowledge test</td>
<td></td>
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<tr>
<td>O1 Knowledge on cervical cancer among married women by administering structured interview schedule on the 1st day</td>
<td>X STP on knowledge about cervical cancer among married women</td>
<td>O2 Knowledge on cervical cancer among married women by administering structured interview schedule on the 14th day</td>
<td></td>
</tr>
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O1 = Pre assessment, knowledge of cervical cancer

X = Intervention – Structured teaching programme on knowledge about cervical cancer by using charts, flash cards and exhibits.

O2 = Post assessment knowledge of cervical cancer among married women.
3.2 Variables of the study

**Independent variable**

A presumed “cause” is referred to as an independent variable. All the socio, economic, demographic and cultural variables are the independent variables in this study.

**Dependent Variable**

A presumed ‘effect’ is referred to as a dependent variable. Knowledge of cervical cancer among married women is the dependent variable in the study.

3.3 Operational Definition of Terms

Assess - To determine or evaluate

Effectiveness

The outcome of structured teaching identified with the help of structured questionnaire given to married women before and after structured teaching.

**Structured teaching programme (STP)**

A Systematic organized planned intervention of knowledge of cervical cancer given to married women.

**Married women**

Married women between the ages of 20 to 59 years are the respondents of the study.
Cervical screening

For the purpose of this study cervical screening relates to early detection of pre-cancer lesions through a Papanicolau smear (Pap). A Papanicolau test is a screening tool used to detect cervical abnormalities. Mucus and cells are collected from the ectocervix and endocervix, by scraping and then fixed onto a glass slide and sent to the Cytopathology laboratory for assessment.

Awareness

Awareness is described as appreciation, familiarity, knowledge, observation or understanding (Oxford Concise English Dictionary 1995). For this study awareness meant “being familiar and also knowledgeable about cervical cancer and cervical cancer smear screening.” It also relates to the experience and perceptions influencing the uptake of cervical screening services.

Cervix

The cervix is the lower part or neck of the uterus forming the opening to the vagina. It is divided into 2 parts, namely the endo-cervix, internal part and ecto-cervix, the outer part that is next to the vagina (Pocket Medical Dictionary, 2003: 57).

Cervical cancer

Cervical cancer relates to the actual neoplasma cancerous cell changes in the cervix commonly referred to as carcinoma in situ (cancerous growth localised) and invasive cancer (cancer spreads to nearby organs).

Perceived susceptibility

Refers to the views of the participants regarding their risk of having cervical cancer.
Perceived severity

Refers to a subjective assessment of how serious cervical cancer is viewed by these women.

Perceived benefits

Viewed as the gain that, by undergoing cervical cancer screening, will result in like early detection of cervical cancer, delay progression of cervical cancer and subsequently leading to decrease in mortality due to cervical cancer.

Perceived barriers

Refers to obstacles that prevent those eligible for cervical cancer screening from participating in the available cervical cancer screening programs.

3.4 Objectives

General objective

- To assess the effectiveness of structured teaching programme on the knowledge of cervical cancer among married women.

Specific objective

- To determine the women’s knowledge on preventive health practices of cervical cancer before and after teaching programme.
- To determine the women’s perceived severity of cervical cancer by collecting pre-test and post-test knowledge.
- To find association between socio demographic variables and knowledge on preventive practices of women through pre-test & post test.
• To describe the association between socio demographic variables & perceived susceptibility and severity of cervical cancer.

• To study socio demographic variable and perceived benefits from and barriers to seeking cervical cancer screening before & after the STP

3.5 Hypotheses

• There will be significant difference between knowledge levels of the women regarding cervical cancer before and after STP (structured teaching program).

• Structured teaching programme can have significant effect on knowledge regarding preventive practices about cervical cancer.

• The more the exposure to structured teaching, the greater will be the awareness among women about cervical cancer

• The lesser the knowledge the lesser will be the screening.

• The lesser the knowledge of preventive practices, the higher will be the risk of cervical cancer.

• The more the knowledge through STP of cervical cancer the higher will be the early detection of symptoms.

• The lesser the education the poorer will be preventive practices of cervical cancer.

3.6 Conceptual frame work

Conceptualization refers to the process of developing and refining abstract ideas (Polit and Hunger, 2002). The conceptual framework is to clarify the concepts used in the study and to propose relationship between concepts if also provides meaning within which to interpret the research findings (Fawcett, 1989).
studies are based on a theoretical (or) conceptual framework that facilitates visualizing the problem and places the variables in a logical context (Talbot, 1995).

This study aims at evaluating the effectiveness of the structured teaching programme on knowledge about cervical cancer among married women. The effectiveness in terms of adequate knowledge gain, change in their life styles, develop more positive attitude towards cervical cancer prevention and use preventive measures as screening for early detection of cervical cancer. Since cervical cancer is preventable and completely curable if it is diagnosed early, it requires initiation and motivation for preventive and control measures. Hence, in this study, Rosenstock’s and Becker’s Health Belief model is used. The Health Belief model is intended to predict whether an individual is likely to participate in disease prevention and Health promotion activities. The Health Belief Model includes specific health beliefs such as individual perceptions about susceptibility, seriousness and threat of disease, modifying factors and variables likely to affect initiating action. The model has been used in explaining preventive measures such as compliance with primary and secondary preventive health practice for cervical cancer.

In the study perceived susceptibility is the non compliance with preventive measures by women, such as poor education, poor hygiene, early age marriage, high parity, multiple sex partners, prolonged use of oral contraceptives, lack of awareness about screening measures etc., which may make the individual susceptible to high risk. The perceived the serious consequences of the cervical cancer, such as spreading of cervical cancer to bladder, intestine, lungs, liver etc., According to Becker (1977), perceived susceptibility and perceived seriousness combine to determine the total perceived threat of cervical cancer, whether the cervical cancer cause death or not.
These perceptions facilitate women to make decisions on the risk/benefit analysis for compliance with preventive measures.

The factors that modify women’s perceptions include socio-demographic variables, knowledge about cervical cancer and cues to action such as structured teaching programme on knowledge about cervical cancer that includes causes, risk factors, stages, clinical manifestations, diagnosis, treatment and prevention of cervical cancer.

The third component is the likelihood of women’s taking recommended preventive health action which depends on the perceived benefits minus the perceived barriers to the action.

In this study the perceived benefit is compliance with the preventive health practices such as prevention and early diagnosis of cervical cancer. Further it aids in complete cure if it is diagnosed at an early stage. There are certain triggering agents of actions like structured teaching programme to enhance the awareness, which will aid in developing more positive attitudes towards cervical cancer prevention, leading to adoption of preventive measures such as screening for early detection of cervical cancer. In the presence of right cues, married women can overcome the barriers and are likely to take the recommended preventive health actions to prevent and control cervical cancer.
CONCEPTUAL FRAMEWORK

INDIVIDUAL PERCEPTIONS
- Perceived Susceptibility to Cervical Cancer
  - Low socio economics status
  - Poor Education
  - Poor Hygiene
  - Early age at marriage
  - High Parity
  - Multiple sex partners
  - Prolonged use of oral contraceptives
  - STDs
  - Lack of awareness about screening
- Perceived seriousness of cervical cancer
  - Cervical cancer spreads to bladder, intestine, lungs, liver etc.,
- Perceived threat of cervical cancer
  - Cervical cancer leads to death

MODIFYING FACTORS
- Likelihood of Actions
  - Perceived Susceptibility to Cervical Cancer
  - Perceived seriousness of cervical cancer
  - Perceived threat of cervical cancer

PRETEST
- Demographic variables (Age, Religion, Education, Occupation, Parity, Member of Children, Income, Family Type, Family History, etc.,)
- Assessment of knowledge on cervical cancer

CUES TO ACTION
- Structured teaching programme on knowledge about Cervical Cancer
  - Anatomy physiology of female reproductive system
  - Causes and risk factors
  - Signs and symptoms
  - Diagnosis
  - Treatment
  - Prevention

POST TEST
- Assessment of knowledge on Cervical Cancer.

ROSENSTOCK’S AND BECKER’S HEALTH BELIEF MODEL (1977)

PERCEIVED BENEFITS OF PREVENTIVE HEALTH ACTION
- Adequate knowledge on cervical cancer
  - Change their life styles
  - Develop more positive attitude towards cervical cancer prevention
  - Use prevent health measures as screening for early detection of cervical cancer.

PERCEIVED BARRIERS TO PREVENTIVE HEALTH ACTION
- Inadequate knowledge on cervical cancer
3.7 Study Area

The present research investigation is undertaken in the YSR district in the state of Andhra Pradesh.

Profile of Andhra Pradesh

Andhra Pradesh has geographical area of 275,045 sq km. The Census 2011, places the state as India's fourth largest state by area and fifth largest by population, with 8.47 crore inhabitants. Andhra Pradesh State is blessed with major river systems like the Godavari, Krishna, Pennar, Vamsadhara and 36 other rivulets and endowed with abundant natural resources like fertile land and highly conducive climatic conditions. The geographical area of the State is classified into 5 categories of soils.
spread across 9 Agro-Climatic zones. The state enjoys several competitive socio-economic and demographic advantages. Andhra Pradesh, situated in a tropical region, has the 2nd longest coastline in the country with a length of 974 km. The State has a forest area of 63,814 Sq.Kms as per the Forest records, which accounts for 23.2% of the total geographical area. The state has a variety of physiographic features ranging from high hills and undulating plains to coastal and deltaic environment.

The State accounts for 7% of the country’s population. A significant decline is observed in the Rate of Growth of population during 2001-11 which has come down to 11.1 percent compared to 14.6 percent in the previous decade 1991-2001. 66.5% of the total population lives in rural the areas while 33.5% live in the urban areas of the state. The Sex Ratio in the State, up from 978 in 2001 to 992 in 2011, is higher than All India ratio of 940 in 2011 and reflects the sustained efforts of the Government in educating the people, especially those in rural areas. It is heartening that the favourable trend in sex ratio registered for the first time in the State in 2001 continued in Census 2011 also. However, the Child Sex Ratio (CSR) remains a concern as the state has registered a decline by 18 points in CSR to 943 in the 2011 Census from 961 in 2001 Census.

Literacy Rate in Andhra Pradesh has witnessed upward trend and is 67.66 percent as per 2011 Population census. Of that, male literacy stands at 75.56 percent while female literacy is at 59.74 percent. Literacy rate in Andhra Pradesh stood at 60.47 percent of which male and female literacy rates were 71.16 percent and 50.29 percent literate respectively in 2001. In actual numbers, total literates in Andhra Pradesh stand at 51,438,510 of whom h 28,759,782 were males and 22,678,728 with females. Andhra Pradesh has been historically called as the "Rice Bowl of India" and continues to be the largest producer of Rice in the country. The state is also the leading producer of cash crops like Tobacco, Groundnut, Chillies, Turmeric, Oilseeds,
Cotton, Sugar and Jute. It produces some of the finest varieties of fruit like mango, grapes, guava, sapota, papaya and bananas. The state has grown in terms of its technological infrastructure and is among the major states that has witnessed development in sectors like IT and Telecom and continues to be a preferred tourist destination in the country.

Andhra Pradesh has a total number of twenty three districts and is divided into three regions:

- Telangana
- Rayalaseema
- Coastal Andhra

3.8 Area of study YSR District
Profile of YSR (Kadapa) District

For the present study YSR district (Kadapa) is chosen as the study area.

YSR Kadapa district (Cuddapah) is in the state of Andhra Pradesh. It is located in the south-central part of the state and is situated 8 km south of the Penna River. Kadapa District is bounded by Kurnool District on the north, Chittoor District on the South, Nellore on the East and Ananthapur on the West. Total Geographical area of the District is 15,379 Sq.Kms with 3 Revenue Divisions, 51 mandals, 831 Gram Panchayats, 965 Revenue Villages and 4533 Habitations. Cuddapah lies between the 13043’ and 15014’ Northern Latitudes and 77055’ and 79029’ of the Eastern Longitude. As per the 2001 Census (Provisional) the population of the District is 2601797 of which the Rural Population is 20,14044 and the Urban Population is 5,87,753. The density of population in the District is 169/Sq.K.M. The Scheduled Caste Population is 4,09,492 and Scheduled Tribe Population is 61371 in the District. Kadapa has got the pre Christian era historical importance since a long time and it was connected with Mouryans in BC era and Sathavahanas in the third century AD. It was part of the area ceded to the British by Nizam. The District was first formed in the early nineteenth century during the British rule. Thus it is one of the four ceded districts, otherwise known as Rayalaseema, commemorating the name of Raya, who ruled the area in the 16th century. The old records of that District reveal that Cuddapah was previously called “Gadapa ‘which means in Telugu language ‘Threshold’. The ancient village of Cuddapah with its large tank and temple of Lord Venkateswara at Devuni Kadapa was a convenient camping place for the pilgrims travelling to the holy shrine of Tirupathi. There was a belief that the pilgrims have to first visit Devuni Kadapa, before going to Tirupathi to pray to saint Annamacharya and saint Pothuluri Veera Brahmam who foretold the future and advocated a classless
society. The ancient temple at Vontimitta which inspired Pothana the poet to compose Andhra Maha Bhagavatham is also in the district. Besides its historical importance, the district has occupied an important place in the Industrial map of the state.

There are fifty-one mandals in Kadapa district. They are


However, four mandals are selected for the present research, these four mandals are well known for Orchards such as Mango, Lemon, Banana, Papaya etc. Commercial crops like Groundnut, Gingilee, Sunflower and Turmeric are notable crops. The people in this area are well known their relation with the Gulf countries viz., Kuwait, Dubai, Oman, Quattar and Saudi Arabia. Lot of people from here are working in Kuwait and other countries of the Persian Gulf. Around 10%of the people usually go to Kuwait to earn money. Some of the migrants are well settled in Government posts and are organizing their own businesses. They frequently send their savings home and such sums have largely contributed to the development of the town and surrounding villages.
Industries like Narayanadri Steels (which is located by Venkatarampet village), and Thippayapalle, Manisreni Ferro Alloys are there in the district. Anantharajupet. Pullampet, Puttanavaripalle, Boyanapalle, Madhavaram and Kondamachupalle are the villages around Rajampet where the activity of weaving is the main source of living and the handloom sarees that are made here are marketed with the brand name "Venkatagiri Sarees" As far as Health needs of the people, there should be an extra effort to make rural people participate in all the activities of the Health by providing plans and programmes. Though the Institutional Health providers are there, they should be able to reach the grass root level people especially the Poor and the downtrodden.

3.9 Sample and Sampling Frame

In the present research multistage random sampling technique is used to collect the data

**In the first stage** of study from the YSR district four mandals are selected, they are Oulavaripalli, Chitvel, railway kodur and Pullam peta.

**In the second stage**, from each mandal 5 villages are selected constituting 20 villages are randomly selected from all the four mandals. The villages selected are Y.kota, Balireddypalli, C.H Podu, Mangampet and Kakarlavipallli villages from Obulavaripalli mandal, Nagirapadu, Polo palli, Margo palli, Thimmayapalem and Pedduru villages from Chitvel Mandal, Obunapalli, Raghavararaja puram, Setti gunutta, Upparavaripalli and Madavaram from Railway Kodur mandal and Reddipalli, Chinnam Palli, Vathaluru, Apparajupet and Dondlopalli villages from Pullam Peta mandal.
In the third stage from each village, 25 married rural women are selected by simple random sampling technique to collect the data. Like that, from 20 villages 500 married women are selected. The information is collected from all the 500 women using the interview schedule without any STP.

For the structured teaching program, 250 married rural women from above mandals and from same villages are selected. From each village, 10-13 are selected through lottery method by preparing the slips with names of married rural women (who are the respondents of the pre-test study).

3.10 Criteria for sample selection

Inclusive criteria

- Married women in the age group of 18-60 years.
- Married women who are willing to participate in the study.
- Married women who are able to understand telugu.

Exclusive Criteria

- Unmarried women are excluded from the study.
- Married women below 18 years are excluded from the study.
- Married women with mental illness.
- Married women above 60 years of age.

3.11 Pilot study

A pilot study is carried out prior to the main study to find out the feasibility of the study. 50 rural married women are interviewed from YSR district. Certain questions are modified and edited taking in to consideration local language and
information required for research. After finalizing the interview schedule the researcher herself conducted the interviews with the respondents.

3.12 Period

The data was collected from August 2011 to September 2012.

3.13 Data Collection

The data is collected by using interview schedule. Same schedule is used for pre-test and post test to collect data by the researcher.

The data collection comprised three phases

Pre-intervention phase

This phase involved the collection of cross sectional base line information using questionnaire consisting of multiple choice, open and closed ended questions. The study instrument is divided into sections comprising socio-economic and demographic data, knowledge of cervical cancer, anatomy & physiology of female reproductive system, severity of cervical cancer, symptoms, diagnosis and treatment, benefits of cervical cancer screening, barriers, and preventive health practices.

Intervention phase

This phase includes health education and communication through the use of audio visual aids like teaching aids and lectures consisting of various issues on cervical cancer, charts on female reproductive system and short-films on cervical cancer. Intervention phase also includes exhibiting the cards on risk factors, symptoms, importance of screening and preventive practices with regards to cervical
cancer prepared in Telugu language. Each session took around two hours. The women were also informed that the post test will be conducted after two weeks.

*Post-Intervention phase* - is carried out with 250 members after two weeks of the intervention phase and the researcher provided sufficient time for collecting the interventional effect information on cervical cancer by using the same instrument in both the preliminary survey and the post assessment.

### 3.14 Tools of data collection

Data is collected using a researcher administered structured interview schedule (see appendix). This instrument comprises seven sections that looked at the socio demographic characteristics, knowledge about cervical cancer, knowledge of anatomy and physiology of female reproductive system, knowledge of susceptibility to cervical cancer, knowledge of symptoms of cervical cancer, knowledge of diagnosis and treatment for cervical cancer, knowledge concerning preventive health practices of women for cancer of cervix.

### 3.15 Structured teaching programme

The Structured teaching programme consists of Anatomy and physiology of female reproductive system, definition, causes, risk factors, stages, clinical features, warning signs, diagnosis, treatment and prevention of cervical cancer.

### 3.16 Content validity

The content validity of tool is obtained from medical experts. The content validly of the tool and structured teaching are given to experts along with objectives. They are experts from the field of obstetrics and gynaecology, preventive medicine.
and experts from oncology. The experts were permitted to give their opinions and suggestions regarding ‘adequacy’ and ‘appropriateness’ of the study. After obtaining suggestions from the experts, necessary modifications are made in the tool and in structured teaching programme.

3.17 Reliability of the tool

The reliability of the tool is established by using the data collected from the married women who are residing at Rajampeta mandal rural areas of YSR district. The reliability is established by test-retest method by using Karl Pearson’s correlation co-efficient. The obtained reliability of $r = 0.99$, indicated that the tool is highly reliable.

3.18 Data Analysis

After the collection of data it is processed in computer through the use of Statistical Package for Social Science (SPSS) to make the analysis easy and clear. Through the analysis, frequency tables are drawn and some tables are cross tabulated to find out the difference between post test and pre test. To find the significance & association, chi square tests, t – tests and Logistic regression analyses are carried out.

3.19 Limitations of the study

- The study is limited to married women in the age group of 20 – 59 years.
- The study is limited to those residing in one district i.e, in YSR district of AP
- The structured teaching programme is limited to the knowledge about cervical cancer.
- Due to the limited time period, STP was given only once.
- Assembling the women for STP has become difficult for the researcher.