

Introduction

- Indian tribes are a weaker section that holds an outstanding number of tribal populations in the country. Meticulously assimilating each characteristic especially. First traces of tribes in India can be traced to the species known as Ramapithecus discovered in Shivalik hills of the North-Western Himalayas Mountain. This species is held to be the first in a line of hominids that lived approximately a million years ago. India has the largest population of tribal people in the world. They are also known as Advisee, who are still dependent on hunting agriculture, and fishing.

The tribes in India are mainly concentrated in the rural areas or near the forested areas in the country. The tribes were initially very illiterate and backward and are one of the neglected sections in the country.

Definition tribes

A tribe is a collection of families or groups of families bearing a common name, members of the same territory speak the same language and observe certain taboos regarding marriage, profession, occupation, and have developed a well-assessed system of reciprocating and mutuality of obligations (Mujumdar 1986) . They are lived in interior and remote areas, due to lack of transportation and lack of education still they are in the weaker stage, due to no awareness of health care facilities, the government spends more money on tribes' welfare. But they faced so many health problems for this connection to give awareness on health and diseases, the researcher planned this study. Osteoporosis is a metabolic disorder that leads to weaker bones and lack of bone mass, bones become fragile and easily breakable. It is more common in old age. Females are highly affected than males. Menopause is the one cause of osteoporosis and also low calcium and vitamin D intake in the diet play a major role in osteoporosis.

Definition of Osteoporosis:

Osteoporosis is a metabolic disorder characterized by low bone mass (porous bone) bones become weak and prone to fracture. It is more common in elderly women than men. Osteoporosis is responsible for a large number of bone fractures that occur in seniors. At least two million candidates are suffering from osteoporosis because women have 30 percent less bone mass than men. Women may affect this disorder at the age of 60-70 years. Eating enough rich calcium and vitamin D diet and participating in weight-bearing exercises are important steps in preventing osteoporosis.

Osteoporosis is a silent disease; the symptoms are not appearing but even mild bending also fracture can occur. After menopause, the estrogen is not producing by the ovaries due to low estrogen bone tissue is not utilized calcium properly. So bones become weak and porous. Osteoporosis or porous bone is a condition that can develop if the bone is no longer replacement for bone tissue. Bone density is influenced by factors such as heredity, sex, age, race, physical activity, low calcium nutritional intake, and absorption. 17 percent of those who sustain a hip fracture die within three months of fracture.

According to National Health and Nutrition Examination Survey(NHANES III) an estimated 14million American women over 50 years are affected by low bone density in the hip and 5million more have a bone density in the menopausal stage, about 2.5

standard deviations below. By WHO definition up to 70 percent of women over 80 years have osteoporosis.

A comparative study on effects of age and low calcium intake in women, they take 100 samples as a purposive method, the control group is 50 samples and experimental is 50. They give E- replacement therapy with addition to calcium to the experimental group. After three months the experimental group women will have more bone density than control group women so E- replacement will activate the parathyroid activity for absorption of calcium into the bones.

The osteoporosis bones to be determined which the bone density was 1.0 to 2.5 standard deviation below in the young healthy women due to low intake of calcium and vitamin D diet

The WHO worldwide statics on osteoporosis

Osteoporosis	Stroke	Heart attack	Breast cancer
2, 40,000	3 73,000	3, 45,000	2, 11,000

Need for the study

When country struggling with old age problems like cardiovascular diseases, DM problem. Osteoporosis is otherwise known as POROUS BONE. Every four women over the age of 60 years the fractures occur due to osteoporosis in postmenopausal age. Osteoporosis is a widespread disease in 1.3 million osteoporotic fractures that occur in the US each year, and 56 percent are spinal fractures, 25 percent are hip fractures. Fracture of hip and spine resulting disability decreased independence and quality of life and increased the risk of death. Osteoporotic hip fracture occurs worldwide in each year is 6.25 million. People are affected by osteoporotic fractures, in the year 2050 more than 200 million women worldwide with osteoporosis.

. Time fractures risk -54percent spinal fractures, 32-35percent hip fractures, 16-18percent, wrist fractures.

. There are 50,000 deaths that occur each year as a result of complications from hip fractures.

Who classification of osteoporosis 2014

Class	T-score	Bone density
Normal	+1 to -1	BMD 0-1 SD below means only preventive measures
osteopenia	-1 to 2.4	BMD 1-2.5 SD below means at the risk developing osteoporosis
Osteoporosis	-2.5 or less	BMD > 2.5 SD below means at highest risk of osteoporosis
Severe osteoporosis	-2.5 or less +1/more fractures	BMD >2.5 SD below means fractures

. Indian women have lower bone density than American's, Germans, Japanese's and Korean women. In 1.5 million fractures are caused by osteoporosis every year. More than 3 lakes people are hip fractures and 7 lakes are Vertebra fractures. In India, the incidence is very high. One in four women one in six men get osteoporosis after the age of 50 years.

. It is important to understand the experience of women and assess their awareness of osteoporosis.

. Therefore the general purpose of the proposed research is to assess the

knowledge of pre-menopausal women pertaining to osteoporosis and educate them and improve their knowledge on the calcium-rich diet, weight-bearing exercises, and prevention of osteoporosis by providing them with an integrated intercession program on osteoporosis.

Review of Literature

There had been numerous studies made on various aspects of osteoporosis an attempt is made in this study to review various studies on osteoporosis which would form the background for this research from which, the issue for the present research study is carried out for an in-depth analysis.

- Studies related to osteoporosis
- Studies related to diet patterns in osteoporosis
- Studies related to exercises in osteoporosis
- Studies related to menopause in osteoporosis
- Studies are related to preventive methods in osteoporosis.

- **Studies related to osteoporosis**

- A study of 311 women to determine their knowledge and attitude in osteoporosis showed that more than 65 percent were unaware that the disease is directly responsible for disabling hip fractures, and more than 40% were unable to identify significant risk factors. A considerable number of women are unaware of preventive measures for osteoporosis (Mehmetu, 2003)
- Another case-based study addressing the screening for osteoporosis in the primary care setting concluded that osteoporosis was prevalent in postmenopausal women. Osteoporosis-related fractures are a cause of major morbidity and in order adults. Increased awareness of osteoporosis is necessary (Edward, 2004)

Studies related to diet pattern in osteoporosis

Paul A Baldock et al, (2006), confirmed that mature osteoporosis plays an inhibitory role in bone reabsorption vitamin D suppressants the osteoblast to genesis by the mature osteoblast.

National Institute of Health (2005) suggests that a good diet with plenty of calcium and vitamin D a regular exercise program a healthy lifestyle protects bone in older age.

National Osteoporotic Foundation (1999) stated that recommended amount of calcium is 1300mg/day for adolescents and 1200 mg for 51 years of age 1000mg for days 19 to 15 years of age and older including menopausal women taking H.R.T.

- **Studies related to exercises in osteoporosis**

- L.kathleen Mohan (2000) stated that any weight Bering exercise was good for building bones .it was associated that activates such as walking and running would be better for building bones than swimming or cycling.
- Peter Bullough (2004) stated that the maintenance of skeletal mass is especially affected by activity level. Daily weight Bering activity is essential to the health of skeletal and mechanical weight Bering stress is perhaps the most important exogens fact affecting bone development and bone modeling.

Studies related to menopause in osteoporosis

Mary Fram R.sowers et al.,(2006)concluded that spine and hip bone mineral density losses during the menopause transition were most strongly related to the interaction between FSH levels and longitudinal FSH changes and not to androgens.

Louis Solomon David Jet al., (2006)explained that 15 years after the menopause in women and at the same age the 7th or 8th decade there is still a study on loss of bone mass due to increase osteoporotic reabsorption.

Studies related to preventive methods in osteoporosis

Mv Pai 2017 stated on osteoporosis prevention and management in this the BMD(bone mineral density) at the hip or lumbar spine i.e., <2.5 standard deviation below is the indication of bone disease. Osteoporosis will affect the quality of life due to fracture and postural changes in old age the estrogen supplementation is better in 60 years of age to prevent fractures.

M. Hussain, MW Nadeem et al in 2021 they stated tubercular bone is important in the structure of bone if tubercular bone defects result in different outcomes like high-risk fracture so advice to the early menopause MRI(Magnetic resonance image) is helpful to identify bone problems that will decrease the future fractures in life

Issues related to osteoporosis were carried in the studies like Miriam F.Destefen et al.

John crow, food adam (2001) et al. Gernant et al. (1997) Sandeep (2005), Mary L. Bouxesein (2006) et. al. Neeta Kumar (2004) Williams 1997) et, al Stefen Sudexet (2004) et, al Bente L.Langdahl (2002) et, al Mary fram Rsowers(2006) et, al Louis Solmon(2006)et, al Hiroyo Okano (1998)et al Wamattoo Jet(2002)et, al Gass (2006) Pande(2002)Mehmeter(2003) Edward(2004)et, al Delaney(2001) NIH(2000) Jain Sheng (2005)et al. Susan CDerti (1998) Garcia (2010), Maheshau (1998) Elizabeth (2006(at el. Suresh Pandya (2000) et al. Mounika Malhotra (2004), Andhra Jyothi Newspaper (2014), Panl (2006) NIH (2005) Peter Dullough (2004) et al, John (2008) HD Nelson (2005), Nell posture -2010. Mary B. Ross (2007), Cristal Natural Pharmaceuticals (2007) Wuxae (2009), Gregoire, S.J.P. ETAL., (1966), Erlanger, M N.et al .,(1971), Nandi,D.N.et al., (1975), Martin, RL.et al., (1980),Venkoba Rao, A., (1981),

Venkoba RAo, A.and Madhavan, T., (1982), Gautam, S.et al.,(19982),Venkoba Rao, A.(1987) shirala, K.Aand shirala, K.A and kanwar, s., (1987), nathorst-Boss, J. and von schoultz, B.,(1992), Bhogale.

1. G.S. and sudarshan, C.Y., (1993) Bang, R and Bang , A. (1996), Babu, R S and Senugupta, S N., (1997), Nandini, P.S.et al., (1997), Reddy, MV . and Chandra Sekhar,C R.,(1998).
2. Ramesh chellan et al., (2010), Kotecha PV et al., (2009), Bharati et al., (2009), Zine et al., (1996), Basu,(1999), Bains et al., (2000), Khurde et al., (1994), Waslien et al., (1994), Lauren Hisser et al.,(1990), Manocha et al.,(1988).

Statement of the problem

Effect of educational intervention on osteoporosis among Tribal pre-menopausal women in Macherla mandal, Guntur district, Andhra Pradesh.

OBJECTIVES

1. To assess the knowledge regarding osteoporosis among Tribal premenopausal women
2. To develop an educational intervention, on osteoporosis among Tribal Premenopausal women.
3. To analyze the effectiveness of educational intervention program knowledge regarding osteoporosis among Tribal Premenopausal women.
4. To compare level knowledge scores of the tribal premenopausal women with selected demographic variables.
5. To find an association between the selected demographic variable and knowledge regarding osteoporosis.

Some key Points:

- . Osteoporosis is a bone disease affecting bone structure and strength arising the risk

of fracture.

. Post-menopausal women are likely to get this condition but it also effects men and young people

. The risk factors are smoking, alcoholism low intake of calcium and vitamin D diet obesity, small bone structure, lack of exercise, hypothyroid and hypo Para euthyroidism

Hypothesis

There will be a significant association between the knowledge scores and selected demographic variables.

.The mean post-test knowledge scores of premenopausal women after administration of educational intervention program is significantly higher than their mean pre-test knowledge.

Assumptions

Women about 40 -50 years will be willing to participate in the study, these premenopausal women have inadequate knowledge regarding osteoporosis. Knowledge may be different according to the age of Tribal premenopausal women Premenopausal women who are living in the tribal area of Macherla Mandal they were no formal education.

DELIMITATIONS

This study is limited to only 40-50 years premenopausal women in the tribal area of Macherla Mandal.

The women who are not willing to participate and cooperate in the study tribal premenopausal women are not living in the selected tribal area of Macherla Mandal.

Outline of the report

The report consists of six chapters

Chapter-1	:	Deals with introduction, need for the study, title objectives, operational definitions, hypothesis, assumptions and delimitations.
Chapter-2	:	Contains review of literature and conceptual frame work.
Chapter-3	:	Deals with methodology of the study.
Chapter-4	:	Deals with analysis and interpretation of collected data .
Chapter-5	:	Consists of discussion and findings

Chapter-6	:	Deals with summary, conclusion, Implications and recommendations.
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Methodology

Research Approach:

An evaluative research approach has been applied for this study. This research approach involves findings out how well a programme is working. The main goal is to assess the programme success.

Research Design

The design adopted for this study is a descriptive design which is to understand and describe with an accuracy of the socio-demographic background of the tribal women and their families, on the dietary patterns, exercises, preventive methods, and menopausal problems. This study is one group pre-test post-test design. The research includes compression and evaluation of variables before and after providing Educational intervention programs, by the women in the tribal areas of Guntur district, Andhra Pradesh.

THE SCHEMATIC REPRESENTATION OF PRE-TEST AND POST-TEST DESIGN

	PRE-TEST	INTERVENTION	POST-TEST
	Knowledge test	Educational Intervention Programme	Knowledge Test
STUDY GROUP	Pre- Test assessment of knowledge on osteoporosis	Educational Intervention programme on knowledge about osteoporosis among tribal women residing tribal areas, which includes meaning of osteoporosis ,calcium rich diet ,menopause in osteoporosis important of exercises and	Post- Test assessment knowledge on osteoporosis

		preventive measures in osteoporosis through Lecture method with help of posters, charts, flip charts and group is participated in Role play for awareness on osteoporosis with involvement of health personal (ANM)	
	01	X	02

01-Pre-test assessment knowledge about osteoporosis among the sample.

X-Educational intervention teaching programme was provided by the sample on osteoporosis by using Charts, Posters, Flip charts and Role play with the help of Health personal .

02-Post- test assessment on knowledge about osteoporosis among pre-menopausal Women residing at tribal area.

List of the Messages and teaching aids	
Message	Teaching Aids
Osteoporosis Calcium Vitamin – D rich diet Menopause stages Exercise and Preventive methods Affordability	Lesson plan Charts and poster Charts Flip charts and poster Promoting basic life styles with help of Health person Role play conducted.

Setting of the study- The setting of the study-This study was conducted in the tribal area of Macherla Mandal Guntur Dt.AP .There are 40 manuals in Macherla Municipality, among them, the researcher selected Hasnabad Thanda and Chenchu colony tribal area., by applying the purposive method the investigator selected 200 premenopausal women for the purpose of the study. In these villages there is no proper drinking water facility, health services are farther, roads are very congested with, the open drainage system in these villages, Educational facility is only primary school is present. The selected samples in Hasnabad tanda are 177 samples and Chenchu is 23 samples at the age of 40-50 years..

Sample: Non probability purposive sample technique was adopted based on a simple random sample. The study was under taken in Guntur District, A.P The sample constituted of 200 Tribal Pre-Menopausal women age 40-50 years in tribal area .The study confined to tribal women alone, who were willing to participate in the study .

Operational Definitions

Effectiveness: It is the outcome of the educational program identified by comparing differences Between pre-test and post-test knowledge scores with the help of a structured questionnaire given to selected tribal premenopausal women. **Educational intervention:** It is systemically organized time planed, instructed with components of meaning of osteoporosis, diet pattern, the importance of exercises, menopausal problems, and preventive measures of osteoporosis.

Knowledge: It refers to the level of understanding of Tribal premenopausal women with regard to osteoporosis.

Tribal: A group of primitive stage communities.

Premenopausal Women: Female population aged between 40-50 years residing in Tribal areas of Macherla Mandal.

Menopause: The cessation of menstruation of women at the age of 45to 50 years.

Osteoporosis: Osteoporosis is a chronic progressive metabolic disease characterized by low bone mass and structural destruction of bone tissue leading to increase bone fragility.

Tool- A structured questionnaire was prepared in English and then translated into Telugu for understanding.

Tools used for the study

1. General questioner 12 items : general questioner is developed by investigator to study the respondent profile in terms of Age, Sex, Education ,Occupation, Income, Type of work Source of information, type of tribe
2. Questionnaire on Knowledge on osteoporosis, Menopause, Diet Exercise, Preventive Methods.
3. Questionnaire on varies aspects
4. Part A Knowledge on Osteoporosis(10)questions

5. Part-B Knowledge on Menopause(10) questions
6. Part –C Knowledge on Diet (10) questions
7. Part –D Knowledge on Exercises (10) questions
8. Part –E Knowledge on Preventive Methods (10) questions

Statistical Analysis

1. Frequencies and Percentages
- 2 Mean and Standard deviation
- 3 Coefficient and correlation
- 4 t-tests
- 5 Chi-Square test

Tools for Data Collection

For the purpose of collecting information for this study, a structure interview schedule in English and then translated in Telugu carefully prepared, which consist of 2 major sections a brief description of the tools is presented here. Additional information of the tools is also appended. The initial data collection was done with a structured interview schedule to elicited the information pertaining to Socio demographic profile of the tribal premenopausal women's knowledge on osteoporosis, menopause in osteoporosis, diet, exercises and preventive Methods towards osteoporosis .The data collection tool used in the study was Interview questions are with yes `or no

Universe

Purposive sampling was conducted in the year 2015 in the tribal area of Macherla Mandal Guntur district. It was noted that at an average ages 40-50 years of 200 tribal menopausal women attended the intervention above three weeks. Hence the tribal women were chosen as the universe for the study.

Pilot study

‘Sleeper effects ’ for certain questions sometimes, the terminology may have to be alerted to suit the local conditions. Above all the concept of time

because crucial for any researcher for the finalization of data, so, the pilot study means a study which goes somewhat head of the main study.

The investigator conducted the pilot study in Kotthapalli Village between 12-5-15 and 19-5-2015 to test the feasibility and practicability of the tool used. Prior to the study formal permission was obtained from Health Officer and Panchayath Sarpanch, for conducting the pilot study. Samples were selected for the pilot study following the purposive sampling technique. After establishing rapport with self-instruction, the consent of subjects to participate in the study. The pilot study consisted of administrating the interview schedule. The investigator instructed the samples to assemble in Primary Health Center, Kothapalli Village. A pre-test was completed on 12-5-2015. The reliability of the tool was established by using 30 samples in tribal areas. The investigator imparted Educational teaching knowledge on osteoporosis by appropriate visual Aids such as charts, and flip charts. It took nearly 30-40 minutes on the same day. After Educational intervention teaching the women were informed of the date of post-test after one week i.e. is 19-5-2015. The post-test was conducted by using some interview schedules. The analysis of data shows that there was a significant difference between pre-test and post-test knowledge scores with a t-value of 18.769. The result is significant at 0.01 level. these findings of the study show that the tool was reliable and feasible to conduct the main study.

Reliability of the Tool

The reliability of the tool was established by using data collected from 200 samples (premenopausal women) from Hasnabad Thanda and Cenchu colony, Macherla Mandal Guntur Dt. These data were not included in the pilot study. The reliability was established by using the test-retest method. Analysis was done by following the Karalpearsons correlation co-efficient. The obtained correlation was significant in pre and post-test knowledge scores at 0.01 levels. This indicated the tool was highly reliable.

Procedure for Data collection

- The period of data collection was carried out from 15-11-2015 to from 23-1-2016 .as mentioned earlier formal permission was obtained. It was decided to take samples 200 with a minimum of 70 samples per day, from 9A.m to 2P.M.on every day in a week and same timings followed for data collection. The investigator initially

established rapport with the study subjects and purpose of the study was explained to them. Verbal consent from the subjects was obtained and confidentially maintained throughout the study. After explaining about the study and taking consent from the women samples between 40-50years, they were taken teaching on the osteoporosis as small groups, the investigator made the respondents sit comfortably and test was conducted by administrating interview schedule.

The study was conducted in three phases as explained below.

PHASE-1:Pre-test was conducted for study subjects using structured interview schedule prepared in English and then translated in to Telugu from 9A.M to 2P.M

PHASE-11: An Educational intervention programme was conducted for a group. Prior information was given to all the samples who assembled in Hanuman temple in the tribal area for giving Educational intervention programme was conducted using lecture cum discussion method at 10A.m to 10.45minites.The participants was informed about post-test to be conducted after one week.

PHASE-111: Post-test was conducted for this group on 7th day after the Educational intervention programme using the same questionnaire with an interval of one week after teaching programme.

Plan for Data Analysis :

A master data sheet was prepared with responses given by the respondents and it was planned to analyses the data using descriptive and inferential statistics.

Descriptive Statistics :

1. Descriptive Statistics were used to find out percentage, mean, standard deviation for knowledge in pre and post-test on about osteoporosis.
2. Frequency and percentage distribution for level of knowledge in pre and post-test.

Inferential Statistics

1. Paired t-test for the comparison of the pre and post test knowledge scores on osteoporosis.
2. Chi-squares test to analyze the association of demographic variables with that of pre posttest knowledge.

The interview schedule was administered to the sample of 200 respondents. The aim of the study and answering made were explained each question was asked in the same manner to all the respondents. The answers were recorded in the interview schedule efforts were made to check and cross check the information provided by the tribal women. Data collection was carried out from November

2015 to January 2016.

Limitations of the Study :

The present study has been done only with tribal pre-menopausal woman. The respondents were given directly answers because they are mostly understand and to give appropriate answers.

The present study has been limited to the age group of 40 to 50 years. Especially pre-menopausal woman other women age 20-30 years are not included in the preview of this research.

Data base an analysis :

The source of the data further present study was collected from the primary and secondary data. The primary data was collected from the tribal pre-menopausal woman. The secondary data was collected from the other diseases related to arthritics and joint pains. The collected data was carefully checked and cross checked and was confined and entered into computer for the tabulation by using SPSS package. Tables were drawn and inferences were deciphered from the tables. Analysis was made by suing by simple statistic like percentage, mean and standard deviation Chi-Square and t Test.

Major Findings-In the study nearly 62 percent belongs to 40 to 45 years old women 38 percent belongs to 46 to 50 years old

Out of the total sample 91.5 percent belongs to Sugalis 8.5 percent Chenchu community

Around 99 percent of women were not aware of their physical changes in the body before attaining osteoporosis because of their ignorance

In tribal area majority of women attained menopause between the age of 40 to 45 years it might be due to early marriages, and anemia due to low quality of diet

There is a significant difference in all aspects of knowledge with regard to Osteoporosis, diet, exercises, menopause and preventive aspects initiated progress on osteoporosis in pre- post test scores

It is found that there is positive correlation i.e. there is significant correlation between pre post test scores in all aspects of knowledge on osteoporosis

There is significant change in the attitude of respondents were observed in pre posttest values about all aspects on osteoporosis which indicating there is appositve impact of intervention in raise before each and every aspect

Religion does not have any significant change in knowledge on different

aspects like osteoporosis diet exercise menopause and preventive methods etc.

Education status of women having significant difference in pre and post test scores

Type of family is not showing any significant difference in pre and post test scores

Type of work is not having any significant difference in pre and post test scores

Source of information also have significant difference in pre and post test scores

Occupation is showing any significant difference in pre and post test scores

There is a significant difference between Sugali's and Chenchu's in all aspects in pre and post-test scores

Conclusion: The present study indicates that still in this modern society there is lot of stigma pertaining to menopause and related conditions so the tribal women may not having any knowledge on the osteoporosis in different aspects because of their ignorance language problem lack of education and they are not having proper facilities on health so they are not having sufficient knowledge on osteoporosis.

Scheme of Presentation

Osteoporosis is now public health problem, it increases the risk of fractures in females after a menopausal period. Supplementation of calcium and vitamin D and also some exercises are more beneficial to strengthen the bone capacity and decrease fractures.

The Tribal population mostly lived in interior and remote areas. Due to a lack of knowledge and transportation facilities, these people were not in a position to use the medical services properly. Which are National Health programs and health care services for the woman in Tribal areas. Due to a lack of education, language awareness on health and disease, these women are not using the services provided by the Government.

They follow cultural beliefs, customs, taboos till today. They conceive multiple times. These women are married they faced many problems regarding nutritional anemia abortions. The woman may have mineral deficiencies in the body. The people are taking more mallets in their diet which cannot supply the proper nutrition for the healthy woman. These women are more likely to get menopause an early age in their life because of the number of deliveries

Most of these tribes belong to are below the poverty line and they are also illiterates making them unable to understand the necessity of a calcium and vitamin - D rich diet. These people's income is very low so that they cannot afford the nutritional diet. Suggested to by the Medical

The tribal women work harder than the other women and they won't take the proper

diet according to their work. All the above-mentioned reasons will make these women more prone to get osteoporosis.

The researcher prepared some questionnaires on osteoporosis in 5 aspects regarding knowledge related to osteoporosis, menopause, diet, exercises, and preventive measures. The questionnaire was administered to 200 tribal women who are having 40 to 50 years before and after series of educational interventions based on the health belief model. A significant increase in overall scores for knowledge on osteoporosis the mean score in pre-test 0.1 and post-test is 17.8. so the researcher suggests all women over 65 years should receive baseline bone density screening, by 2025 experts predict that osteoporosis will be responsible for approximately 3 million fractures and 25.3 million in costs each year, many people confused osteoporosis as arthritis, soothe females after 50 years of age should take care about health.

Comparatively, Sugalies are a little bit exposed to the general community than the Chenchu community. Chenchu's will follow their own believes cultural rituals, taboos strictly till today. Even at the education level Sugalies are somewhat better than Chenchu's. But Chenchu's till today they live inside the forests. The Government trying to give them the proper care to the Chenchu's and Sugalies through the ITDA (Integrated Tribal Development Authority) But they are not using these facilities as expected. Based on investigation/research conducted by me Sugalies gave a reasonable answer than Chenchu's when compared Chenchu's knowledge is very poor than Sugalies, It is my understanding. By the overall research, Sugalies and Chenchu are illiterates and having poor knowledge making them unable to utilize medical services. By this, I concluded that these women are not having knowledge and osteoporosis.

My present study has been divided into 5 chapters and a brief summary of each chapter. The first chapter provides an introduction to osteoporosis and related problems preventive methods. It also contains a brief review of literature Methodology which contains a problem statement, the hypothesis formulated, research design, a tool for data collection the universe, the sample, the pilot study, data collection, and the limitations of the study.

Chapter II presents the setting of the study which contains district profile, osteoporosis statistics of the world, India, Andhra Pradesh Tribal area of Guntur District.

Chapter III deals with the Socio-economic profile of the respondents which serves as the background for the study.

Chapter IV is the core chapter of the thesis which deals with Socioeconomic analysis of the tribal premenopausal women knowledge was assessed by using an attitude scale. Knowledge scores of Tribal women were compared with demographic variables of Tribal pre-menopausal women.

Chapter V brings the summary, conclusion, and suggestions for future studies.

Select Bibliography and references

1. Pluskiewicz w, Drozdokwska B. Ultrasound measurement of proximal

phalanges in a normal polish female population. Osteoporosis Int. 1998;8(4):349-54.

2. Lips P. Epidemiology and predictors of fractures associated with osteoporosis. Am J Med 1997 Aug 18;103(2A):3S-8S; discussion 8S-11S.
3. Karlsson MK, Gardsell P, Johnell O, Nilsson BE, Akesson K, Obrant KJ., Bone mineral normative data in Malmo, sweden. Comparison with reference data and hip fracture incidence in other ethnic groups. kjActa Orthop scand. 1993 Apr;64(2):168-72.
4. Dennison E, Yoshimura N, Hashimoto T, Cooper C., Bone loss in Great Britain and Japan : a comparative longitudinal study. Bone 1998/23(4) 379-382.
5. Kin k, Lee JH, Kushida K et al , Bone density and body composition on the pacific rim: a comparision between Japan-born and U.S- born Japanese-American women. J Bone Miner REs 1993 Jul; 8 (7) ; 861-9.
6. Ling X, Cummings SR, Mingwei Q, et al, vertebral fractures in Beijing, China : the Beijing Osteoporosis Project. J Bone Miner Res 2000 oct; 15(10):2019.25.
7. Wang Q, Ravn P, Wang S, Overgaard K, Hassager C, Christiansen C., Bone mineral density in immigrants from southern China to Denmark. A cross-sectional study. Eur.J. kEndocrinol. 1996/134(2)/163.167.
8. Aspray TJ, Prentice A, Cole TJ , Sawo Y Reeve J ,Francis Rm., Low bone mineral content is common btu osteoporosis fractures are rare in elderly rural Gambian women. J Bone Miner Res 1996/11(7)/1019.25
9. Dibba B, Prentice A, Laskey MA, Stirling DM, Cole TJ., An investigation of ethnic differences in bone mineral, hip axis length, calcium metabolism and bone turnover between West African and Caucasian adults living in the United Kingdom. Ann Hum Biol 1999 May-Jun;26(3): 229-42.
10. Office of the surgeon generic bone health and osteoporosis 2004
<https://www.ncbi.nlm.nih.gov/books/NBK45513/>
<https://www.ncbi.nlm.nih.gov/books/NBK56070/>

11. Kanisja, on behalf of the WHO Organization scientific group 2017