RESEARCH ARTICLE

A REVIEW ON STUDIES & RESEARCH ON PREVENTION OF OSTEOPOROSIS

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Manuscript Info

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Abstract

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Osteoporosis is one of the major causes for the fracture among aged and adult population. Osteoporosis causes bone to become porous and so brittle that even mild alteration in posture may lead to fracture. Osteoporosis is a skeletal disorder which affects the more than 10 million Americans. Osteoporotic fractures are more often reported in women i.e. 40% to 50% and 13% in men. However other study reported that the occurrence of fracture was similar in men and women. In primary osteoporosis, post-menopausal osteoporosis generally develops after menopause because of drop in estrogen level. Senile osteoporosis generally occurs at the age of 70 years in which thinning of bone occurred. Senile osteoporosis is degenerative osteoporosis because of wear and tear on the bones. Secondary osteoporosis is most common as it is caused by certain medical condition or treatment, which affects the bone mass and cause bone loss.

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Introduction:-
The review of literature is systemic identification, selection, critical analysis and reporting of the existing information in relation to the problem of interest. It helps in the formulation of a specific problem, acquaints the investigator with what is already known in the relation to the problem under a review and provide a basis for assessing the feasibility of conducting research.

This literature review is put in a framework to avoid pilling on of facts thus all related information is clustered under certain sub topics i.e.
1. Review of Literature related to knowledge of osteoporosis.
2. Review of literature related to prevalence of osteoporosis.
3. Review of literature related to prevention and control measures of osteoporosis.

Knowledge Of Osteoporosis.
Meenakshi R Devangmath, et al, conducted a descriptive survey study on to assess knowledge regarding osteoporosis among post- menopausal at selected area of Byahatti PHC, Dharwad Dist. Karnataka. With 30 post-menopausal women were selected by using probability simple random sampling technique. The subject knowledge was assessed by using structured knowledge questionnaire. The study results reveal that, majority of subjects 21 (70%) had an average knowledge and remaining 09 (30%) had had poor knowledge regarding post- menopausal osteoporosis. There was no association found between knowledge scores and their selected demographic variables. The study concluded that overall knowledge scores regarding post- menopausal osteoporosis among post-

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menopausal women was average and there is a need of health educational programme to improve their knowledge and take necessary steps to prevent and adequately manage post- menopausal osteoporosis. [1]

Mohammed Yehia Saeedi, et al., conducted cross sectional study on to assess knowledge, attitude and practices for osteoporosis among Primary Health Care physicians in Saudi Arabia and to identify its determining factors. Responses were obtained from 364 physicians (30% female, 70% male). The majority was resident physicians (81%) and thought that osteoporosis was an important clinical problem. About 84% were unaware of the presence of any clinical guidelines for osteoporosis. Gaps in knowledge of physicians about bone health were identified. There is a need to extend medical knowledge regarding the contemporary management of osteoporosis and its risk factors. The results showed that the knowledge, attitude and practice study could be used to improve physician's performance; 13 hence it should be implemented on regular basis as part of the osteoporosis prevention strategy. [2]

Khalid ElTohami, et al., a descriptive study were conducted on to assess osteoporosis knowledge, attitude, and practice among adult women in Majmaah city. The data were collected from 390 females in Majmaah city with using convenient sampling technique. For the data collection the researcher prepared the structured knowledge questionnaire which consisted of three domains to assess their knowledge, attitude and practice (KAP) of osteoporosis. The findings showed that women had fair to good levels of knowledge (50%), Attitude (55%) and practice (60%) about osteoporosis. Media was the main source of information about osteoporosis that women identified (57.69%). Here the study concluded that Overall females having good level of knowledge, attitude and practices towards osteoporosis. Media was the main source of information about osteoporosis. [3]

Gurukrushna Mohapatra, et al., a cross-sectional study were conducted on to assess the knowledge on osteoporosis among post-menopausal women in urban slum area of southern Odisha. For this study total 369 samples were selected and data was collected through structured knowledge questionnaire. The data was analyzed SPSS version 16.0. P value less than 0.005 was taken to be statistically significant. The result of the study showed that, Majority of the women (75%) were in the age group 51- 60 yr and (42%) of women had no formal education. The study concluded that in the community: knowledge on osteoporosis among post- menopausal women is very low and it is significantly associated with factors like age, occupation. [4]

Nabilah Raroli et al., a cross- sectional study were conducted on knowledge, attitude and practice regarding osteoporosis among allied health science students in public university in Malaysia. in this study using convenience sampling technique with using a knowledge questionnaire that comprised four section on socio-demographic and KAP regarding osteoporosis. Finally the result revealed that there was also a significant positive correlation between attitude and practice regarding osteoporosis. The study concluded that, only age and year of study were found to be significantly negatively associated with practice, in addition to the fair positive correlation between attitude and practice. [5]

Mohammed Reza Etemadifar et al., a cross- sectional study conducted on to assess possible relationships of knowledge and related factors with educational level and osteoporosis- related life habits. For this study there was a 268 sample size were selected from Isfahan, Iran. The tool used in the osteoporosis knowledge Assessment Tool to assess the knowledge of women. The study revealed that the mean level of knowledge about awareness of osteoporosis, its risk factors and preventive factors were 56, 55 and 22, respectively. Here the study concluded that Iranian women with a higher education level have significantly better knowledge about osteoporosis than women with a lower educational level but they do not use this knowledge in their life. [6]

Prevalence Of Osteoporosis
Limin Tian et al., cross sectional study were conducted on prevalence of osteoporosis and related lifestyle and metabolic factors of post- menopausal women and elderly men. The aim of the study was to investigate the osteoporosis prevalence and risk of post- menopausal women and elderly men in Gansu province. For this study there was a 3359 post- menopausal women and 3205 elderly males were randomly selected from 7 areas of Gansu province. The result of the study revealed that prevalence of osteoporosis in the entire study population was 9.65% for post- menopausal women while the rate of osteopenia were 27.09% for post- menopausal women. Here the study concluded that the risk of osteoporosis was significantly associated with age, menopause age, and duration of menopause, body mass index (BMI), educational level and alcohol consumption in post- menopausal women. [7]

Peng Chen et al, a study conducted on prevalence of osteoporosis in china: a meta- analysis and systematic review here in this study prevalence estimates were obtained using random effect models Meta regression analysis and by visually inspecting funnel plots. The result shows that prevalence of osteoporosis was higher in females than in males (25.41 % vs. 15.33%) and increased with age. Osteoporosis prevalence was higher in rural than in urban areas (20.87 % vs. 23.92 %) and higher in southern than in northern areas (23.17% vs. 20.13 %). The prevalence of osteoporosis in china has increased over the past 12 years, affecting more than one- third of people aged 50 years and older. The study concluded that prevalence of osteoporosis increased with age in females. Prevention and control measures have become all the more important given the increase in osteoporosis prevalence, and threestep prevention programme should be implemented. [8]

Priya A. Vaasanthi et al, a cross- sectional study was conducted on prevalence and determinants of osteoporosis in women aged 40- 60 years. The sample size was calculated statistically among 400 women. The data were collected through structured questionnaire. The result of study showed that prevalence of osteoporosis is 17.25 % and findings suggest a significant positive correlation between ages, time since menopause, sunlight exposure, family history of osteoporosis and bone mineral density. Here the study concluded that, Quantitative ultrasound conclusively confirms or rules out osteoporosis or osteopenia in any population and can be used as a screening tool. [9]

Sunil Nikose et al, a experimental study was conducted on prevalence of osteoporosis in female population in Rural central India at sawangi meghe Wardha. The objectives of the study were to assess and evaluate osteoporosis screening of the rural female population to establish correlation of osteoporosis with age group and socio- economic strata of the patients. The purpose of this study was to evaluate osteoporosis screening of the rural female population to establish correlation of osteoporosis with age group and socioeconomic strata of the patients. For this study there was an total 3532 females were selected and screened. The Results reveled that significant population had lower BMD score, which suggest osteoporosis and had statistical significant correlation with their socioeconomic, literacy and emotional family backup. However, found that the prevalence of osteoporosis was homogenous in all the age group. [10]

Prevention And Control Measures Of Osteoporosis
Samantha F Eichner et al, a Experimental study was conducted on comparing therapies for post-menopausal osteoporosis prevention and treatment. The objectives of the study was to review the literature concerning the efficacy of calcium, hormone replacement therapy (HRT), bisphosphonates, selective estrogen receptor modulators, and calcitonin in the prevention and treatment of post- menopausal osteoporosis. For the data collection the use of calcium and antiresorptive therapies for the prevention and treatment of post- menopausal osteoporosis were selected. For This study showed result in HRT, bisphosphonates, raloxifene and calcitonin have demonstrated stabilization and improvement in BMD. Randomized clinical trials have shown fracture risk reduction with bisphosphonates, raloxifene, HRT, calcium and calcitonin. The study concluded that several therapeutic options with well- 18 documented improvements in BMD and reductions in fracture risk are available to women for the prevention and treatment of post-menopausal osteoporosis. [11]

Jyoti Thulkar et al, a experimental study was conducted on preventable risk factors for osteoporosis in post-menopausal women: Systematic review and meta- analysis to assess the risk factors for osteoporosis in women are similar in the neighboring Asian countries, the study was planned to compare risk factors for osteoporosis in post-menopausal women in Asian Countries.. The final analysis was done on the studies from India, China, Korea and Japan. The literature search was done in Pub Med and Google Scholar using key words, "osteoporosis" and "Menopause" and "Risk Factors". The result revealed that pooled prevalence for the osteoporosis in post-menopausal women is 41% but in India alone is 53%. Various risk factors are studied in China as compared to useful modifiable factors. Adequate calcium intake and various exercises were found to be the study concluded that adequate calcium and vitamin D intake and combinations of various exercises can be considered as preventive measures for osteoporosis in post- menopausal women. [12]

Conclusion:-
It has been presented under three headings: review of literature related to Knowledge of osteoporosis, review of literature related to prevalence of osteoporosis, review of literature related to prevention of osteoporosis. 21 The review of literature presented in this chapter enabled the investigator to appreciate the seriousness of the problem and gain an insight into the way of conducting the investigation. These valuable studies were useful in selection and development of the instrument of investigation and deciding upon the research methodology. Besides this, these

helped the investigator to broaden her understanding and gave insight into the problem and in planning statistical analysis.

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