Section ‘B’

A Health education camp was carried out with an objective first to educate the urban and rural women about the middle age phenomenon and complications arising due to hormonal changes during menopause phase. It was held to make them aware about common diseases, their causative factors and how to control them and maintain the health through suitable diet, exercise and lifestyle changes.

Six months prior to the health education camp, during the process of survey work a pre-health education questionnaire was distributed which comprised fifteen basic questions related to health and middle age complications.

Six months later, after the session of the Health Education Camp a post-health-education questionnaire was distributed to know the response and the knowledge given to the subject through the expert’s guidance and counselling. The data was collected as to what extent the respondents adopted a healthy lifestyle and how much they made themselves aware about health, its importance, menopause phase and health complications. The responses were recorded and analysed.

The comparative study of pre and post responses in section B-1 & B-2 showed in appendix III & IV that before educating them only 9.1% of women know the meaning of health education but after imparting knowledge 67% women got to know regarding health education and its advantages.

Among the subjects only 7.4% were knowing about the crucial period of middle age before they received the knowledge related to its complications, thereafter, 76.7% were found to be satisfied with the
information and 65.0% came to know about the actual age of menopause and commonly prevalent diseases of middle age.

The data further unveiled that about 61.2% subjects became aware of the hereditary diseases and other causative factors.

The lectures given by the eminent Doctor’s (Dr. Yelikar, Gynecologist, Dr. J. Tupkari, Physician, Dr. Kale, Diabetologist, Dr. Rojekar, Yoga expert, dr. Renuka, Dietitian) (Photographs shown in appendix No. V & VI), (Photographs shown in appendix No. 3 & 4) revealed the importance and concept of woman’s health, menopause, its effects on body, bones, metabolism and psychology of a woman. Depending on the knowledge received about 58.3% participants responded positively, increased their awareness in post health education programme. Otherwise in previous pre-health data 60% were found to be unaware about the menopause concept and about 12.5% showed negative response.

While collecting the data regarding why and when the climacteric age commences the responses showed that about only 8.5% gave positive and correct reply in the pre health education but after getting information, about 74.8% participants gave satisfactory response and none remained unaware.

It was discovered through the data that initially only 10.5% women had positive knowledge about phytoestrogens and its role in menopause but after post health education good response was noted among 68.0% participants. The importance of phytoestrogens has been expressed by Syed (2006) as Phytoestrogens are a kind of chemicals synthesized in plants. They are similar in structure to the female sex
hormone, oestrogen. Some phytoestrogens are found in soybean products whereas others are found in the fibre of whole grains, fruit, vegetables and flax seed. Milk may also contain phyto-oestrogens, but this depends on what the animal have been eating.

Some early research has suggested that women whose diets are high in phyto-oestrogens have a lower risk of breast cancer. In some studies eating phyto-oestrogens have a lower risk of breast cancer. In some studies eating phyto-oestrogens (soya flour and linseed supplements) regularly over several weeks reduced oestrogen levels. Obese postmenopausal women could have higher oestrogen levels and so have a higher risk of breast cancer.

When asked about HRT/ ERT in pre health education camp the responses were positive only among 9.9% respondents, but in post health education camp the experts highlighted the importance and benefits of Hormone replacement therapy. They stressed on its use during menopausal phases; according to them with modern medicine he life expectancy of a woman has increased and hence about one third of a woman’s life now after the menopause. More and more women are now experiencing the climacteric and now it is evident that HRT may improve the health and quality of life of menopausal women who continue with the treatment. HRT can alleviate hot flashes and nights sweats, relieve vaginal atrophy, prevent bone loss and osteoporotic fractures, reduce the risk of cardiovascular disease and decrease the overall mortality in the postmenopausal women.

These opinions showed positive responses and about 58.3% participants collected the knowledge correctly and were satisfied with the same.
There are numerous studies which support the present research. As unveiled by C. Kawas (1997): The effects of estrogen on the brain help to protect against Alzheimer’s disease effects on nerve growth, and the neurotransmitter systems. Estrogen is also known to have anti-inflammatory, anti-oxidant and anti-stress effect on the brain and by improving the cerebral blood flow and the cerebral glucose utilization it may benefit the aging process and memory as such.

Furthermore, D. Grady et al. (1992) portrays that postmenopausal osteoporosis is mainly caused by estrogen deficiency and hormone replacement therapy (HRT) has been shown to prevent the progress of osteoporosis. The role of estrogen in maintaining the skeletal mass, mainly by reduction of the bone resorption, was first recognized in the 1940’s. However, on the contrary, a recent study in UK (2001), reported that only 17% of women aged 40-65 years took HRT. Some did not start HRT while some did not continue with the therapy. There are numerous reasons why some women do not start HRT, either because they are advised against HRT due to personal health risk as having history of breast or endometrial cancer or the history of thrombosis. Some choose not to take HRT the fear of the side-effects such as weight gain and cancer. Some consider HRT to be unnatural and interference with natural aging process.

Various studies have shown that 50% of women, who started taking HRT, abandon it after 9-12 months. The major reasons for discontinuation are the withdrawal bleeding, undesirable side effects and the breast cancer risk.
More or less this is a fact that, HRT do safeguard a woman during her menopause period and further ageing process by controlling her sugars, blood pressure, serum lipids, cardio artery diseases with little or no side effects, depending upon the individual care.

During the session stress was given on alternative therapies to be adopted other than HRT/ERT, Phytoestrogens, phytochemicals.

The responses related to regular health checkups and following the medicinal prescription by consuming the medicine sincerely were shocking as only 27.2% to 42.4% patients followed regular checkups and took the treatment with follow ups. This showed the negligence and ignorance of the respondents.

In the post-health camp the participants were made aware about the regular checkups and its benefit was noted that about 77.7% and 88.3% participants who responded found in natural herbs, fruits, vegetables, seeds, grains etc. positive health guard as opined by many doctors and nutritionists.

As suggested by S. Valtuena (2003) increasing consumption of soy, soy products and plant based foods, in general, is consistent with current recommendations to increase fiber and antioxidant intake while lowering and replacing sources of saturated fat and cholesterol in diet. Until more is learned, current evidence indicates that there are few risks and many potential benefits from increasing intakes of plant-based foods that are good sources of phytoestrogens.

Although much needs to be understood about phytoestrogens, there is enough evidence from epidemiological and observational studies, clinical trials and laboratory investigations to suggest, that
phytoestrogens have the potential of replacing the traditional hormonal replacement therapy.

This shows that counselling and guidance are important aspects of health education to make people aware about suitable diet and medications to be taken positively and they were happy with the suggestions they received from the experts.

When enquired about whether diet exercise and yoga help in controlling disease condition, only about 34% respondents gave positive reply and 44.8% were unaware about the role of diet and exercise in maintaining proper health. Therefore, awareness was developed and importance of food, balanced diet, effects of deficiency, rich sources of food that can control diseases were discussed.

Also demonstration of yoga exercises were shown in post health education camp by yoga expert [Dr. C. Rojekar] and expert dietitian [Dr. R. Mainde] highlighted suitable diets so as to make understand the benefits of nutrient rich diets. Positive responses were observed in 88.3% participants as they realized the facts and promised for bringing up change in their lifestyle.

Previously 60% women were found unaware about diet modification. So imbalanced diet made them prone to diseases.

After educating them in the post health camp about 67% participants came to know the new concepts of diet modification and healthy lifestyle changes which can bring fruitful results.

Further about 50.1% women seem to be positive to bring about changes in life to safeguard their living.
In post health education camp minimum respondents i.e. 93.2% accepted the fact that lifestyle changes positively prevent them from diseases and can save their lives from future health complications.

The present research and the results can be supported by many other studies and evidences which can help the medical field and health conscious people to plan more health effective lifestyle changes.

To improve the health status of women population the Indian government has extended many nutritional programs under various councils and territories. Pradhan (1999) unveils the importance of ICDS [Integrated Child Development Services] which works in about 32 states and union territories of India. It works for the programs based on health, nutrition, health education, anganwadis, school education and general health for all age group women and children. To work more effectively medical fraternity should come forward with the ICDS program to make it a success so that the prevalence of IDA and other such diseases can be sorted out and cured massively.

Hurrell (2003) et al reported about food fortification and how it can remove the iron deficiency and prevent IDA. The effectiveness of fortificants depends on the selection of iron compound, the vehicle and acceptance of the fortified product by the consumers. Fortificants should have good bioavailability, no interaction with flavours or colour, affordable cost, acceptable solubility and particle size. Wheat flour, cereal based food, infant weaning food, salt, sugar, rice, fish-sauce, soya-sauce, curry-powder and dried-milk constitute the various vehicles that have been fortified with iron. Even though cereal products have been used widely in developed world, they are not suitable in the
Indian situation. Community studies by the National Institute of Nutrition (NIN), Hyderabad have shown that common salt may be used as a vehicle. The average salt consumption per adult in India is about 15g with a range of 10-20g. Through iron fortified salt, an additional 15 mg of iron could be provided to the population. In many developing countries, people are at high risk of both goiter and IDA. Hence, dual fortification of food with iron and iodine has also been tried.

As reviewed by Sarah Lovinger (2005): Regular exercise can reduce the likelihood of bone fractures associated with osteoporosis. Studies show that exercise requiring muscles to pull on bones cause the bones to retain and perhaps, even gain density. Researchers found that women who walk a mile a day have four to seven more years of bone in reserve than women who don’t. Some of the recommended exercise include:

- Weight-bearing exercises
- Riding stationary bicycles
- Using rowing machines
- Walking
- Jogging

Any exercise that represents a risk of falling should be avoided. Fall prevention is an essential component of any comprehensive osteoporosis treatment program. Measures such as making sure the patients vision is good and appropriately corrected, avoiding sedating medications, and removing household hazards can significantly reduce
the risk of fracture. Other ways to prevent falling include wearing good-fitting shoes, and using bars in the bathtub, when needed.

A diet that includes an adequate amount of calcium, Vitamin D, and protein should be maintained. While this will not completely stop bone loss, it will guarantee that a supply of the materials the body uses for bone formation and maintenance is available.

Supplemental calcium should be taken as needed to achieve recommended daily calcium dietary intake. Current recommendations are for nonpregnant, menstruating women to consume 1000 mg/day, pregnant women need 1200 mg/day, and postmenopausal or nursing mothers should consume 1500 mg/day.

High-calcium foods include low-fat milk, yogurt, ice cream and cheese, tofu, salmon and sardines (with the bones), and leafy green vegetables, such as spinach and collard greens. Vitamin D aids in calcium absorption and 400-800 IU per day should be taken by all individuals with increased risk of calcium deficiency and osteoporosis.

According to Xinfeng (2006), there is widespread obesity problem. Overweight or obesity seems almost inevitable in adulthood, the proportion of overweight children has tripled from 5% to 15% over the past 30 years and there is increasing evidence that environmental factors may influence the development of obesity. Because obesity seems to be a societal problem, a public health approach should compliment a clinical high – risk approach. Interventions for obesity prevention and reduction are needed in settings where people live, work, and play (including communities, work sites, and schools) as well as in clinical practice. Drug treatments for obesity should be considered within this
broader context and their current role should be limited, pending further evidence.

Regular exercise, currently recommended as at least moderate intensity physical activity for at least 30 minutes on most days, has excellent support for improving cardiovascular health and lowering all cause mortality. However, many individuals may be concerned about a trade-off between the benefits of exercise and the risk of sudden cardiac death during an episode of exertion. Nurses Health Study of more than 69000 women followed up from 1986 to 2004, the risk of sudden cardiac death associated with moderate to rigorous exertion was exceedingly low: 1 per 36 million hours of such exercise. The magnitude of the risk was lower than what has been reported for men in previous studies. Although the low risk of sudden cardiac death during moderate to rigorous activity for women in the Nurses Health Study was higher than the risk during lesser or no exertion.

Moreover, while planning a makeover for a healthy diet B. Nirmala, S.K. Das et al believe that during their analysis before nutrition counselling, subjects had certain concepts like split pulses are equally good as whole pulses, single flour alone can be used, oils can be used repeatedly for cooking and frying purposes, washing of vegetables can be done before or after cutting, cooking in open pan does not affect nutrients, fried fish is more tasty and healthy and cooked garlic is beneficial.

But after imparting nutrition counselling for a period of two months, subjects started adopting desirable practices for preparing food. They understand certain nutritional aspects that combination of
flours is nutritionally good as 76.7 percent of subjects started using flours in combination and repeated use of oils was made only by 13.3 percent of subjects and split pulses were used only by 20 percent of subjects after nutrition counselling. Washing of vegetables before cutting, and cooking in covered pan done by 93.3% and 90% of subjects as compared to 50 and 60% respectively before nutrition counselling.

Nutrition counselling was imparted regarding the benefits of raw garlic in lowering the heart disease risk by lowering blood cholesterol, blood pressure and triglycerides which resulted in by incorporating raw garlic in soups, dals, chutneys and pickles among 93.3% of subjects. Practice of preparation of garlic pickle in vinegar was also observed among 83.3% of the subjects. Importance of promoting use of low fat steamed, baked, roasted and grilled fish resulted in 40% improvement in its intake among non-vegetarian subjects. Nutrition counselling also resulted in decreased consumption of whole milk i.e. 50 to 30% as skim milk was considered to be more cardioprotective. Preference for fresh fruits instead of juice was also seen among 90% of subjects after counselling. Schiller et al reported that nutrition counselling imparted to heart patients had positive outcomes. Most patients 83% gave partial or full description of their diet modification and 79% had moderate or good understanding of their diet.

According to M. Glass and Mora et al (2006) the importance of physical activity, diet and its correlation to BMI can be understood by a cross sectional analysis of more than 27000 apparently healthy women aged 45 years or older (mean age, 55 years), these authors report that
lower levels of physical activity and higher levels of body mass index (BMI) were independently associated with adverse levels of nearly all of the biomarkers of cardiovascular risk, even after adjusting for age, race, smoking, blood pressure, diabetes, menopausal status, and hormone use. The most favorable values were found in women with an optimal BMI (19-25) who exercised regularly (at least 30 min/d on most days of the week). The message for women’s health is clear regarding the value of regular exercise and a healthful diet to attain and maintain an optimal BMI.

The studies by Lakentiew et al (2005) also proved that an intake of 25 g per day of mustard oil or soyabean oil in conjunction with physical activity, cessation of tobacco consumption and moderate intake of alcohol may be an effective package for remedies for prevention of coronary artery disease in Asians, which forced the researcher to make people aware about behaviour modification and bring lifestyle changes.

Furthermore, in some other study carried out by Mattson (1985) on two differently consuming groups (I – group consumed soy oil and II group consumed mustard oil) the results surprised that consuming mustard oil was not as effective as soy oil. The study revealed that polyunsaturated fats reduced the serum concentration of lipids in hyperlipidemic individuals. It is evident that the soyabean oil contains higher polyunsaturated fatty acids (58g) than the mustard oil (21g). This may be the reason for bringing down the total cholesterol in the group consuming soyabean oil.
It is crystal clear from the study and the results that there is need for strong diet pattern changes and other modifications which can control disease condition and other health problems.

The study which was mainly focused to understand the impact of consuming soyabean oil and mustard oil among the hyperlipidemics in terms of serum lipid profile was an example as the supplementation of 30g soyabean oil proved to be hypolipidemic since there was a significant reduction in total cholesterol and low density lipoprotein cholesterol and increase in HDL cholesterol after three months period. The difference in serum lipid profile was not significant among the subjects consuming mustard oil. The high levels of poly unsaturated fatty acids in soyabean oil might have played a significant role in bringing down the serum lipid level, in group I supplemented with soyabean oil.

During the process of pre health education the subjects were asked whether they will follow the health tips and suggestions given by the researcher. The reply was 60.6% positive with 36.3% women nodded negative as they were unaware about how to follow and adopt the suggestions. After post health camp they were confident enough to adopt the health tips and change their routine activities so as to achieve good health. About 93.2% women responded positively and gave assurance for following the healthy lifestyle changes.
Views and Responses Given by the Doctors Regarding Middle Age Diseases (in %)

Middle age as climacteric or crucial period of time

Middle age women are more prone to diseases/ailments than middle age men

High B.P., CHD, Arthritis/Joint pains, Osteoporosis, Diabetes, Breast Cancer, Asthma, Anemia

Section No. C-1
Views and Responses Given by the Doctors Regarding Middle Age Diseases (in %)

Section No. C-2
Views and Responses Given by the Doctors Regarding Middle Age Diseases (in %)

Percentage of Responses

Obesity Stroke Prone to Fracture Cervical Cancer Paralysis Papitation Low BP Health Education can improve Health Status

Literacy level & Socio-economic status affects the health condition & awareness of the diseases

Section No. C-3