CHAPTER-7

SUMMARY AND CONCLUSIONS

The reproductive cycle of a woman makes a huge demand on the nutrients requirement of the mother which affects her nutritional status considerably. An enjoyable pregnancy and birth of a healthy baby do not happen just by chance. Beginning with conception, growth requires greater dietary essentials than body maintenance.

Pregnancy is the period in the life of an adult woman when the fetus i.e. the unborn baby, growth inside her body. It is a period of about nine months. To support the growth of the fetus, certain physiological changes take place in the woman's body. The fetus is attached to the mother through the umbilical cord which in turn is attached to the placenta. The fetus is nourished by the placenta. Thus pregnancy is a period of fetal growth superimposed on the normal metabolism of the mother. Therefore, there is a direct relationship between health and diet during pregnancy. In the present investigation, an attempt has been made to the comparative study of nutritional status of working and non-working pregnant women (middle-class family) in Kanpur city.
The study was confined to the middle-class family only. Middle-class simple means the class which is of middle socio economic status. The present research work was conducted on 400 pregnant women of middle-class family. Out of which 200 pregnant women were working and 200 pregnant women were non-working. A working woman is one who is gainfully employed. She is one who works in anticipation of monetary return where as a non-working pregnant woman means a woman who is not gainfully employed. She is not working in anticipation for any monetary return. The research work was conducted in the area of Kanpur city which is pointed as the central part of Uttar Pradesh.

Before conducting the survey work, a list of private and Government maternity hospitals was obtained from the office of Municipal Corporation, Kanpur city. For sampling process, the list was divided into four stratas. The base of this division was the location of the hospitals that falls under four zones of Kanpur city. Then five hospitals from each zone were selected randomly. Thus out of twenty hospitals, ten working and ten non-working pregnant women from each hospital were selected randomly. A well-structured interview schedule was used as a tool for
collecting information from the respondents related to their socio
economic status, food consumption pattern and some other
essential information that helped in maintaining the realistic
picture of nutritional status of the respondents. Based on the
pretesting, slight modifications were done in the schedule to
make it more functional.

Findings reveal that majority of the working respondents
(43.0 per cent) were between 26-30 years of age where as
majority of non-working respondents (48.0 per cent) were
between 22-26 years of age. In case of working class, pregnancy
was high in the age group of 26-30 years. Career making was the
main reason that delayed the onset of pregnancy. Majority (73.5
per cent) of the working and (70.5 per cent) of non-working
pregnant women were Hindus. 76.0 per cent of the working
samples belong to general class and 79.0 per cent of non-
working samples belong to general class. This shows that
majority of both the working and non-working respondents
belong to general class which is due to the fact that most of the
middle-class population fall into this category. Distribution of the
respondents on the basis of religion, majority of the population in
both the cases were Hindu. On the basis of educational
classification, majority of the working respondents (50.0 per cent)
were having Higher Professional Degree and remaining samples were educated upto High School (3.0 per cent), Intermediate (22.0 per cent), Graduate (13.0 per cent), Post graduate (12.0 per cent) and the Primary column was nil. On the contrary, in non-working group, majority (32.0 per cent) of the respondents were educated upto Graduate and remaining 136 samples were educated upto Primary (8.0 per cent), High School (10.0 per cent), Intermediate (29.0 per cent), Post Graduate (16.0 per cent) and Higher Professional Degree (5.0 per cent). Distribution of the respondents on the basis of type of family, majority (58.5 per cent) of the working pregnant women belong to nuclear family where as on the contrary, a high percentage that is 63.5 per cent of non-working respondents belong to joint family. It clearly shows that joint family system are now disintegrating among working samples which may be due to education, employment and higher cost of living where as joint family system was more prevalent among non-working expectant women. It has been that there is no marked difference between the number of children and the type of respondents. On the basis of educational classification, it is evident from the previous chapter that working pregnant women were engaged in various types of occupation out of which 31.0 per cent of the working respondents were busy with their teaching profession. This
remarkably higher percentage concludes that this profession allowed them to devote energies to their home also. Majority (51.0 per cent) of the working respondents were engaged in government jobs. On the basis of family monthly income, majority (49.0 per cent) of the working respondents were earning between Rs. 20,000-25,000 while majority (58.0 per cent) of the non-working respondents were earning between Rs. 16,000-20,000.

On the basis of educational classification, the two categories that is upto Intermediate level and upto Higher professional degree, the food intake by the respondents shows that intake of cereals, roots and tubers and fats and oils was significantly more in the first category where as intake of pulses, green leafy vegetables, other vegetables, fruits and milk and milk products was significantly higher in the second category. The consumption of sugar and jaggery was not affected by the educational level of the respondents.

In the context of outcome of previous pregnancies in non-working respondents, percentage was high in the case of number of multigravide, number of post pregnancies and still birth as compared to working respondents.
During the assessment of haemoglobin level, it was found that the mean haemoglobin of both the type of respondents was low than the standard value but the average haemoglobin level was higher in working pregnant women as compared to non-working pregnant respondents.

During the clinical assessment of working and non-working pregnant women, the result shows that the incidence of nutritional deficiencies were high in non-working group as compared to working group.

The results of the physical assessment shows that mean height of working and non-working respondents was 152.3 and 148.5 cm, respectively and mean weight of working and non-working subjects was 51.2 and 52.6 Kg, respectively. The calculated value of 'z' (2.392*and 4.928*) were significant at 5% level and it shows a significant difference in the means of height and weight in both the type of respondents. Body Mass Index of both the type of respondents was assessed. The chronic energy deficiency of third grade was not found in any subject. Only one candidate was obese in non-working category. Majority (68.5 and 46.5 per cent) of both the type of respondents were in the category of normal BMI, respectively.
According to food habits, perusal of the data reveal that 60.0 per cent of working and 65.0 per cent of non-working pregnant women interviewed were vegetarians while 23.5 per cent and 15.0 per cent were non-vegetarians, respectively. 13.5 per cent of working pregnant women and 10.0 per cent of non-working pregnant women were interviewed egg-vegetarian. Another interesting finding of the present study was the observation of appetite for pica eating. Therefore, the data reveals that 3.0 per cent of working and 10.0 per cent of non-working pregnant respondents were having this habit. This shows that a large segment of the subjects of the present investigation were Hindus who do not advocate consumption of flesh foods.

The data of weekly food consumption pattern shows that wheat was the main cereal and consumed by both the type of respondents. 50.0 per cent of the working and 48.0 per cent of non-working respondents consumed rice daily. Maize and bajra were less commonly used by both type of respondents. A wide variation was seen in the consumption of pulses. 40.0 per cent of the working respondents consumed arhzar dal (red gram) on alternate days, 80.0 per cent of them consumed
chana dal (bengal gram) once a week and 49.0 per cent of them consumed moong dal (green gram) once a week while majority (50.0 per cent) of them consumed lentil rarely. On the contrary, among non working pregnant women, 47.0 per cent of them consumed arhar dal (red gram) alternatively while majority (55.0 per cent, 52.0 per cent, 48.0 per cent) of the non-working respondents consumed chana dal (bengal gram), urd dal (black gram) and moong dal (green gram) once a week, respectively.

A wide variation was also seen in the consumption of green leafy vegetables by both the type of respondents. Majority of the working respondents consumed bathua, fenugreek leaves, mustard leaves and mint rarely whereas majority of the non-working respondents consumed amaranthus, bathua, fenugreek leaves, bengal gram leaves, spinach and mint rarely. Potato, onion and garlic were the main root and tubers among working and non-working respondents and majority of the respondents used them daily. Other roots and tubers which were most commonly used by both the type of samples were radish and carrot. Tomato was used daily by both the type of respondents where as lady's
finger and peas were consumed once a week and brinjal and cauliflower were used alternatively by the working and non-working respondents.

The ratio of consumption of different types of fruits is high among working pregnant women than the non-working pregnant women. Guava, Apple, Banana, mango and oranges were the fruits which were commonly used by both the categories where as ber and dates were two fruits which were less commonly used by both the type of respondents.

Majority (82.0 per cent) of the working respondents used buffalo's milk daily whereas 40.0 per cent of non-working respondents consumed cow's milk daily. Buttermilk was used more frequently by the non-working respondents where as curd was common among working respondents. Hydrogenated oil was used daily by the working pregnant respondents while majority of the non-working respondents consumed mustard oil daily. The consumption of sugar by both the type of respondents was 100.0 per cent.

Almost all the food items constituted a food fad. 40.0 per cent of the working samples and 55.0 per cent of non-working samples expressed their opinion that women should take food
in the last. 48.0 per cent of working pregnant respondents and 66.0 per cent of non-working pregnant respondents, respectively believed that men should be given better quality / larger share of food. Taking food from the same plate was a common practice among non-working respondents whereas it is low in working respondents i.e. 45.0 per cent. The important beliefs in non-working pregnant women were that food intake should be cut down during pregnancy and pregnant women need no special food. Majority (60.0 per cent) of the working respondents sieved flour before kneading and 90.0 per cent of non-working respondents also follow the same practice. Similar trend was also found in washing of vegetables after cutting. Majority of the non-working respondents were in the believe that rice and arhar dal are gas producing cereals. Among working and non-working pregnant respondents wide variations were seen in the believe that bajra leads to dizziness, heart burns and abortion and wheat is a cold food where as jowar is meant for animals. Tomato and beetroot build blood, potato is a fattening food and radish is a cold food if eaten in evening causes cold are the common beliefs among both the type of respondents. Majority (55.0 and 75.0 per cent) of the working and non-working respondents, respectively
believed that papaya is forbidden during pregnancy as it leads to abortion. Citrus fruits can cause cold and twin fruits if consumed during pregnancy would result in twin or deformed child were other beliefs in both the groups.

Wide variations were seen during the consumption of mild and milk products and fleshy foods in both type of respondents. Ghee can be used in any quantity and is not fattening, jaggery and groundnuts should be avoided as they are hot foods are the common beliefs which were more prevalent among non-working respondents as compared to working respondents. During this study, it was noticed that a large number of food items were avoided due to one reason or other during the pregnancy period of both the type of respondents.

Daily mean intake of cereals, pulses green leafy vegetables, roots and tubers, other vegetables, fruits, milk and milk products, fats and oils and sugar and jaggery was significantly (P<0.01) less than the recommended levels in working and non-working pregnant women. As compared to the non-working respondents, the working respondents had significantly more intake of cereals, pulses, green leafy
vegetables, other vegetables and fruits. On the other hand, non-working expectant respondents significantly consumed more of roots and tubers, milk and milk products and fats and oils. No significant difference was noted in the intake of sugar and jaggery between working and non-working respondents. In terms of adequacy level, it was observed that majority of the working and non-working pregnant respondents were consuming all the food groups in less amount than the recommended allowances.

Mean intake of protein, energy, calcium, iron, carotene, thiamine, riboflavin, niacin, vitamin C, folic acid and vitamin D was significantly (P<0.01) less than the recommended allowances in working and non-working respondents. As compared to non-working respondents, working respondents had significantly more intake of all the above written nutrients except calcium. In terms of adequacy level, it was observed that majority of the working and non-working pregnant women were consuming all the nutrients in less amount than the recommended allowances.
CONCLUSIONS

Maternal nutrition whether working or non-working is an important determinant of the course and outcome of pregnancy and seventy five per cent of fetal growth is related to maternal-nutritional status. However, maternal nutritional status not only determines the state of the offspring at birth but also the future course of its development and health in late adult years.

The conclusions of the present research work based on the hypothesis is given under the following headings:

(I) **Relationship between educational status and nutritional status:**

Education is strongly associated with health and nutrition. A job oriented education of expectant women could reduce their dependency upon family not only for their economic needs but also to caste off the tradition bound habits that make them difficult to follow the healthy dietary requirements. From the present research work, it has been reported that there is a marked difference in the intake of nutritious diet during the period of pregnancy. It was
observed that both the categories were consuming the nutritious diet but below the recommended dietary levels. From comparison point of view, the pregnant women who are working seems to be much concerned for improving the nutrition of themselves and their family than the non-working pregnant women. It may be due to difference in their educational and economic status.

However, it was found from the results that there is a positive correlation in the hypothesis (i) and hypothesis (ii). Therefore, working pregnant women have better nutritional status than non-working and there is a relationship between educational status and nutritional status. Thus these hypothesis are accepted.

(II) **Relationship between physical status and nutritional status:**

Food consumption is one of the important determinant of physical status of the expectant women directly and indirectly to the fetal growth. Data reveals from the study that the weight and Body Mass Index of working and non-working pregnant women were greatly influenced by the dietary pattern. Deficiency of food nutrients according to their
physiological need and any other physiological problem were the causes of loss of body weight of pregnant women. The statistical differences shows that working pregnant women have better physical status that in terms of Body Mass Index as compared to non working. This may be due to intake of better nutritious diet. Therefore, the result of the present investigation is in the view of acceptance of the hypothesis that there is a relationship between physical and nutritional status.

(III) Relationship between dietary pattern and nutritional status:-

A pregnant woman who is in a good state of nourishment and therefore has enough reserve of nutrients will be able to meet the demands for nutrients of the developing fetus inside her body. If she also continues to take nourishing food during pregnancy her own reserves also will not be use up. A good nutritional level will also minimise the risk of child birth and ensure a healthier baby. The RDA's suggests for almost all the nutrients increase during pregnancy. The results shows a great variation in the intake of nutrients which affect the outcome of previous pregnancy,
clinical health and haemoglobin level of working and non-working pregnant women. The statistical data reveals that working pregnant women have better dietary pattern as compared to their counterparts. As a result of which working pregnant women have better nutritional status than the non-working and this assist in accepting the hypothesis that there is a direct co-relation between diet pattern and nutritional status.

(IV). Relationship between nutritional status and family income:

It can be well constructed that due to employment, women are getting economic independence. Food intake of the family members are also influenced by the family income. From the overall study of the present research work comes to the point that the high income of the family provides a better opportunity of spending money on food. Due to this reason, majority of the working pregnant women were availing better nutritious diet. Statistical data reveals that the family with high income provides better nutritional status and this assist in accepting the hypothesis that there is a direct co-relation between nutritional status and family income.