Chapter 8  SUMMARY AND DISCUSSION

It may be recalled at the outset that the objective of the present study is to (a) describe the health problems of two social groups living in a squatter settlement, (b) enquire whether the two social groups differ with respect to the health-related traits, and (c) also enquire whether the differences in respect of health-related traits, if any, are associated with the differential exposure of women belonging to the two groups to the middle class society. The two social groups were chosen such that the cultural differences between them (particularly in respect of health-related behaviour) were maximal. It was presumed that the nature and extent of exposure to the middle class knowledge, attitude and practices (KAP), differ between the Hindu and Muslim women. Among the Hindu women, those working in middle class homes as maid-servants (HW) and those not working in such capacity (HNW) were compared for confirmation of the possible effect of the differential exposure to the middle class KAP on the Hindu and Muslim women. In the absence of any possible effect of such exposure on the health of HW and HNW, the differences, if any, between the Hindu and Muslim groups may be attributed to the health-related behaviour differentials, other than those related to middle class exposure, between them.

The study population appears to be "disadvantaged" in terms of economic status, occupation and literacy level. Overwhelming majority of the households of all the groups and subgroups (Hindu, Muslim, HW and HNW) are below the "poverty line". The Hindu males (fathers) are mostly engaged as "pandal" (temporary structures made of bamboo and canvas, usually prepared during special occasions and for festive purposes) makers or day labourers. On the other hand, the majority of Muslim fathers are engaged as day labourers. Among the Hindu females (mothers), the majority are engaged in maid-servant's job, in addition to doing their own domestic work. Among the Muslim mothers, not a single individual has been found to be working as maid-servant. So, the entire Muslim group has been treated in the present study as "nonworking". However, a small section of the Muslim women work as labourers. The majority of the mothers, as well as the fathers, are nonliterate.
Both the groups under study are migrants from the South 24 Parganas district of West Bengal. The main reason for migrating to Calcutta city is searching for jobs. Most of the individuals of all the groups and subgroups have relatives in their native villages. They go to the village for courtesy visit or on social or festive occasions. However, a section of the population goes to the village to avail of seasonal job opportunity.

The majority of married females of all the groups and subgroups were married below the statutory age at marriage, i.e. 18 years. This may be one of the causes of their high fertility. Fertility (as measured by completed family size, total fertility and mean number of live births per evermarried woman) is higher in the Muslim than in the Hindu. In HW-HNW comparison, except for the mean number of live births per evermarried woman, the values are higher in HNW than in HW.

Mortality is high in all the groups and subgroups. The infant, toddler and adolescent mortalities are higher in the Muslim than in the Hindu, considering the offspring of evermarried women of all ages. A similar pattern is observed when male and female mortalities are compared separately. In HW-HNW comparison, the infant, toddler and adolescent mortalities are higher in HW than in HNW, considering the offspring of evermarried women of all ages. A similar pattern is observed when male and female mortalities are compared separately.

In adults, with respect to the biomedical traits, such as anaemic status (both by pallor test and Hb level), vitamin deficiency symptoms (Glossitis), abnormality in lung, menstrual irregularities, adoption of family planning practices, mean BMI, chronic energy deficiency (as evaluated by using a BMI of 18.5 as the cut-off point), prevalence of "Ascaris only" and "Ascaris with other helminths" infestations and reported episodes of diarrhea, stomach ache and wet cough, the Muslim is more frequently affected than the Hindu. Significant differences between Hindu and Muslim have been found with respect to traits like menstrual irregularities, adoption of family planning practices, mean BMI and chronic energy deficiency. With respect to traits like enlargement of lymph nodes, prevalence of intestinal parasites and reported episodes of cold and acidity, the Hindu is more frequently affected than the Muslim. With respect to traits like blood pressure and pulse rate, the pattern is similar in the Hindu and Muslim.

In HW-HNW comparison of adults, it has been found that with respect to the biomedical traits like enlargement of lymph nodes, menstrual irregularities, adoption of
family planning practices, prevalence of intestinal parasitic infestations and reported episodes of diarrhea, stomach ache, sore throat, dry and wet cough, cold and acidity, HNW is more frequently affected than HW. With respect to traits like anemic status (both by pallor test and Hb level), abnormality in lung, mean BMI, chronic energy deficiency, prevalence of "Ascaris only" and "Ascaris with other helminths" infestations and reported episodes of vertigo and breathlessness, HW is more frequently affected than HNW. However, with respect to traits like vitamin deficiency symptoms (Glossitis), blood pressure and pulse rate, the pattern is similar in HW and HNW. Significant differences between HW and HNW do not exist in respect of most of the biomedical traits.

In children, with respect to biomedical traits like enlargement of lymph nodes, vitamin deficiency symptoms (Glossitis and Angular Stomatitis), abnormality in lung and prevalence of intestinal parasitic infestations, the Hindu is more frequently affected than the Muslim. However, with respect to traits like anemia (by pallor test only), pulse rate, prevalence of "Ascaris only" and "Ascaris with other helminths" infestations and reported episodes of blood and mucus in faeces, diarrhea, cold, wet cough and breathlessness, the Muslim is more frequently affected than Hindu. The difference in pulse rate only is significant.

In HW-HNW comparison of children, with respect to biomedical traits like enlargement of lymph nodes, abnormality in lung, intestinal parasitic prevalence, prevalence of "Ascaris only" and "Ascaris with other helminths" infestations and reported episodes of diarrhea and wet cough, HW is more frequently affected than HNW. The pattern is reverse, with respect to anemia, and reported episodes of cold and breathlessness. In this regard, HNW is more frequently affected than HW. However, with respect to traits like vitamin deficiency symptoms (Glossitis and Angular Stomatitis) and intestinal parasitic prevalence, the pattern is similar in HW and HNW.

Anthropometric measurements made on 3-year-old male children show that the Muslim has higher metric values than the Hindu at all the time points, in all the measurements, except head circumference and mid upper arm circumference. A similar pattern is observed in the Hindu-Muslim comparison of 5-year-old female children, except in measurements like biacromial diameter, subscapular skinfold thickness and elbow breadth. However, in the Hindu-Muslim comparison of 5-year-old male children (except in subscapular skinfold) and 4-year-old female children (except in biiliac diameter, triceps...
skinfold thickness and elbow breadth), the Hindu has higher metric values than the Muslim.

No clear pattern has been observed in the Hindu-Muslim comparison of 3-year-old female and 4-year-old male children.

In HW-HNW comparison of 3-year-old female children, HW children have higher metric values than HNW children at all the time points, in all the measurements, except in measurements like biacromial and biiliac diameters. A similar pattern has been observed in case of 4-year-old male children (except head circumference, biacromial and biiliac diameters) and in case of 5-year-old female children. However, only in case of 5-year-old male children (except head and chest circumference and biiliac diameter), HNW has higher metric values than HW at all the time points.

No clear pattern has been observed in HW-HNW comparison of 3-year-old and 4-year-old female children.

Thus, no specific pattern has been found in most of the anthropometric measurements made on children in all the groups, subgroups and both sexes of all the three age groups, in general. However, there is a decrease in triceps skinfold thickness at the 4th time point, in all the groups, subgroups and both sexes in all the three age groups, except in 3-year-old female and 4-year-old male children of HW.

It has been mentioned in Chapter 2 (Materials and Methods), that the study population resides in an unhygienic environmental condition manifested by their dwelling types, overcrowding of dwellings, building materials of dwellings, etc. The canal, beside which they stay, itself is highly polluted. As the people under study reside in settlements not recognised by the Calcutta Municipal Corporation, they are deprived of facilities like adequate water supply, sanitation facilities, electricity, etc. For procuring water, the people of this area have to go to the nearby areas which are under the municipal jurisdiction.

Roadside taps are the major source of water for the purpose of drinking, cleaning utensils and cleaning food items for all the groups and subgroups. Water from public hydrants is also used by a section of the households, for the purpose of bathing and cleaning clothes and utensils, of all the groups and subgroups. In general, the Muslim and HNW households have been found using tap water for various purposes more frequently than the Hindu and HW households respectively. Also, in general, all the groups and
subgroups clean the container meant for storing drinking water regularly. Regarding serving of boiled drinking water to the babies, the Hindu and HW are more conscious than their respective counterparts.

Most of the adults, and a section of the children, of all the groups and subgroups use makeshift pit-latrines with enclosures. However, a section of the Hindu women also uses a community latrine situated in the adjacent slum area. A section of the children of all the groups and subgroups also uses open spaces for defaecation. Each pit-latrine is shared by a number of households, the number varying from <5 households/latrine to ≥10 households/latrine. The frequency of using toilets shared by ≥10 households is the highest in the Muslim.

The canal is the major source of disposal of waste water and solid wastes for all the groups and subgroups. However, a section of the households of all the groups and subgroups disposes of waste water in front of their houses and solid wastes on roadsides (the Muslim does it in the highest frequency).

Most of the adult and child members of all the groups and subgroups take bath regularly. However, daily use of soap during bath, is more frequent among the Hindu adults and children than their Muslim counterparts respectively. In HW-HNW comparison, the frequency is higher in HNW than in HW adults, but the pattern is reversed when HW-HNW children are compared.

In adults, the Hindu, HW and HNW seem to be more conscious about paring of nails. The frequency of paring of nails in the "two times a month" category is the highest in the Hindu, HW and HNW. Among the Muslim adults, the frequency of paring of nails is the highest in the "once a month" category. In children, the frequency of paring of nails in the "once a month" category is the highest in all the groups and subgroups.

Washing of hands with soap after easing does not appear to be the usual practice in adults and children of any group and subgroup. In Hindu-Muslim and HW-HNW comparisons (both adults and children), the Muslim and HW seem to be less conscious than the Hindu and HNW respectively in respect of this trait.

Firewood is the principal source of fuel in case of all the groups and subgroups. Most of the households of all the groups and subgroups are "single-roomed" within which they cook and live. So, the chance of indoor air pollution affecting the health of household members is high. The magnitude of pollution increases as most of the houses of all the groups and subgroups are ill-ventilated. In the Hindu-Muslim and HW-HNW comparisons,
the frequency of the provision of ventilation in households is higher in the Hindu and HNW than their respective counterparts. Household density also affects health. Most of the Muslim and HNW live in more dense households than the Hindu and HW, respectively. In general, the dwelling materials of most of the houses are very poor. The roofs are made of bamboo and plastic, with walls made of bamboo splits.

Immunisation status of mother and child is one of the indices of preventive community health care. The Hindu and HNW mothers seem to be more aware than the Muslim and HW mothers, respectively regarding the benefits of immunisation.

It has been stated earlier, that HW comprises the Hindu mothers who work as maid-servants in nearby middle class households. Most of those HW women also get some additional help from the middle class households served by them, in terms of money and/or medicine and/or advice whenever needed.

Extracts from case studies reveal that for the Hindu, the sources of information on norms and practices related to health care are "Media" and "Others", and in some cases middle class household as an additional source. On the other hand, the major source of information for the Muslim is "Others". Some of the information like immunisation of mother and child, use of oral rehydration solution (ORS), use of tooth powder/paste, covering of food, etc. are common to both the groups. However, information regarding child care practices (e.g. use of vitamin oils for massaging the baby, timely feeding and bathing children, restricted diet during gastric disorders, use of analgesics and antacids, etc.) are known to the Hindu more frequently than the Muslim.

The pattern of reaction to some of these information related to health care sharply differs between the two groups. These differences occur mainly in respect of dental care, adoption of family planning practices, treatment in case of minor ailments (the Muslim rely more on folk medicine than the Hindu) and in immunisation of mother and child.

The sources of information of HW and HNW about norms and practices regarding health care are "Media" and "Others". In addition, HW has another source of information, i.e. middle class households (M.C.H.). It has been found that information like use of ORS, immunisation of mother and child, adoption of family planning practices, etc. are obtained from one or more sources. However, except for a few, the nature of information obtained about health care practices is similar in both the subgroups. The only additional health
care practice which HW learned exclusively from M.C.H. is the timely feeding and bathing of children. In addition, HW learned from M.C.H. about saving money in banks.

The pattern of reaction to some of these information related to health care practices is similar in the two subgroups. In most of the cases, the need for such practices is well appreciated by them, but those could not be followed due to time and/or financial constraints.

In sum, then, the sources and nature of information regarding norms and practices related to health care are better and more plentiful in the Hindu than in the Muslim. Comparing the subgroups, HW has M.C.H. as an additional source of information compared to HNW. However, this additional source does not seem to provide much additional information (and therefore advantage) to HW.

The literature review (vide Chapter 1) shows that very few comprehensive studies have been done to investigate into the possible relationship of socioeconomic and cultural factors with health-related traits in populations inhabiting the same squatter settlements.

Most of the studies carried out in India and elsewhere confirm higher infant and child mortality in slum and squatter populations (Basta, 1977; UNDP, 1990; Guimares and Fischmann, 1985; Singhal et al., 1986). In the present study, high infant and child mortality has been found both in the Hindu and Muslim populations. The infant and child mortalities are also higher in the present study than in the urban areas of West Bengal (IIPS, 1995). Several studies also show higher infant and child mortalities in the Muslim than in the Hindu (IIPS, 1995; Ghosh Dastidar and Gupta, 1996).

The present study reveals that the fertility of women in both the groups, Hindu and Muslim, are higher than that of women in urban areas of West Bengal as reported in National Family and Health Survey, West Bengal (1992), (IIPS, 1995). Moreover, the present study also confirms higher fertility in the Muslim than in the Hindu women, as has been found in urban areas of West Bengal (IIPS, 1995). However, Shaw (1988) has shown a lower fertility in women of a slum population in Calcutta, compared to the national average, estimated using the 1981 Census data.

Physical growth assessment serves as one of the important means for evaluating the health and nutritional status of children. A number of studies indicate that stunting is more prevalent in children living in slums and/or belonging to the low socioeconomic stratum in general (Eveleth and Tanner, 1976; Bisharat and Zagha, 1986; Giugliani, 1987;
In the present study, an attempt has been made to observe the velocity of growth of children at two months interval for a period of one year. It has been found that in general, there is a gradual increase in all the linear measurements through successive time points. However, in case of triceps skinfold thickness, there is a decrease at the 4th time point (i.e. measurement taken during the month of June-July), in general. Data on morbidity pattern for a period of two months, prior to the month of June, reveal the highest occurrence of morbidity during that period. It is possible, although we do not readily know how probable, that the dip in triceps skinfold thickness at the 4th time point is related to the high prevalence of morbidity shortly before that time point.

High prevalence of intestinal parasitic infestations has been found in slum and squatter populations compared to the wealthy urban ones (Kleevens, 1966; Pierce et al., 1962; Yan et al., 1978; Soh et al., 1973). Again, high prevalence of intestinal parasitic infestations is positively associated with poor hygienic practices, poor living conditions, and the like (Fashuyi, 1988). High prevalences of intestinal parasitic infestations in adults and children have been found in the present study as well. Living conditions of the people and their hygienic practices have also been found to be very poor. The present study is in consonance with the findings of Mukhopadhyay et al. (1993) about the absence of significant relationship between prevalence of intestinal parasites and microcultural factors associated with religion among the Lepchas of Kalimpong.

Haematological traits are affected by the economic condition of people, operating through intermediate variables, e.g. nutrition, intestinal parasitic infestations, etc. (Page et al., 1977; Devadas et al., 1980; Bharati, 1983; Roy et al., 1985). Most women of the Third World countries suffer from anaemia (WHO, 1980). In the present study too, anaemia has been found in a large number of women. A higher prevalence of anaemia in the Muslim than in the Hindu, as found in the present study, has also been observed by Mahadevan et al. (1986).

People of low socioeconomic status suffer considerably from disorders related to the deficiency of vitamin B complex, e.g. Cheilosis, Glossitis and Angular Stomatitis (ICMR, 1961; Misra, 1970; Patwardhan and Jagannath, 1962; Rao and Satyanarayan, 1976). Datta Banik (1977) showed that the frequency of suffering from deficiency of
vitamin B complex was higher in slum than in non-slum children. In the present study also, deficiency of vitamin B complex has been found in both adults and children. Pryer (1993), and Gracia and Alderman (1989) had found more females of low socioeconomic status suffering from chronic energy deficiency (measured in terms of BMI) than females of the high socioeconomic group. In the present study populations, a large section of adults has been found to be suffering from chronic energy deficiency.

Poor living condition is positively associated with infection and diseases, e.g. acute respiratory infection (ARI), cough, fever and diarrhoea (Chen et al., 1990; Surjadi, 1993; Osimisi and Oyejidi, 1989; Songsore and McGranahan, 1993). These types of ailments have been reported both by adults and children of the present study populations.

In the present study, health of the people has been evaluated using four major indicators - socioeconomic status and demographic characteristics, biomedical traits, physical growth of children, and health and hygienic facilities and practices. The socioeconomic status of the population is low, as the majority of the adults are nonliterate and most of the households are below the "poverty line". The fertility and mortality of the population are high compared to urban populations of West Bengal. The high frequencies of anaemia, chronic energy deficiency and intestinal parasitic infestations among the individuals reveal a low health status, measured in terms of those biomedical traits. The existing health and hygienic facilities of these people are not even at the minimal level believed to be required for maintenance of good health status. The case studies reflect that though the people of this area are aware of some health-seeking behaviour, yet they could not practise them due to financial and time constraints.

Thus, the overall state of well-being of the study population appears to be very "disadvantaged". The study further reveals that differences do occur between the Hindu and Muslim study groups. However, as HW-HNW comparisons exhibit no specific pattern in general, the Hindu-Muslim differences can not be attributed to differential exposure of the two groups of women to the middle class households. The differences may have occurred due to socioeconomic differences, other than exposure to the middle class KAP, between the two groups, but no data are presently available to probe into this possibility. Further, the differences are greater in case of adults than in case of children, for which also no explanation can presently be offered.
People continue to migrate from their native villages to this area. So, the population of this area is increasing numerically day by day. This in turn is leading the people more towards health risks. The Calcutta Municipal Corporation could not take any steps to provide minimal infrastructural facilities for these people due to their unofficial occupancy. Moreover, the people of this area are always under the threat of eviction by the government. However, poverty has compelled the people to live in that area. In spite of all these problems, the job opportunity, the available health facilities (however little facilities are offered by the hospitals and non-governmental organisations), and the minimal entertainment facilities of the city which they could avail of, compared to their rural counterparts are probably the driving forces which bind them in the squatter settlement, and discourage them from returning to their native villages.

An effective way to ameliorate this dismal public health situation is for the Calcutta Municipal Corporation to legally recognise the occupancy of the squatter settlements and to provide some infrastructural facilities to them till the alternative (resettlement) arrangement is made. In any case, it is essential to make the squatter dwellers aware about the possible health hazards inherent in their habitat and the means to cope with this situation. In other words, proper education and dissemination of health care information are necessary to combat this state of ill-being, which the government and NGOs can possibly provide, under the appropriate political will.