# CHAPTER XVI

## MEDICAL AND PUBLIC HEALTH SERVICES

### INTRODUCTION

Before the advent of the British, two systems (Ayurvedic system and Unani system) of medicine were prevalent in the country. By and large, the Hindu families patronised the Ayurvedic system and the Muslims favoured the Unani system. The allopathic system was introduced during the British rule. Exotic but based on the progressive research in medical science, it gradually carried conviction of its usefulness. The medical facilities provided by opening a few allopathic institutions in the area were inadequate to meet the needs of the people. The rural masses in particular continued to depend on the services of ayurvedic and unani practioners who, apart from being more readily available charged small fees.

The state of public health was not so satisfactory. In former years, owing to the defective alignment of the Western Jumna Canal and the consequent water-logging of soil, malaria and enlarged spleens affected the lives of the people, especially in rural areas. In the canal-irrigated villages, the standard of health and vitality was materially lower than elsewhere. The fact attracted the attention of the Government as long ago as 1847, when a committee was appointed to enquire into the sanitary state of irrigated areas. The Medical Officer, Dr. Dempster, in his memorandum forming part of the report, showed that in many villages of this part, 75 per cent of the people had disease of spleen, and that the average proportion of the persons thus diseased to the total population of the villages, examined during the enquiry, was nearly 50 per cent.

In 1867, another enquiry was instituted by the Government of India and the report by Dr. A Taylor, Civil Surgeon of Delhi, showed clearly the presence of an unusual amount of spleen disease and its close connection with the degrees of swampiness and lack of drainage found in various parts. The villages enjoying the greatest advantages of irrigation were almost invariably those where the debilitating disease had assumed its most prominent form.

Cholera and plague occurred frequently in the Sonipat area during 1900 to 1904. The commonest eye diseases were granular lids and ulceration of the cornea.

Gohana town had much higher death rate than that of the dry tracts. The old Gohana tahsil of the then Rohtak district was more malarial and more productive of lung, spleen and bowel disorders.

During 1878-79, the attack of plague was so severe that the crops could not be cut and the usual harvesting wage to the reaper was one-half of the yield.

In 1900, the death-rate from fever alone reached the appalling figure of 51.53 per mile.

In 1901, 1,739 deaths occurred due to plague in Butana. In Mundlana as many outbreaks had lost 1,481 lives or 26 per cent of its population. In Chirana the same number of outbreaks had taken toll of 701 souls out of 2,470 or 28 per cent.

The dirty conditions of the villages and the impurity of water supply were sufficient to account for much of the sickness. There was brackish water in many parts of the district and in Gohana tahsil it was often covered with an oily scum. It was considered so indigestible that successive tahsildars had imported all their water from outside, sometimes from as great a distance as Rohtak.

Besides the use of indigenous and allopathic medicines, the people resorted to other methods to cure the serious diseases during 1910. The following instance is quoted from Rohtak District Gazetteer, 1910[1] :—

> "Fakirs in especial are resorted to for their healing powers, but the range of remedies is usually confined to astringents such as the juice of *AK* plant to mercury and sulphur and above all to charms. Eye complaints are treated with poppy fomentation which doubtless gives relief, and sometimes with actual cautery on the temple which may act as a counter irritant in cases of inflammation. For abscesses, ulcers, fractures and dislocations, the village barber is always ready while the *lohar* will sometime extract a tooth. For cobra bite the remedy in which the people believe is a draught of nicotine from a *hookah* stem, with a liberal application of the same to the eyes, the swallowing of a pea cock's feather being an alternative remedy which is some what discredited".

The use of allopathic medicines became more popular after Independence. Realising that the indigenous system of medicine had been favoured by the masses for a long time, the Government established the Directorate of Ayurveda in November, 1956, for its revival. On the other side, the modern facilities were expanded to check diseases and improve public health.

**Medical and Health Services**

The medical and health services are looked after by Chief Medical Officer at district level and he is mainly assisted by Deputy Chief Medical Officer (Medical), the Deputy Chief Medical Officer (Health) and Other programme Officers. The medical service is essentially a hospital organisation for rendering medical relief to the public. This is provided through allopathic hospitals and

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Ayurvedic institutions. The details of allopathic medical institutions (hospitals, dispensaries and primary health centres) as on March 31, 1989 in the district are given below :—

| Name of the hospital/dispensary | No. of Medical Officers (in position) | No. of beds |
|---|---|---|
| 1. Civil Hospital , Sonipat | 16 | 100 |
| 2. Civil Hospital, Gohana | 5 | 26 |
| 3. E.S.I. Dispensary, Sonipat | 11 | 12 |
| 4. E.S.I. Dispensary, Ganaur | 1 | Nil |
| 5. Jail Dispensary, Sonipat | Nil | Nil |
| 6. Family Planning Centre, Sonipat | 2 | .. |
| 7. Revamping Centre for slum Area | 1 | Nil |
| 8. T. B. Clinic, Sonipat | 2 | .. |
| 9. E.S.I. Dispensary, Bahalgarh | 2 | .. |
| 10. E.S.I. Dispensary, Rai | 2 | .. |
| 11. E.S.I. Dispensary, Murthal | 1 | .. |
| **Primary Health Centres** | | |
| 1. P.H.C., Ganaur | 3 | 16 |
| 2. P.H.C., Halalpur | 2 | 8 |
| 3. P.H.C., Juan | 2 | 8 |
| 4. P.H.C., Mundlana | 2 | 8 |
| 5. P.H.C., Lath | Nil | .. |
| 6. P.H.C., Kathura (under the administrative control of Rohtak) | Nil | .. |
| 7. Purkhas | 2 | .. |
| 8. Moi Mazri | .. | .. |

| | | | |
|---|---|---|---|
| 9. | Dobheta | 1 | .. |
| 10. | Butana | 2 | .. |
| 11. | Bhatana Jafarabad | 1 | .. |
| 12. | Siwana Mal | .. | .. |
| 13. | Farmana | 2 | .. |
| 14. | Jakhauli | 2 | .. |
| 15. | Murthal | 2 | .. |
| 16. | Bidhlan | .. | .. |
| 17. | Bega | 1 | .. |
| 18. | Bad Khalsa | 1 | .. |
| 19. | Banwasa | 1 | 6 |
| | **Community Health Centres** | | |
| 1. | Gohana | 7 | 26 |
| 2. | Kharkhoda | 3 | 16 |

During 1988-89, the number of dispensaries was 17 (Ayurvedic 15 and Unani 2). The list of such institutions and sub-health centres are given in the Table XX of Appendix.

During 1989, the total number of patients treated in the district was 5,78,424 (Indoor patients 15,176 and outdoor patients 5,63,248). The beds available during the same year were 240 (120 for males and 120 for females).

The patients numbering 9,290 were treated in the Ayurvedic and Unani institutions. In March, 1989, the number of Vaidyas/Hakims was 17. Besides, 17 Dispensers and Compounders were working in the above-mentioned institutions

The Description of Civil Hospital, Sonipat, Civil Hospital, Gohana and T.B. Clinic at Sonipat is given below:—

**Civil Hospital, Sonipat.**—The hospital was set up in 1900 and since then it has been run by the State Government.

It has a provision for 100 indoor patients (60 male patients and 40 female patients). It offers all the usual facilities of a general hospital, viz., medical, surgical, gynaecology, midwifery, laboratory, x-ray and dental. In 1989, hospital was headed by the Chief Medical Officer, who was assisted by 18 doctors.

The following figures show attendance of indoor and outdoor patients during 1987 and 1988:—

| Year | Indoor patients | Outdoor patients |
|---|---|---|
| 1987 | 9,197 | 88,265 |
| 1988 | 9,918 | 1,14,070 |

**Civil Hospital Gohana.**—The hospital was setup in 1974 at Gohana. It offers all the facilities of a general hospital, viz. x-ray and laboratory facilities, gynaecology, obstertics and dental. It has a bed provision for 24 patients (12 beds for females and 12 beds for males). In 1989, the hospital was headed by a Senior Medical Officer, who was assisted by 5 doctors and I dental surgeon. The following figures show attendance of indoor and outdoor patients during 1987 and 1988:—

| Year | Indoor Patients | Outdoor Patients |
|---|---|---|
| 1987 | 2,386 | 46,945 |
| 1988 | 2,602 | 42,799 |

**T.B. Clinic, Sonipat.**—Keeping in view the high incidence of tuberculosis, a T.B. clinic was setup at Sonipat in 1978. It is being run in the building of the Civil Hospital. It is equipped with X-ray and indoor facilities. In 1989, it was manned by 2 Medical Officers, 2 T.B.H.V., 1 Statistical Assistant, 2 clerks, 1 Laboratory Technician, 1 Radiographer and other staff.

The year-wise number of persons who were given outdoor treatment at the clinic during 1986-87 to 1988-89 :

| Year | New Cases | | Old Cases | | Total Cases | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1986-87 | 591 | 307 | 30 | 9 | 621 | 316 |
| 1987-88 | 602 | 387 | 31 | 13 | 633 | 400 |
| 1988-89 | 749 | 417 | 23 | 8 | 772 | 425 |

**Diseases Common to the District**

The common diseases that occur in the district are the typhoid group of fevers, tuberculosis, chest infections (other than tuberculosis), gastro-enteric diseases, malaria, leprosy and trachoma. A brief description of these diseases is given below:—

**Small Pox.**—Previously, this disease was considered very serious in the district. Small Pox commonly occurred in the area in an epidemic form and many people became disfigured, lost their eye sight or other organs or died of it.

It is appropriate to explain the steps taken by the Government to contain the disease. In order to control it, vaccination was made compulsory. The programme of eradication of Small Pox, a centrally sponsored scheme, was launched here in 1965. The strategy then adopted was to vaccinate all the new born babies and re-vaccinate at least 80 per cent of the total population.

In 1973, an intensive campaign was launched by the Government of India with the active support of the World Health Organisation. During 1973 to 1976. 14 special searches were carried out in the district and as soon as a case of small-pox was reported; prompt investigational and containment measures were instituted. The last case of small-pox was reported in the district during May, 1975. The National Commission on small-pox visited the district in December, 1976. The International Commission aiso visited Haryana State in April, 1977 and declared the district free from this disease.

**Plague.**—Plague, being an epidemic, was the most feared and always resulted in a loss of large number of human lives. It is now completely non-existent in the district. The factors responsible for its disappearance have been the spraying of houses with insecticides to kill rat fleas and systematic de-ratting measures.

**Cholera.**—No case of this disease has been detected in the district from 1973 to 1989. To control this disease, many steps, viz. proper arrangements for disposal of refuse and of human excreta, protection of eatables and drinking water from pollution, anti-fly measures and mass inoculation in hospitals and dispensaries were taken by the medical authorities.

**Malaria.**—This disease develops during years of excessive wet monsoon associated with overflow of river and streams resulting in a large number of stagnant pools. Due to river Yamuna, the district is affected by floods very often. The flood water creates unhygienic conditions. Mosquitos breed and spread Malaria. Due to heavy rains in 1952, as many as 100 villages of Rohtak district were flooded. Extensive measures had, therefore, to be taken to prevent the outbreak of the disease in the affected areas. Anti-malaria work was carried out in Sonipat and Gohana tahsils in 1953 and 1954. A malaria sub-unit was established in 1953 at Sonipat.

Malaria control measures undertaken during 1953—58 resulted in a marked decline in the annual incidence of the disease. The child spleen rate diminished and similarly, the child morality rate decreased. With this success National Malaria Control Programme was switched over to National Malaria Eradication Programme during 1958. Under this programme, anti-malaria operations were carried on regularly in the area. Consequently, the number of cases considerably dwindled and the area was declared also most free from malaria.

After the eradication of malaria, Gohana sub-division comprising Gohana, Mundlana and Kathura blocks switched over to the maintenance phase from December 1, 1965. It was attended to by the Basic Health Workers in the Primary Health Centres. Malaria work in these blocks was supervised by the Medical Officer under the maintenance scheme. In January, 1967, the special appraisal team again visited the district and recommended the maintenance phase in the area. The work in the consolidation phase was supervised by the Deputy Chief Medical Officer (Health), the Malaria Officer and Senior Malaria Inspectors.

After the formation of the Sonipat district, District Malaria Office was created in 1973. When it was realised that malaria again Cropped up, the insecticidal spray plan was launched. Under this spray plan, the spray operations were started simultaneously in all the blocks during 1977.

It was felt that the cooperation of panchayats and local bodies was essential to minimise the effects of malaria. Accordingly, drug-distribution was started in all the villages of the district.

The work done by the Health Department in the district during 1973 to 1989 is shown below:—

| Year | Fever cases detected | Blood slides obtained | Malaria cases found |
|---|---|---|---|
| 1973 | 1,02,283 | 1,02,283 | 9,652 |
| 1974 | 1,33,940 | 1,33,940 | 10,271 |
| 1975 | 2,02,470 | 2,02,470 | 39,229 |
| 1976 | 2,48,533 | 2,48,533 | 59,433 |
| 1977 | 2,97,237 | 2,97,237 | 65,522 |
| 1978 | 3,10,662 | 3,10,662 | 79,982 |
| 1979 | 2,46,338 | 2,46,338 | 42,796 |
| 1980 | 2,85,154 | 2,85,154 | 35,560 |
| 1981 | 2,29,373 | 2,29,373 | 47,686 |
| 1982 | 1,65,118 | 1,65,118 | 11,483 |
| 1983 | 1,33,520 | 1,33,520 | 2,344 |
| 1984 | 1,36,584 | 1,36,584 | 2,066 |
| 1985 | 1,36,523 | 1,36,523 | 2,228 |
| 1986 | 1,54,802 | 1,54,802 | 1,114 |
| 1987 | 1,52,392 | 1,52,392 | 146 |
| 1988 | 1,54,123 | 1,54,123 | 102 |
| 1989 | 29,912 | 29,912 | 5 |

**Gastro-enteric diseases.**—The most common infections are typhoid and enteric group of fevers, dysentery and diarrhoea, disease of 5 F's (flies, fingers, faeces, fomites and food. These diseases are well-under control as a result of organised preventive measures taken by the public health Staff at primary health centres and supervisory staff at the district headquarters.

**Trachoma.**—It is a common eye disease in the district especially amongst the children under the 10 years of age. It is prevalent mainly in the rural areas.

The incidence of the disease is very high. Seventy to eighty per cent of the total population suffer from disease due to hot and dry climate. The primary health centres are playing a big role in controlling this disease.

**Leprosy.**—It is not a common problem in the district but a few cases were reported in the hospitals for treatment. It is basically found in tropical and sub-tropical regions. Only 42 cases were reported upto 1975. Out of 42 cases, 32 cases were from a registerd colony named Bathany village which is situated near Ganaur on G.T. Road. The leprosy cases reported in May, 1989 were 77.

**Tuberculosis.**—It poses a major problem in the district. B.C.G. vaccination campaign was launched under the T.B. control programme in 1950 by I mobile team responsible for mass inoculation in the whole of the then Punjab State. An independent unit consisting of technicians under the supervision of the Deputy Chief Medical Officer (Health) for Rohtak district came into existence in 1960. B.C.G. work was carried on in a planned manner by the technical staff visiting house to house. Sonipat and Gohana areas were covered by the unit.

In addition to the measures adopted by the State Government, the Government of India has been vigorously taking interest to control this disease since 1965. Arrangements were made to provide the facility of diagnose and treatment near the home of the patients. Special surveys were conducted some years back and the incidence of tuberculosis was found 2 per thousand of the population.

The medical facilities against this disease have been arranged in all the primary health centres and various dispensaries under the supervision of the district T.B. Clinic.

The total number of deaths occurred in the district and their causes during 1973 to 1989 are given below:—

| Year | Fevers | Dysentery Diarrhoea | Bronchitis | Wounds | Other diseases |
|---|---|---|---|---|---|
| 1973 | 2,697 | 58 | 479 | 162 | 767 |
| 1974 | 2,794 | 47 | 990 | 192 | 1,804 |
| 1975 | 2,888 | 58 | 520 | 192 | 1,831 |
| 1976 | 3,357 | 53 | 462 | 143 | 1,341 |
| 1977 | 2,708 | 46 | 484 | 136 | 1,484 |
| 1978 | 3,846 | 72 | 549 | 216 | 1,691 |
| 1979 | 3,856 | 54 | 377 | 238 | 705 |

| | | | | | |
|---|---|---|---|---|---|
| 1980 | 4,760 | 39 | 466 | 164 | 762 |
| 1981 | 4,778 | 55 | 444 | 183 | 761 |
| 1982 | 2,432 | 47 | 559 | 160 | 1,612 |
| 1983 | 2,288 | 46 | 571 | 207 | 1,938 |
| 1984 | 1,198 | 53 | 649 | 263 | 2,933 |
| 1985 | 1,272 | — | 542 | 256 | 2,877 |
| 1986 | 1,028 | 46 | 475 | 307 | 2,659 |
| 1987 | 24 | 53 | 478 | 296 | 4,439 |
| 1988 | Nil | 50 | 401 | 168 | 3,864 |
| 1989 | (Not available with the Department) | | | | |

**Vital Statistics**

The record of births and deaths is very essential for the planning and working of the health programmes. In towns, the municipalities keep the record and in villages this duty is carried out by chowkidars who report day to day statistics at the police stations of their area. After compilation, the statistics are passed on by the Station House Officer to the Chief Medical Officer. The following table indicates births and deaths during 1973 to 1989:—

| Year | Births | | | Deaths | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| 1973 | 11,823 | 10,244 | 22,067 | 2,298 | 1,968 | 4,266 |
| 1974 | 11,232 | 9,223 | 20,525 | 3,096 | 2,735 | 5,831 |
| 1975 | 11,210 | 9,339 | 20,549 | 3,048 | 2,441 | 5,489 |
| 1976 | 11,365 | 9,682 | 21,047 | 3,010 | 2,336 | 5,306 |
| 1977 | 11,246 | 9,517 | 20,762 | 3,276 | 2,582 | 5,858 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1978 | 10,090 | 7,985 | 18,075 | 3,602 | 2,772 | 6,374 |
| 1979 | 11,172 | 8,656 | 19,828 | 2,973 | 2,257 | 5,230 |
| 1980 | 12,624 | 9,175 | 22,339 | 3,582 | 2,609 | 6,191 |
| 1981 | 11,277 | 9,337 | 20,614 | 3,543 | 2,678 | 6,221 |
| 1982 | 12,110 | 9,185 | 21,395 | 2,853 | 1,957 | 4,810 |
| 1983 | 12,695 | 8,909 | 21,604 | 3,023 | 2,027 | 5,050 |
| 1984 | 16 994 | 9,010 | 20,994 | 2,912 | 2,184 | 5,096 |
| 1985 | 12,865 | 9,803 | 22,668 | 2,880 | 2,126 | 5,006 |
| 1986 | 13,304 | 9,414 | 22,718 | 2,628 | 1,887 | 4,515 |
| 1987 | 13,173 | 9,512 | 22,685 | 3,098 | 2,192 | 5,290 |
| 1988 | 12,846 | 9,270 | 22,116 | 3,483 | 2,494 | 5,977 |
| 1989 | (Not available with the Health Department) | | | | | |

**General Standard of Health**

The medical facilities before Independence were inadequate. The people easily succumbed to diseases and deaths. Things began to improve somewhat after the achievement of Independence. The pace of development accelerated after the formation of Haryana and more particularly after the creation of separate district of Sonipat in December, 1972. The villages are shaking off old inertia as a result of the communications and thus established their contact with the outside world. Preventive and prophylactic measures against diseases and rapidly expanding medical care/facilities saved them from hazards. With the advancement in agriculture, trade and industry, their economic condition has improved and their living standards have changed for better. Next to good food, safe drinking water is of great importance for health and the bulk of villages have already been provided with this and the remainder are being covered. All this has been instrumental in a big way in changing the outlook of the masses and in improving health. The general standard of health of inhabitants of the district is now much better.

The people of this district take sufficient protein in the form of *lassi* and fat in the form of *ghee*. By and large, people are vegetarian and usually consume *chapatis* with vegetables or rice with dals; only a small section of them takes body building proteins (meat, eggs, fish and milk and other protective foods (green leafy vegetables, salad, fresh fruit. etc.)

PREVENTIVE MEASURES TO PROMOTE PUBLIC HEALTH

The modern conception of good health lays greater emphasis on prevention of disease. This necessitates various kinds of measures. The younger generation at school must be given health education which is perhaps the most important activity for any effective preventive measure. Likewise, family planning and maternity welfare require the greatest attention if the problem of over-population has to be satisfactorily dealt with. It is equally necessary to take sutiable measures to prevent adulteration of food, promote desirable knowledge about the practice of nutritive articles of food, make supply of clean and safe drinking water (possible for even those living in rural areas) and to take other steps as will improve environmental hygiene.

**School Health Services.**—Since 1973, the school health services have been made an integral part of all hospitals, primary health centres and rural dispensaries. Previously, this system was not well-regulated. Under this scheme/ programme school children are thoroughly checked up and arrangements are made for treatment of those found suffering from any disease.

The District School Medical Officer and Public Health Nurses visit the schoos from time to time. The following table shows the work done under the school Health Programme since 1985:—

| Type of work done | 1985 | 1986 | 1987 | 1988 | 1989 |
|---|---|---|---|---|---|
| 1. No. of schools visited by the District Medical Officer/ Medical Officers | 244 | 296 | 196 | 168 | 106 |
| 2. No. of children examined | 22,249 | 72,903 | 54,893 | 29,066 | 21,127 |
| 3. No. of children referred after medical check-up | 2,724 | 1,777 | 1,920 | 343 | 130 |
| 4. No. of teachers trained in school health work | 316 | 163 | 309 | 182 | 243 |

**Health Education.**—In the present concept of community health, health education has come to play a significant role. Its aim is to provide integrated, curative and preventive service for better health of the citizens. Therefore, proper health education is the main pre-requisite for the success of all health programmes.

Health education has been made an integral responsibility of all medical and para-medical personnel in the district. It is mainly carried out through the staff of health centres. At block level, the Block Extension Educator under the guidance of health authorities handle this work. The District Mass Education and Information Officer organise mass education work at the block level.

For successful implementation of the health education programmes, three dimensional approaches, viz. the mass approach, the group approach and individual approach are followed. To create awareness among the people in this regard, modern mass communication medias are employed. These include film shows, drama and cultural programmes. In addition to the above, *bhajan* parties, puppet shows and visual publicity through wall-paintings, bus-boards, cinema slides, banners, mass meetings, declamation contests, etc. are also employed.

Besides the departmental efforts of various wings of Government, like social Welfare, Education, Development, Revenue, etc. local leadership (political, social and religious) is also involved to create favourable attitudes and health consciousness among the people.

**Family Planning/Family Welfare.**—The family planning programme was introduced in in the area in 1959 with the opening of family planning clinic at Ganaur. With the help of grants-in-aid from the Government of India, the District Red Cross Society opened family clinics at some places.

Prior to 1961, the family planning approach was essentially clinical and it could not gain popularity. A family planning clinic was set-up in 1967 at Sonipat Civil Hospital. Mass vasectomy camps were organised but the movement could do little to check the unwanted growth of population. During the Third Five-Year Plan, this programme was started on war footing when the clinical approach was replaced by extension approach and stress was laid on the provision of facilities nearer to the house of the persons. The District Family Planning Bureau started functioning during December, 1972. All activities of family planning programme are carried out under the supervision and guidance of the Chief Medical Officer. He is assisted by the District Family Planning and Maternity Child Health Officer. At block level, a rural family planing unit was attached with each Primary Health Centre in 1967. Each unit is under the charge of a Medical Officer. He is assisted by an Extension Educator, Family Planning Field Workers, Lady Health Visitors, A.N.Ms and trained *Dais*. At each primary health centre, there are 4 male workers and A.N.Ms. Now family planning services are provided through multi-purpose Health-workers. At village level, services are rendered by sub-centres, field workers and rural dispensaries.

For successful implementation of the family planning progromme, a 3—dimensional approach of education has been formulated, viz. the mass approach,

the group approach and the individual approach. Mass approach implies creating awareness among the public and building opinion against the population explosion and in favour of small family. For this, all available modern mass communication media are employed. Teams from state headquarters, district headquarters, Directorate of Audio Visual Publicty (Government of India) and other departmental district agencies like Public Relations, Agriculture, Education, etc. engage themselves in a number of activities. These include film shows, exhibitions, dramas, *bhajan* parties, *kirtan mandalis*, puppet shows, indigenous media of drum-beating, visual publicity through wall-paintings, bus-boards, hoardings, cinema slides, banners and pasting of posters.

The group approach, which is considered the best tool for community education, is carried out in a number of ways, viz. group meetings by personal workers, debates, question-answer programmes, group lectures, seminars and also through organised social groups in the society like Youth Forums, Mahila Mandals, Farmers' Groups, cooperative societies, panchayats and panchayat samitis.

The individual approach leads to motivation of cases. The general awareness created and the group education imparted can only meet the needs of this target oriented programme if proper motivational activities are carried to the homes through visits by the workers. Thus, a lot of stress is laid on efforts in this direction. The whole area is surveyed to find out the attitude of people. Couples in the child bearing age-group are selected and those with similar opinion for small family norm and the number of children in a family are grouped together. Then they are paid follow-up visits to motivate them to adopt suitable methods of conception control depending upon the need of the family.

The family planning practices cover methods for limitation of families as also for spacing of children. The former include sterilization of males and females and the insertion of Copper 'T' and I.U.C.D. (Intra Uterine Contraceptive Device, popularity known as loop). The later include the insertion of I.U.C.D., Copper 'T', use of condoms, pessary, diaphragm, jelly, foam tablets, oral pills, etc. The oral pills are used both for spacing and limitation but these have not been introduced on mass scale.

Besides free medical and surgical services, transport and diet are arranged for sterilization cases. Cash incentives are also offered. A Government employee is granted 6 day's special leave in case of vasectomy and 14 days in case of tubectomy. One week's special leave is given to an employee whose wife undergoes tubectomy.

The progress of family planning (Now family welfare) work in the district during 1973-74 to 1988—89 is given below —

| Year | Sterilization | Intra Uterine contraceptive Device | Conventional Contraceptive Users |
|---|---|---|---|
| 1973-74 | 2,390 | 2,047 | 5,920 |
| 1974-75 | 6,099 | 4,065 | 12,963 |
| 1975-76 | 3,474 | 2,936 | 12,505 |
| 1976-77 | 10,572 | 4,619 | 19,943 |
| 1977-78 | 158 | 1,238 | 11,098 |
| 1978-79 | 544 | 1,738 | 9,239 |
| 1979-80 | 1,370 | 1,725 | 7,993 |
| 1980-81 | 1,737 | 1,680 | 6,839 |
| 1981-82 | 2,068 | 2,511 | 6,799 |
| 1982-83 | 4,568 | 2,688 | 9,705 |
| 1983-84 | 5,051 | 5,528 | 20,207 |
| 1984-85 | 4,217 | 8,638 | 27,541 |
| 1985-86 | 7,387 | 14,117 | 30,810 |
| 1986-87 | 4,171 | 10,727 | 37,505 |
| 1987-88 | 4,240 | 11,060 | 32,239 |
| 1988-89 (upto March 31,1989) | 4,461 | 11,064 | 35,664 |

On March 31, 1989, there were 1,57,835 eligible couples. Now this programme is being accepted by the people as the way of life.

**Maternity and Child Health Services.**—A considerable number of women used to die as a consequence of child-birth and many more who survived suffered from lasting ill health. The work of attending to maternity services had, therefore, to be taken in hand on priority basis.

Maternal and child health-services have been considerably expanded. It has been made in integral part of the family planning programme. When

the idea of the small family is advocated, it is obligatory on the part of the Government to provide due coverage to maternal and child health. The care and service in this regard start as soon as a woman conceives, special trained staff and necessary strategy is employed for pre-natal, post-natal and toddler care through domiciliary and clinic visits. The required medicines and immunization of mothers and children against various diseases are aimed at. The maternity and child health work in rural areas is carried out by Lady Health Visitors, A.N.M.s and trained *Dais*. These services in urban areas are provided by all health and medical institutions.

**Prevention of adulteration in food stuff.**—Adulteration in food stuff is checked under the prevention of Food Adulteration Act, 1954. Besides the Food Inspectors in the district, specially appointed and authorised under the provisions of the Act, all Medical Officers have been vested with the powers of a Food Inspector.

**Nutrition.**—The primary health centres/sub--centres deal with nutrition, particularly at maternity and child welfare centres by organising milk feeding programme, providing vitamin A and D capsules, iron and multi-vitamin tablets/ B-complex tablets received by them from UNICEF. They also help in arranging nutrients and medicines under school health services to the needy school children with the co-operation of the Education Department and the Red Cross Society. The applied Nutrition Programme aided by UNICEF was introduced in Kathura and Ganaur blocks. Under this programme, powder milk, eggs, *gur*, ground-nut oil, and fruits were distributed among the babies and pregnant mothers. The Programme aims at educating the people in taking balanced and nutritive diet from amongst the available food items.

**Multi-purpose Workers' Scheme.**—The multipurpose Workers Scheme being a centrally sponsored, is rendering special services to the people of the district. Such workers are to deliver health services covering family planning, nutrition, control of communicable diseases, etc. A unit of 5,000 persons has been allotted to 2 multipurpose workers; one male and another female.

The scheme is being implemented in 3 phases. The 1st phase was started in 1976. Under this phase. the basic health workers were re-designated as Multipurpose Health Workers. During the 2nd and 3rd phases, they were allotted the different spheres of activities. At the primary health centres, the Block Medical Officers have been made responsible for implementing the multipurpose workers scheme under the overall guidance of the Chief Medical Officer.

**Environmental Hygiene.**—After personal hygiene and domestic cleanliness environmental hygiene is equally important. The sanitation of town and village streets and lanes, the disposal of kitchen wastes and human exerta are some of other health problems.

With the coming up of development blocks, there has been an all-round activity for the improvement of villages in regard to link-roads, pavement of streets, drainage and clean water supply by providing hand pumps, tubewells and clean wells. It is advised that the cattle excreta be placed in dung pits; sullage water should be disposed of either in ponds or drained off in open fields. The prevention of food-adulteration, sanitation, school health services, and measures to control serious diseases are some of other factors which contributed towards the improvement of environmental hygiene in the rural areas.

The Block Medical Officer, the Sanitary Inspectors and other health workers guide the people. The villagers are advised to maintain manure pits.

**Flood Relief.**—During floods the public health staff takes speedy measures to afford relief to the flood-affected areas. Temporary dispensaries are established. Drinking water-wells are repeatedly disinfected and the affected localities are sprayed with insecticides to prevent breeding of the mosquitoes and flies and thus to check malaria. Funds are also provided by the Government for purchase of medicines and other equipment which is utilised for flood relief work as and when required. In addition, the District Red Cross Society distributes blankets, quilts and other items of clothing, skim-milk, multi/vitamin tablets and other items of necessity. Such measures were taken during 1957, 1959, 1960, 1961, 1962, 1963, 1964 and 1967 when the floods affected the areas.

**UNICEF work and other preventive programme.**—UNICEF is aiding promotion of public health in the district in many ways. In addition to providing vehicles for various health programmes it provides vehicles to primary health centres. All the primary health centres in the district are getting UNICEF assistance.

## WATER-SUPPLY (URBAN)

**Water-Supply for Sonipat Town.**—Sonipat town was initially a tahsil headquarter under Rohtak district and it was selected by the Government of India for rehabilitation of displaced persons. The condition pertaining to the water supply in the town was very poor upto 1950. During 1950 to 1960, new shallow tubewells were installed with the expenditure of about 3.97 lakh and the supply of water increased from 5 gallons to 8 gallons per head.

During 1971 an estimate of Rs. 1.06 Crore for renovation of water supply scheme for the town was prepared and phase-wise work was taken in hand. The source of water supply was not inadequate only but became undependable also. As such it was decided to increase the water supply by boring the other tubewells at Murthal near the bed of the Jamuna river. An expenditure worth Rs. 87 lakhs on these works was made upto 1983 and the water-supply to the town was enhanced from 8 gallons to 18 gallons per head daily. In 1989 the water-supply rose to 20 gallons per head daily.

**Water-Supply for Gohana town.**—For a proper supply of piped water, an estimate amounting to Rs. 6.98 lakh was approved in 1962 and the scheme was commissioned during 1964. As a result 3 tubewells were installed with partial distribution system. The population of this town also increased enormously. In 1989 the rate of the water-supply was 15 gallons per head per day against the norms 25 gallons per head daily.

During the last 25 years, it was felt that the discharge of existing tubewells had reduced to a cosiderable extent. The under-ground water is brackish.

An estimate of Rs. 272.38 lakh for providing master water supply for the town based on canal filteration was prepared by D & P Division, Rohtak.

**Water-supply for Ganaur town.**—An estimate of Rs. 9.44 lakh of water-supply was approved in 1971, and the scheme was first commissioned in 1973. The water-supply was based on tubewells. On the basis of population of 1981 Census, the supply of water of 10 gallons per head daily was being supplied in the town against 25 gallons per head per day.

Now it has become necessary to renovate the existing water supply and a proposal in this connection is being processed through Superintending Engineer, Public Health Circle, Rohtak.

**Water-Supply for Kharkhoda.**—The water supply scheme based on canal filteration system was provided with an expenditure of Rs. 1,11,962 on the pattern of rural water-supply scheme. After this, the augmentation of water-supply scheme was taken in hand and an expenditure of Rs. 6.89 lakh was incurred on the work and the rate of water supply was kept 10 gallons per head per day, but due to increase in population, this rate was reduced to 5 gallons per head daily. An estimate amounting to Rs. 62·63 lakh for renovation of water-supply scheme was approved on 15th April, 1982.

WATER-SUPPLY (RURAL)

The people are mainly dependent upon hand pumps and open wells. Only 234 villages were declared as problem villages. The Government has been vigorously supplying piped water to the large number of villages by means of canal filteration system and deep tubewells. The details of rural water-supply are as follows :—

| Name of the Scheme | No. of villages |
|---|---|
| 1. Water-Supply Scheme, Khanpur Kalan | 1 |
| 2. Water-Supply Scheme, Abulana | 1 |
| 3. Water-Supply Scheme Jagsi (group of 2 villages) | 2 |
| 4. Water-Supply Scheme, Mundlana group of villages | 2 |
| 5. Water-Supply Scheme, Gilan Kalan group of villages | 2 |
| 6. Water-Supply Scheme, Bhawar group of villages | 4 |
| 7. Water Supply scheme, Butana group of villages | 2 |

| | | |
|---|---|---|
| 8. | Water Supply Scheme, Larsauli group of villages | 1 |
| 9. | Water Supply scheme, Jakhauli | 1 |
| 10. | Water Supply Scheme, Sisana group of villages | 2 |
| 11. | Water Supply Scheme, Asrafpur Matindu group of villages | 2 |
| 12. | Water Supply Scheme, Bhatgaon group of villages | 2 |
| 13. | Water Supply Scheme, Purkhas group of villages | 2 |

As water is still in short supply, domestic and individual connections have not been given ; only public taps have been provided at focal points. The expenditure on the maintenance of rural water supply scheme during 1988-89 was to the tune of Rs. 44.78 lakh .

SEVERAGE (URBAN AND RURAL)

An estimate amounting to Rs. 13.60 lakh was framed in 1956 and outfall sewer of 24′×36″ was laid in the mandi area of Sonipat town. A sewer was also laid for Model Town area and New Township on Rathdhana road. The following sewerage lines were provided in the Sonipat town against different estimates[1] :—

| | | Rs. |
|---|---|---|
| 1. | Sewerage scheme on circular road near Mushad Mohalla .. | 76,000 |
| 2. | Outfall sewer (24′×36″) .. | 1,42,000 |
| 3. | Sewerage Scheme for mandi area .. | 9,42,875 |
| 4. | Storm water-drainage scheme on Rathdhana road .. | 5,29,000 |

For proper sewerage system in Gohana town, an estimate amounting to Rs. 38.31 lakh was approved on February, 26, 1979. In this estimate, it was proposed to provide 30″i/d outfall brick sewer. The work of subsidiary pumping station is in progress.

At present the underground sewerage system does not exist at Ganaur. The estimate for sewerage scheme, Ganaur, is under preparation.

An open channel exists at Kharkhoda. The work of sewerage scheme will be taken in hand when the augmentation of water supply scheme is completed.

There is surface drainage in the villages. The system is being looked after by the panchayats and block authorities.

1. The sewerage scheme phase-II of Sonipat town stands sanctioned.