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HEALTH AND SOCIO-DEMOGRAPHIC CHANGES OVER THREE
DECADES IN THE VILLAGES AROTTND LUCKNOW

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ABSTRACT

Surveys have been carried out in the villages around Rural Health Training Centre, Sarojini Nagar, Lucknow in the year 1959, 1969 and 1981 to record the impact on health, of changes that have taken place over three decades. The population of four villages increased from 5,313 in 1959 to 7,555 in 1981. About 42 per cent of the population was under 15 years of age in 1981 compared to 43.3 per cent in 1969 and 47.3 per cent in 1959. The age of marriage for females has increased from 11.8 years in 1959 to 16.4 in 1981. The literacy rate increased from 26 per cent in 1959 to 38 per cent in 1981. The addiction rate also increased from 23.8 per cent in 1969 to 36.2 per cent in 1981.

The housing conditions have shown considerable change over this period of time. Mud wall construction reduced from 93 per cent to 35 per cent in 1981. None of the families used a non-service type latrine in 1959 whereas as many as 10.9 per cent used it in 1981. In 1981 hand-pumps were used by 14.4 per cent of people as against only 0.6 per cent in 1959 and 2.4 per cent in 1969.

The crude birth rate, death rate and infant mortality rate showed a declining trend. The birth rate declined from 40.6 in 1959 to 31.5 per 1000 population in 1981. The death rate has fallen from 39.4 in 1959 to 10.2 per 1000 population in 1981. The infant mortality rate decreased from 189 in 1959 to 108.2 per 1000 live births in 1981.

There has been an overall increase in sickness from 16.9 per cent in 1959 to 29.5 per cent

in 1981; however, the proportion of those suffering from acute and chronic illnesses has been nearly same. The common causes of morbidity at the time of survey and also of past sicknesses have nearly been same over last three decades. About 51 per cent of the population had BCG scar in 1981 as against only 27 per cent in 1969. There was also a significant decrease in stool infestation rate 26.3 per cent when compared to 47.6 per cent in 1969 and 1959 respectively.

The utilisation of services of PHC/Sub-centres increased from 17.1 in 1959 to 46.0 per cent in 1981. Similarly, the use of ante-natal services increased from 10.4 per cent in 1959 to 32.4 per cent in 1981. There has also been drop in the utilisation of services of untrained Dais as only 21.6 per cent of the deliveries were conducted by them in 1981 compared to as many as 85 per cent in the previous surveys.

The general health survey is an important epidemiological tool in assessing the health needs and demands of the people. The repeat health survey, if carried out after lapse of a decade or so, will not only help in assessing the impact of efforts being made in raising the health of people but also help in reshaping the priorities and strategies in tackling community health problems.

In Uttar Pradesh, the first General Health Survey was undertaken in 1958-59 in the area of Rural Health Training Centre, Sarojini Nagar, of Upgraded Department of Social and Preventive Medicine, King George's Medical College, Lucknow. After a decade of first general health survey, a repeat General Health Survey[^] was carried out in 1968-69 in the same area. It was again after a decade of repeat general health survey, when the need was felt to record the changes in the health in the area and hence a second repeat general health survey was carried out in the year 1980-81.

Material and Methods

The survey was carried out during the period of October 1980 to April 1981 in villages of of Amausi, Gauri, Besa and

Rahimabad which were covered in previous two surveys. Out of 1,370 families having a population of 7,555 in these villages, 20 per cent were selected by systematic random sampling for this study of 273 families sampled, only 257 (92.6 per cent) families covering a population of 1,173 could be studied.

The information was collected by interview method followed by on the spot examination. The information on environmental conditions, family organisation, socio-economic factors and state of health at the time of survey and during past 12 months was collected by the method similar to that of the previous surveys. Diet and nutrition survey was conducted in 20 per cent of the selected families. For the purpose of the study, the sickness was defined as any departure, subjective or objective, from a state of physiological well-being resulting from disease, injury or impairment. Laboratory investigations included examinations of stool specimens for helminthic and protozoal infestation using standard procedures. Haemoglobin estimation was done by Sahli's method and blood smears were examined for malaria parasite. Sputum examination for acid fast bacilli was done in suspected cases of pulmonary tuberculosis. Water samples were taken from different sources of drinking water for chemical and bacteriological analysis and for fluoride estimation.

Results and Discussion

1. Socio-economic and Demographic Aspects

The pattern of distribution of families according to religion and caste has not changed as the bulk of families (94.5 per cent) were Hindus even in previous surveys. The small size families (1-3 members) increased from 17.0 per cent in 1969 to 22.2 per cent in 1981. Unitary families were 72.4 per cent as against 67.5 per cent in 1969 and 68.3 per cent in 1959. The average family size was 5.4 while it was 5.6 in 1969. The average land holding has reduced to 1.8 acre per family from 5.3 in 1959 and 3.2 in 1969.

The population of the four villages had increased from 5,313 in 1959 to 6,819 in 1969 and 7,555 in 1981 as given in Table 1. This accounted for an annual increase of about 1 per cent per annum which is much lower than that of Uttar Pradesh and India as per 1981 census result.

TABLE 1

VILLAGE-WISE DISTRIBUTION OF THE TOTAL AND SURVEYED POPULATION IN THREE SURVEY

Villages	Bagchi ¹ , 1959			Shivram ² , 1969			Present survey, 1981		
	Total Population	Population Surveyed	Percentage of Total	Total Population	Population Surveyed	Percentage of Total	Total Population	Population Surveyed	Percentage of Total
Amausi	2,342	431	18.4		352	13.0	2,814	408	14.5
			2,702						
Besa	1,181	155	13.1	1,480	248	16.8	1,804	290	16.1
Gauri	898	151	16.8	1,689	168	9.9	1,828	302	16.5
Rahimabad	892	125	14.0	948	161	17.0	1,109	173	15.6
Total	5,313	862	16.2	6,819	929	13.6	7,555	1,173	15.5

The percentage of population under 15 years of age was 41.5 as compared to 43.3 per cent in 1969 and 47.3 per cent in 1959. The sex ratio was 886 females per 1000 males while it was 839 in 1969 and 910 in 1959 as given in Table 2. The corresponding figures of Uttar Pradesh and India are 886 and 935 (1981 census). The age of marriage has consistently increased both for males and females since 1959. The age of marriage for females was 11.8 years, 13 years, and 16.4 years and for males it was 13.2 years, 19 years and 20.8 years in 1959, 1969 and 1981 surveys respectively. The overall literacy rate has significantly increased from 26.0 per cent in 1959 to 28.3 per cent in 1969 and 38.0 per cent in 1981 survey.

The addiction rate was 36.2 per cent as against 23.8 per cent in 1969 and the difference was statistically significant ($P < 0.001$). The males (47.9 per cent) were found more addicted than females (21.5 per cent). Among males, smoking was the most favourite addiction (20.4 per cent) while among females, betel chewing was most common (9.2 per cent).

2. Environmental Conditions

The houses continued to be owned by majority (95.3 per cent) as in previous surveys. The congested localities have significantly increased from 21.9 to 30.3 per cent because of increasing demand of residential houses for employees of

TABLE 2
CHANGES IN AGE AND SEX STRUCTURE IN THREE SURVEYS

Age group (years)	Percentage of population in surveys of		
	Bagchi ¹ , 1959	Shivram ² , 1969	Present Survey, 1981
Below 5	13.0	15.5	15.8
5 - 14	23.6	27.8	25.7
15 - 44	41.1	41.7	41.8
45+	22.3	15.4	15.6
Females/1000 males	910	839	796

various industries coming up in the area. Lighting was adequate in 75.1 per cent houses showing an increase from previous surveys - 22.8 per cent in 1959 and 49.7 per cent in 1969. Similarly, the cross ventilations and window space also increased from 13.6 per cent in 1959, 21.0 per cent in 1969 and 36.2 per cent in 1981. Bathroom facilities increased from 51.1 per cent in 1969 to 64.6 per cent in the present survey. The change was statistically significant ($P<0.001$). The average number of persons per room has been 3, 2.4 and 2.3 in the years 1959, 1969 and 1981 respectively. There was a considerable change in the nature of construction of houses. Thatched roofs decreased from 72.7 to 24.1 per cent. The cemented roof was seen in 18.7 per cent of houses in 1981, while none in 1969. Mud wall construction reduced from 93.0 per cent in 1959 to 35.4 per cent in 1981. The striking feature was that 78.8 per cent of houses in 1981 had separate kitchen against 60.3 per cent in 1969 and 9.7 per cent in 1959. The difference was statistically significant ($P<0.05$). Toilet facilities have shown marked change as 10.9 per cent families used service type latrine and 7.0 per cent non-service type latrine in 1981 contrary to 5.9 and 2.4 per cent in 1969 and 2.0 per cent and 0.0 per cent in 1959 respectively as given in Table 3. These welcome changes in the housing conditions were not only because of construction of new houses using modern amenities and sanitary conveniences but also remodelling of some of the old houses on the same pattern.

TABLE 3
CHANGES IN HOUSING AND ENVIRONMENTAL CONDITIONS IN THREE SURVEYS

<i>Housing/ environment</i>	<i>Variable studied</i>	<i>Percentage of houses in surveys of</i>		
		<i>Bagchi1</i>	<i>Shivram2</i>	<i>Present survey 1981</i>
<i>House structure</i>	<i>Mud walls</i>	93.0	60.9	35.4
<i>Water supply</i>	<i>Hand pump</i>	0.6	2.4	14.4
<i>Drainage</i>	<i>Presence</i>	N.A	25.9	78.2
<i>Toilet facilities</i>	<i>Open field defecation</i>	98.0	89.3	82.1

N.A.: FIGURES NOT AVAILABLE.

Drinking water from hand pumps were used by 14.4 per cent of families as compared to only 0.6 per cent in 1959 and 2.4 per cent in 1969, showing thereby an improvement in the sources of drinking water supply. However, the bulk of families (85.2 per cent) continued to draw water from open pucca/ kutcha well as in 1969 and 1959 (95.6 and 93.7 per cent respectively). The bacteriological and chemical analysis of water showed that all the samples of well water were polluted while the water samples from hand pumps were not. The fluoride contents were below the permissible level in all but one sample of water.

It can, therefore, be concluded that there had been a definite shift in the environmental sanitary conditions towards betterment in the last three decades.

3. *State of Health*

Sickness at the Time of Survey

There was an overall increase in sickness from 16.9 per cent in 1959 to 22.9 per cent in 1969 and 29.5 per cent in 1981; the apparent difference being statistically significant ($P < 0.001$). The sickness rate was more in males than in females in all the three surveys. In the present survey 12.4 and 13.2 per cent of individuals were suffering from acute and chronic illnesses respectively and 3.8 per cent had indifferent health. The pattern has been nearly similar in the previous two surveys as shown in Table 4. It was observed

TABLE 4
SICKNESS RATE AT THE TIME OF SURVEY IN THREE SURVEYS

Type of sickness	Percentage of population sick in surveys of		
	Bagchi ¹ , 1959	Shivram ² , 1969	Present Survey, 1981
Acutely ill	3.3	10.3	12.4
Chronically ill	10.2	11.4	13.2
Indifferent health	3.3	1.2	3.8
Total sickness	16.9	22.9	29.4

that 42.1 per cent of the total sickness was prevalent in persons below 20 years of age as compared to 44.8 per cent in 1969 and 57.0 per cent in 1959 indicating a shift of sickness load towards below 10 years of age and those aged 55 years and above (49.1 per cent). In the former group principal causes of morbidity were acute illnesses (16.8 per cent) and in later group the chronic ones (35.9 per cent). These observations are more or less similar to those of previous surveys.

Though the illness was more in those who were in lower socio-economic group and illiterate but it was not statistically significant. Similar observations were made in previous surveys. The sickness was more among those who were addicted (39.5 per cent) than non-addicted ones (23.8 per cent), the respective figures for 1969 being 32.1 per cent and 20.0 per cent.

The average number of sickness per person was 0.3 and a similar observation has been found in surveys of 1959 and 1969. However, average duration of sickness per sick person decreased from 19.7 days in 1969 to 14.1 days in this survey. This may be because of better utilisation of health care provided to the population.

At the time of survey as depicted in Table 5, the first five common causes of morbidity were respiratory diseases (71.6 per 1000) followed by diarrhoea and dysentery (41.2 per 1000) and nutritional deficiency diseases (35.8 per 1000). Nearly similar was the pattern of diseases in 1959 and 1969 surveys; however no case of malaria was detected in 1969 survey. The state of affairs, thus has not changed much as far as morbidity pattern is concerned since 1959. This may be explained by unsatisfactory environmental conditions still existing inspite of improvement in certain conditions.

Sickness During Past Twelve Months

The overall morbidity rate has increased from 370.0 in 1959 to 459.6 in 1969 and to 575.7 per thousand in the 1981

TABLE 5

**PRINCIPAL CAUSES OF ACUTE AND CHRONIC SICKNESSES AT THE TIME OF SURVEY
IN THREE SURVEYS**

Diseases	ICD Code Number	Sickness rate per 1000 population		
		Bagchi ¹ , 1959 (n = 862)	Shivram ² , 1969 (n = 929)	Present Survey 1981(n = 1173)
Diarrhoea and Dysentery	004,006,009	8.2	29.1	41.8
Common Cold	460	N.A.	30.1	36.7
Bronchitis	490	18.6	19.4	19.6
Tuberculosis of respiratory system	011	N.A.	2.1	3.4
Other disease of respiratory system	510 - 519	5.8	24.8	6.0
Malaria	085	7.0	Nil	11.1
Anaemia	280	11.6	9.7	16.2
Avitaminosis and other deficiency disease	260 - 269	17.5	7.5	19.6
Diseases of eye	360 - 379	11.6	28.0	14.5
Diseases of ear	380-389	5.8	3.2	5.1
Diseases of female genital tract	614 - 629	4.6	7.5	9.4
Arthritis	716	16.3	6.4	3.4

N.A.: Figures not available.

survey. The principal causes of sickness in past as shown in Table 6 were diarrhoea and dysentery (130.5 per 1000), followed by respiratory diseases (63.9 per 1000) , and diseases of skin (13.6 per 1000) etc. The pattern of sickness was nearly the same in 1969 as incidence of diarrhoea and dysentery was 135.5 and that of respiratory diseases 95.8 per 1000 population Of those sick, 18.6 per cent had a second spell of sickness while in 1969 and 1959 surveys the figures were 23.3 and 30.0 per cent respectively. The decrease in second spell of sickness was probably due to changing outlook and attitudes towards causation and treatment of illnesses.

The disability rate remained more or less constant between 1969 and 1981, the figures being 4.6 and 4.1 per cent respectively while it was 3.9 in 1959. The main causes of

TABLE 6
PRINCIPAL CAUSES OF SICKNESS DURING THE PAST TWELVE MONTHS IN THREE SURVEYS

Diseases	ICD Code Number	Sickness rate per 1000 population		
		Bagchi ¹ , 1959 (n = 862)	Shivram ² , 1969 (n = 929)	Present Survey 1981(n = 1173)
Diarrhoea and Dysentery	04, 006, 09	11.0	131.5	130.4
Common Cold	460	N.A.	33.3	49.4
Bronchitis	490	7.3	12.9	11.1
Other respiratory diseases	510 - 519	N.A.	49.4	3.4
Malaria	085	N.A.	1.1	7.7
Measles	055	N.A.		6.8
Anaemia	280	5.3		
		4.6	N.A.	28.1
Nutritional deficiency	260 - 269	1.8	2.1	10.2
Diseases of eye	360 - 379	2.3	11.8	9.4
Diseases of skin	700 - 709	1.5	17.2	13.6
Arthritis	716	2.1	5.3	4.3

N.A. : Figures not available.

disability, as in previous surveys, were diseases of the eye and ear. Out of total 48 disabled in 1981, 30 were cases of partial or total blindness, the conditions which are practically preventable and curable.

Nutrition and Diet

The total prevalence of deficiency diseases per person was 0.39 as compared to 0.47 in 1969 survey. The prevalence for the males and females being 0.34 and 0.45 in 1981 and 0.47 and 0.56 in 1969 respectively. The prevalence of Vitamin A deficiency was highest followed by dental caries and similar was the pattern in 1969. This shows that there has been improvement in the nutritional status which is well corroborated with the findings of dietary survey, where the mean intake of food per consumption unit is higher (cereals 604 gms and pulses 93 gms) than the recommended one except for green leafy vegetables (10 gms) and milk and milk products (54 gms). The mean intake of calories was 2916 as against 2800 recommended by ICMR for moderate worker.

The average hemoglobin percentage has increased since 1969 survey. The population with hemoglobin level less than 10 gms per cent was 35.2 per cent in 1981 as compared to 38.6 per cent in 1969. The adult females were more anaemic (65.7 per cent) than males (33.6 per cent) in 1981; the figures for 1969 being 57.6 and 21.6 per cent respectively.

Immunisation Status

Vaccination against smallpox had been given to 91.9 per cent of population as against 83.2 per cent 1969. The state of vaccination with BCG also increased from 27% in 1969 to 50.9 per cent in present survey. About 5.8, 3.6 and 2.7 per cent children had received DPT, Polio and measles immunisations respectively in 1981 as against zero in 1969 survey.

Parasitic Infestation

There has been a significant decrease in the stool infestation rate (26.3 per cent) as compared to 47.6 and 58.6 per cent in 1969 and 1959. This decrease may be attributed to some extent to the increased use of footwear (32.9 per cent) in 1981 as against 10.8 per cent in 1969 and increase in number of installations of PRAI type of latrines by the

families (7.0 per cent in 1981 and 2.4 per cent in 1969). The incidence of hookworm infestations was 14.6 per cent (29.5 per cent in 1969 and 51.0 per cent in 1959), ascariasis 8.5 per cent (9.9 per cent in 1969 and 13.6 per cent in 1959) and *Entamoeba histolytica* 1.6 per cent, nearly same as in previous surveys.

Vital Statistics

The crude birth rate, crude death rate and infant mortality rate have shown a decreasing trend. The birth rate was 31.5 per 1000 in 1981 as against 39.8 in 1969 and 40.6 in 1959 as shown in Table 7. The present birth rate is also less than that of average for India (35 per 1000). The fertility rate decreased from 224.3 in 1959 to 216.5 in 1969 and 162.2 in 1981. The child birth index has shown a continuous decrease from 5.8 in 1959 and 3.5 in 1969 to 3.0 in 1981. Similarly, child loss index has decreased from 2.8 in 1959 and 0.7 in 1969 to 0.4 in the present survey resulting in relative increase in child survival index.

The average number of terminations of pregnancy decreased from 5.6 and 3.8 in 1959 and 1969 respectively to 3.2 in the present survey. This change in the fertility pattern is probably as a result of increased awareness and acceptance of family welfare services rendered through the network of health centres.

TABLE 7

CHANGES IN VITAL STATISTICS IN THREE SURVEYS

Vital events	Bagchi ¹ , 1959	Shivram ² , 1969	Present Survey, 1981
Birth rate (per 1000 pop./year)	40.6	39.8	31.5
Death rate (per 1000 pop./year)	39.4	18.3	10.2
Infant Mortality rate (per 1000 live births/year)	189.1	189.2	108.1
Maternal mortality rate (per 1000 births/year)	5.1	2.7	2.7

Death rate has fallen from 18.3 per 1000 in 1969 and 39.4 per 1000 in 1959 to 10.2 per 1000 in present survey and this is even lower than that of average for India, 1981 (14.0 per 1000). The chief causes of death in infants were enteritis and other infectious diseases. The infant mortality rate has decreased from 189 in 1959 and 1969 surveys to 108.2 per 1000 live birth in 1981. These figures clearly demonstrate the impact of services like maternal and child health care, family welfare and health education being provided to the people in the area through health centre.

4. Growth, Development and Weaning Practices in Pre-school Children

Out of 185 pre-school children examined, 75.1 per cent had normal growth while the corresponding figure for the year 1969 was 74.5 per cent. Breast feeding which was universal pattern of infant feeding, continued upto 2 years in 75.7 per cent of pre-school children while in 1969 survey it was only 27.25 per cent. Only 2.7 per cent of children were breast fed even after the age of 3 years as against 43.4 per cent in 1969. In 54.5 per cent of infants, diet supplementation was introduced between 6 to 10 months of age and in 16.8 per cent weaning was not started even beyond the age of 3 years. The respective figures for 1969 were 43.4 per cent and 24.2 per cent.

5. Utilisation of Services of Primary Health Centre/Sub-centres

There has been a great change in the consultation pattern during sickness since 1959. At present only 6.1 per cent of sick persons did not consult one or the other agency for treatment while corresponding figures for 1959 and 1969 were 49.9 and 29.9 per cent respectively. Utilisation of services of PHC or sub-centre's increased from 17.1 in 1959 to 40.5 in 1969 and 46.0 per cent in 1981. Maternity services were utilised by 32.4 per cent of expectant mothers as against 10.8 in 1969 and 10.4 per cent in 1959. The deliveries conducted by untrained dais were only 21.6 per cent in 1981 compared to 85.2 per cent in previous two surveys. This is because, with a view to augment maternal and child health care services in out-reach areas, at least one traditional birth attendant has been trained from each village, to take care of pregnant mothers, during the last decade. This also

indicates better understanding and awareness regarding the utility of health care services provided by peripheral health centres.

गत तीन दशकों में ग्रामीण स्वास्थ्य प्रशिक्षण केन्द्र, सरोजनी नगर, लखनऊ के आस-पास के गांवों में बसे लोगों के स्वास्थ्य स्तर में आये परिवर्तनों का अनुमान लगाने के उद्देश्य से 1959, 1969 तथा 1981 में सर्वेक्षण किये गये थे। इस केन्द्र से जुड़े चार गांवों की जनसंख्या 1959 में 5313 थी, जो 1981 से बढ़कर 7,555 हो गई थी। 1981 में कुल जनसंख्या का 42 प्रतिशत भाग 15 वर्ष से कम आयु वर्ग में था, जबकि इसकी तुलना में 1959 में यह प्रतिशतता 43.3 थी तथा 1959 में यह जनसंख्या 47.3 प्रतिशत थी। 1949 में महिलाओं की औसत न विवाह आयु जो 11.8 वर्ष थी, 1981 में यह बढ़कर 16.4 वर्ष रिकार्ड की गई थी। 1959 में वहां का साक्षरता दर जो 29 प्रतिशत था, वह 1981 में बढ़कर 38 प्रतिशत हो गया था। 1963 में व्यसन दर (एडीक्सन रेट) जो 23.8 प्रतिशत था, वह 1981 में बढ़कर 36.2 प्रतिशत हो गया था।

इस अवधि के दौरान आवास संबंधी स्थिति में काफी परिवर्तन देखा गया था। कच्ची मिट्टी की दीवारे बनाने का जो सिलसिला 93 प्रतिशत था वह 1981 में घटकर 35 प्रतिशत रह गया था। 1959 में किसी भी परिवार में नान-सर्विस टाइप शौचालय का प्रयोग नहीं होता था, जबकि 1981 में यह प्रतिशतता 10.9 देखी गई थी। हैण्ड पम्प का प्रयोग 1959 में 0.6 प्रतिशत था तथा 1969 में 2.4 प्रतिशत लोगों द्वारा इनका प्रयोग किया जाता था, इसकी तुलना में 1981 में हैण्डपम्प का प्रयोग 14.4 प्रतिशत लोगों द्वारा किया जाता था।

अशोधित (क्रूड) जन्म-दर, मृत्यु-दर तथा शिशु-दर में भी कमी होने के लक्षण देखे गये थे। 1959 में जन्मदर जो प्रति हजार जनसंख्या पर 40.6 था, वह 1981 में घटकर 31.5 रह गया था। मृत्यु दर 1959 में 39.4 प्रतिहजार जनसंख्या से घटकर 1981 में 10.2 प्रति हजार हुआ पाया गया था। शिशु मृत्यु-दर 1959 में 189 प्रति हजार से घटकर 1981 में 100.2 प्रति हजार पाया गया था।

रूग्णता दर जो 1959 में 16.9 प्रतिशत था, 1981 में उसमें बढ़ोतरी होकर यह 29.5 प्रतिशत हो गया था, किन्तु जो लोग जीर्ण रोगों से ग्रस्त थे उनकी औसत लगभग समानरूप थी। सर्वेक्षण के समय नोट किये गये रूग्णता के सामान्य कारण तथा गत तीन दशकों में नोट किये गये बीमारी के सामान्य कारण लगभग समानरूप थे। यह पाया गया कि 1981 में बीसीजी का टीका लगवाने वाली संख्या 51 प्रतिशत थी, जबकि इसकी तुलना में 1969 में यह संख्या 27 प्रतिशत थी। 'स्टूल-इन फेस्टेशन' दर में काफी महत्वपूर्ण कमी हुई देखी गई थी जो 1969 तथा 1959 में क्रमशः 47.6 प्रतिशत से कम होकर 1981 में 26.3 प्रतिशत हुई पायी गई थी।

1959 की तुलना में प्राथमिक स्वास्थ्य केन्द्रों/उपकेन्द्रों की सेवाओं का उपयोगिता दर, जो 17.1 प्रतिशत थी, 1981 में बढ़कर यह दर 46.0 प्रतिशत हुई पाई गई थी। इसी प्रकार प्रसवपूर्व सेवाओं की उपयोगिता दर जो 1959 में 10.4 प्रतिशत थी, 1981 में बढ़कर यह दर 32.4 प्रतिशत हुई पायी गई थी। इसी प्रकार अप्रशिक्षित दाईयों की सेवाओं की उपयोगिता-दर में भी काफी कमी हुई थी, सर्वेक्षणों से पूर्व की अवधि में अप्रशिक्षित दाईयों से प्रसव कराने की दर 84 प्रतिशत थी, जो 1981 से घटकर केवल 21.6 प्रतिशत रह गई थी।

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CONTRIBUTION OF HEALTH EDUCATION TO THE
PROMOTION OF BREAST-FEEDING PRACTICES

S.C. Gupta

ABSTRACT

This study shows that health education is greatly ignored by the private practitioners, especially by the quacks, dais, midwives and other indigenous birth-attendants. The impact of health education imparted to the mothers with respect to breast-feeding is statistically significant. Findings revealed that similar approach to health education regarding breast-feeding exercises had a different impact on the respondents belonging to different socio-economic grades. Further, health education regarding breast-feeding brings better result among the respondents belonging to the low socio-economic grades.

It was also evident from the findings that the child with a low birth-order gets breastfeeding for a longer period than the child with the high birth-order. At every birth-order level, it is notable that health education drastically enhance the duration of breastfeeding. On the whole about 30 per cent of the mothers are of the opinion that the child should be kept entirely on breast-feeding for four months. The application of demand feed is more common than the scheduled feed. In the acceleration of demands, feeding practices, health education among the respondents, who comes from higher socio-economic grades, has greater influence than among the respondents who belong to the lower socio-economic grade.

A child from 0 to 2 years old entirely depends upon their mothers for the socially determined food, which influence their growth and development. Adequate breast-feeding, which depends upon the several socio-cultural milieu is the most important requisite for the

proper growth and development of the child^{4,5}. Various studies and international organisations constantly reiterate the contribution of health education in the promotion of breast-feeding practices.

In view of examining the validity of the above explanation and recommendation, the major objective in the present study is to ascertain the effectiveness of health education, imparted to the mothers on the scientific ways of breast-feeding during their visits for ante-natal and post-natal check ups to the Christian Medical College and Brown Memorial Hospital, Ludhiana. A special health education drive was launched from July 1980 to June, 1981 before undertaking this study. The hypothesis examined in this study was 'health education significantly promotes the duration of breast-feeding among the children'.

The Scope of the Study

Owing to the various unavoidable circumstances like the time factor, man power etc. the city of Ludhiana was chosen as the best available place for conducting the study. The total sample of study consists of 300 children, out of the whole sample, a sample of 100 children and their mothers was obtained from the children born in the Christian Medical College and Brown Memorial Hospital, Ludhiana and were exposed to health education on breast-feeding practices. The sample of remaining 200 children and their mothers was obtained from the children born in the homes. In both samples, the stratified random-sampling method has been used in obtaining the requisite data.

THE SCALE OF SOCIO-ECONOMIC LEVEL

Educational Level	Score	Economic level	Score	Occupation	Score	Total Socio-economic grade
Graduate and above	100	Rs.1001 & above	100	I and II	100	300 grade - I
Under-graduate	80	Rs.601-1,000	80	III	80	240 299 - II
9-10th class	60	Rs.401-600	60	IV	60	180 239 - III
6-8th class	40	Rs.301-400	40	V	40	120 179 - IV
0-5th class	20	Rs.300 & less	20	VI & VII	20	60 119 - V

Data Analysis

To draw an exact inference regarding the state of awareness about health education, it will be interesting to find out the respondent's accessibility to health education by the type of delivery.

At the time of investigation as shown in table 1 that 5 per cent of the respondents among home deliveries indicated that they were instructed regarding breast-feeding and supplementary feeding. In the case of hospital deliveries, about 88 per cent of the respondents gave the same reply. It is clear from table 1 that health education is greatly ignored by the private practitioners, especially by the quacks, dais, midwives, etc., working in this field. The findings further establish that the contribution of Christian Medical College and Brown Memorial Hospital for bringing health consciousness especially towards the promotion of child-feeding practices is much appreciable than that of other health care agencies operating in the same areas.

The deprivation of mothers from the health education on the scientific child-feeding practices may negatively influence the duration of breast-feeding. So the hypothesis tested in this study is 'health education significantly promotes the duration of breast-feeding'. To examine the above hypothesis, efforts were made to investigate the difference in the duration of breast-feeding among the hospital-born children and among those born at home.

Fifty-nine per cent of the mothers of home-born children discarded breast-feeding in the case of their children before 1 year of age as compared with about 41 per cent who deliver-

TABLE 1
THE PLACE OF DELIVERY AND NUMBER OF MOTHERS
EXPOSED TO HEALTH EDUCATION

Place of delivery	yes	No	Each total of children =100 per cent
Home	5.0	95.0	200
Hospital	88.0	12.0	100

ed their babies in hospital and were instructed about the importance of breast-feeding as shown in table 2. These findings show that a significant number of mothers who delivered their children in the hospital, breast-fed them above 1 year in contrast with their counterparts who delivered their children at home. To test the hypothesis that health education significantly promotes the duration of breast-feeding a (chi square) test was applied.

The calculated value of χ^2 was 7.746, whereas the tabulated value for 1 degree of freedom, at .05 was 3.841. Since, the observed value is higher than the tabulated value, it confirms that the impact of health education imparted to the mothers in respect of breast-feeding is statistically significant. The another relevant question which needs an immediate attention, is that to what extent the socio-economic level of the respondents modify the impact of health education on the duration of breast-feeding. There might be some variation in the effect brought about by health education among the respondents having different socio-economic backgrounds. Therefore, it will be worthwhile to classify the respondents both of the hospital and of the home into socio-economic grades and then compare the respondents of these categories within the same socio-economic grade.

The respondents of each socio-economic grade, who delivered their babies at home, have been compared with the respondents of the same socio-economic grade who delivered in the hospital. For more comprehensive findings, the socio-economic grades 1,2,3 and 4 and 5 have been grouped into two categories. In the socio-economic grade 1-3, only 32.7 and 43 per cent of the mothers of home and hospital born children

TABLE 2
RESPONDING WITH CHILDREN ABOUT 12 MONTHS BY PLACE OF DELIVERY AND DURATION OF BREAST-FEEDING

Place of Delivery	Age and Duration of breast-feeding				The total number of cases= 100 percent
	0-6	7-12	13-18	19-24	
Home	21.4	37.5	29.5	11.5	112
Hospital	7.1	33.9	44.7	14.3	56
Total	17.1	36.0	34.5	12.5	168

Respectively breast-fed their children for more than 1 year, whereas among the hospital-born children in the lower socioeconomic strata i.e. 4-5, a noticeable number of respondents continued breast-feeding to their children more than 1 year. This observation shows that the similar approach to health education regarding breast-feeding exercises a different impact on the respondents belonging to different socio-economic grades. Health education regarding breast-feeding brings better results among the respondents belonging to the low socio-economic grade. One of the explanations for this poor response can be that the mothers who belong to the higher socio-economic status are more exposed to the literature and commercial advertisement which may be responsible for the state of lapse and reluctance on their part. Keeping in view the relevant data and the other variables which can shape the duration of breast-feeding among the children is the birth-order of the child as shown in table 3. The birth order of the child will be treated as a constant variable and then the differentials in the duration of breast-feeding between home delivery and hospital delivery will be determined.

TABLE 3
RESPONDENTS WITH CHILDREN ABOUT 12 MONTHS BY THE SOCIO-ECONOMIC STATUS, DURATION OF BREAST-FEEDING AND THE PLACE OF DELIVERY

Socio-Economic Grades	Upto 6 months	7-12 months	13-18 months	19-24 months	Place of birth and number of children = 100 per cent	
					Home	Hospital
I	33.3	41.7	25.0	-	12	
	28.6	28.6	28.5	14.3		7
II	25.0	43.7	25.0	6.3	16	
	12.5	50.0	37.5	-		8
III	20.8	37.5	29.2	12.5	24	
	16.7	33.3	33.3	16.7		6
IV	20.0	35.0	32.5	12.5	40	
	-	35.3	52.9	11.8		17
V	15.0	35.0	30.0	20.0	20	
	-	27.8	50.0	22.2		18
Total	21.0	38.0	29.0	12.0	112	
	7.0	34.0	45.0	14.0		56

It is clear from table 4, at every birth order level, the duration of breast-feeding is higher among the hospital born children, especially with the low birth order. About 44 per cent of the mothers of the home-born children with low birth order (the first child and the second child) breast-fed their children above 12 months in comparison with about 71 per cent who gave birth to children in hospital. The rest, among both the groups of mothers with high birth-orders (the third child that is above this order) the findings are not very impressive. It is apparent from the table that the child with a low birth-order gets breast-feeding for a longer period than the child with the high birth order. This finding is not in accordance with that of Azar who observed that 87 per cent of the mothers breast-fed their last-born child and proved that there appeared to be no relationship between the percentage of breast-feeding and the maternal age or the birth order of the child. Another important thing in the child's life is the introduction of semi-solid food.

TABLE 4

RESPONDENTS DURATION OF WITH BIRTH ORDER OF THE BREAST-FEEDING AND THE CHILD WITH CHILDREN PLACE OF DELIVERY ABOUT 12 MONTHS						
Birth Order	Duration of Breast-Feeding				Total number of	
	Up to 6 months	7-12 months	13-18 months	19-24 months	children = 100 n per cent	
					Home	Hospital
1st	12.9 -	41.9 25.0	32.2 50.0	12.9 25.0	31	12
2nd	16.7 5.6	38.9 27.8	27.8 44.4	16.6 22.2	36	18
3rd	20.0 -	35.0 44.9	30.0 44.9	10.0 11.2	20	9
4th	43.7 10.0	25.0 40.0	31.3 50.0	- -	16	10
5th	28.6 33.3	42.9 33.3	14.3 33.4	14.2 -	7	6
6th	50.0 -	50.0 100.0	-	-	2	1
Total	21.0 7.0	38.0 34.0	29.0 45.0	12.0 14.0	112	56

Ghosh has stated that breast-feeding should be continued as long as possible. However, after 4 or 6 months, most of the mothers will not have enough milk being sole source of food for the baby. Therefore, it is of interest to inquire whether there is any variation in the respondents by the place of delivery regarding the age-group up to which a child should be entirely kept on the mother's milk.

Twenty-three per cent and 43 per cent of the mothers of home and hospital born children respectively are of the opinion that the child should be kept entirely on breast-milk for 4 months as shown in table 5. This means that in whole of the sample, about 30 per cent of the respondents have full knowledge of the normal, age up to which a child should be kept entirely on the mother's milk. Besides, the majority of the mothers stated moderate. Findings document that among the home deliveries, a higher number of mothers was oriented to introduce the semi-solid food to their babies at moderate and much delayed up time as compared with those who delivered their children in the hospitals.

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Table 5

THE PLACE OF WHICH A CHILD DELIVERY SHOULD AND THE MOTHER'S OPINION ABOUT THE AGE (BE KEPT ENTIRELY ON THE MOTHER'S MILK SROUP UPTO							
Place of delivery	Duration of Breast -Feeding						Total No. of cases
	0-8 weeks	9-16 weeks	17-24 weeks	25-32 weeks	35-40 weeks	Un-specified	
Home	5.0	18.0	38.5	11.5	15.0	12.0	200
Hospital	5.0	38.0	24.0	10.0	10.0	13.0	100
Total	5.0	24.7	33.7	11.0	13.3	12.3	300

इस अध्ययन से ज्ञात होता है कि प्राइवेट प्रेक्टीशनरों, विशेष रूप से नीम-हकीम डाक्टरों द्वारा, दाईयों, मिडवाइफ्स तथा अन्य पारम्परिक जन्म सहायिकाओं द्वारा स्वास्थ्य शिक्षा के महत्व को अत्याधिक अनदेखा किया गया है। आंकड़ों की दृष्टि से स्तनपान के संबंध में माताओं की दी गई शिक्षा का प्रभाव बहुत ही महत्वपूर्ण रहा है। परिणामों से ज्ञात होता है कि स्तनपान के संदर्भ में 'स्वास्थ्य शिक्षा' के प्रति एक ही प्रकार का दृष्टिकोण अपनाने से अलग-अलग सामाजिक-आर्थिक स्तर के उत्तरदाताओं पर अलग-अलग प्रभाव हुआ था। इसके अतिरिक्त यह भी देखा गया है कि निम्न स्तर के सामाजिक-आर्थिक वर्ग के लोगों पर स्तनपान के संदर्भ में प्रदान की गई स्वास्थ्य शिक्षा से अधिक बेहतर परिणाम प्राप्त होते हैं।

परिणामों से यह भी स्पष्ट था कि जन्मक्रम के अनुसार सबसे बड़े बच्चे की तुलना में सबसे छोटे बच्चे को अधिक समय तक स्तनपान कराया गया था। यह एक उल्लेखनीय तथ्य है कि स्वास्थ्य शिक्षा के प्रभाव के कारण जन्माक्रमानुसार बाद में उत्पन्न होने वाले प्रत्येक बच्चे को स्तनपान कराने की अवधि में तेजी से वृद्धि हुई पाई गई थी। कुल मिलाकर 30 प्रतिशत माताओं का यह विचार था कि नवजात शिशु को जन्म के बाद पहले चार महीने तक केवल स्तनपान ही कराया जाना चाहिए। निश्चित आहार की अपेक्षा बच्चे को मांग के अनुसार आहार देने की पृवति बढ़ने का जहां तक प्रश्न था, निम्न सामाजिक-आर्थिक वर्ग के लोगों की तुलना में उच्च स्तर के सामाजिक-आर्थिक वर्ग के लोगों पर स्वास्थ्य शिक्षा का अधिक प्रभाव हुआ पाया गया था।

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**DIFFERENTIAL CONTRACEPTIVE USE AMONG THE SLUM AND
NON-SLUM DWELLERS: A STUDY OF HYDERABAD CITY**

P. Jayarani Reddy

ABSTRACT

This paper examines the prevalence of contraceptive use among the slum and non-slum dwellers of Hyderabad city and also the effect of a few selected socio-economic and demographic variables on their contraceptive behaviour. The percentage of current contraceptive users was double among the non-slum dwellers as compared with the slum dwellers. Terminal methods were more popular than those of spacing, particularly among the slum dwellers favouring largely tubal ligation. Herbal methods were also practised by the slum dwellers for permanent birth control and their percentage was equal to the vasectomy operations undergone by them.

The specific socio-economic and demographic variables cross-tabulated with contraceptive behaviour are: present age, duration of marriage, living sons and socio-economic status. Each of these variables has got strong positive relationship with current use of contraceptives. The present investigation demonstrated that a moderate rise in socio-economic status results in a substantial increase in the practice of contraceptives by both the groups. The use of contraceptives was very low among the slum dwellers having no son or only one son, which is because of their strong son preference. These findings have important implications for the promotion of family planning programme, particularly among the slum dwellers.

A number of studies on the knowledge, attitude and practice of contraceptives were undertaken in both the rural and urban areas of India. However, most of the urban studies treated the slum and the non-slum dwellers together

despite significant differences between them with regard to their socio-economic, demographic, cultural and psychological characteristics and also level of modernisation.

A survey of the slum dwellers in Hyderabad and Secun-derabad conducted during 1976-77 by the Bureau of Economics and Statistics, Government of Andhra Pradesh (1980) also revealed that the socio-economic status of the slum dwellers was very poor. The practice of contraceptives is likely to vary in relation to age, education, occupation, income, religion, duration of marriage, son preference, etc. Under these circumstances, it may not be fair to consider the slum and the non-slum dwellers together since such an analysis would not provide correct picture regarding the contraceptive behaviour of the urban dwellers because of the operation of diverse factors in their acceptance of contraceptives. Stratification of the urban population into the slum and the non-slum dwellers facilitates the identification of areas with high and low rate of acceptance of contraceptives. Such information is very valuable for the policy makers and for family planning personnel to divert more inputs in terms of educational and motivational campaigns to areas of low rate of acceptance of family planning methods in order to achieve maximum returns by proper allocation of available funds.

The primary objective of this study is to examine the differentials in the practice of contraceptives between the slum and the non-slum dwellers and the effect of a few selected variables such as present age, duration of marriage, number of living sons and socio-economic status on the contraceptive behavior.

Methodology

A two-stage simple random sampling technique was adopted for the present study. The respondents were the Telugu speaking Hindu couples married only once, wife not exceeding 44 years of age at the time of survey and also having two or more living children. Muslims were not covered due to the occurrence of Hindu-Muslim riots at the time of survey. Also the other religious groups were not considered as each of them constituted a small proportion of the total population of the city.

For the first stage of sampling, all the eleven census enumeration blocks of Hyderabad city covered by the Sample Registration Scheme (SRS) were chosen. The slum and the non-slum households of Hindus having eligible couples satisfying the criteria were listed separately.

From these two lists, an equal sample of 240 of slum and 240 of non-slum households were selected at random. In the case of households having two or more eligible couples, only one was selected randomly since all of them belonged to the same socio-economic status. Thus, a total sample of 480 couples consisting of 240 slum and 240 non-slum dwellers were selected at random for this study. This formed the second stage of sampling.

Results

The study shows that contraceptive use was significantly higher among the non-slum dwellers than the slum dwellers. About 65 per cent of the non-slum dwellers were currently using one or the other methods of contraception as against only 32 per cent of the slum dwellers (Sig. at 0.01 level) as shown in Table 1. Further, 12 per cent of the non-slum dwellers had used contraceptives formerly in contrast to none of the slum dwellers. Thus, the ever users of contraceptives constituted 76 per cent of the non-slum dwellers in comparison to only 32 per cent of the slum dwellers. This is further corroborated by the

TABLE 1
PERCENTAGE DISTRIBUTION OF CONTRACEPTIVE USERS AMONG THE
SLUM AND THE NON-SLUM DWELLERS

Contraceptive use	Percentage	
	Slum	Non-slum
Current users	32.08 (77)	64.58 (155)
Former users	-	11.67 (28)
Never used	67.92 (163)	23.75 (57)

Figures in the brackets indicate the number of respondents.

findings of other studies that the proportion of current contraceptive users in Bombay city was 74.6 per cent higher than that in the suburbs, the latter being occupied by relatively lower socio-economic groups who differ much from the former in various aspects. The current contraceptive users among the slum and the non-slum dwellers together comprised 48 per cent of the total respondents.

Contraceptive Methods Used

The information on current use of contraceptives indicates that permanent methods of birth control were more popular among both the groups, particularly the slum dwellers, in comparison to those meant for spacing children. Among the current users of contraceptives, 84 per cent each of the slum and the non-slum dwellers had undergone sterilisation while effective temporary methods were practised by 15.5 per cent of the non-slum dwellers in comparison to less than 3 per cent among the slum dwellers.

Tubectomy was the most popular method of birth control particularly among the slum dwellers as is evident from Table 2. The adoption of tubal ligation was higher than

TABLE 2

PERCENTAGE DISTRIBUTION OF CURRENT CONTRACEPTIVE
USERS CLASSIFIED BY CONTRACEPTIVE METHODS USED

Contraceptive methods used	Percentage	
	Slum	Non-slum
Tubectomy	71.40 (55)	51.62 (80)
Vasectomy	13.00 (10)	32.25 (50)
Condom	1.30 (1)	10.97 (17)
IUD	1.30 (1)	4.52 (1)
Herbal methods	13.00 (10)	-
Safe period	-	0.64 (1)

vasectomy by 38 per cent among the non-slum dwellers and 82 per cent among the slum dwellers. Thus, tubectomy is the single most popular method of contraception among the slum dwellers. The Directorate of Health and Family Welfare, Government of Andhra Pradesh also recorded a steady increase in female sterilisation with a sudden fall in male sterilisation in urban Hyderabad during the recent period. The number of vasectomies conducted in urban Hyderabad during the year 1978-79 was only 952 as against 10,748 tubectomies done during the same period. Findings of other studies also revealed that in urban areas of both Andhra Pradesh and Bihar tubectomy was more popular than vasectomy.

The greater preference shown for tubectomy, particularly by the slum dwellers, may be because of the prevailing rumour that vasectomy causes impotency and also makes them physically weak. Evidence to this is provided by a study of the reactions to sterilisation of 200 tubectomised women from two hospitals in Greater Bombay in which three-fourths of the respondents reported the disadvantages of vasectomy as weakness, impotency, failure, death and inability to do hard work. Another probable reason may be that a large proportion of the latest deliveries of the non-slum (90.0 per cent) and the slum (73.0 per cent) dwellers took place in the hospitals when some of them were tubectomised simultaneously.

Vasectomy was the second most important method of birth control especially for the non-slum dwellers. Of every eight sterilisations, three were vasectomies among the non-slum dwellers as against only one among the slum dwellers. This may be because of the prevalence of egalitarian system among the non-slum dwellers where the choice of sterilisation seems to be based upon mutual understanding and relative convenience of the spouse rather than being thrust upon females as generally observed among the slum dwellers for the reasons mentioned earlier.

Among the temporary methods of contraception, only condom and IUD were currently practised constituting together 2.6 per cent and 15.5 per cent of the current contraceptive users among the slum and the non-slum dwellers respectively. The low adoption of temporary methods of contraception, particularly by the slum dwellers, may be because of lack of privacy and poor knowledge concerning them besides very low incentives given for their use. According to the survey

of Andhra Pradesh and Bihar of 1978 it was found that sterilisation was the most preferred contraceptive method, particularly in Andhra Pradesh where the use of all temporary methods was very negligible. It was also reported that a considerable proportion of the respondents from Andhra Pradesh perceived the use of non-terminal methods as injurious to health and some of them felt as "troublesome to use". In this study, a small porportion of the slums (4 per cent) and of the non-slums (5 per cent) dwellers had gone for induced abortions to avoid unwanted pregnancies.

Thirteen per cent i.e. one-eighth of the current users among the slum dwellers had practised herbal methods to prevent conception permanently. According to the users of this method, conception was successfully prevented. This is confirmed by all the respondents who used herbal methods and further no side effects were reported by them. The percentage of the slum dwellers who adopted herbal methods was equal to the proportion of vasectomy operations. No such herbal methods were practised by the non-slum dwellers. Thus, for the slum dwellers herbal methods were as popular as vasectomy.

Determinants of Contraceptive Behaviour

The adoption of contraceptives is likely to be influenced by various socio-economic and demographic characteristics. This study examines the effect of a few selected factors such as present age, duration of marriage, living sons and socioeconomic status on the contraceptive behaviour of the slum and the non-slum dwellers.

Age

The cross-tabulation of data on current contraceptive use with present age of the respondents reveals a definite positive relationship between them as shown in Table 3. The prevalence of contraceptive use was the highest among the non-slum and the slum dwellers whose wives had passed their thirty fourth birth day. Similar findings were also reported in a study undertaken by ESCAP (1974) in India, Iran, Philippines and Singapore. In a comparative study of 500 industrial workers from Godrej, Bombay and Vazir Sultan, Hyderabad also observed increase in proportion of contraceptive users with present age⁶. The greater adoption of contraceptives by those in their late reproductive ages may be largely due to their

TABLE 3
PERCENTAGE DISTRIBUTION OF RESPONDENTS CLASSIFIED BY
CONTRACEPTIVE USE AND PRESENT AGE

Contraceptive use	Present Age of Wife					
	Below 25		25-34		35 +	
	Slum	Non-slum	Slum	Non-Slum	Slum	Non-Slum
Current users	15.22 (7)	57.50 (23)	34.43 (42)	60.26 (94)	38.89 (28)	86.36 (38)
Former users	-	12.50 (5)	-	12.18 (19)	-	9.09 (4)
Never used	84.78 (39)	30.00 (12)	65.57 (80)	27.56 (43)	61.11 (44)	4.55 (2)

actual family size being equal or higher than their desired family size. However, the percentage increase in current users from among those of middle reproductive age (25-34 years) to late reproductive age (about 34 years) was very much less for the slum dwellers than the non-slum dwellers. This is most probably due to their belief that they could not conceive children anymore because of nearing menopause or fear of operation/side-effects. On the other hand, the percentage increase in contraceptive use from among those of younger (below 25 years) to middle reproductive ages (25-34 years) was much greater for the slum dwellers than the non-slum dwellers indicating a positive sign of increasing use of contraceptives by the slum dwellers of middle reproductive age.

Duration of Marriage

Duration of marriage is expected to have positive association with adoption of contraceptives. In the present study, both the slum and the non-slum dwellers showed a steady increase in percentage of contraceptive users with rise in duration of effective marriage from ten years or below to 11-20 years and thereafter falling sharply as given in Table 4. Thus, the prevalence of contraceptive use was the highest among those with 11-20 years of effective marital union. This shows a curvilinear relationship between practice of contraceptives and duration of marriage. The ESCAP study (1974) also reported the existence of moderately strong

TABLE 4
PERCENTAGE DISTRIBUTION OF CURRENT USERS CLASSIFIED BY
PRESENT AGE AND DURATION OF MARRIAGE

Duration of marriage	Present Age of Wife						Total	
	Below 25		25 -34		35 +			
	Slum	Non-slum	Slum	Non-Slum	Slum	Non-slum	Slum	Non-slum
Below 11 years	14.71 (34)	58.97 (39)	26.32 (19)	51.81 (83)	- (1)	-	18.87 (53)	53.66 (123)
11-20	16.67 (12)	- (1)	37.23 (94)	69.44 (72)	54.55 (11)	96.00 (25)	36.75 (117)	75.51 (98)
21 +	-- -	- -	22.22 (9)	100.00 (1)	36.07 (61)	77.78 (18)	34.29 (70)	78.94 (19)

positive relationship between the practice of family planning and duration of marriage⁵. The lower proportion of contraceptive users among those of shorter marital duration (below 11 years) may be primarily due to their actual family size being lower than their desired family size. On the other hand, the relatively less prevalence of contraceptive practice among those of longer marital duration (above 20 years) may be probably because of their belief that they could not conceive children any more and also fear of operation/side-effects, particularly among the slum dwellers.

The proportion of the current contraceptive users among the non-slum dwellers in each of the three marital durations was twice as high as among the slum dwellers.

Number of Living Sons

Son preference is observed in almost all the traditional societies and also some of the modern societies since they serve a number of functions to the parents which are economic, social, cultural and psychological in nature. According to the cross-national study on "value of children" greater son preference was found in Korea and Taiwan while it was of considerable magnitude in Thailand. The National Sample Survey conducted by Operations Research Group, Baroda (1972) also revealed that almost all the 25,000 families covered in the survey felt the necessity of at least one son to carry on family lineage and to provide security in old age. Similarly,

a study of Hyderabad city reported that almost all the respondents from slum areas and three-fourths of the respondents from non-slum areas expressed strong desire to have at least one son among their children. Thus, the use of contraceptives is likely to be influenced heavily by the number of living sons in the family.

As expected, a linear positive relationship was noticed between contraceptive use and number of living sons. Of the total respondents, the percentage of the slum and the non-slum dwellers currently practising contraceptives was the lowest among those having no living son and it increased progressively with the number of living sons to them. Similar trend was observed among the non-slum and the slum dwellers of younger and middle reproductive ages. On the other hand, the contraceptive use among the non-slum dwellers of older reproductive age who had no son (83.33%) was almost similar to those of the same age group having one living son (84.21%) and two living sons (86.67%) as given in Table 5. This may be due to the attainment of desired or slightly more number of children by the former group in contrast to substantial proportion of the slum dwellers wishing to wait till getting a son. In the case of the slum dwellers of late reproductive age, the contraceptive use reached the peak among those having two living sons and thereafter declined steadily with increase in the number of living sons which may be due to nearing of menopause.

TABLE 5
PERCENTAGE DISTRIBUTION OF CURRENT USERS CLASSIFIED
BY NUMBER OF LIVING SONS

Living Sons	Present Age of Wife							
	Below 25		25 -34		35 +		Total	
	Slum	Non-slum	Slum	Non-Slum	Slum	Non-slum	Slum	Non-slum
0	12.50 (8)	- (4)	- (13)	25.00 (16)	40.00 (5)	83.33 (6)	11.54 (26)	34.62 (26)
1	7.69 (26)	63.64 (22)	37.04 (27)	60.81 (74)	18.18 (11)	84.21 (19)	21.88 (64)	65.22 (115)
2	30.00 (10)	58.33 (12)	32.50 (40)	67.31 (52)	57.89 (19)	86.67 (15)	39.13 (69)	69.62 (79)
3	50.00 (2)	100.00 (2)	40.74 (27)	76.92 (13)	41.67 (12)	100.00 (3)	41.46 (41)	83.33 (18)
4 +	-	-	53.33 (15)	- (1)	32.00 (25)	100.00 (1)	40.00 (40)	50.00 (2)

An examination of the distribution of contraceptive users shows the minimum number of sons required by the non-slum and the slum dwellers for the greater acceptance of contraceptives. The percentage increase in contraceptive use was the highest with the attainment of one living son by the non-slum dwellers while it was with the attainment of two living sons by the slum dwellers. The latter is probably due to the greater dependence of the slum dwellers on sons because of their low socio-economic status. Thus, a substantial proportion of the non-slum and the slum dwellers can be expected to adopt contraceptives only with the attainment of one and two living sons, respectively.

Contraceptive use was significantly higher among the non-slum dwellers than the slum dwellers. The percentage of the contraceptive users among the non-slum dwellers having no son or one living son was thrice as high as among the slum dwellers, the current users among those having two or more living sons was twice as high as among the respective slum dwellers.

Socio-Economic Status

Contraceptive behaviour is likely to be determined by one's socio-economic status also. In this study, the adoption of contraceptives was examined in relation to the socio-economic status (SES) of the respondent as the differentials in contraceptive behaviour would be better explained by the composite index rather than by any one of its components. The index of socio-economic status is based on the education, occupation and household income of the respondent. Significant differences in socio-economic status were noticed between the slum and the non-slum dwellers. While a substantial proportion of the non-slum dwellers(58%) were concentrated at the upper end of the SES scale, majority of the slum dwellers (68%) were at the bottom of the scale.

The data in Table 6 reveals a linear positive relationship between SES and adoption of contraceptives. The non-slum dwellers in each of the middle and late reproductive age groups and also as a whole showed increase in percentage of contraceptive users with rise in their socio-economic status. Similar trend was also observed among the slum dwellers with the exception of those belonging to 'upper-middle' SES group among whom the percentage of contraceptive users was significantly less in comparison to those of 'lower middle' SES group. In two studies

TABLE 6
PERCENTAGE DISTRIBUTION OF CURRENT USERS CLASSIFIED
BY SOCIO-ECONOMIC STATUS

Socio- Economic Status	Present Age of Wife							
	Below 25		25- 34		35 +		Total	
	Slum	Non-slum	Slum	Non-slum	Slum	Non-slum	Slum	Non-slum
Lower	3.57 (28)	—	31.25 (80)	16.67 (6)	31.48 (54)	100.00 (1)	26.54 (162)	28.57 (7)
Lower- Middle	35.71 (14)	66.66 (3)	46.00 (24)	50.00 (12)	64.29 (14)	100.00 (2)	48.08 (52)	58.82 (17)
Upper- Middle	33.33 (3)	54.54 (22)	29.41 (17)	61.23 (49)	33.33 (3)	100.00 (5)	30.44 (23)	61.84 (76)
Upper	— (1)	60.00 (15)	100.00 (1)	64.04 (89)	100.0 0 (1)	83.33 (36)	66.67 (3)	68.57 (140)

1,196 couples from Calcutta and 500 workers from Bombay and Hyderabad, respectively, also reported that practice of contraceptives was significantly more in high income group than in low income groupie.

The percentage increase in contraceptive use among both the slum and the non-slum dwellers was the highest in the case of those belonging to 'lower-middle' SES group. Thus, a moderate rise in socio-economic status can be expected to result in substantial increase in the acceptance of contraceptives.

Summary and Implications

The adoption of contraceptives was significantly higher among the non-slum dwellers than the slum dwellers. About 65 per cent of the non-slum dwellers were currently using one or the other methods of contraception as against only 32 per cent of the slum dwellers. Permanent methods of birth control, particularly tubectomy, were more popular among both the groups than the temporary methods. Herbal methods were also popular among the slum dwellers. The percentage of the slum dwellers who adopted herbal methods for permanent birth control was equal to the proportion of vasectomy operations undergone by them. There is great need to encourage the adoption of temporary methods by both the non-slum and the slum dwellers for maintaining proper spacing between successive children.

The study showed that a moderate rise in socio-economic status results in substantial increase in the practice of contraceptives by both the slum and the non-slum dwellers. Hence, sincere efforts are to be made to raise the socioeconomic status of the slum dwellers. Child labour laws are to be enforced strictly to prohibit child labour which is widely prevalent among the slum dwellers. The children of the slum dwellers should be encouraged to study atleast upto matriculation by way of extending mid-day meal programme upto high school, provision for scholarships, free supply of books, slates, etc. Job-oriented courses are to be offered to them and financial assistance has to be given liberally to promote self-employment among them. The study also revealed that considerable increase in the percentage of contraceptive users can be expected only with the attainment of one and two living sons by the slum and the non-slum dwellers, respectively. Suitable educational programmes should be designed to minimise the prevalence of son preference, particularly among the slum dwellers. Old age pension should be given to those having no son.

इस लेख के माध्यम से हैदराबाद शहर के स्लम तथा नॉन-स्लम क्षेत्रों के निवासियों में गर्भनिवासियों में गर्भनिरोधकों के प्रयोग के प्रचलन की विवेचना की गई है तथा साथ-साथ गर्भनिरोधकों के प्रयोग के संबंध में उनके व्यवहार को प्रभावित करने वाले कुछ विशिष्ट सामाजिक-आर्थिक तथा जनांकिकीय विभेदकों (वेरीएबलस) का पता लगाने का प्रयास किया गया है। स्लम निवासियों की तुलना में गर्भनिरोधकों का वर्तमान में प्रयोग करने वालों की प्रतिशतता दुगुनी। स्पेशिंग विधियों की तुलना में टर्मिनल विधियां अधिक लोकप्रिय थी, विशेष रूप से स्लम निवासियों में, जो कि ज्यादातर ट्यूबल-लिगेशन, विधि को अधिक पसन्द करते थे। स्लम-निवासियों द्वारा संतति-निग्रह (बर्थ कंट्रोल) के स्थायी तरीके के रूप में जड़ी बूटियों का प्रयोग भी किया जाता था तथा ऐसे लोगों की प्रतिशतता नसबंदी आपरेशन कराने वाले लोगों के बराबर थी।

कुछ विशिष्ट सामाजिक-आर्थिक जनांकिकीय विभेदक, जिन्हें गर्भनिरोधक व्यवहार के साथ क्रॉस-टेबुलेट किया गया था, इस प्रकार हैं:

वर्तमान आयु, विवाह-अवधि, जीवित पुत्रों की संख्या तथा सामाजिक-आर्थिक स्तर। इनमें से प्रत्येक विभेदक का गर्भनिरोधक के वर्तमान प्रयोग के साथ बहुत गहरा सकारात्मक सम्बन्ध था। वर्तमान अन्वेषण से यह परिणाम सामने आया है कि सामाजिक-आर्थिक स्तर में थोड़ा-बहुत विकास लाने पर भी दोनों वर्गों के लोगो द्वारा गर्भनिरोधकों के प्रयोग में बहुत बढ़ोत्तरी होती है। ऐसे स्लम निवासियों में, जिनके पास कोई पुत्र नहीं था अथवा जिनके पास केवल एक पुत्र था, उन लोगों द्वारा गर्भनिरोधकों का बहुत कम प्रयोग किया जाता था, जो पुत्र-प्राप्ति के प्रति उनकी प्रबल इच्छा होने का कारण है। अध्ययन के यह परिणाम परिवार नियोजन कार्यक्रम के विकास के लिए विशेष रूप से स्लम निवासियों में, महत्वपूर्ण संकेत उपलब्ध कराते हैं।

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**MALE MULTI-PURPOSE WORKERS: EXPECTED AND
ACTUAL PERFORMANCE**

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ABSTRACT

Multi-purpose workers is the most peripheral category of the health staff. This paper attempts a comparison between various duties assigned to a male worker and those actually carried out by him. Expected performance is taken from two sources -Programmewise Job-Responsibilities and Targets set under the Management Information System. Actual performance is collected through continuous observation for a month and is supplemented by worker's perception about his own performance. Lack of specific guidelines was one of the possible reasons for the discrepancies between expected and actual performance. The other reason noted, was the gap between planning and implementation. Actual performance was rather poor in activities where no targets were specified. Variations were observed even between the two sources of expected performance, in the case of Blindness Control and Leprosy Control programmes. The study brought out the need for revision of Job-responsibilities from time to time and for co-ordination of various existing schemes.

Multi-purpose Workers Scheme is a major development in the delivery of Health Care Services. In the existing health services structure, multi-purpose workers, male and female, functioning from the sub-centre level constitute the most peripheral category of the health staff. Under the Field Operational Research Project of K.E.M. Hospital, Pune, a study of the male multi-purpose workers (MPWs) was undertaken. It was an initial step towards study of functioning of the health staff at various levels with a view to assess efficiency of working of health services. In the process of this study of the actual functioning of MPWs, various aspects of their performance were assessed.

This paper highlights one of these viz. a comparison of various duties assigned to a MPW and those actually carried out by him.

Methodology and Data Used

Two types of data were required for the study viz. data about activities expected from a MPW and those actually performed by him during a specific period. The reference period was a month, from 16th February 1984 to 15th March, 1984, for which the actual performance of seven MPWs was observed in the initial study referred earlier. Out of these seven MPWs, four were working under the Nhavare Primary Health Centre (PHC) and three were under the Kendur PHC. These two PHCs, Kendur and Nhavare are situated in Taluka Shirur of District Pune and area attached to these two PHCs is covered under the K.E.M. Hospital Field Operational Research Project. Under this research project, there were seven social workers posted at seven sector-headquarters. The MPWs functioning at these places were selected for the study since their performance was to be observed and recorded by social workers.

Departments of the Directorate of Health Services were contacted to get the latest job-responsibilities of male MPWs and specific instructions issued to them regarding their activities during the observation period. Information received from most of the departments was extracted from the Manual (Government of India, 1977) prepared under the MPW Scheme for the country. Malaria Department was the only exception having their own job-responsibilities designed for a male MPW.

Further, under the Management Information System (MIS) introduced by the Government of Maharashtra in 1981, specific targets for different activities are assigned to workers at various levels. These targets, serve the purpose of expected output from a MPW. Details of these targets were collected from the concerned PHC records. Thus, the data for expected performance are drawn from the two sources: (1) Programmewise Job-Responsibilities, and (2) Targets collected from PHC records.

First two columns of the attached statement presents this information.

For the actual performance data, the main source was the observations carried out by seven social workers. Before undertaking the observation study, a special training programme was conducted for the observers. They were instructed to record the performance of the MPW under different activities. This information is given in coloumn 3 of the attached statement.

To supplement the observation, a detailed schedule enquiring mainly about perceptions of MPWs regarding their performance was designed. All the seven MPWs were interviewed. Information reported under these interviews is presented in column 4 of the statement.

Secondary data about the performance of these workers as recorded at PHC were also collected during the period of observation. There were some problems in getting the data in the required form, from the PHC. As referred to earlier, under the MIS, each worker is given a 'rank' based on his performance. These ranks were available at PHCs. However, the activity-wise performance on which the ranking was based was not available in its original form. Thus, for this study actual performance figures are taken only from two sources, from the observation data and responses of MPWs about their own performance as obtained in the interviews.

Findings and Discussion

In the last column of the statement remarks are presented against the relevant activities. The salient findings are discussed here. Three types of discrepancies are evident from the statement.

1. Between two sources of expected performance;
2. Between two sources of actual performance; and
3. Between expected and actual performance.

1. There were no specific job-responsibilities assigned to MPWs under Blindness Control Programme except distribution of Vitamin 'A'. However, the ranking procedure reserves five marks for detecting one case of cataract per month. Similarly, job-responsibilities do not include any activity about Leprosy Control. There have been suggestions about integration of this with MPW scheme. Yet there is a

target for identification of two cases per month. Further, there were instances of MPW being carrying out Leprosy detections.

2. The actual performance as reported in the interviews was most of the time found to be much higher than the one recorded under observation study. Average number of working hours per day was the only exception. It was almost same in both the sources, slightly more than five hours. It may be added here that the interviews were taken independently and the tendency to exaggerate one's own performance, must have affected the answers to some extent.

3. Discrepancies between expected and actual performance could be due to various factors. One of the reasons was that the job-responsibilities did not give specific guidelines about some items. For example, no specific instructions were available about planning of the day-to-day programme of MPWs except the broad principles outlined in the manual such as to plan their activities in consultation with the supervisor and so on. In the interview, all MPWs stated that they prepared their Advance Tour Programme (ATP) sometime during the first week of every month. In the observation study, however, it was noticed that only four of seven MPWs could produce the copies of their ATP. Many variations were noticed in the manner in which these ATPs were prepared. Secondly, since Vitamin A was distributed mainly during the school health programmes, children under 5 years were neglected.

The other reason may be termed as gap between the principles and actual implementation of certain programmes. For example, for the BCG vaccination there is a target of 20 cases allotted per worker. Job-responsibilities also include it. However, it was observed that one worker never administered it and another was recently trained for it.

Some of the activities of MPW such as disinfection of wells, birth and death registration etc. were included even under the responsibilities of Gram Panchayat. It was noticed that MPWs' performance in these activities was quite poor. An earlier study about MPWs has also recorded purely advisory activities in environmental sanitation'. Probably it was, because the responsibility did not lie solely on them or because no targets were specified. This is yet another reason of discrepancy between expected and actual work.

In case of health education, apparently there was discrepancy in the job-responsibilities and M.I.S. However, it was unavoidable since health education cannot be an independent activity. Reporting of group activities under this, is also appropriate, since that is a way to describe it objectively.

Limitations

1. This study is based on a particular period of the year. To that extent, the findings are limited to that period only.
2. Since this period was part of the Family Planning Campaign, as decided by the authorities, this activity was obviously emphasised during this period.
3. MPW forms a part of the health team and some of his responsibilities are carried out jointly with others. Yet we have studied his performance in isolation.

Conclusions and Suggestions

The potential of the peripheral level of health staff was evident from the various types of activities and good coverage of population. Some conclusions and suggestions emerging out of the study are as follows:

1. The job-responsibilities of a male MPW are overdue for reshaping. Activities under the Smallpox Eradication Programme are still being included and there is no mention about recent developments such as promotion of oral rehydration.
2. In this context, it is suggested that the job-responsibilities may be revised from time to time to suit the programme implementation and local conditions in a particular State, following the general framework provided by the Centre. It may be added here that the Malaria Department has carried out such revisions (Notes -1).
3. There should be consistency between job-responsibilities and targets set under the M.I.S., for various programmes.

4. Co-ordination of other existing schemes, for example. Community Health Guide Scheme should be emphasised in job-responsibilities of MPW.
5. Actual performance of MPWs indicated that nursing mothers were less attended compared to the expectant women and below 5 children were uncovered in the nutrition supplementation programmes. Proper redesigning of instructions is suggested.
6. Finally, uniformity in the training and instructions for carrying out various duties has to be streamlined if the MPW Scheme is to function efficiently in the true sense of the term.

Acknowledgements

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स्वास्थ्य कर्मचारियों में से बहुउद्देशीय कार्यकर्ता ही एक ऐसा वर्ग है जिस पर क्षेत्र कार्यों के लिए सबसे अधिक निर्भर होना पड़ता है। इस लेख के माध्यम से पुरुष कार्यकर्ताओं को सौंपे गये दायित्वों तथा दायित्वों के वास्तविक-कार्यानिष्पादन का तुलनात्मक अध्ययन करने का एक प्रयास किया गया है। उनसे अपेक्षित कार्यानिष्पादन का ब्योरा दो स्रोतों से लिया गया है- कार्यक्रमानुसार उनको सौंपे गये दायित्व तथा प्रबन्ध सूचना प्रणाली के अन्तर्गत निर्धारित लक्ष्य। उनके वास्तविक कार्य-निष्पादन के प्रति कार्यकर्ता की अवधारणा के माध्यम से एकत्र किया गया है। अपेक्षित कार्य निष्पादन तथा वास्तविक कार्य-

निष्पादन में जो अन्तर रहता है उसका एक सम्भावित कारण कार्यनिष्पादन के लिए विशेष गाइडलाइन्स न होना हो सकता है। जो एक अन्य कारण इस संबंध में नोट किया गया है वह योजना तथा क्रियान्वयन के बीच का अन्तर (गैप) है। ऐसे कार्यक्रमों में जहां विशेष प्रकार का कोई लक्ष्य निर्धारित नहीं किया गया था उन गतिविधियों में वास्तविक कार्यनिष्पादन और भी कम पाया गया था। दो स्रोतों में – अन्धता नियंत्रण तथा कुष्ठ रोग नियन्त्रण कार्यक्रमों में जहां अपेक्षित कार्यनिष्पादन के लक्ष्य भी निर्धारित किये गये थे वहां भी यह अन्तर देखा गया था। इस अध्ययन द्वारा समय-समय पर उनके कार्य-दायित्वों का पुनरीक्षण करने की आवश्यकता तथा चल रही विभिन्न योजनाओं में समन्वय स्थापित करने की आवश्यकता तथा एक साथ चल रही विभिन्न योजनाओं में समन्वय स्थापित करने की आवश्यकता पर प्रकाश डाला गया है।

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NOTES

- (1) Verbal discussion with M.O. (HQ) from Malaria Department.
- (2) There are several other factors, such as lack of uniformity of scales, promotion prospects etc., which affect the efficiency.

STATEMENT

EXPECTED AND ACTUAL WORK DONE BY MULTI-PURPOSE WORKERS

EXPECTED WORK		ACTUAL WORK		RFMARK9
FROM JOB DESCRIPTION	FROM PHC RECORDS	OBSERVED	REPORTED	
1	2	3	4	
GENERAL ITEMS				
1. POPULATION COVERED 5000	6990, 5119, 4920, 4675, 6741, 3580, 5200 Average 5318	-	3500, 2500, 5000, 4312, 5500, 3580, 3365 Average 3965	Lot of discrepancy between population figures as recorded at PHC and reported by the workers.
2. NUMBER OF VILLAGES Not stated	3, 5, 5, 1, 1/2, 1, 5	-	2, 4, 3, 1, 1/2, 3	
3. TRAVEL TIME PER DAY	-	Average 1.26 Hrs. Range: (40 minutes - 2 hours)	Average 2.3 Hrs. Range (1 Hr. - 3 hours)	Observed average travel time was almost 20 per cent of the average total time spent per day by the worker.
4. PLANNING OF PROGRAMME Not stated	-	Average Tour Programme (ATP) available for 3 MPW's showed variations.	ATP given in the first week	Not clarified in the job description, day-to-day planning of activities in almost all cases.

	1	2	3	4	5
5. HOUSEHOLDS VISITED PER DAY Each and every household once a month (which amounts to about 40 households per day)	-	(a) Average 11 Range (6-17) (b) Average 18 Range (12-27)	Average 64 Range (25-130)	Observed number is very low compared to the expected number. Reported average is very high, it exceeds even the expected number.	
6. HOURS OF WORKING PER DAY Not stated	-	4.6, 6.1, 3.5, 6.0, 3.8, 5.0, 5.9 Average 5.1	7,6,4,5,6, 6,2.5 Average 5.2	Expected number is not stated. Average reported number is very close to the average observed one.	
SPECIFIC ACTIVITIES	(Targets per month)				
1. MALARIA					
(c) i. To number every household with 'M' number.	-	Not done	Not reported	Workers other than those coming from the Malaria programme did not mention activities (i) to (iv). All workers except numbers (2) & (4) were erstwhile malaria surveillance workers.	
(c) ii. To conduct NMEP Census in June and December.	-	Not applicable	-		
(c) iii. To carry out active survey of nomads.	-	Not done	-		
(c) iv. To sign on the door of every household with the date of visit.	-	Done by two workers only	-	Both of them were erstwhile Malaria workers.	
(c) v. To ensure that every family is visited at-least once a month to enquire about fever cases and collect blood smears.	Target for B.S. 28, 53, 58, 50 in Nhavare PHC, 21 for Kendur PHC	36, 9, 31, 6, 5, 36. Average 18	125,20,40 30,40,26,80 Average 52	Many variations in the targets for blood smear collection were noted. Observed average number quite low compared to the reported average, possibly due to the priority given to family planning work during this period.	

	1	2	3	4	5
vi.	To give presumptive treatment to each fever case.	To all	Given to all fever cases for which blood smear was taken.	To all	
vii.	To send slides for laboratory examination.	-	By all	-	Some workers despatched it directly to the Pune office and some workers handed over to the Laboratory Technician at the PHC.
viii.	To record results of examination of blood smears.	Number not available	Two workers gave it to 2 & 1 cases.	To all.	Very few cases of radical treatment.
ix.	To give radical treatment to positive cases.	Number not available.			
x.	To see that radical treatment is taken in adequate doses in his presence.		Not observed.	Not reported.	No worker insisted on this.
xi.	To attend the spraying operation for supervision and coverage.	Number not available.	Two workers were observed to attend the spraying activity for three days and 1 day each.		Period with not much spraying activity.
xii.	To educate the people about giving blood smears and about importance of insecticide spraying.	Not stated.	One MPW was observed to explain the relevance of taking blood smear and another explained the importance of spraying.		Not carried out as the routine activity but done efficiently at the relevant occasions.

	1	2	3	4	5
xiii.	To replenish stocks with CHGs, fever treatment depot, drug distribution centres.	Not stated.	Not observed.	-	Net observed to be carried out seriously.
xiv.	To inform higher authorities in case of rise in fever incidence.	-	Not applicable.		
XV.	To submit reports and returns.	-	By all workers.	By all workers	
xvi.	To attend monthly meetings.	-	By all workers.	By all workers	
2.	FAMILY PLANNING				
i	To utilise the information from eligible couple register for FPP.		Not observed.		Apparently no use of actual eligible couple register was observed, however available information about eligible couples from different sources was frequently used in selecting cases.
ii	To spread the message of FP and to motivate the couples individually or in groups.	Cu-T 3 cases Sterilisation Operation 3 cases.	3, 21, 21, 5, - 3, 2: CuT 2, 4, 5, -, -, 1: Tub. 1, - , -, -, -Vas.		Cu-T Insertions were done by ANMs but cases were motivated jointly by ANM and male workers.
	Group meetings.	-	Four workers participated in group meetings.	By all.	

	1	2	3	4	5
iii. To distribute condoms And oral contraceptives.	1 case of oral pills. 2 cases of condoms.	- , 4, 12, - , - , - , 3 oral pills. - 4, 21, 1, - , - , 6 condoms.	4, 2, 5, 4, 5, 10 oral pills. 5, 20, - , 25, 10, 26, condoms.	20 Distribution of conventional contraceptives comparatively ignored as compared to promo- tion of other family planning methods. No new cases of conventional contraceptives were motivated.	
iv. To provide facilities and help to prospective acceptors of vasectomy in obtaining the services.	-	-	-	Hardly any acceptor of vasectomy.	
v. To provide follow-up services.	-	- , 3, - , 1 :CuT, I, - , 8, 1, - , - , 3:Tub.	All cases.	No special efforts observed.	
vi. To build rapport with satisfied acceptors, village teachers and others.		Village teachers were contacted.			
vii. To establish male and female depot holders, help the Health Assis- tant and provide continuous supply of c.c. to the depot holders.	-	Not observed.	-	Not attended.	
viii. To identify leaders.	-	Not observed.	-		

1	2	3	4	
ix. To assist Health Assistant in training the leaders and educating and involving in family planning programme.	-	Not observed.	-	Team work of the health personnel observed in motivating cases for CuT. No specific involvement of leaders observed during the observation period. However, some instances of joint meetings.
3. IMMUNIZATION				
i. To administer DPT, BCG, Polio and D.T.	DPT 5 cases DT 6 cases Polio 5 cases BCG 20 cases	DPT 6,16,9,6,-,-,8 DT -,-,-,-,-,- Polio 4,16,5,12,-,-,2 BCG 10,-,-,-,-,-	20,25,10,30 , 15,15,10 10,-,5,-5, 10,7 20,22,10,30 , 15,20,4. (20 to 30) by 5 workers.	DPT and Polio vaccines were administered comparatively regularly, D.T. given only at the school-health programmes. BCG was reportedly given once Ip 3-4 months. One worker no% giving BCG at all and another was trained very recently.
ii. To assist the Health Assistant in the school immunization.	-	No school immunization programme in this period.	Done twice a year.	
iii. To educate the community.	-	Not observed.	-	
4. NUTRITION				
i. To identify cases of mal nutrition among pre-, school children.	No target	Not observed.	-	

	2	3	4	5
ii. To distribute iron and folic acid tablets to children and pregnant and nursing women.	Not stated.	Children : 3,1,11,1,-,-,19 To ANC whenever they came across a case.	20,8,5,10,4,25 , 30	Distribution of F.S. Tablets to pregnant women was carried out routinely. Children and nursing women were comparatively less attended to.
iii To administer Vitamin 'A' 1-5 years.	Not stated.	- , 6 5 , - , 4 0	-,-,20,-,-, 26,25	Vitamin 'A' was administered mainly at the school-health programmes, i.e. mostly to children above 5 years. There was no mention about under 5 children.
iv. To educate community.	Not stated.	One MPW advised an ANC to each more quantity of food and include vegetables and fruits in it.	-	Various instances were reported.
5. ENVIRONMENTAL SANITATION				
i. To chlorinate public water sources including wells.	Not stated.	Two workers 3-4 times. One worker conducted O.T.test.	Number of wells disinfected: 1,6,4,2,30,10, 3.	Some workers did it frequently and others did not, though all of them reported so.
ii. To educate and help community about disposal of waste and home sanitation and advantages of use of latrines.	Not stated.	One worker each advised about latrine, gobar-gas and kitchen gardens.	Not involved in this activity.	Not much initiative was taken by most of the workers.

	1	2	3	4	5
iii. To educate about smokeless chulhas.		Not stated.	Not observed.	Not reported.	No mention about smokeless chulhas either during the observation or reporting.
6. COMMUNICABLE DISEASES					
i. To identify cases of notifiable diseases such as T.B.		Sputum collection and detection of T.B. cases: 3.	One worker collected one sputum.	Cases of T.B. in his area : 7,4,7,16,7,4,8.	Hardly any new case was detected, Target of 3 cases per month was not observed to be achieved by any one. Reported numbers of current T.B. cases appeared unusually large.
ii. To carry out control measures.		-	-	-	
iii. To educate community.		Not stated.	Not observed.	-	No particular attempt.
iv. To report the presence of stray dogs.		Not stated.	Not observed.	-	
v. (No mention about Leprosy).		Leprosy cases : 2 A separate monthly report is expected.	A special school health programme by one MPW for detection of leprosy cases. Another accompanied leprosy technician in the leprosy survey.	7,1,8,9,5,5,7 Leprosy cases in his area.	No mention about specific job responsibility under Leprosy Control Programme. However, monthly target given as 2 cases per worker. Monthly reports are also expected. Reported numbers of Leprosy cases quite high.

	1	2	3	5	4
7. VITAL EVENTS					
i. To enquire about births and deaths and record them in respective registers.	Not stated.	2 MPWs were observed to record births and deaths.	Average expected number - for births : 8 for deaths : 2 for ANC's : 8		No special efforts were
To educate the community on the importance of registration.	-	-			Not observed at all.
8. RECORD KEEPING					
i. To conduct survey of all the families and collect general information.	Not stated.	Not observed.	-		Not examined.
ii. To prepare and maintain family records and village register.	Not stated.	Not observed.	-		
iii. To prepare the eligible couple register with the help of ANM.	Not stated.	Not observed.	-		Most of the workers maintained a record of day-to-day performance in their rough note book. However variations were observed in keeping different registers.
iv. To prepare and submit periodical reports.	Not stated.	Routine reports were submitted.	Submitted.		

1	2	3	4	5
v. To prepare and maintain maps and charts for his area.	Not stated.	Not observed.	—	
9. PRIMARY MEDICAL CARE				
i. To provide treatment for minor ailments, to provide first aid for accidents and emergencies.	Not stated.	Cases of headache, stomach-ache , and general weakness etc. were treated.	-	Data on number of cases in observation study was not satisfactory.
ii. To refer cases beyond his competence to the PHC/Nearest Hospital.	-	Two such instances were observed.	By all.	
10. HEALTH EDUCATION				
Not stated as an independent activity but incorporated at proper places.	A separate monthly report is expected about group activities.	In two school health programmes , talks on importance of personal cleanliness were given. No special programme was held for health education. At instances, relevant information was given.	4 to 8 meeting^ . Use of audio-visual aids reported by 6 workers.	It is understandable that there cannot be health education as an independent activity. However, it is reasonable to include as a separate report.

	1	2	3	4	5
11. MEDICAL TERMINATION OF PREGNANCY					
i. To identify women requiring help for MTP and refer them to approved institutions.		Not stated. Not observed.			No efforts to identify such cases.
ii. To educate community on the availability of services for MTP.		Not stated. Not observed.		-	Not done.
12. MATERNAL AND CHILD HEALTH					
To identify and refer women with abnormal pregnancy/problems to the ANM.		Not stated. Not observed.		-	This activity alongwith MTP activities is mainly the responsibility of an ANM. But the MPW is supposed to carry them out in the twilight area.
ii. To immunize ANC with T.T.		Not stated. Two workers given T.T. to ANC's.		By all.	
iii. To refer cases of difficult labour and newborn with abnormalities to ANM.		Not stated. Not observed.		-	No such incidence.
iv. To educate community about the MCH services and encourage them to utilise them.		Not stated. No observed.		-	

1	2	3	4	5
13. TEAM ACTIVITIES				
i. To attend and participate in the staff meetings at PHC and Community Development Block.	Not stated.	By all.	By all.	
ii. To coordinate activities with ANM and other health workers.	Not stated.	By all.	By all.	A good spirit of team work was observed especially in the case of F.P. and immunization programmes.
iii. To meet H.A. each week and see his advice.	Not stated.	By all.	By all.	
	Report on CHGs. work is expected.			No mention about guiding CHGs in job responsibilities, however, MIS Expects report by MPW on CHV's work.
14. BLINDNESS CONTROL				
Not stated.	Detection of one case of Cataract	One MPW advised a case.	-	No mention about detection in the job responsibilities.

- Notes: For the Seven Workers under study, the same order is maintained for all items,
- (a) These averages are calculated considering all working days, in the denominator.
- (b) These averages are calculated considering in the denominator only those days when the MPW could make household visits.
- (c) These activities are included only in the job responsibilities from Malaria Department but not in the Manual.

UTILISATION OF HEALTH SERVICES BY HIGH RISK

CHILDREN UNDER FIVE IN A SLUM AREA

**P.K. Dutta, T.K.G. Choudhury, Bhusan Kumar
and S.S. Ganguly**

ABSTRACT

A cross sectional study was carried out to estimate the proportion of 'high risk' children under five in a slum area of Pune. The magnitude of the problem was considerable, the prevalence rate being 51.7 per cent. An attempt was also made to determine the extent of utilisation of available health facilities by this group, which was found to be 56.8 per cent. The association between utilisation of those facilities and various social factors like awareness, type of family, educational and occupational status of parents, socio-economic class etc. have been discussed.

Children under five years of age constitute about 17 per cent of total population of India and 40 per cent of total annual deaths are contributed by this age group. Children are most vulnerable group to diseases, disability and death. Certain proportion of the children are at special risk of diseases, its complications or death because of few factors in their biological make up, their environment or both. These factors are called 'risk factors' which exert their effect singly or in combination^.

The utilisation of health facilities is conditioned by number of interacting factors. Among these, type of family, social class and literacy status are of vital importance. Other equally significant determinants are distance involved from medical centre, attitude of professional rendering the service, quality of health needs and health awareness of the beneficiaries.

This community based study was undertaken to estimate the prevalence of 'high risk' children under five years of age at a point of time in a urban area of Pune. In this study attempts were also made to find out the extent of utilisation of health facilities by the parents of the 'high risk' children.

Material and Methods

A cross sectional survey was conducted for seven months from June to December 1982 in a slum area of Pune (New Modi-khana). A complete coverage of all the children under five years was attempted through single home visits. However, due to non-availability of some of the occupants, 353 out of a total of 370 households could only be covered which comprised 340 children under five years of age. This constituted the material for the study. Relevant information in respect of each subject was collected in a pretested schedule.

Methodology adopted in this study for identifying 'high risk' child was based on the recommendations of WHO Expert Group² and other workers.

Medical and health facilities are provided to to the community under study through Vallabh Bhai Patel Cantonment General Hospital, Pune-1 which has 100 beds for inpatient treatment and also runs OPD in the hospital and 3 peripheral dispensaries. This hospital is situated at about one kilometer away from New Modikhana. For specialised treatment, people of this are utilise Command Hospital (Southern Command) and BJ Medical College and Sassoon General Hospital, which are located about 3 to 6 kilometers away respectively. A few residents are covered under Central Government Health Scheme and Employees State Insurance (ESI) Scheme. There are two qualified medical practitioners within the locality and many more in the nearby areas.

Results

i. Prevalence of 'high risk' children

Out of 340 children under five years of age, 176 were identified as 'high risk' constituting a prevalence rate of 51.7 per cent, as shown in Table 1.

Children under five	'High risk' Children		Not 'at risk'	
	No.	percentage	No.	percentage
340	176	51.8	164	48.2

ii. *Utilisation of health facilities by parents of 'high risk' children and their sources*

It was observed that out of 176 identified 'high risk' children only 100 children (56.8 per cent) utilised available health facilities and rest 76 (43.2 per cent) did not make use of it. Parents of 40 per cent children 'at risk' utilised these facilities from Sardar Vallabh Bhai Cantonment General Hospital, 30 per cent from Command Hospital (Southern Command), 10 per cent from qualified medical personnel and rest 20 per cent from other sources including ESI dispensaries. Medical College Hospital and Infectious Disease Hospital.

iii. *'High risk' children and parents' awareness about risk factors*

Parents numbering 76 of 'high risk' children who had not utilised any available health facility, were not also aware of presence of any 'risk factor' in their children. Out of the risk factors present though parents remaining unaware, were found to be having birth interval less than two years (40.8 per cent) followed by malnutrition (22.3 per cent), mother economically active (15.8 per cent) and birth order 5 or more (13.2 per cent). It was apparent that the nature of risk factors were such that it did not warrant the parents to seek health care as shown in Table 2.

TABLE 2
DISTRIBUTION OF 'HIGH RISK' CHILDREN WHO WERE NOT UTILISING
HEALTH FACILITIES BY UNAWARENESS OF 'RISK FACTOR'

S.NO.	'RISK FACTOR'	'HIGH RISK' CHILDREN UNAWARE OF 'RISK FACTOR'	
		NO.	PERCENTAGE
1.	BIRTH INTERVAL LESS THAN TWO YEARS	31	40.8
2.	MALNUTRITION - WEIGHT 70 PER CENT OR BELOW OF 50TH PERCENTILE OF HARVARD STANDARD	17	22.4
3.	BIRTH ORDER 5 OR MORE	10	13.2
4.	WORKING MOTHER AND CHILD LOOKED AFTER BY A SUBSTITUTE	12	15.0
5.	FATHER BEING CHRONICAL COHOLIC	6	7.0
TOTAL		76	100.00

iv. *Utilisation of health facilities by type of family*

'High risk' children from joint families (65.8 per cent) utilised health facilities more than those belonging to nuclear ones (41.5 per cent). The association between the utilisation and type of family was found to be highly significant ($p < 0.005$). This may be due to the fact that more members in the joint family could take care of 'high risk' children in utilising the existing facilities as given in Table 3.

v. *Utilisation of health facilities as per literacy status of father*

Utilisation of health facilities increased with the rise in educational status of father is shown in Table 4. The association between utilisation of health facilities and literacy status of father was highly significant ($p < 0.001$).

vi. *Utilisation of health facilities and education of mother*

Utilisation of available health facilities was more among those 'high risk' children whose mothers were educated upto middle school and above and lower among those whose mothers were illiterate or had studied upto primary level. The association between utilisation of health facilities and education of mother was statistically not significant ($p > 0.05$) as given in Table 5.

TABLE 3
DISTRIBUTION OF 'HIGH RISK' CHILDREN UNDER FIVE UTILISING
HEALTH FACILITIES BY THE TYPE OF FAMILY

Type of family	No. of high risk children	Health facilities utilized		Health facilities not utilized	
		No.	Percentage	No.	percentage
Nuclear	65	27	41.5	38	58.5
Joint	111	73	65.8	38	34.2
Total	176	100	56.8	76	43.2

$$\chi^2 = 9.80; \quad df = 1; \quad P < 0.005$$

TABLE 4
DISTRIBUTION OF 'HIGH RISK' CHILDREN UNDER FIVE UTILISING
HEALTH FACILITIES BY EDUCATION OF FATHER

Education of father	No. of 'high risk' children	Health facilities utilised		Health facilities not utilised	
		No.	Percentage	No.	Percentage
Illiterate	32	7	21.9	25	78.1
Primary School/Literate	41	22	53.7	19	46.3
Middle	68	42	61.8	26	38.2
High School	28		82.1	5	17.9
Graduate	6	23	83.3	1	16.7
Postgraduate/Professional	1	5	100.0	-	-
Total X	176	100	56.8	76	43.2

$$X^2 = 25.77; \quad df = 3; \quad p < 0.001$$

Note: Rows 4, 5 and 6 have been combined for statistical analysis.

TABLE 5
DISTRIBUTION OF 'HIGH RISK' CHILDREN UNDER FIVE UTILISING HEALTH
FACILITIES BY EDUCATION OF MOTHER

Education of mother	No. of 'high risk' children	Health facilities utilised		Health facilities not utilised	
		No.	Percentage	No.	Percentage
Illiterate	46	28	60.9	18	39.1
Primary school/Literate	56	25	44.6	31	55.4
Middle	45	28	62.2	17	37.8
High School	27	17	62.9	10	37.0
Graduate	1	1	100.0	-	-
Postgraduate/Professional	1	1	100.0	-	-
Total	176	100	56.8	76	43.2

$$X^2 = 5.11; \quad df = 3; \quad p > 0.05$$

Note: Rows 4, 5 and 6 have been pooled for statistical analysis

vii. *Utilisation of health facilities and occupation of father*

TABLE 6

DISTRIBUTION OF 'HIGH RISK'¹ CHILDREN UNDER FIVE UTILISING HEALTH FACILITIES BY OCCUPATION OF FATHER

Occupation of father	No. of 'high risk' children	Health facilities utilized		Health facilities not utilised	
		No.	Percentage	No.	Percentage
Unemployed	12	4	33.3	8	66.7
Unskilled	42	15	35.7	27	64.3
Semiskilled	65	41	63.1	24	36.9
Skilled	18	14	77.9	4	22.2
Semi-professional	1	1	100.0	-	-
Total	176	100	56.8	76	43.2

$$\chi^2 = 15.49; \text{ df} = 2; P < 0.001$$

Note: Rows 4, 5 and 6 have been combined for statistical analysis.

It is seen from above table that utilisation of health facilities by 'high risk' children increased as the occupation of father improved. The association between utilisation of health facilities and occupation of father was highly significant ($p < 0.001$).

viii. *The utilisation of health services and occupational status of mother*

It is observed from Table 7 that out of 148 'high risk' children identified whose mothers were housewives, 84 (56.8 per cent) utilised the existing health facilities while 64 (43.2 per cent) did not do so. Among 'high risk' children where mothers were working, children of clinical or professional occupation utilised more health facilities than that of part time or full time janitorial occupation. However, the difference in utilisation of health facilities by occupation of mother was statistically not significant.

ix. *Utilisation of health facilities by socio-economic class*

Higher the social class, the greater was the utilisation of health services by 'high risk' children. However, the association was statistically not significant ($p > 0.05$) as shown in Table 8.

TABLE 7
DISTRIBUTION OF 'HIGH RISK' CHILDREN UTILISING
HEALTH FACILITIES BY OCCUPATION OF MOTHER

Occupation of mother	No. of 'high risk' children	Health facilities utilized		Health facilities not utilised	
		No.	Percentage	No.	Percentage
House wife	148	84	56.8	64	43.2
Full-time janitorial	8	3	37.5	5	62.5
Part-time janitorial	5	2	40.0	3	60.0
Full-time agri./industry	6	4	66.7	2	33.3
Full-time clerical or professional	9	7	77.8	2	22.2
Total	176	100	56.8	76	43.2

$\chi^2 = 0.14$; $df = 1$; $p > 0.05$

Note: Rows 2,3,4 and 5 have been combined for statistical analysis.

TABLE 8
DISTRIBUTION OF 'HIGH RISK' CHILDREN UTILISING HEALTH FACILITIES BY SOCIAL CLASS

Social class	No. of 'high risk' children	Health facilities utilised		Health facilities not utilised	
		No.	Percentage	No.	Percentage
1	4	4	100.0	-	-
2	42	28	66.7	14	33.3
3	82	46	56.1	36	43.9
4	47	22	46.8	25	53.2
5	1	-	-	1	100.0
Total	176	100	56.8	76	43.2

$\chi^2 = 5.40$; $df = 2$; $p > 0.05$

Discussion

In this study, 51.7 per cent children were identified as 'high risk'. Prevalence rate in a rural community of Maharashtra and in a semiurban population of Delhi were 19.8 and 63.5 per cent respectively. Prevalence rates of a rural community in Haryana were 89.4 and 51.7 per cent 'high risk' children under 3 and 6 years respectively. The differences in prevalence rate in various studies could be due to adoption of different set of risk factors, qualitative and quantitative differences in the samples surveyed and qualification of investigators in different studies.

Out of 176 'high risk' children, only 100 (56.8 per cent) utilised available health facilities. It has been observed that in 1982 the facilities were utilised by 61.2 per cent children which is in conformity with the present series. However, in this study the utilisation was done by 80.3 per cent 'high risk' children, which was much higher than the current series.

It is observed from Table 2 that parents of 76 children who were 'at risk' did not utilise the existing facilities because they were not aware about presence of any of the risk factors like birth interval less than two years, malnutrition, economically active mothers etc. It has also been reported that parents of high risk children e.g. with birth interval less than 2 years (42.6 per cent), birth order 5 or more (27.8 per cent) etc. did not seek health facilities.

It has been revealed by Table 3 that 'high risk' children from joint families (65.8 per cent) utilised facilities more than those from nuclear families (41.5 per cent). The association between utilisation and type of family was highly significant. However, in other studies this aspect was not considered and hence could not be compared.

It is seen from Table 4 that utilisation of health facilities increased with rise in educational status of father of 'high risk' children. The association between utilisation of health facilities and education of father was highly significant ($p < 0.001$). Other studies also found significant increase in the utilisation of health facilities with improvement of father's literacy status.

In contrast, as seen in Table 5, the association between utilisation of health facilities and mother's educational level was statistically not significant. This finding is in contrast to other findings where it was observed that with rise in education of mother, the utilisation of health facilities also increased.

As seen from Table 6, the association between utilisation of health facilities and occupation of father was highly significant ($p < 0.001$). This could be because occupation of father had a direct effect on economic status, acquisition of education and better knowledge of child health care and purchasing power for medicine.

However, Table 7 shows that the difference in utilisation of health facilities by 'high risk' children according to occupational status of the mother was statistically not significant.

While analysing utilisation of health facilities by socio economic class (14) (vide Table 8) the association was not statistically significant ($p > 0.05$). In other studies the utilisation of health facilities was found to increase with improvement in socio-economic class⁵.

पुणे की गन्दी बस्तियों में रह रहे पांच वर्ष से कम आयु के " हाईरिस्क ग्रुप " के बच्चों के अनुपात का अनुमान लगाने के लिए एक प्रतिनिध्यात्मक अध्ययन (क्रास-सेक्सन स्टडी) का संचालन किया गया था। समस्या की गहराई का इस बात से ही आभास मिल जाता है कि ऐसे बच्चों की संख्या 51.7 प्रतिशत थी। इस अध्ययन के माध्यम से यह निश्चित करने का प्रयास किया गया था कि इस वर्ग द्वारा किस हद तक उपलब्ध स्वास्थ्य सेवाओं का उपयोग किया जाता है, अध्ययन के अनुसार इनकी संख्या 56.8 प्रतिशत थी। इस लेख में, उपलब्ध-सुविधाओं की उपयोगिता तथा विभिन्न प्रकार के सामाजिक पहलुओं-जैसे सुविधाओं के बारे में जानकारी, परिवार का स्वरूप, माता-पिता का शैक्षिक तथा व्यावसायिक स्तर, सामाजिक-आर्थिक वर्ग आदि, में परस्पर संबंधों की विवेचना की गई है।

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