

THE HEALTH STATUS OF A RURAL IRANIAN COMMUNITY IN THE CASPIAN LITTORAL AREA IN 1976

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ABSTRACT

The health status of the rural community under the study is measured in terms of vital statistics, and living conditions in relation to demographic data.

The findings reveal that this rural population can be considered a very unhealthy one. For instance, the infant mortality rate is 98.4 per 1000 live births, and 80.0 per cent of the total population were found to be infected by one or more parasitic diseases.

Allocation of resources has been recommended to raise the standard of living, in order to bring about a better hygienic environment. Accessibility of health services through expansion of primary health care, and in this sphere the use of health auxiliaries should yet again receive special consideration.

INTRODUCTION AND OBJECTIVES

In order to assess the health of a community, it is essential to have reliable information concerning the size and characteristics of the community. Socio-demographic, health and vital statistics of a population usually not only gives us an over-all picture of the socio-medical status of the population, but also provides the basic data

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→ Our special thanks to Dr. A. Nadim, Dean of School of Public Health and Institute of Public Health Research, that without his guidance and encouragement this task would not have materialized. Our sincere gratitude to the staff of Gilan Health Research Station for their interest and hard work in the various phases of the survey.

necessary for further relevant research for medical education and health planning.

Vital statistics reflect the health status of any community, and indicate the over-all health and conditions in the society. In practice, the most sensitive indicators are the specific rates of the most vulnerable groups. The high infant mortality rate may indicate that health and social services are underdeveloped. For instance, a high neonatal death rate may indicate that maternal and obstetric services are either lacking or poorly developed. However, environmental factors, and especially the level of child-care, is more influential upon the postnatal death rate. The child death-rate would complete the picture, and all these can be used to identify the specific health problems and short-comings within the health services.

In the light of these facts, the objective of this paper is to provide clear and reliable information in order to demonstrate the socio-environmental condition, health status, and infer the effect of the former on the state of health of this rural community. Then, where necessary, to recommend appropriate measures for further improvement.

METHOD AND MATERIALS

The data utilized in this study is part of a large-scale medico-social survey carried out by the School of Public Health and Institute of Public Health Research of Teheran University in 1976.

The population under study consists of the total population of a cluster of 13 villages which form a geo-political unit of Someh-Sara, Gilan Province.

The selection of the area is based on the overall policy of the Institute of Public Health Research, in establishing population laboratories in various geographical areas in the country. The main reason for the selection of Gilan Province is the climatic-geographic distinction of the area, being one of the Caspian Sea-shore provinces, a totally different ecological zone from other parts of the country,

The selection of the rural district was based on the judgment (purposive) sampling technique, and Goorab-Zarmikh district gave the impression that it was representative of the whole province.

A population of approximately 11,000 was used, from indicators such as infant mortality rate and fertility rate, this size of population was calculated to be adequate. This sample of population underwent social survey and then 30 per cent of the sample, i.e. randomly selected households underwent a detailed medical survey.

The social survey was carried out by trained interviewers who completed a coded standard questionnaire. In addition, the sub-sample

underwent a standard medical survey by a medically qualified team.

Major variables in the study are: socio-demographic, living conditions, and vital statistics.

FINDINGS

Socio-demographic characteristics: this variable is measured in terms of: number and size of households; age-sex distributions; marital status; and literacy and educational attainment of the population.

The total population of the community is 11,047, the population size of the villages varies from 231 to 1456 (8 out of the 13 villages each had a total of less than 600 inhabitants).

The total number of households is reported as 1882. In this study a household is defined as all members of the family living together in one unit (house), during the last 12 months prior to the survey. The average size of the households in this population is 5.9.

Age-sex distribution: as Table 1 shows, 48.0 per cent of the total population in this study is under 15 years of age (Table 1).

Only 4.5 per cent of the total population are 60 years of age or over and the remaining 47.6 per cent are in the age category 15–59.

The age structure of this population is what is called in demographic terms, a young population, consequently, the dependency ratio of the population is 110.1 This is a typical feature of an agricultural population, with a large family size, and a small percentage of females in the labour force. In such a situation, youths often have to go to work at an early age.

For the total population in this study, the sex ratio is 100.5, that is for every 100 females there are 100.5 males. However, the same ratio is much higher for the age categories of 10–14 and 60 years of age and older (115.6 and 110.1 respectively). In comparison, the sex ratio of the economically active population is as low as 96.2.

These differential sex-ratios in the population is more likely the consequence of out-migration of active age-group, which is a common feature of demographic transition period in developing societies, such as Iran.¹

Table 2 shows the age-specific death rates of the various age groups of the population under the study. The total crude death rate is 8.2 per 1000 population, of which 48.1 per cent is infant mortality (24.7 per cent neo-natal, and 23.4 per cent post natal rate).

Marital Status: Information regarding marital status of a population not only provides data for social and health planning services (such as mother and child health care), but also for further studies in relation to hereditary and genetic diseases in relation to intra-familial marriages.

Table 3 shows that nearly 94.0 per cent of the male and 97.2 of the female population in the age group 30–34 were married at the time of the study. As the rate of divorce and/or separation is very low in this population, the decrease of the rate of having spouse, as the age increases, is due to death of one of the marriage partners (husband or wife).

The rate of marriages by relatives (both from father and/or mother sides) is 21.0 per cent of the total marriages.

A. Literacy and Educational Attainment

Among the total population of 7 years of age and older, nearly 66.0 per cent were illiterate. The rate of female illiteracy is much higher (78.9 per cent), in comparison with the male population (51.3 per cent).

As table 4 reveals, the majority of the literate population have had only a few years of formal schooling. However, the rate for the male is twice (34.4 per cent) that of the female (15.9 per cent), the same discrepancy prevailing in the secondary educational data.

As for college education, only 0.2 per cent of the literate male, and none of the female has had such an educational experience.

In short, the overall picture of the literacy and educational attainment of the population corresponds to the findings reported by the other studies (Shafii, C. 1970 and also Nahepetian, V. and Khazaneh, H. 1977.)².

B. Living Conditions

The number of rooms per family, and environmental facilities (clean drinking water, hygienic latrine, public bath, and electricity) are amongst the indicators of living conditions of the population under study.

Information regarding occupation and income of the population is usually a necessary indicator for the analysis of living conditions of the population. However, as far as the occupation of this rural population, over 90.0 per cent of working people are engaged in farming and related jobs. The farmers usually own their small agricultural land, since the National Land Reform Act of 1963.

The average rate of rooms per family is 1.8. The majority (50.2 per cent) of the families have two rooms, but over 32.0 per cent have only one room. With the average size of the family nearly 6, and the above data regarding the number of rooms per family, the housing conditions for this population are considered as over-crowded. These rural houses are constructed with bamboo and have a thatched roof, as expected in a Mediterranean type of climate. Consequently, they have poor ventilation and lighting (minimum window).

Only 0.03 per cent of the total population under the study have access to piped drinking water, and nearly 8.0 per cent of the total

houses have a latrine that can be considered as hygienic. Furthermore, there exists only one public bath facility for the total population of the whole district, and only 1.8 per cent of the total houses (in the total cluster of villages under the study) have access to electricity.

C. Vital Statistics

Crude and age-specific death-rates, birth-rate, and fertility ratio are selected indicators of vital statistics in this study.

During one year prior to the survey, 77 deaths had occurred in the total population, of which 43 were male and 34 female. For both sexes the crude death-rate is 6.9 per 1000 of population.

The birth-rate of the population under the study for the same one year prior to the survey is reported as 34.40 per 1000 population. The natural growth rate of Someh-Sara population during one year was 2.7 per cent.

Since the crude death-rate is usually influenced by the age structure, the specific age death-rate reduces the diversity hidden in such a rate. Table 2 shows age-specific death-rates of the population in the selected age categories, and by sex, during the year to the survey.

The data reveal that:

- the neo-natal (birth to one month old) death rate is 24.7 per cent;
- the mortality rate of children (1-4 years of age) is 11.7 per cent;
- the mortality of working age-group (15-59 years) constitutes 18.2 per cent of the total deaths in one year. However, the rate for females is higher in comparison with the rate for males.

The specific mortality rate of the population can be summarized as follows:

- Neo-natal mortality rate is 50.5 per 1000 live births.
- Infant (0-11 months old) mortality rate is 98.4 per 1000 live births.

Because accurate data on the causes of death is not available (due to poor registration procedures), here we can only mention a few statistics on the general health conditions of the population under the study. On clinical and laboratory examinations only 10.0 per cent of the population could be diagnosed as healthy, that is, no complaints and no abnormalities to be found on clinical or laboratory examinations. 80.0 per cent of the population had parasites (such as ascaris, hookworm) and other similar infectious diseases.

As stated earlier, the high neo-natal mortality rate is most probably due to the lack of the maternal and obstetric services. The high infant mortality rate is more likely due to poor environmental conditions (such as water, lack of latrine, high prevalence of infectious and parasitic diseases, and so on).³

D. Fertility Level

The fertility level of a population is one of the demographic variables, usually influenced by the social and economic factors of a society. Such a relationship is an inverse one, that is, as socio-economic development advances, the level of fertility is expected to decrease.

Operationally, fertility here is measured by child-women ratio (children under 5 years of age per 1000 women aged 15-44). By this definition, the fertility ratio of this population is 885.

On the basis of the National Census data, the trend of fertility ratio for the total population of Iran during the last decades (between 1956 and 1966) is reported as 867 and 915 respectively. Therefore, in comparison, the fertility ratio of the population under the study is slightly lower than that of 1966 at the National level, although still is very high in comparison with most developed societies.

CONCLUSION AND RECOMMENDATIONS

As the present data indicates, the standard of living in terms of housing conditions, literacy, use of electricity, and so on, are poorly developed or inadequate, therefore, it can be concluded that the population of this community has sub-standard living conditions.

In the same way, environmental hygiene is measured in terms of latrine, bath, drinking water and so forth, it can be said that these people are living in an unimproved hygienic situation.

Health services available to this population are limited to one health center, staffed by one foreign physician, employed by the government, who cannot be continually accessible to the needy people, overlooking other complex problems, such as language and financial barriers.

As it is shown in this survey the specific rates and other factors indicate a very unhealthy population.

As McKeown has masterly pointed out "the main influence responsible for the decline in infant mortality, the best indicator of improved health in order of importance are: rising standard of living, improved hygiene, and then specific preventive and therapeutic measures."⁴

Therefore, if we want to see a fast decline in mortality, and hence to have a healthy population, it is recommended that further resources be allocated for the immediate improvement of the environment, raising the standard of living in terms of better housing, more educational facilities, a better system of food distribution, etc..... The last, but not the least, we should not ignore the values of specific health programmes, such as primary health care. Therefore, the health services and the appropriate health man-power should be expanded and in this

sphere the use of health auxiliaries should yet again receive special consideration.⁵

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TABLE 1
AGE DISTRIBUTION AND SEX RATIO OF RURAL POPULATION OF GOORAB-ZARMEKH
DISTRICT BY SEX

SEX AGE GROUP	Male		Female		Total		Sex Ratio
	No.	%	No.	%	No.	%	
Less than one month	13	0.2	14	0.3	27	0.2	92.9
1-11 months	162	3.00	161	2.9	323	2.9	100.6
1-4 years	755	13.8	781	14.1	1536	13.9	96.7
5-9 "	992	18.1	964	17.4	1956	17.7	102.9
10-14 "	776	14.1	671	12.1	1447	13.7	115.7
15-56 "	2627	46.1	2731	49.1	5258	47.6	96.1
60 "	262	4.8	238	4.3	500	4.5	110.1
Total	5587	100.0	5560	100.0	11,047	99.99	100.5

TABLE 2

PERCENTAGE AND AGE-SPECIFIC DEATH-RATE OF RURAL POPULATION OF
GOORAB-ZARMEKH BY SEX DURING ONE YEAR PRIOR TO THE SURVEY

Age	Sex	Male		Female		Total	
		Rate	%	Rate	%	Rate	%
Less than one month		67.4	30.2	32.8	17.7	50.5	24.7
1-11 months		67.4	30.2	27.4	14.7	47.9	23.4
1-4 years		4.0	7.0	7.7	17.7	5.9	11.7
5-9 years		1.0	2.3	2.1	5.9	1.5	3.9
10-14 years		0.00	-	0.00	-	0.00	-
15-59 years		2.3	14	0.7	23.5	2.7	18.2
60 and over		26.7	16.3	29.4	20.6	28.0	18.1
TOTAL		8.2	100.00	5.00	100.00	6.9	100.00

TABLE 3

DISTRIBUTION OF MARRIAGE STATUS OF RURAL POPULATION
OF GOORAB-ZARMEKH DISTRICT BY SEX AND AGE

N=5758

Age Groups	Sex	Male			Female		
		Single	Married	Separated and/or widowed %	Single	Married	Separated and/or widowed %
15-19 years		90.6	9.2	% 2	78.9	21.1	-
20-24 "		50.7	49.0	% 3	28.4	71.1	% 5
25-29 "		6.5	91.6	1.9	41.4	94.3	% 3
30-34 "		4.5	94.0	1.5	2.8	97.2	-
35-39 "		1.6	97.6	% 8	% 3	97.4	2.3
40-44 "		3.0	94.6	2.4	% 4	94.4	5.2
45-49 "		% 4	97.5	2.1	% 7	77.3	22.0
50-54 "		% 9	94.7	4.4	-	83.5	16.5
55-59 "		-	95.2	4.8	-	74.6	25.4
60-64 "		-	92.0	1.0	-	54.4	45.6
65+		2.3	83.9	13.8	-	22.4	77.6

TABLE 4

PERCENTAGES OF ILLITERATE, AND EDUCATIONAL ATTAINMENT OF THE
POPULATION 7 YEARS OF AGE AND OVER, BY SEX
(GOORAB-ZARMEKH)

N=8,227

Educational Attainment	Sex	Male		Female	
		No.	Percent	No.	Percent
Illiterate		2096	51.3	3261	78.7
Able to read & write		255	6.2	144	3.5
Primary school		1446	35.4	659	15.9
Secondary school		275	6.7	77	1.9
1 or more years of college		9	6.2	-	-
Not responded		5	0.1	-	-
Total		4086	99.98	4141	99.97