

# A COMPARISON OF HEALTH AND SOCIOECONOMIC INDICATORS IN THE TOWNSHIPS OF ORANGI AND KARIMABAD

Pages with reference to book, From 218 To 225

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## Abstract

Socioeconomic, demographic, and health characteristic surveys were conducted by medical and nursing students of the Aga Khan University in two settlements of Karachi city. Comparisons of health and socioeconomic indicators are made between Orangi, a squatter settlement (katchi abadi) and Karimabad, a middle class community. Results of these surveys suggest that the demographic and health characteristics of Karimabad reflect a society in transition from traditional or preindustrial to an industrial society, while Orangi has more of the characteristics of a developing society. The epidemiologic transition theory is discussed and the effects on the demographic and social patterns of populations are summarized. (JPMA36: 218,1986).

## INTRODUCTION

Information on the demographic, socioeconomic, and health characteristics of a population is crucial to a proper understanding and interpretation of the health status of the people, their potential health problems, and the resources for providing services.

Population data provide the denominators for nearly all the rates that are used for the measurement of community health status.

Census data on age, sex, ethnicity, income, and other characteristics can be associated with mortality and morbidity and with the use of health care and medical services.

Changes in the sociodemographic structure as a result of mobility, births, deaths, and aging help predict future requirements for health facilities and manpower.

Community health indices are quantitative measures that describe and summarize various aspects of the health status of a defined population.

The Aga Khan University undertakes to determine such measures in the communities where it is developing health care programmes. A further step (not described in this paper) is the assessment of health services, including: services offered, interactions of clients and providers, and outcomes in terms of changes in morbidity and mortality. Taken together, the information on demographic, socioeconomic, and health characteristics, and the assessment of health services provides a basis for developing community based efforts to control specific diseases or disorders and assisting in planning, managing, and evaluating services according to needs.

Surveys to study the socioeconomic, demographic, and health characteristics of two settlements in Karachi city were carried out. These settlements were selected to provide two different areas for comparisons of socioeconomic and health data. The following is a brief description of the two areas studied.

### Karimabad

This is a geographically well circumscribed middle class urban neighborhood in the northwestern part of Karachi city. Karimabad was planned in the 1950s as a low cost housing scheme to settle the refugees coming into the city after independence in 1947. The study area is composed of two

residential blocks (Karimabad Colony and Maternity Home Area) and contains approximately 10,000 inhabitants, many of them Ismaili. The community is composed of apartments that are equipped with running water, electricity, and flush toilets.

#### Orangi

Located on the northwest fringes of Karachi this katchi abadi (squatter settlement) is almost twelve kilometers from the city center. The spreading conurbation has a population of 800,000 over an area of 2,000 hectares. In relative terms, Orangi alone has accommodated nearly thirty percent of the total population of the 362 katchi abadies of Karachi.

The study area, circle 125, contains approximately 20,000 inhabitants. This settlement is of mixed ethnicity, however the majority of inhabitants are Biharis who migrated to Karachi from East Pakistan<sup>1</sup> after 1971. Orangi is one of the largest katchi abadies in Asia and lacks many of the basic amenities. These areas are shown in Figure 1.



students conduct health and sociodemographic surveys to collect baseline data for the development of primary health care programmes. In 1984, a portion of the katchi abadi of Orangi was surveyed while in 1985 a similar survey was completed in the Community of Karimabad. In Orangi sector 125, where approximately 2.5% of the total population of Orangi live, households were randomly selected, and standardized interviews were completed on 507 households. In Karimabad, 1,470 out of approximately 1,860 households were interviewed in the two residential areas. Data were then entered into a computer and tables for the various health and sociodemographic indicators completed.

Data collected from Karimabad were divided into two residential areas: Karimabad Colony and Maternity Home Area because Karimabad Colony is composed primarily of an Ismaili population while Maternity Home Area has a mixed population. This division was felt to be necessary in order to accurately assess the diversity in this community.

## **RESULTS AND DISCUSSION**

The socioeconomic data from Orangi and Karimabad are presented in table 1,

**TABLE – I**  
**Socioeconomic Data of Karimabad and Orangi Townships.**

Socioeconomic Data	Orangi	Karimabad	
		*KC	*MHA
Number of households interviewed	507	732	738
Population covered	3,866	3,693	4,473
Average household size	7.7	5.1	6.1
Number of rooms per household	2.0	1.8	3.4
Number of individuals per room	3.8	2.9	1.9
Average monthly family income (Rs.)	1,490	2,400	3,279
Average monthly per capita (Rs)	196	461	520
Sex ratio (Males/100 Females)	113	101	101
Average age of residents	25.6	27.0	24.3
Percent population under age five	18.4	8.4	11.4
Percent population under age fifteen	49.0	28.4	34.7

\*KC – Karimabad Colony

\* MHA – Maternity Home Area

morbidity in table II,

**TABLE – II**  
**Morbidity Data of Karimabad and Orangi Townships.**

Morbidity Data (percent)	Orangi *KC	Karimabad *MHA	
Percent ill	40.0(a)	30.3(b)	26.6(b)
Percent with respiratory infection	24.2	25.3	31.9
Percent diarrhea/vomiting	9.2	1.6	2.0
Percent fevers	18.5	3.7	7.2
Percent skin infections	10.0	6.7	6.5
Percent gastrointestinal infections	8.5	6.1	3.5
Percent hypertension	1.6	7.8	8.8
Percent CVA	0.3	0.3	0.1
Percent chest pain/ MI	1.5	3.0	2.2

\*KC – Karimabad Colony

\*MHA – Maternity Home Area

(a) Percent ill thirty days before the survey.

(b) Percent ill fifteen days before the survey.

health data in table III and mortality data in table IV.

**TABLE – III**  
**Health Data of Karimabad and Orangi Townships.**

Health Data	Orangi	Karimabad KC*	MHA*	Pakistan
Crude birth rate (per 1,000)	48.8	16.3	29.9	41.0
Crude death rate (per 1,000)	8.8	7.9	6.9	11.0
Infant mortality (per 1,000)	110.4	33.3	53.0	100.0
Percent deaths below 5 years	52.8	11.1	30.0	49.9

\*KC – Karimabad Colony

\*MHA – Maternity Home Area

+Government of Pakistan Census Bulletin (1981)

**TABLE – IV**  
Distribution of Persons who died during past one year by Cause.

Cause	Orangi		Karimabad			
	No.	Percent	Karimabad Colony No.	Percent	Maternity Home Area No.	Percent
Diarrhea	4	11.6	0	0	3	10.0
Tuberculosis	1	2.9	0	0	1	3.3
Birth related	10	29.7	1	3.5	2	6.7
Accidents	2	5.8	2	6.9	0	0
Cardiovascular diseases	3	8.8	12	41.4	10	33.3
Respiratory diseases	1	2.9	0	0	0	0
Infectious diseases	3	8.8	1	3.4	1	3.3
Stroke (CVA)	3	8.8	4	13.8	3	10.0
Cancer	2	5.8	4	13.8	2	6.7
Others	5	14.9	4	13.8	6	20.0
Unknown	0	0	1	3.4	2	6.7
<b>TOTAL</b>	<b>34</b>	<b>100.0</b>	<b>29</b>	<b>100.0</b>	<b>31</b>	<b>100.0</b>

### KARIMABAD

Karimabad is a middle class neighborhood, consisting of small housing units of migrant families from several Indian states and within Pakistan. Most of the population is involved in professional, administrative, and other skilled occupations, with an average family monthly income of Rs. 2,839 and a per capita monthly income of Rs. 490. The average household size in this area is smaller than that for other parts of Karachi (5.5 persons compared to 7). In Karim, abad Colony, the average household has 1.8 rooms while in Maternity Home Area the households have an average of 3.4 rooms, a difference that correlates with higher average family income in the Maternity Home Area.

The demographic data of these two areas of Karimabad show distinct patterns when compared to Pakistan and other developing countries. The middle age of the population is in the middle age groups, the average age being 26. Only one third of the population is below 15 years of age, as compared to 47 percent in

Pakistan'. The average age in Karimabad Colony is about three years higher than the Maternity Home Area population.

The age-sex pyramids for Maternity Home Area and Karimabad Colony are shown in figures 2 and 3.

# AGE - SEX PYRAMID OF MATERNITY HOME AREA

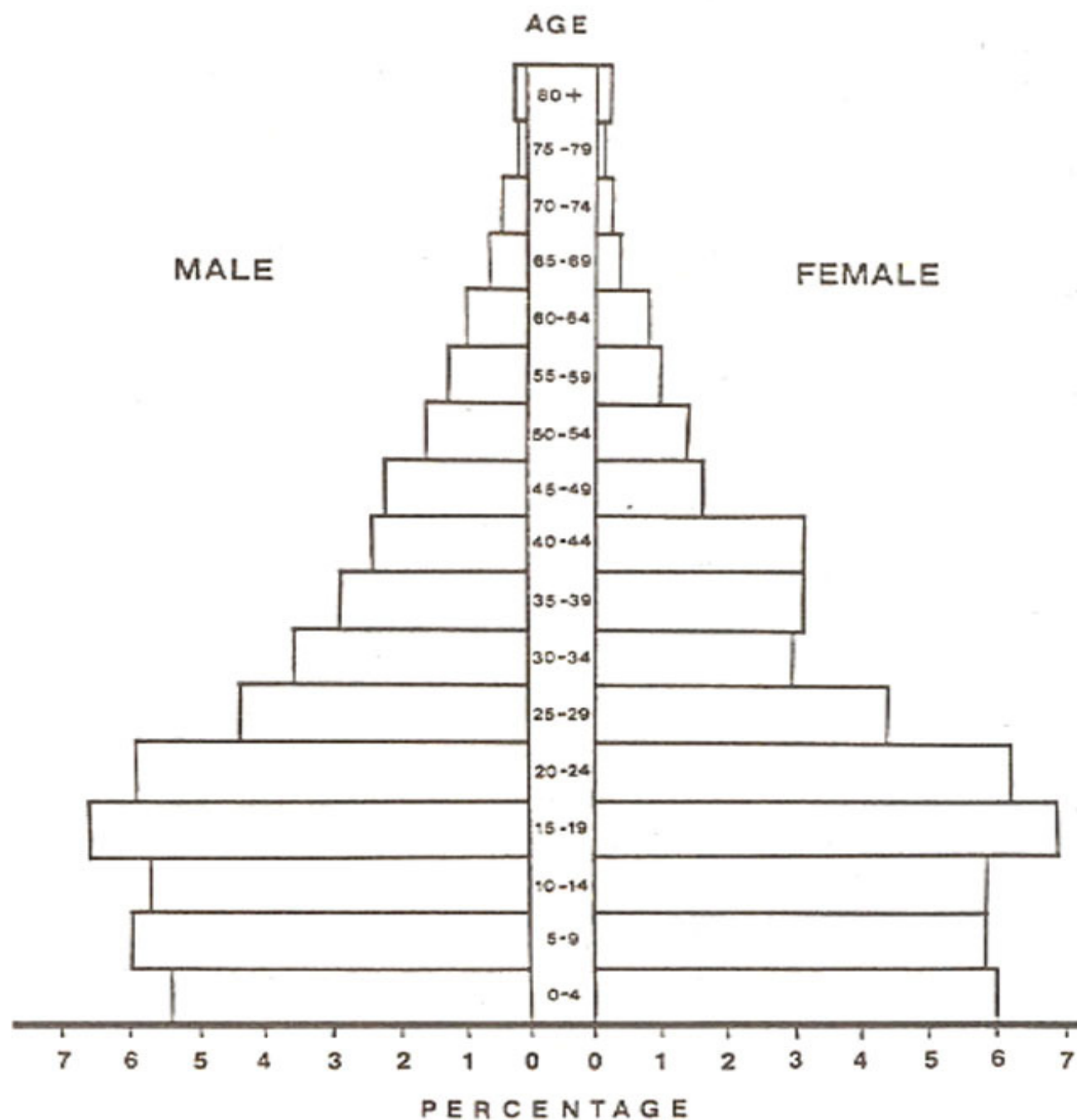
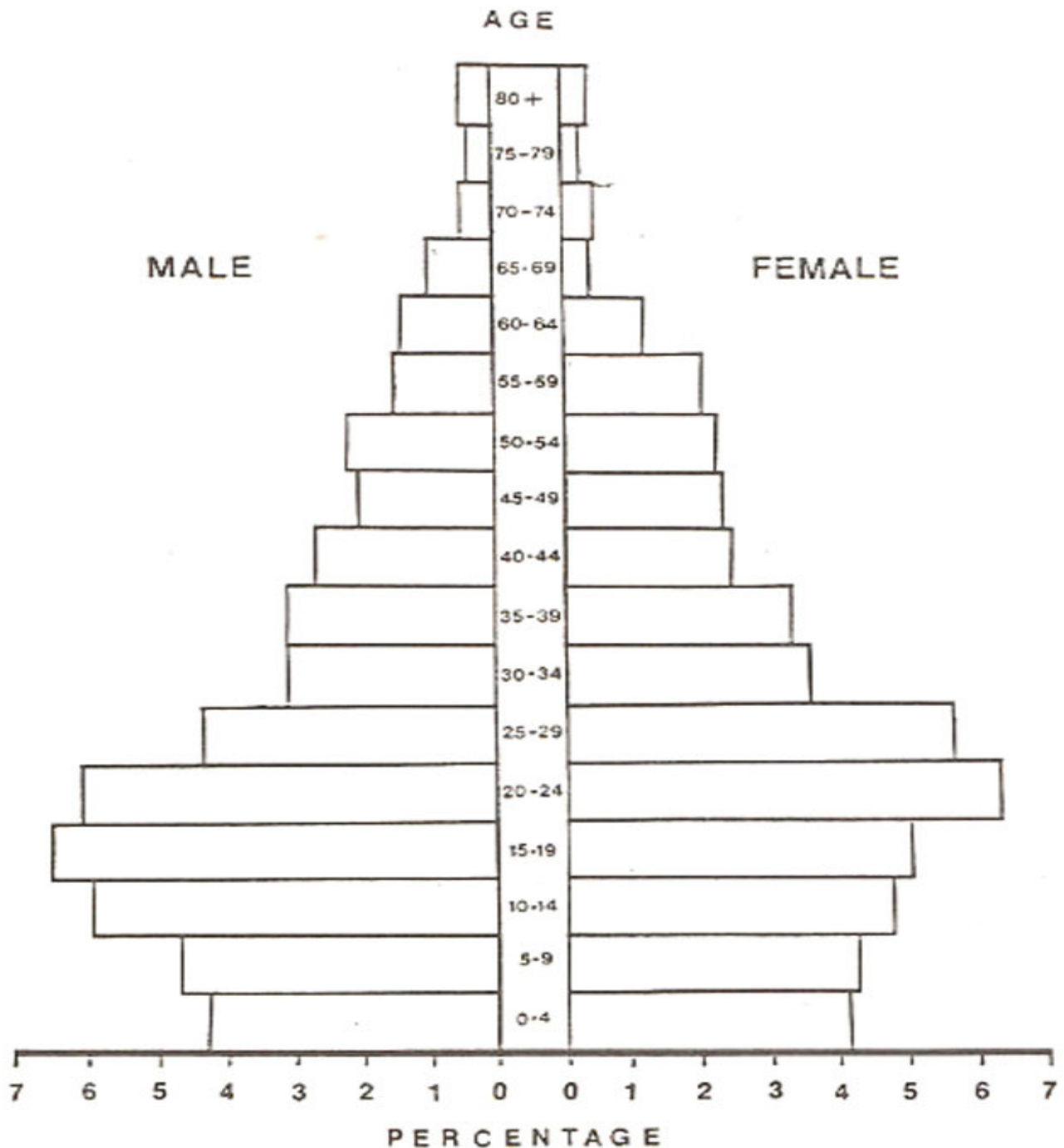


Figure 2. Age-Sex Pyramid of Maternity Home Area.

# AGE - SEX PYRAMID OF KARIMABAD COLONY



**Figure 3. Age-Sex Pyramid of Karimabad Colony.**

Generally speaking, under conditions in which the fertility rate remains constantly high (with high mortality and no changes in migration) the age-sex distribution of a population takes the shape of a “pyramid” with a declining population in each successive age group. However, both areas of Karimabad show a clear indication of a lower percentage of children below 15 years of age mainly due

to a fertility decline in the last fifteen years. Both areas have about equal numbers of males and females, however the sex ratios vary by age. The pattern of sex ratios in both the younger and older ages in Karimabad Colony is similar to that in Pakistan. Such a pattern is not evident in the Maternity Home Area, where although males may be migrating to the Middle East in the recent past, there may be substantial male in-migration from outside as well as from within Karachi.

Similar morbidity patterns are reported in both areas (Table II), which are high for a middle income level population. Estimates for Pakistan suggest a morbidity rate of 20 percent ill in the previous month. Respiratory infections (28%) were the most common diseases in both areas while hypertension and chest pain accounted for about 8.3 percent and 2.6 percent respectively. Skin infections in this area accounted for 6.6 percent of the total illnesses recorded.

Karimabad Colony has shown a substantial decline in fertility, having a birth rate of 16.3 per 1,000 population as compared to 29.9 in Maternity Home Area (Table II). Mortality conditions in both areas are similar with a slightly higher death rate in Karimabad Colony perhaps because of the older population residing there.

The infant mortality in Maternity Home Area is 53 per 1,000 live births which is about half the reported rate in Pakistan\* while in Karimabad Colony the infant mortality rate was only 33. In both areas, diseases of the modern times (e.g. cardiovascular, stroke, and cancer) were the major causes of death accounting for 69 percent of the deaths in Karimabad Colony and 50 percent of deaths in Maternity Home area (Table IV).

#### **ORANGI**

This katchi abadi has a number of characteristics different from Karimabad. In the sector surveyed, the average household size 7.7 with a sex ratio of 113 males to 100 females. The majority of people are employed in skilled or semi-skilled labour while 45 percent of the population being to non-income generating categories, such as students, housewives and retired or unemployed persons. The average family income per month is 1,490 with a per capita income of Rs. 196 per month.

The population pyramid is shown in figure 4.

## AGE - SEX PYRAMID OF ORANGI

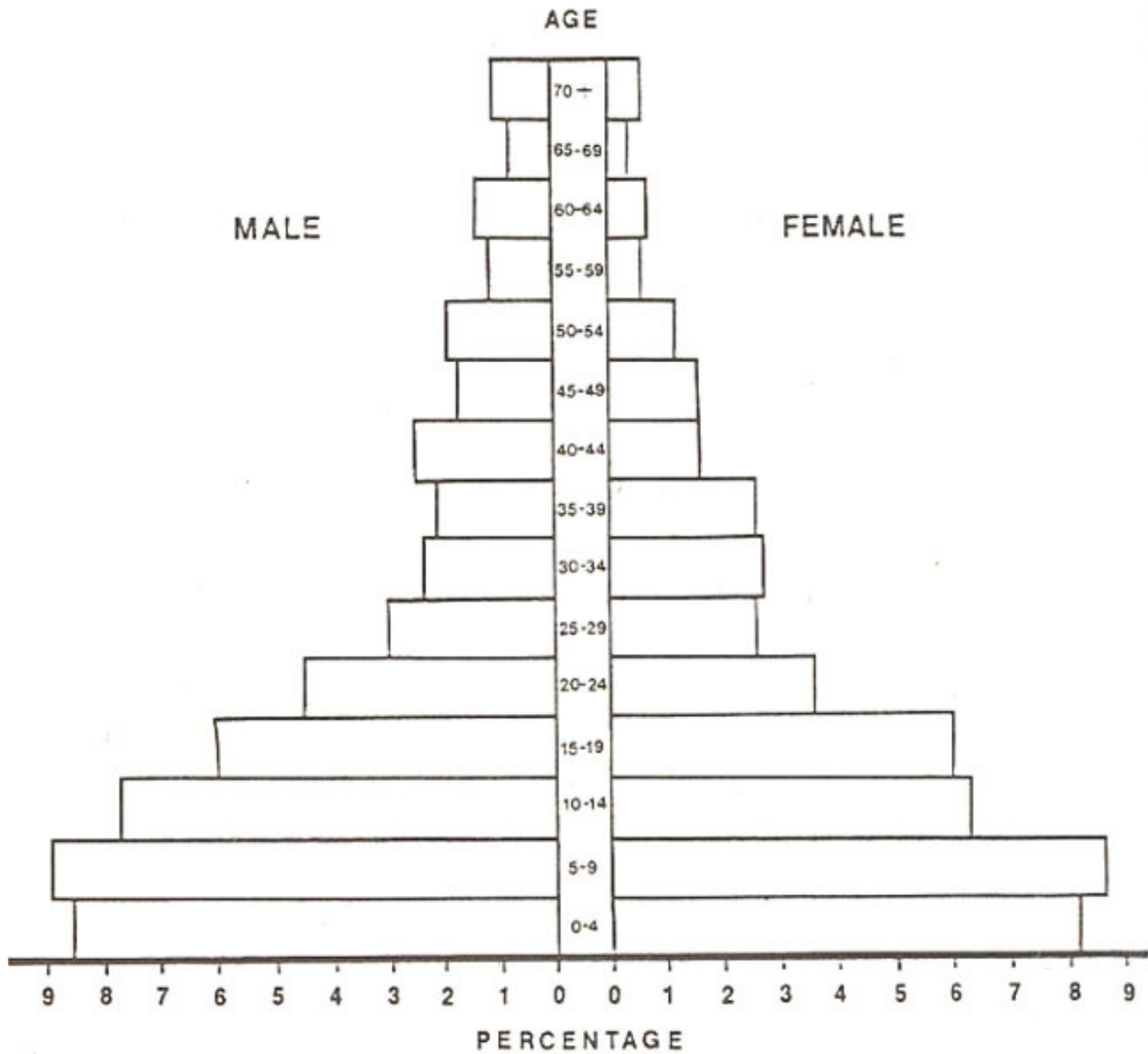


Figure 4. Age-Sex Pyramid of Orangi.

This figure demonstrates that 49 percent of the population surveyed is under the age of 15. This pyramid, unlike those in Karimabad, suggest only a recent trend toward decreasing fertility in this population.

The morbidity pattern of Orangi is also considerably different than that of Karimabad. Approximately 40 percent of the population were ill in the month before the survey. Respiratory infections (24%) were the most common illness reported with fevers (18%), skin infections (10%) and diarrhea (9%) following in order of frequency. Chest pain and hypertension together accounted for only 3 per cent of the reported illness.

The crude birth rate in Orangi was 40 per 1,000 population, which is about the same as the rate reported for Pakistan. The crude death rate was 8.8 per 1,000 population while the infant mortality was 100 per 1,000 live births. Approximately 53 percent of the deaths occurred in children below the age of 5, in contrast to 18 percent in Karimabad. Birth related causes, diarrhea, respiratory infections, and

infectious diseases accounted for 56 percent of the total deaths in the previous year, while cardiovascular disease, stroke, and cancer accounted for only 25.4 percent.

As suggested by the data from the surveys, Orangi and Karimabad are significantly different in their stages of development. Orangi is characteristic of a developing society while Karimabad reflects a society in transition with disease patterns of a pre-industrial nature being replaced by those prevalent in industrial societies.

The epidemiologic transition theory focuses on the shifting of health and disease patterns in population groups and their links with several demographic, social, economic, ecologic, and biologic changes. The old world epidemics of infection are progressively replaced by degenerative, stress-related, and other man-made diseases. Thus typhoid, tuberculosis, cholera, diphtheria, and the like decline as the leading diseases and causes of death, to be replaced by heart disease, cancer, stroke, diabetes and gastric ulcer. Children and women have benefitted most from dramatic improvements in health and changes in disease patterns. When pandemics start to recede, childhood survival improves significantly. This is because many of the receding pandemics affect mainly children and because improved nutrition eliminates an important contributing factor in child mortality. During the transition from infectious to degenerative diseases, women (especially in childbearing ages) commonly shift from levels of mortality higher than those of men to levels more advantageous than those of men.

The epidemiologic transition affects demographic and social patterns in many complex ways:

The shift from infectious to degenerative disease results in an increase in the average age at death. Most infectious diseases select young victims, hence where they prevail, life expectancy is short.

Degenerative diseases, especially heart disease, cancer, and stroke, kill at older ages; where these prevail, the average life expectancy reaches 60 to 70 years.

Improved child survival lead to increased numbers of children. The number may also increase when fertility temporarily increases as epidemics recede. This produces a "wave" of children and youths moving up through the population pyramid.

Improvement of female survival will eventually change a population's sex composition, especially at older ages, resulting in more females than males as senior citizens.

Lowering of morbidity and mortality also has social and economic implications. Such declines can increase the efficiency and productivity of the labour force; healthier adults can work better; and more surviving children means more potential workers. Evidence also indicates that childhood nutritional status can influence mental development. Thus the transition may enhance the intellectual activity of the general population.

The epidemiologic transition is a mixed blessing certain changes within or associated with the transition have given rise to as many problems as they have solved, including the loss of group cohesion, the rise in mental illness, crime, delinquency, and drug dependency, and problems of older citizens.