Contrasting Children and Women's Health and the Determinants of Health in a Small-Sized City

Erhan Eser, Gönül Dinç, Ahmet Murat Oral, and Cemil Özcan

ABSTRACT *Contrasts that exist in urban infrastructure and accessibility of public health and social services between suburban and urban districts of mega-cities have been well defined. There has been less research in small-sized cities (population under 500,000). This cross-sectional study was done on 1,728 ever-married reproductive-aged women living in Manisa, Turkey, in the year 2000. The probability proportion to size cluster sampling approach was used in the sample selection. Data were collected for women and 7,016 inhabitants of the interviewed households. The data were collected from the women by face to face interviews. Suburban areas (illegally occupied public land called "Gecekondu" dwellings) in Manisa differ from other urban regions (legal settlements of the city) on socioeconomic factors including household occupancy, adult literacy, social class, rates of religious marriages, unemployment, health insurance coverage, migration, cultural segregation, and social status of women. Some traditional practices were also highly prevalent in gecekondu families, where poverty is more common. Although gross fertility rate (GFR), total fertility rate (TFR), and percent decrease of the TFR were higher for gecekondu women than urban women, total wanted fertility rate (TWFR) was lower. In urban neighborhoods, prevalence of contraceptive use was higher, and the infant and child mortality rates were lower; however, when rates were adjusted for mother's age, education and number of births, the differences turned out to be nonsignificant. Women living in urban areas receive better antenatal care, child immunization services, and professional health delivery assistance and services in a health facility; these services are very scarce in gecekondu districts. Health status of gecekondu populations can be improved by social and economic support and by making health services more available and accessible, especially maternity and child health services.*

KEYWORDS *Demographic and health survey, Health, Inequality, Suburban, Traditional health practices, Turkey.*

INTRODUCTION

By the end of 20th century, half of the global population is expected to be living in urban areas. Both country populations and the proportion of people living in urban areas are increasing; the trend is most rapid in developing countries, which indicates that not only are we living in an increasingly urbanized world, but we are also experiencing an urbanization of poverty. Facing this problem means, among other

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things, improving urban housing, generating employment, and expanding urban water supply, sewage disposal, and other health and education services.¹

Large overall health differences exist between urban and suburban locations in metropolitan areas of the world. Territorial segregation exists, with wealthier groups residing in the center of the city, whereas the impoverished groups are pushed to the periphery of cities.² Compared with migrants, natives form the highest average population and the highest household income.³ Social class segregation is also characteristic of today's cities.⁴⁻⁸

A critical literature review by Pickett and Pearl⁹ on neighborhood socioeconomic context and health outcomes revealed that contextual analyses of social factors and health represent a possible reconciliation between two divergent epidemiological paradigms: individual risk factor epidemiology (e.g., socioeconomic status) and an ecological approach. Adjusting for socioeconomic status, they found a persistent relationship between social environments and health outcomes among disadvantaged groups living in the slum areas of developing countries and the inner cities of industrial countries, locales where health issues are becoming ever more critical.¹⁰ There is a clear evidence that poor people have a higher rate of mortality and morbidity and poorer health services accessibility than more prosperous people in the same city.¹¹⁻¹³ Many studies conducted in different countries have shown that even in the same city, poor housing design and management are associated with problems and dissatisfaction compared with relatively well-constructed ones.^{1,5,10,11,14-48}

Health conditions of the urban poor are often less well known than might be expected not only because the information available is apt to be sparse, but also because that which is available is sometimes poorly analyzed and presented. Information regarding squatters or slum dwellers may be difficult to obtain, because such occupation is illegal. Additionally, most of these realities and problems have been explored generally for mega-cities (over 5 million). Sharp contrasts exist between urban and suburban or inner city districts of mega-cities on urban infrastructure, shelter, accessibility of public health and social services, violence, crime, homelessness, and so on, and are well defined. Yet, these mega-city pathologies should be investigated for small-sized cities as well; this is especially true because mega-city pathologies often develop from small-sized cities.

Turkey is currently experiencing rapid urbanization. The proportion of the population living in the cities has risen from 18.1% in 1950 to 64.9% in 2000.⁴⁹ Much of Turkey's urbanization is because of push factors from its countryside, which are mainly related to the lack of productivity and unemployment in those regions. Further, government policies have often favored the cities to the disadvantage of rural areas, and the terms of trade are generally unfavorable toward the agricultural sector.

Beginning in the early 1950s, rapid urbanization has created big areas namely "Gecekondu" settlements, called "shanty towns" in the Western world and translated from Turkish as "built in the darkness." Gecekondu is defined as a residential unit, born as a result of rapid population growth because of migration from rural areas to urban areas. It is generally a suburban settlement of illegally occupied public land, having no infrastructure and being mostly small shelters in which families live in overcrowded conditions. The main socioeconomic features of the gecekondu settlements are the low level of education of its residents, economic input from marginal jobs, and full maintenance of the rural culture.⁴² Gecekondu are more or less the equivalent of squatter dwellings of other developing countries. Gecekondu

regions are not only an imperfect answer to the housing problems of migrants but also a cultural phenomenon created by the economic and social structure of communities that live in them.³²

Gecekondu areas, until recently a problem only of major metropolitan centers, have started appearing in the outskirts of smaller cities.⁵⁰ Manisa city, population 218,314, is a small-sized city on the west coast of Turkey and has a highly heterogeneous social and cultural structure. There are obvious differences in the lifestyles and living standards between the population groups in the center of cities and the gecekondu inhabitants, who are mainly migrants from eastern Turkey, a deprived region.

The health problems of squatter areas in Turkey and the inequities in health were defined in many studies conducted in Turkey.^{39,40,51–54} The purposes of this study were to demonstrate the discrepancies between health indicators (e.g., childhood mortality, fertility rates; high-risk fertility behaviors), health service access/utilization, and health determinants (e.g., sociodemographic/economic factors) between urban and suburban (gecekondu) areas in a small-sized city (under 500,000). The results of this study are also expected to make contributions to the decision-making process on urban health promotion and organization.

METHODS

General Information on Manisa Demographic Health Survey

This is a cross-sectional study, and the data have been extracted from a representative survey called the Manisa Demographic and Health Survey (MDHS), conducted in Manisa city in the year 2000. Demographic and Health Surveys (DHS) are nationally representative household surveys with large sample sizes; DHS surveys provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition. Typically, DHS surveys are conducted every 5 years to allow comparisons over time (http://www.measuredhs.com/about-surveys/dhs_surveys.cfm). Manisa is the 11th biggest province of Turkey and located in the Aegean region of Turkey. The mid-year census of Manisa city was 218,314 in the year 2000.

Study Sample and Sampling Method

The primary health care system of Turkey is a well-defined system in which the country is divided into health center districts, fully covering the total population of the country. Every month of June, each health center updates the size of their target population by visiting on a house-to-house basis (annual census). A health center district is also further divided into few small districts, which are called “midwife districts” with a population of 2,000–3,000. This population-based network of Health Centers was formed by “Legislation for Socialization of Health Services” countrywide.⁴³

The total population of Manisa city is covered by nine health center districts established in urban (legal settlements of the city) and suburban (gecekondu) areas. Records from the nine health centers of Manisa city were used to determine sample size of MDHS, along with the infant mortality rate and the mean infants per 15–49 aged women. Design effect was taken as 2.0. Sample size was calculated as 1,674 ever-married women.

Probability proportional to size-sampling approach was used in the selection of the MDHS sample. Sample selections were undertaken in three stages. Sampling

units of the first stage were districts that differed in population size. The frame for selection of the primary sampling units included nine Health Center Districts' population records. The second stage of selection involved the list of midwife subdistricts ($n = 82$) of varying population size as sampling units for each of the health centers. The study sample was allocated to 168 clusters at 10 households per cluster. In the third stage of sample selection, the 168 clusters were allocated to the midwife subdistricts proportionally to their population. The initial households of each of the clusters were chosen at random, and the rest of the households were determined systematically by every fifth household for each cluster. All ever-married women aged 15–49 who were present in the household on the night before the interview were eligible for this study.

Finally 1,234 households were allocated as urban and 459 households as suburban (gecekondu) areas based on the province health directorate data. Of the 1,680 selected households, 2.4% were considered as unoccupied, and 2.7% ($n = 46$) of the women refused an interview. In the end, 1,728 ever-married women living in the selected households were interviewed; 95.1% of them were currently married.

Questionnaires

Two questionnaires were used in the fieldwork for the study: the Household Questionnaire and the Women Questionnaire for ever-married, reproductive-aged women. Both of the questionnaires were adopted from the 1998 Turkish Population and Health Survey questionnaire.⁵⁵ The Household Questionnaire contains information on the following topics related to the hypothesis of this article.

Household Listing Age, sex, relationship to the head of the household, education, and parental survivorship, and residence for every usual member of the household.

Household Characteristics The source of drinking water, toilet facilities, cooking fuel, and assets of the household.

The Women Questionnaire contains information on the following topics.

Background Characteristics Age, marital status, education, employment, and place of residence provide information on characteristics likely to influence demographic and health behavior.

Reproductive Behavior and Intentions Dates and survival status of all births, pregnancies that did not end in a live birth, current pregnancy status, fertility preferences, and future childbearing intentions of each woman.

Contraception Knowledge and use.

Antenatal, Delivery, and Postpartum Care Antenatal and postpartum care, place of delivery, delivery attendants, birth weight, and the nature of complications during pregnancy for recent births.

Status of Women Various aspects of women's empowerment, including decision-making and autonomy.

Husband's Background Age, education, and occupation of husband.

Data Collection

Data collection were carried out by six teams; each consisted of six interviewers, a field editor, and a supervisor. The data were collected for the women as well as 7,016 inhabitants of the interviewed households. All data were collected from the women by face-to-face interviews.

Hypothesis and Statistical Analysis

The main hypothesis of this study is that significant differences in child and maternity indices exist between urban and suburban population in favor of the former in a small-sized city. The research questions that were addressed to test the overall hypothesis are as follows:

1. Are the sociodemographic and socioeconomic characteristics of the households and families better in urban areas compared with suburban areas?
2. Are families living in the urban and suburban regions of Manisa significantly discriminated against in regard to fertility and family planning attitudes and preferences?
3. Are infant and child mortality rates higher in suburban districts compared with urban districts?
4. Do urban and suburban population differ in traditional cultural and health-related practices?

In addition to the well-defined demographic measures and health indices, student's *t* tests, median test, and crude odds ratios (ORs) were used in the univariate analysis. The childhood mortality rates were calculated by using Kaplan Meier Product Limit Method. Logistic and Cox regression models were used in the multivariate analysis (adjustments) where indicated. Data were processed at Department of Public Health, Celal Bayar University, of using the SPSS 10.0 package.

RESULTS

SOCIODEMOGRAPHIC AND SOCIOECONOMIC CHARACTERISTICS OF THE STUDY POPULATION

The age dependency ratio was 40.6% for the urban inhabitants, whereas it was 59.0% for the gecekondü (suburban) inhabitants of Manisa. The mean household size was statistically higher in suburban (6.07) than in urban (4.26) districts. The illiteracy rate was high in gecekondü districts, and the gap between urban and gecekondü areas was profound, especially among women. The rate of religious marriages without a civil marriage was 7.4-fold higher in gecekondü areas compared with urban areas. Almost half of the gecekondü inhabitants were immigrants from the rural or poor Eastern regions of the country. In comparison with the urban areas, gecekondü areas of Manisa have three- to six-fold risk of immigration from rural areas or poor Eastern regions of Turkey (Table 1).

The risk of having no health insurance was about three-fold in gecekondü families compared with urban, and almost two thirds of the gecekondü district families belonged to the low social class structure (compared with 42% in urban areas). The mean household size and the mean number of persons per room were significantly higher in gecekondü households. The ownership of some selected durable consumer goods was considered an indirect indicator of socioeconomic level; all of these goods

TABLE 1. The percentage distribution of some sociodemographic variables in the urban and gecekondü (suburban) settlements and the risk of gecekondü inhabitancy in Manisa

	Urban	Gecekondü	Total	OR (95% CI)*
Age groups†				
0–14 years	23.0	33.3	25.7	—
15–64 years	71.1	62.9	68.9	—
>65 years	5.9	3.8	5.4	—
Age-dependency ratio‡	40.6	59.0	45.1	—
Illiteracy rate (men)	1.9	12.4	4.9	7.4 (4.5–12.2)
Illiteracy rate (women)	8.2	45.9	18.8	9.5 (7.3–12.5)
The percent of the non-newspaper readers				
Men	25.9	9.5	14.1	3.4 (2.5–4.4)
Women	56.3	17.3	28.4	6.2 (4.9–7.8)
Marital status				
Currently married	94.5	97.3	95.3	2.1 (1.2–3.9)
Only religious wedding	1.2	8.4	3.2	7.4 (4.1–13.7)
Age of marriage (median)				
Men (25–64 years)	25.0	23.0	24.0	<i>P</i> = .000§
Women (25–49 years)	20.0	18.0	19.0	<i>P</i> = .000§
Immigration (geographical region)				
Immigrant from rural	26.3	48.0	32.6	3.1 (2.4–4.1)
Immigrant from urban	36.9	30.4	35.0	1.4 (1.1–1.9)
Native	36.8	21.6	32.4	Reference
Immigration (residential area)				
Immigrant from Eastern regions of the country	9.8	41.2	18.7	6.5 (4.9–8.4)
Immigrant from other regions of the country	53.4	37.2	48.9	1.2 (0.9–1.6)
Native	36.8	21.6	32.4	Reference

CI, confidence interval; OR, odds ratio.

*Crude ORs.

†According to the 2000 year data of Province Health Directorate.

‡(Population aged 0–14 + population aged >64)/population aged 15–64.

§Median test.

were highly prevalent in urban households compared with gecekondü households. Though unemployment of the husband was expected to be very high in gecekondü families, there were no statistical differences regarding unemployment rates between urban and gecekondü families; women were widely unemployed in both urban and gecekondü areas. As we looked at the infrastructure of the households, we identified that either the tap water or sewage system presence was significantly higher in urban than in gecekondü households (Table 2).

Fertility, Proximate Determinants and Preferences of Fertility and Family Planning

Gross fertility rate (GFR) and the total fertility rate (TFR) and the percent reduction of the TFR were higher for gecekondü women than for urban women, and the total wanted fertility rate (TWFR) was lower. The prevalence of use of any contraceptive methods among urban women was higher than among gecekondü women. On the other hand, no significant differences were found between these groups in the use of any modern contraceptive methods. Abortion rates as proxy indicators of contraception

TABLE 2. The percentage distribution of some socioeconomic variables in the urban and gecekondu (suburban) settlements and the risk of suburban inhabitancy in Manisa

	Urban	Gecekondu	Total	OR (95% CI)*
Lack of health insurance	15.9	39.4	22.6	3.4 (2.7–4.4)
Social class†				
High	11.6	3.7	9.3	Reference
Middle	46.3	32.2	42.3	
Low	42.2	64.3	48.3	2.4 (1.9–3.0)
Mean household size	4.26	6.07	4.85	<i>P</i> = .000‡
Mean number of person per room	2.16	2.89	2.36	<i>P</i> = .000‡
Durable consumer goods				
Dishwasher	26.9	2.8	20.4	12.6 (7.1–22.1)
Washing machine	89.5	58.5	81.1	6.1 (4.7–7.9)
Telephone	91.2	78.2	87.7	2.9 (2.2–3.9)
More than 50 books	23.0	2.6	17.4	11.1 (6.2–19.9)
Motor vehicle (four wheel)	38.2	16.4	32.3	3.2 (2.4–4.2)
Unemployment of her husband	2.7	6.3	3.8	2.3 (0.8–1.2)
Being housewife	81.0	86.4	82.5	1.5 (1.1–2.0)
No tap water	0.4	7.0	2.2	18.4 (7.1–47.6)
No sewage system	1.3	21.6	6.9	20.9 (12.2–36.0)

CI, confidence interval; OR, odds ratio.

*Crude ORs.

†According to the profession of the head of the family: high, employers (has at least three employees under) and highly skilled professionals; middle, white collar employees and persons working in their own jobs without employing anyone; low, blue-collar workers, unskilled service workers, and unemployed persons.

‡Student's *t* test.

need showed that the women of urban and gecekondu areas were similar except in induced abortion rates, which were significantly higher in urban compared with gecekondu areas (Table 3).

Infant and Child Mortality and High-Risk Fertility Behavior

In the univariate analysis, large differences were detected in infant and child mortality rates between urban and gecekondu neighborhoods in favor of the urban areas. However, when the rates were standardized for mother's age, education, and the number of births, the differences turned out to be nonsignificant. As we consider the high-risk fertility behavior for births, the percent of the births born with any risk category was higher in gecekondu women than in women in urban areas. In addition, the percent of the births with a birth space shorter than 2 years to the previous birth and the percent of the births with birth rank four and over were both higher in gecekondu areas compared with urban areas (Table 4).

Use of Maternal and Child Health Services in Urban and Gecekondu Areas

In general, maternal and child health services were found to be highly accessible for urban women compared with gecekondu women, as summarized in Table 5. This is especially true for maternal and child immunization services. Women living in the urban areas received antenatal care, health professional delivery assistance, delivery

TABLE 3. Fertility, proximate determinants, and preferences of fertility and family planning in urban and gecekondu (suburban) areas of Manisa

	Urban	Gecekondu	Total	OR (95% CI)
TFR*	2.14	2.42	2.23	NA
Gross (general) fertility rate*	65.4	84.4	70.9	NA
Completed fertility rate (40–49 years)†	2.66	5.27	3.23	$P = .000‡$
Total wanted fertility rate*	1.77	1.54	1.72	NA
Percent reduction of the TFR implied by the planning of unwanted and mistimed births*	17.3	36.4	22.9	NA
Mean ideal number of children	2.04	2.34	2.12	$P = .000‡$
Desire for no more children	70.3	66.7	69.2	1.7(1.2–2.4)§
Ever use of any family planning method	90.8	80.2	87.7	1.9(1.2–3.0)§
Ever use of any modern family planning method	75.1	68.6	73.2	1.1(0.8–1.6)§
Current use of any family planning method	75.6	61.7	71.6	1.9(1.4–2.6)§
Current use of any modern family planning method	47.0	42.1	45.6	1.1(0.8–1.5)§
Rate of spontaneous abortion (per 100 pregnancy)	8.2	9.8	8.8	0.8 (0.6–1.2)
Rate of induced abortion (per 100 pregnancy)	14.8	7.1	12.1	2.1 (1.4–3.1)
Rate of stillbirth (per 100 pregnancy)	0.9	0.9	0.9	0.9 (0.3–3.4)
The percentage of the public hospital induced abortions	40.9	63.3	45.7	2.5 (1.0–6.2)

CI, confidence interval; NA, not applicable; OR, odds ratio; TFR, total fertility rate.

*Please refer to the definitions of these measures in the Appendix.

†Mean number of children ever born to women age 40–49.

‡Student's *t* test.

§Standardized risk for age, number of children, and education.

services in a health facility, tetanus immunization services, and child immunization services superior to those living in gecekondu districts. However, the gecekondu and urban women did not differ in the infant-feeding experiences.

Health-Related Sociological/Cultural Attitudes, Practices, and Perceptions in Urban and Gecekondu Areas

About one in every four marriages was consanguineous or had a paid bride's price. Consanguineous marriages (OR = 4.5), marriages with bride's price (OR = 6.7), and marriages decided by couple's families (without consent of the couple) (OR = 4.1) were significantly higher in gecekondu areas compared with urban areas. In addition to those marriages, unhealthy traditional practices related to care of children were also highly prevalent in gecekondu families compared with urban families. Almost one third of the child-bearing aged women living in gecekondu districts thought that contraception did not concur with the rules of Islam, compared with about 11% of urban women (Table 6).

DISCUSSION

The results of this study have shown that there are great discrepancies between urban (city) and suburban (gecekondu) districts in sociodemographic, socioeconomic, mother and child care, and mortality measures, as well as in some sociological norms, attitudes, beliefs, and perceptions. These findings are supported by and build upon the extant literature.

TABLE 4. Infant and child mortality and high-risk fertility behavior for the births of recent 5 years in urban and gecekondu (suburban) areas of Manisa

	Urban	Gecekondu	Total	OR (95% CI)
Infant and child mortality				
Neonatal mortality rate (‰)	13.8	14.1	13.9	3.4 (0.5–21.2)*
Post-neonatal mortality rate (‰)	5.2	17.1	9.8	0.96 (0.1–7.1)*
Infant mortality rate (‰)	19.0	31.2	23.7	1.3 (0.4–4.1)*
Child mortality rate (‰)	2.3	19.5	9.1	8.1 (0.9–76.2)*
Under five mortality rate (‰)	21.3	50.7	32.8	1.7 (0.7–4.4)*
The percentage of the mothers ever experienced child death	9.5	22.7	13.3	1.3 (0.8–2.1)*
High-risk fertility behavior for the births of recent 5 years				
The percent of the births from the mothers younger than 18 years of age	6.6	7.1	6.8	1.1 (0.6–2.0)†
The percent of the births from the mothers older than 35 years of age	6.1	6.5	6.2	0.7 (0.3–1.7)†
The percent of the births having birth space shorter than 2 years with previous birth	8.3	20.1	12.8	2.5 (1.5–4.4)‡
The percent of the births with birth rank four and over	5.9	26.0	13.5	3.5 (1.6–7.8)‡
The percent of the births born with any risk category	22.8	47.5	32.2	1.6 (1.1–2.4)†

CI, confidence interval; OR, odds ratio.

*Adjusted risk for mother's age, number of birth, and education by cox regression.

†Adjusted risk for mother's education by logistic regression.

‡Adjusted risk for mother's age and education by logistic regression.

TABLE 5. Maternal and child health services in urban and gecekondu (suburban) areas of Manisa

	Urban	Gecekondu	Total	OR (95% CI)
The percentage of the pregnant women, who received no antenatal care	5.1	16.1	9.2	3.6 (2.3–5.8)
The percentage of the deliveries without health professional assistance	1.9	27.1	11.5	19.3 (10.1–36.6)
The percentage of the deliveries at home	6.7	33.4	16.8	7.2 (4.8–10.7)
The percentage of pregnant women who have not been applied tetanus vaccination	17.1	24.0	19.7	1.5 (1.1–2.1)
Percentage of not full-vaccinated (12–59 months) children	14.9	31.1	20.8	2.6 (1.7–3.9)
Percentage of children with no breastfeeding	4.2	4.8	4.4	1.2 (0.6–2.2)
The percentage of complementary feeding of infants during first 4 months	50.2	37.9	45.5	1.1 (0.9–1.4)
The percentage of infants fed with yogurt during first 4 months	58.2	41.7	51.8	0.9 (0.8–1.1)
The percentage of infants fed with fruit juice during first 4 months	60.4	38.7	52.1	0.9 (0.8–1.1)

CI, confidence interval; OR, odds ratio.

TABLE 6. Health-related cultural/traditional attitudes and practices in urban and gecekondu (suburban) areas of Manisa

	Urban	Gecekondu	Total	OR (95% CI)*
The percentage of consanguineous marriages	7.1	26.3	12.6	4.5 (3.3–6.0)
The percentage of the marriages with bride's price	4.4	23.4	9.8	6.7 (4.7–9.5)
The percentage of marriages decided by the couple's family only (without consent of couple)	5.7	19.6	9.6	4.1 (2.9–5.7)
The percentage of the children lapped with soil or sand	1.4	2.8	1.9	2.0 (0.8–5.1)
The percentage of the children wrapped with swaddling clothes	46.5	74.0	57.0	3.3 (2.4–4.6)
The percent of women considering the contraception as inconvenient for religious rules	11.1	33.1	17.3	3.9 (3.0–5.0)

CI, confidence interval; OR, odds ratio.

*Standardized risk for age

In another study conducted in Antalya, a medium-sized city of Turkey, comparison of urban and suburban settlements revealed similar results in regard to demographic properties and basic infrastructure of the dwellings.⁵² Negative effects of poor housing environments have been shown in some studies conducted in the United States, Northern Ireland, Canada, Pakistan, and India. These studies focused on infrastructure and the housing environment,^{47,48} including density and defensible space,¹⁵ crowding,⁵⁶ violence and security,^{16,57} temperature and dampness,^{17–19,30,58} and economic deprivation—all of which were found to be related to physical or mental health of the inhabitants.^{14,20,45} Other studies have also looked at health outcomes in deprived neighborhoods. In two surveys conducted in Northern Ireland in 1987 and 1995, different settlement areas of the city with different levels of deprivation were compared, and housing defects, unemployment rate, proportion of the population under the age of five, and ill-health in both children and adults were greater in the highly deprived neighborhoods.^{21,46} A cohort study in Brazil has shown that the noticeable increase in the coverage of water supply and garbage disposal in the slums increased the health status of the community.⁵⁹ A UK study suggested that living in a deprived neighborhood may have the most negative health effects on poorer individuals because they are more dependent on collective resources in the neighborhood.⁶⁰

In Manisa, Turkey, gecekondu areas differ from urban areas on basic socioeconomic and cultural factors, and these areas are common in other medium-sized cities of Turkey as well.³⁹ This has important implications given the findings of many studies focusing on the effect of low socioeconomic status on health measures.^{23–27,38,44,59,61–68} In demographic aspect, the inner-city or suburban reality is based on location attainment, residential segregation, and spatial separation of the poor.^{3,7,15,69} This is also true for Manisa gecekondu areas. The neighborhoods correspond to regions of provinces and countries from which residents have migrated. Compared with urban settlements, three-fold of the population migrated to gecekondu settlements from rural regions and six-fold from the underprivileged Eastern regions of Turkey. As Dedeoğlu reported, gender, education, and regional inequalities in mortality and morbidity have existed in Turkey for some time²⁸ and have worsened.⁵³

The social status of women, which is determined by literacy, age of marriage employment, fertility, contraceptive usage rates, and freedom in decision-making, is

the most important determinant of the health level of the community in Turkey. In the literature, female education is a consensus variable explaining the variations in maternal and child morbidity and mortality by multivariate analysis.^{29,35-37,55,70-76} A recent countrywide ecological study based on the data of the national government statistics of Turkey showed that the most powerful independent variable that explained the inequalities in health was female education.⁷⁷ The age of marriage of gecekondü women and men was younger than those living in urban areas. Indeed, one of the results of rapid migration to urban settings is that traditions are brought from the rural regions of the country⁵⁰; this has also been observed in South America, which has the same economic circumstances as Turkey.³⁴

We found that the fertility measures were higher in Gecekondü residents than in urban residents. However, women living in gecekondü areas and urban neighborhoods were not different in fertility preferences. These two contradicting findings indicated that the women living in gecekondü areas had poor access to family planning services compared with those living in urban districts. This interpretation is supported by the lower current contraceptive usage and lower induced abortion rates seen in gecekondü women. Yet, this study showed that all of the fertility measures were better in Manisa gecekondü areas than those that were found for Eastern provinces and even for Turkey in general.⁵⁵ This was a very important finding because the illiteracy rate of gecekondü women of Manisa is very high (45%), even higher than of the women living in rural areas in Turkey²² in 1988. Nevertheless, we conclude that migration to cities increases the accessibility of health services, and thus, the migrants adapt to urban inhabitance. These rationales were supported in the previous urban studies conducted in Turkey as well.^{32,40}

Univariate risks of post-neonatal mortality and child mortality are higher in gecekondü areas than urban areas, but when these mortality measures were adjusted for age, education, and child number of the mother, the multivariate risk comparisons were found to be nonsignificant. In gecekondü districts, the determinants of infant and child mortality were much more prevalent than urban settlements. It is likely that the high-risk pregnancies (e.g., birth spacing shorter than 2 years, higher than third birth rank) were more prevalent among underdeveloped population groups.^{22,31,33,37,55,78} Thus, living in the gecekondü (suburban) district could be a proxy for the variables like mother education, birth rank, and so on, for infant mortality. Gecekondü women still cannot gain access to the maternity and child services sufficiently. This was also the same in the recent Population and Health Surveys of Turkey.^{55,74}

About 80% of gecekondü districts' families were migrants, who came from the very deprived regions of the country. As mentioned above, people have brought their sociological norms, beliefs, and attitudes to the city, some of which are either beneficial or harmful to the children. The harmful consequences of some sociocultural factors and traditional practices in health are known to be widely prevalent in Africa and Asia,⁷⁹⁻⁸² and rolling the child in the sand or wrapping the child in swaddling clothes is still widely practiced in the rural regions of Turkey.^{83,84} The percentages of consanguineous marriages are very high in the rural regions of Turkey,^{85,86} and the high prevalence seen in gecekondü districts might be attributed to the rural origin of the gecekondü inhabitants. A similar pattern is seen with bride's prices in marriages. Together with bride's prices, consent of women on a marriage decision is one of the other determinants of status of the women in the community.⁸⁷

The importance of religious factors on the attitude and practice of contraceptive use, which is one of the findings of this study, has been demonstrated in some studies in the literature.^{88,89} The results of the national Demographic Health Surveys

conducted in the years 1993 and 1998 showed that the percentages of the married women who stated that “contraception is forbidden according to my belief of Islam” were 19.8 and 17.7%, in the years 1993 and 1998, respectively. In the 1998 national Demographic Health Survey, the same attitude was present in 40.1% of the women living in Eastern rural provinces of the country,⁹⁰ which is a higher percentage than that was found (33.1%) in gecekondu districts of our study. These traditional practices have increasingly been diminishing after the big migration wave in the 1970s.^{55,83}

CONCLUSION

The results of this study indicate that there are significant differences between the health indicators of gecekondu (suburban) and urban areas of Manisa in favor of the latter. The fertility attitudes and practices are more health beneficial in gecekondu women than those living in other underprivileged rural regions of Turkey, although the illiteracy rate in both groups of women are similar. Therefore, improvements in health behaviors may be a positive effect of migration. On the other hand, traditional practices that are detrimental to health are still very high among gecekondu families, though better than their counterparts in the rural regions of the country. The health levels of gecekondu areas can be improved by social and economic support and by making health services, especially for maternity and child health, more accessible for people living in those neighborhoods. Moreover, special attention should be paid to the female education in suburban districts.

APPENDIX

Glossary

The total fertility rate (TFR) is the number of children a woman would bear if she lived through these rates throughout her reproductive life span. This rate is calculated by adding the age group-specific fertility rates (5 years age groups, e.g., 15–19; 20,24...45–49). This is an age-adjusted summary measure the current fertility of the community.

The gross (general) fertility rate (GFR) is calculated as the number of births per thousand women in the reproductive age groups.

Completed fertility rate is the mean number of children ever born to women aged 40–49. Comparison of among women aged 40 or more with the TFR can provide an indication of fertility change.

The total wanted fertility rate (TWFR) is the level of fertility that theoretically would result if all unwanted births were prevented. This rate, known as the wanted fertility rate, is calculated in a similar manner as the TFR. Comparison of actual rates with wanted rates indicates the potential demographic impact of the elimination of unwanted births.

Percent reduction of TFR implied by the planning of unwanted and mistimed births is the percent reduction of TFR if all unwanted and mistimed births would be avoided. This proportion can be calculated as: $(\text{TFR} - \text{TWFR}) / \text{TFR} \times 100$.

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