PARADOKS EKONOMİ, SOSYOLOJİ VE POLİTİKA DERGİSİ

PARADOKS

Ekonomi, Sosyoloji ve Politika Dergisi

Paradoks Ekonomi Sosyoloji ve Politika Dergisi

HAKEM KURULU

SOCIAL DETERMINANTS OF HEALTH AND HEALTH INEQUALITIES: DIFFERENCES BETWEEN URBAN AND RURAL AREAS

SAĞLIK VE SAĞLIK EŞİTSİZLİKLERİNİN SOSYAL BELİRLEYİCİLERİ: KENTSEL VE KIRSAL ALANLAR ARASINDAKİ FARKLAR

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ÖZET

Türkiye'de kentsel ve kırsal alanlar arasındaki sağlık farklılıkları henüz tam olarak bilinmemekle birlikte literatürde yeterince araştırılmamıştır. Çalışmanın amacı, Türkiye'de yaşayan kırsal ve kentsel nüfusta sağlığın dağılımını ve demografik, sosyo-ekonomik özellikler ve davranışsal faktörleri içeren sosyal belirleyicilerini araştırmaktır. Çalışmada, Nilüfer Sağlığın Sosyal Belirleyicileri Araştırması veri seti kullanılmıştır. Bulgular, hanelerin 799'unun (%79,3) ve ankete katılanların %79,9'unun (2481 kişi) şehirde yaşadığını göstermiştir. Bu çalışmada, ankete katılanların %20,1'inin (n=624) kırsal alanda yer alan 208 (%20,7) hanede oturduğu bildirilmiştir. Bu çalışmada incelenen sosyoekonomik göstergeler (eğitim, istihdam durumu, ev aletleri, araba sahipliği, hane geliri, gelir durumu ve para tasarrufu) sağlık göstergeleri ile ilişkilendirilmiştir (p<0.01). Sosyoekonomik göstergeler hem kırsal hem de kentsel alanda sağlıkla güçlü bir şekilde ilişkilendirilmiştir. Yerleşim alanı sağlığın önemli bir belirleyici olarak saptanmıştır. Çalışmamız, sosyoekonomik faktörlerin insanların sağlık durumunu kentsel-kırsal ortamlarda yaşamaya göre daha fazla belirlediğini ortaya koymuştur. Bu nedenle, sosyoekonomik durum ne kadar yüksekse, sağlık göstergeleri o kadar iyidir.

Anahtar Kelimeler:

Sağlığın sosyal belirleyicileri, Kent sağlığı, Sosyoekonomik etmenler, Kronik hastalık, Yaralanma

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ABSTRACT

Health disparities between urban and rural areas in Turkey have not been fully known yet, which remained under-researched in the relevant literature. To investigate the distribution of health and its social determinants, including demographics, socio-economic characteristics, and behavioral factors in the rural and urban population, who live in Turkey. In this study, we used cross-sectional data, namely the Nilüfer Social Determinants of Health Survey 2014. The findings showed that 799 of the houses (79.3%) and 79.9% of the respondents (2481 people) were in the city. In this study, 20.1% of the respondents (n=624) were reported to live in 208 (20.7%) of the houses that were located in the rural area. The socioeconomic indicators (education, employment status, household appliances, car ownership, household income, income status and money-saving) explored in this study were correlated with the health indicators (p<0.01). Socioeconomic indicators were strongly associated with health in both rural and urban area. The residential area was an important determinant of health. Our study, however, has revealed that socioeconomic factors are highly likely to determine the health status of people more than urban-rural settings. Thus, the higher the socioeconomic status is the better the health indicators are.

Keywords:

Social determinants of health, Urban health, Socioeconomic factors, Chronic disease, Injuries.

INTRODUCTION

Social determinants of health (SDH) and health inequalities are the foci of growing interest and evidence at the global level. Health inequalities are a matter of fairness and social justice. Health inequalities arise from the social conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life define the social determinants of health (WHO, 2008; Irwin &Scali, 2010; WHO, 2013a). SDH includes gender, race, income (and its distribution), education, housing, employment status, decent work, social exclusion, early childhood development, effective systems of preventing and treating ill health. Poor social and economic circumstances affect health throughout life (Wilkinson& Marmot, 2003).

Although the degree of health inequalities vary across the WHO/European Region, they tend to escalate in and between the countries (WHO, 2013a). We should understand the mechanism of the effects of social determinants on health so that policies can be produced to improve people's working and living conditions that are the most powerful determinants of health (Laaksonen et al., 2005). Failing to attain a complete understanding of how SDH can influence health would hamper the efforts for improving public health (Ompad et al., 2007).

Addressing the social determinants of health to improve them will reduce health inequalities. Today, an opportunity exists to improve the health status of the poorest and the most vulnerable communities by tackling the root causes of health inequalities. There are successful examples of this (Irwin &Scali, 2010). Health inequalities should be explored at all levels of the society using social determinants, including education, social class, gender, geography, place of residence (rural/urban), ethnic background (WHO, 2013b; Grady&Goldblatt, 2012; Braveman &Gottlieb, 2014). With the identification of factors that determine health, a set of interventions will be established. Being the main cause of inequalities, SDH progressively disrupts people's welfare in developing countries. Therefore, social determinants of health must be understood well, particularly by the developing countries (Irwin &Scali, 2010). Identifying the health determinants at the regional and national level, especially in developing countries, is a valuable start for tackling such determinants.

There is a need for assessing the impacts of social determinants on health (Laaksonen et al., 2005). WHO encourages the actions that address health determinants and reports the need to take more actions (Grady &Goldblatt, 2012; WHO,2013c). WHO's recommendations include measuring the problem, evaluating actions, and expanding the knowledge base (Grady &Goldblatt, 2012).

Officials of the local governments across the WHO European Region point out the need for additional measurements on social determinants of health and health inequalities. Local governments are the

key actors in improving social determinants of health and health inequalities. Local authorities are in a stronger position to bring local actors around the table, thereby making them more accountable (Grady &Goldblatt, 2012). Investigations into the interactions between social determinants and health as well as into the direction of such interactions may be a critical tool for understanding how geographical area shapes the health of populations and for suggesting potential interventions (Ompad et al., 2007).

Developing policies and interventions that effectively target the structural and immediate determinants of inequalities in health is an urgent priority for public health research (Mackenbach et al., 2008).

Relevant policies and instruments that address the social determinants of health will depend on national and local context (Irwin& Scali, 2010; Grady &Goldblatt, 2012). Local knowledge is valuable since every society must produce policies based on their own dynamics (Grady &Goldblatt, 2012).

Social determinants of health may have different effects in urban and rural areas (Ompad et al., 2007). Health disparities between urban and rural areas in Turkey have not been fully known yet, which remained under-researched. To our knowledge, no similar research has been carried out in this context so far. We should highlight that the sample size of our research is big enough to represent a city, and it evaluates multiple health indicators from the perspective of social determinants of health in rural and urban settings.

To contribute to the literature, the present study aims to investigate the distribution of health and its social determinants, including demographics, socio-economic characteristics, behavioral factors, in the rural and urban population who live in Nilüfer City of Turkey.

METHODS

Study Area, Population, and Datasources

This study was conducted in Nilüfer, which is located in the Western part of Bursa, -the fourth largest metropolis of Turkey. In this study, we used cross-sectional data, The Nilüfer Social Determinants of Health Survey 2014 (NSDS) with permission from the Nilüfer Municipality. We obtained the NSDS set from the representative sample of the city as selected by the Turkish Statistical Institute (TÜİK). Urban population is 415,818(2016) and surface area is 507.54 km² (Nilüfer Kaymakamlığı, 2017). The NSDS included 1007 households with 3105 individuals and consisted of questions regarding demographics, socio-economic and health status indicators. Data were collected by professional interviewers through face-to-face interviews with individuals aged 15 and over in their households as determined by TÜİK. This study has been approved by the Ethical Board of Uludag University (2017/418).

Measures

We recorded the education, employment status, and marital status for individuals aged 15 and above (n=2486). "n" varied because inconsistent responses and unanswered questions were excluded to ensure data reliability. As an example, the average household income was reported by 935 households out of 1007 (92.9%).

Demographic characteristics include gender (dichotomous variable), age, marital status, and immigration. Age was calculated based on the date of birth and recorded as constant data. Marital status was categorized into three groups: single, married and other (divorced/ separated/ widowed). Immigration is described as the act of moving into the city in the past five years. Immigration was categorized as Yes/No.

Socioeconomic characteristics include education, employment status, house ownership, household appliances, car ownership, household income, income situation, and money-saving power. Individual

education level in the survey questionnaire was divided into six levels (illiterate, literate, elementary school, secondary school, high school, and undergraduate). Based on self-reports, education was coded into two categories: 12 years or less, 13 years or more. Variables were employment status (working, not working) and housing (owner, renter) dichotomy. Household size was a continuous variable. We measured household income based on the amount earned by any household member from all sources. Household appliances were rated based on the ownership of the following: cable TV, tumble dryer, dishwasher, internet access, and air conditioner. The evaluation relied on the average of these ratings. Self-rated economic status was elicited by asking the respondents to describe their economic level on the three-point scale: poor, average and good. People's ability to save money was questioned in this study. Saving Money is putting some money away to use in the future. The power of saving money was evaluated in three categories as follows: saving no money, saving little money and saving money easily.

Health Behaviours

Health behaviours variables included smoking (non-smoker, former smoker, current smoker) and alcohol consumption (never drinker, former drinker, current drinker).

Self-Rated Health

Many international studies have consistently demonstrated that SRH is a good predictor of health (Cislaghi&Cislaghi, 2019; Pinillos-Franco &Kawachi, 2018). SRH is widely used to measure subjective health. SRH was elicited by asking the respondents to describe their general Health on a five-point scale: very bad (1), bad (2), moderate (3), good (4) and very good (5). For the present study, the latter variable was dichotomized, and participants who reported better than moderate health were classified as having good self-rated health. For use as an outcome measure, the item was dichotomized as "good" (very good or good) or "poor" (moderate, bad, or very bad). SRH was answered by 1398 out of 2486 respondents (56.2%) who were aged 15 and over.

Self-reported Chronic Disease

Chronic diseases in this study were diagnosed by physicians. The response rate for the chronic disease status was 99.9%. Chronic diseases were evaluated as a dichotomy in yes/no format.

Injury or disease

Injuries or diseases were questioned for the last 15 days. The response rate was 99.9%. (3102 respondents). The answers were recorded as dichotomy in yes/no format.

Statistical analysis

The Statistical Package for Social Sciences (SPSS) version 23.0 was used for the data analysis. All analyses were conducted separately for the urban and rural area. Descriptive analyses were performed to clarify the distribution between urban and rural residence participants. Chi-Square tests were used to identify the Association between variables. T-tests were conducted age, income and household appliances. All tests of significance were two-tailed, with p-values <0.05 considered statistically significant.

RESULTS

This cross-sectional study covered 1007 houses and their 3105 residents. 799 of the houses (79.3%) and 79.9% of the respondents (2481 people) were in the city. 20.1% of the respondents (624 people) were reported to live in 208 (20.7%) of the houses that were located in the rural area. The number of residents per house was 3.5±1.2 people (max 9). The average age was 34.9±20.2. One of every five houses was located in a rural area. Majority of the respondents have not immigrated in the past five years (Table 1).

Table 1. Demographic characteristics of the study population

| Variables	Measurement	Freq. (%)	Urban	Rural	p
Gender	Female	1610 (51.9)	1290 (52.0)	320 (51.3)	>0.05
	Male	1495 (48.1)	1191 (48.0)	304 (48.7)	
Age groups	≤44	2083 (67.3)	1670 (67.6)	413 (66.4)	>0.05
	45-64	770 (24.9)	611 (24.7)	159 (25.6)	
	≥65	241 (7.8)	191 (7.7)	50 (8.0)	
Average age		34.9±20.2	34.77±20.29	35.29±19.96	>0.05
Marital status	Married	1733 (69.7)	1408 (71.7)	325 (62.3)	<0.001
	Single	585 (23.5)	425 (21.6)	160 (30.6)	
	Other	168 (6.8)	131 (6.7)	37 (7.1)	
Immigration (Last five years)	No	2718 (91.0)	2175 (91.6)	543 (88.7)	=0.034
	Yes	269 (9.0)	200 (8.4)	69 (11.3)	

Socio-economic characteristics of the study population were provided in Table 2 below.

Table 2. Socio-economic characteristics of the study population

Variables	Measurement	Freq. (%)	Urban	Rural	p
Education	12 years or less	1798(72,5)	1359 (69.2)	439 (85.1)	<0.001
	13 years or more	682 (27.5)	605 (30.8)	77 (14.9)	
Employment status	Working	983 (39.5)	810 (41.2)	173 (33.1)	<0.001
	Not working	1503 (60.5)	1154 (58.8)	349 (66.9)	
Housing	Owner	625 (62.1)	495 (62.0)	130 (62.5)	>0.05
	Renter	382 (37.9)	304 (38.0)	78 (37.5)	
Average number of household residence		3,5±1,2	3.53 ±1.18	3.52±1.27	>0.05
Household appliances	0	78 (7.7)	95 (3.8)	115 (18.4)	<0.001
	1	140 (13.9)	285 (11.5)	131 (21.0)	
	2-4	659 (65.4)	1680 (67.7)	359 (57.5)	
	5	130 (12.9)	420 (16.9)	19 (3.0)	
Average household goods		2.2±1.2	2.36 ±1.17	1.49 ±1.20	<0.001
Car ownership	No	413 (41.0)	298 (37.3)	115 (55.3)	<0.001
	Yes	594 (59.0)	501 (62.7)	93 (44.7)	
Average household income		2384±1713	2568±1759	1808±1242	<0.001
Income situation	Poor	1241 (40.4)	924 (37.7)	317 (51.2)	<0.001
	Average	1516 (49.3)	1246 (50.8)	270 (46.6)	
	Good	316 (10.3)	284 (11.6)	32 (5.2)	
Saving Money	Never	2217 (72.0)	1708 (69.4)	509 (82.2)	<0.001
	Little	773 (25.0)	668 (27.1)	105 (17.0)	
	Easily	91 (3.0)	86 (3.5)	5 (0.8)	

78 houses (7.7%) possessed none of the following household appliances: air conditioner, cable TV, tumble dryer, dishwasher and internet access. 67.7% of the urban respondents (1680 people) and 57.5% of the rural respondents (359 people) in this study live in a house, which has 2 to 4 household appliances. 41.0% of the houses (413 houses) did not own a car.

Smoking was reported to be different between urban and rural settings as well as between men and women (p<0.001) such that women in urban setting and men in rural setting had a higher rate of smoking (Figure 1).
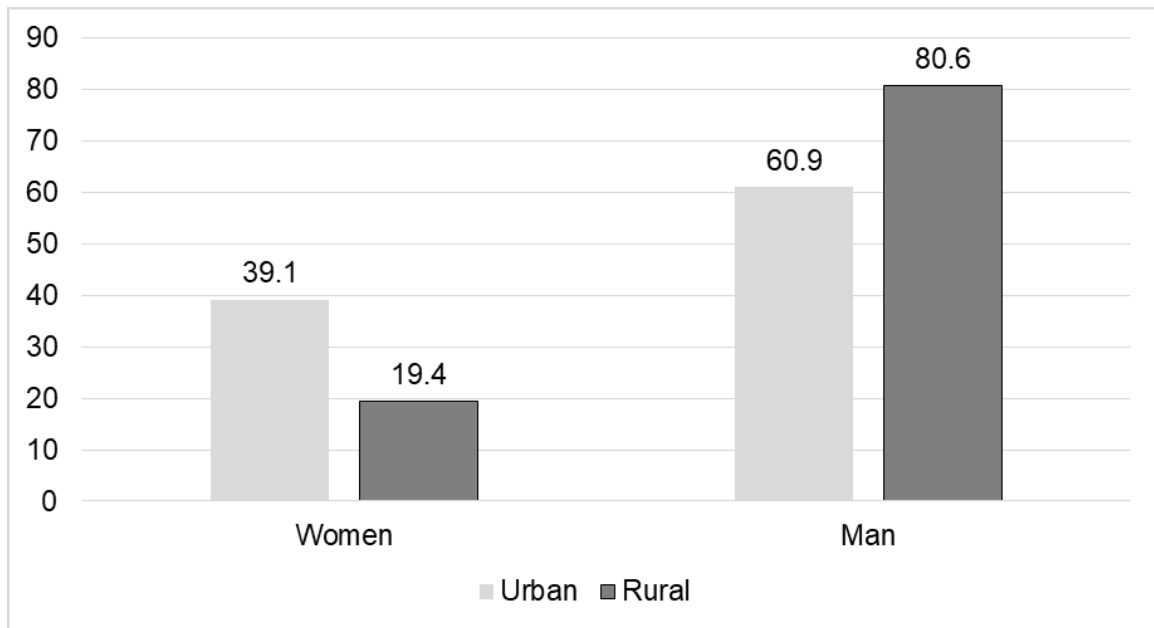
Figure 1: Distribution of smoking by gender and by area (%)

The socioeconomic indicators (education, employment status, household appliances, car owner-ship, household income, income status and money-saving) explored in this study were correlated with the health indicators (self-rated health, injury or disease and chronic diseases) ($p<0.01$). Good socioec-onomic status improves health indicators.

Good self-rated health was different in urban and rural areas depending on marital status, migra-tion, education, employment status, property ownership, car ownership, income situation, and mon-ey-saving ability. Urban respondents who have good self-rated health live in a more crowded family, have more number of household appliances in their houses, and earn a higher income compared to rural respondents ($p<0.05$).

Good self-rated health is 79,6% and 71,3% in urban and rural areas, respectively ($p=0.004$). A sig-nificant difference exists between men and women in the city ($p<0.001$), while such a difference does not exist in the rural area ($p>0.05$). Men who live in the urban area reported a higher rate of good health compared to men who live in the rural area (Figure 2). For women, there is no difference in terms of good self-rated health between rural and urban areas ($p>0.05$).
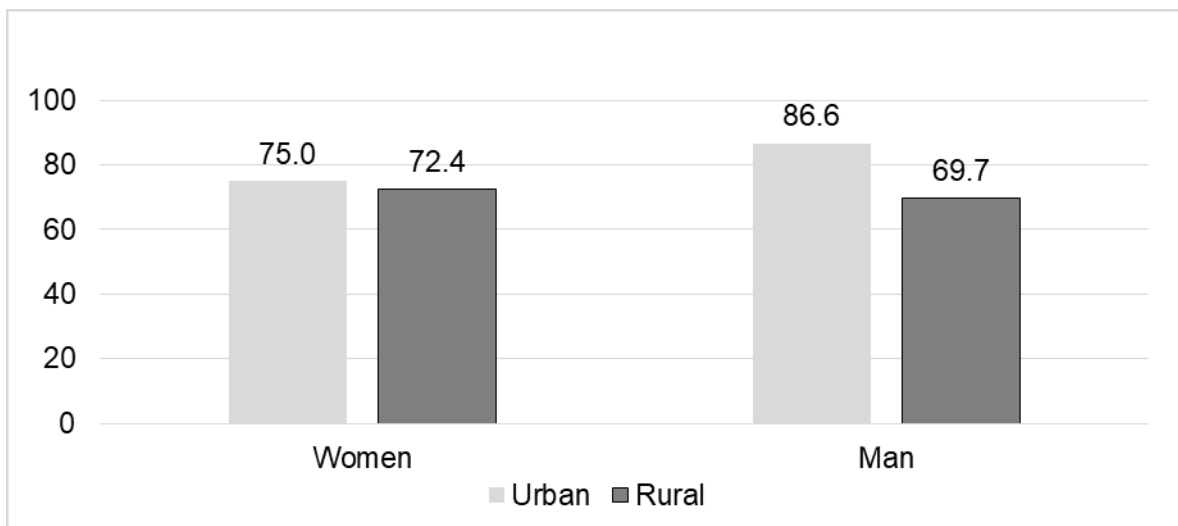
Figure 2: Good self-rated health by gender and by area (%)

Respondents without a chronic disease varied in urban and rural areas regarding migration, education, employment status, property ownership, car ownership, income situation and money-saving status. Urban respondents without a chronic disease had more household appliances in their houses and earn a higher income compared to those who live in the rural area ($p<0.05$).

17,1% of the urban respondents and 16,7% of the rural respondents had a chronic disease ($p>0.05$). No gender difference was reported between urban and rural areas regarding chronic diseases ($p>0.05$). Both in urban and rural areas, women suffered from more chronic diseases (Figure 3) ($p<0.05$).
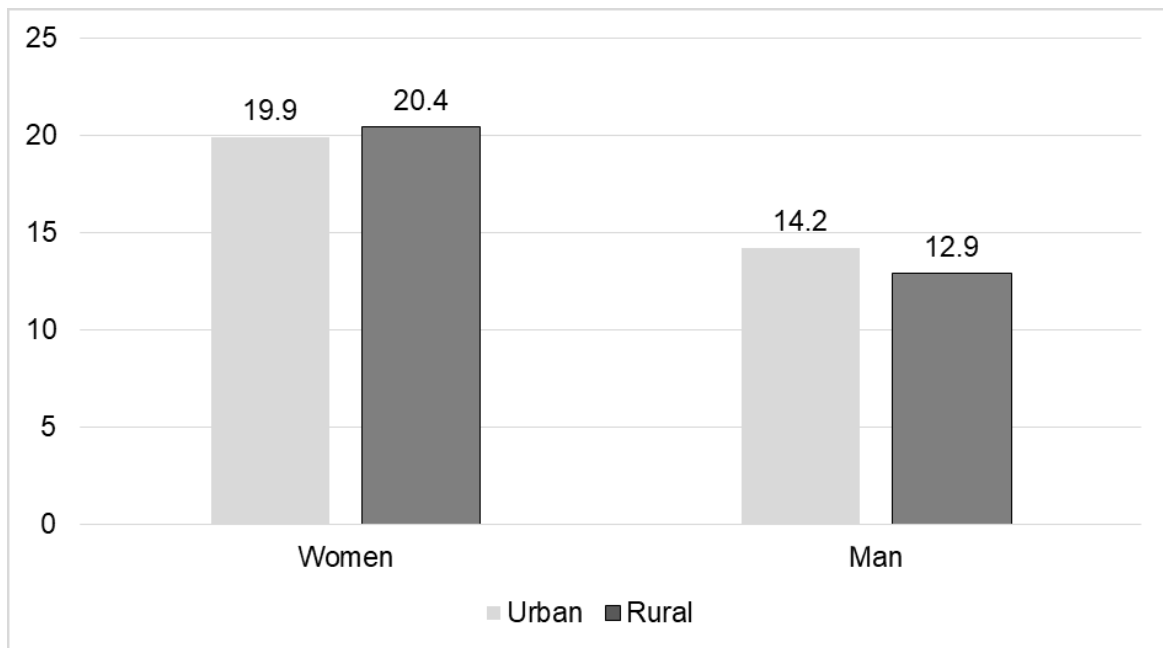
Figure 3: Chronic diseases by gender and by area (%)

27,7% of the urban dwellers and 25,6% of the rural dwellers had either injuries or diseases in the past fifteen days ($p>0.05$). No gender difference was reported among the respondents with injuries/diseases between urban and rural areas (Figure 4) ($p>0.05$). There was no significant difference between men and women in the rural area regarding no-injuries/no-diseases in the past fifteen days ($p>0.05$), while this difference was significant in the urban area ($p<0.05$).
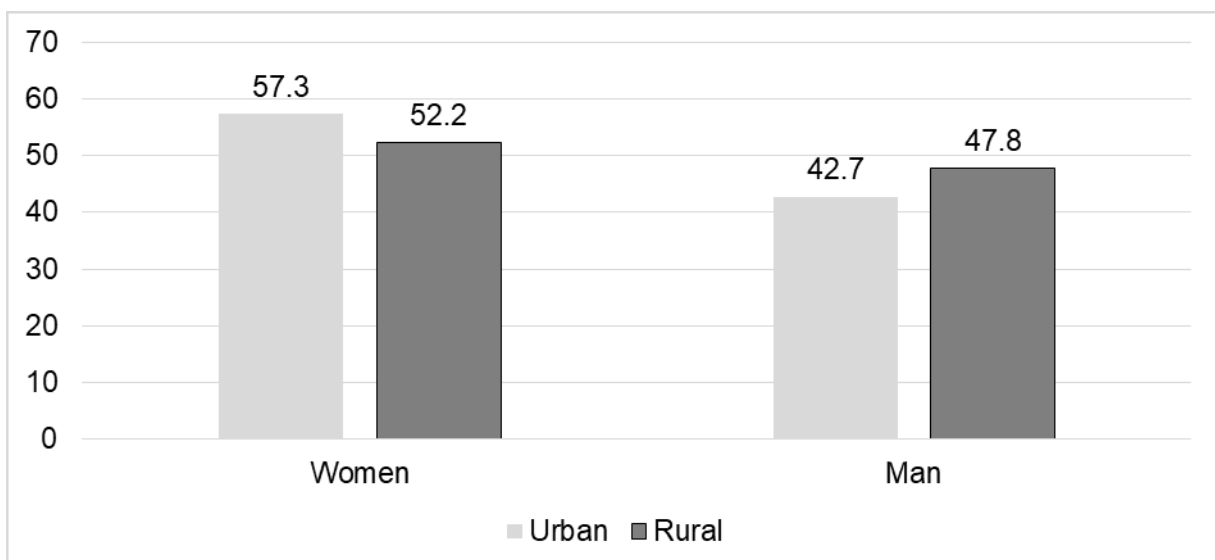
Figure 4: No-disease/no-injury by gender and by area (%)

Respondents with no injury/no disease in the past 15 days varied in urban and rural areas depending on marital status, education, employment status, property ownership, car ownership, income situation, and money-saving status. Urban respondents with diseases/injuries had more household appliances in their houses and earn a higher income compared to rural respondents($p<0.05$).

Good self-rated health of urban dwellers was 1.6 times higher than rural dwellers (OR:1.57, 95%CI:1.23-2.00). SRH Urban/rural ratio was 1.11 in good health. Table 3 shows the health inequalities between rural and urban areas.

Table 3. Urban rural-based health inequalities in selected indicators

	Urban (%)	Rural (%)	Difference (urban-rural)	Ratio (urban-rural)
Good SRH[a]	79.6	71.3	8.3	1.11
No Injury or disease	75.3	74.4	0.9	1.01
No Chronic disease	82.9	83.3	-0.4	0.99
≥13 years education[a]	24.4	12.5	11.9	1.95
Car ownership yes[a]	63.8	48.1	15.7	1.32
Good income situation[a]	11.6	5.2	6.4	2.23
Money-saving[a]	3.5	0.8	2.7	3.75
Working[a]	37.2	31.6	5.6	1.17
House ownership	60.8	63.1	-2.3	0.96

[a] $p<0.05$

Relative inequality between urban and rural areas was 3.75 in Money-saving, 2.23 in good income status, and 1.95 in ≥13 years of education. Absolute inequality was present in 11.9% in ≥13 years of education and 15.7% in car ownership.

DISCUSSION

This cross-sectional study examined the urban and rural health differences and its social determinants in Turkey as a developing country.

Our study has revealed that urban dwellers have better self-rated health. This finding is consistent with the studies from other countries (Lankila et al., 2012; Duboz et al., 2017). Men who live in cities have better self-rated health than women and also than the men who live in a rural area. Changes in socioeconomic roles affect self-rated health. Self-rated health is improving among economically active women (Aguilar-Palacio et al., 2018). The difference in our study can be related to sociocultural structure and low female labor-force participation (TSI, 2019).

In our study, urban and rural areas did not present a difference in terms of non-communicable diseases, which is one of the most critical health problems of the 21st century and the main cause of deaths globally. The difference arose from socioeconomic status. Advantageous groups suffered less from chronic diseases. There are other studies that confirm the interrelation between non-communicable diseases and their risk factors and socioeconomic inequalities (Sommer et al., 2015; Kien et al., 2017; Lago et al., 2018). The higher the socioeconomic status is the better the health indicators are.

This study revealed no difference between urban and rural areas regarding injuries/diseases in the past fifteen days. However, there were socioeconomic differences between the two settlement areas. Urban dwellers with any reported injury/disease had a better socioeconomic status.

Findings showed that urban dwellers had a distinctly higher educational background and income. Socioeconomic situation and health outcomes were found to be better than the rural area. It is known that where people live affects their health and chance of living (WHO, 2008). Living in a rural area does not necessarily result in worse health outcomes. Rural life presents both disadvantages (e.g., inadequate employment opportunities, lack of limited access to social services, and social isolation) and advantages (e.g., less industrial pollution, better access to green spaces, and nature). There are studies showing that urban dwellers are healthier than rural dwellers (Ompad et al., 2007; Levira &Todd, 2017; Chen et al., 2017).

The SRH difference that our study revealed between urban and rural areas can be related to the higher socioeconomic level in the city as well as the opportunities that urban life offers. An explanation for this could be that health literacy helps urban dwellers control their own health besides other enabling factors in the urban setting, such as access to healthcare and social services, diversity in cultural activities, and high level of education.

This study showed both the potential impacts of geographical location (rural/urban) and socioeconomic status on health (Wilkinson& Marmot, 2003; Grady &Goldblatt, 2012; Chen et al., 2017; Nummela et al., 2007; Dorjdagva et al., 2015). Our findings suggest that socioeconomic variables are more effective on health than the living spaces.

Study limitations

The cross-sectional nature of this study limits our ability to directly identify causal relationships between the residential area and health status. The questionnaire did not contain any questions about respondents' lifestyle, such as physical activity and height, weight.

There is a possibility of bias in self-reported data, especially socioeconomic circumstances. Some respondents did not answer the entire survey questionnaire. This is probably because the questionnaire was too long and contained personally delicate questions (such as income, self-rated health).

Although this study questioned alcohol consumption and smoking, it did not specifically investigate how long and how much the respondents had been consuming them. Another limitation of this study was the lack of questions that investigate individual factors, such as physical activity and personal hobbies.

CONCLUSION

Data obtained and analyzed in this study showed that socioeconomic indicators were strongly associated with health in both rural and urban areas. Good self-rated health, no-disease/no-injury and the absence of chronic diseases differ between urban and rural dwellers commonly depending on education, employment status, good household ownership, car ownership, income status and the ability for money-saving. The urban dwellers that had good health indicators in our study own more goods in their houses and earn a higher income compared to rural dwellers. This study indicates the urgent need to reduce the health disparities between urban and rural areas. Different areas need different incentives and actions of improvement for health. Socioeconomic indicators were strongly associated with health in both rural and urban area. The residential area is an important determinant of health. Our study, however, has revealed that socioeconomic factors determine health more than urban-rural settings.

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