Turk J Public Health 2016;14(3)
Available online at: http://tjph.org/ojs/index.php/

Research Article

Gender differences in self-rated health and their determinants in Turkey: A further analysis of Turkish health survey

Nilay Etiler[a]

[a]Prof., MD. Public Health Specialist, Istanbul

Received date 30.06.2016, Accepted date: 11.12.2016

Abstract

Objective: This study analysed gender differences in self rated health status and their determinants by gender in Turkey. **Methods:** This is a further analysis of a 2010 Health Survey conducted by Turkish Statistical Institute (TurkStat) A total of 5488 men and 7149 women in Turkey were included in this cross-sectional study. Self-rated health was analysed using three logistic regression models. **Results:** The rates of poor health were 9.8% among women and 5.2% among men, with the gender gap increasing with age. Low level of education, chronic diseases and poverty were associated with poor perceived health in both genders. For women, marriage and retirement from secure jobs were associated with good health; obesity and smoking were factors that caused poor health. For men, unemployment had a negative impact on health. **Conclusion:** The determinants of poor health were associated with not only on socioeconomic status but also on gender in the Turkey. Marriage may provide social protection for women where there are insufficient social policies to protect them.

Keywords: Gender differences, socio-economic status, health determinants, Turkey Health Survey, TurkStat

Corresponding Author: Nilay Etiler, Nilay Etiler, Public Health Specialist, Istanbul, Turkey.
E-mail: nilayetiler@gmail.com

Türkiye'de algılanan sağlık ve belirleyicilerinde toplumsal cinsiyet eşitsizlikleri: Türkiye Sağlık Araştırmasının ileri analizi

Özet

Amaç: Bu çalışmada Türkiye'de algılanan sağlık ve belirleyicilerinin cinsiyete göre farklılaşması analiz edilmiştir. **Yöntem:** Bu çalışma, Türkiye İstatistik Kurumu (TÜİK)'nun 2010 Sağlık Araştırması'nın ileri analizidir. Kesitsel nitelikteki bu çalışmaya 5488 erkek, 7149 kadın dahil edilmiştir. Beyana dayalı sağlık durumu, üç lojistik regresyon modeliyle analiz edilmiştir. **Bulgular:** Sağlıksızlık sıklığı kadınlarda %9.8, erkeklerde %5.2 bulunmuştur, yaş arttıkça cinsiyete bağlı eşitsizlik uçurumu artmaktadır. Düşük düzeyde öğrenim, kronik hastalıklar ve yoksulluk her iki cinsiyette de sağlıksızlık ile ilişkilidir. Kadınlar için evlilik ve güvenceli işlerden emekli olmak sağlıklılık ile ilişkiliyken, şişmanlık ve sigara içmek sağlıksızlık ile ilişkilidir. Erkekler için işsizlik sağlık üzerine olumsuz etkiye sahiptir. **Sonuç:** Türkiye'de sağlıksızlığın belirleyicileri sosyoekonomik belirleyiciler yanında toplumsal cinsiyet ile ilişkilidir. Evlilik, kadınları koruyan sosyal politikaların yetersiz olmasıyla ilişkili olarak sosyal koruma sağlayabilmektedir.

Anahtar kelimeler: Cinsiyet farklılıkları, sosyoekonomik durum, sağlığın belirleyicileri, Türkiye Sağlık Araştırması, TÜİK.

Introduction

The debate on health differences between men and women has been one of the most long-lasting in the health literature. It is well known that men live shorter lives, while women live longer but with a lower quality of life. In this context, several studies have explored the differences between men and women, but only a few have aimed at explaining these differences.

The explanations of gender differences in health require a multidisciplinary approach that goes beyond the biological factors. As indicated at the Cairo Conference in 1994, 'gender' refers to the social structures in which identities, roles, behaviour and activities are maintained and reproduced, and it is more helpful than 'sex' for understanding the health inequalities between men and women.[1,2] Therefore, studies on gender inequality must consider a multidimensional approach including the general sociological patterns in any society.[2]

The determinants of women's health are traditionally referred to as two opposite counteracting realities in which the first one is women's fertility referring to life-threatening events during pregnancy and the second one is women's biology that protects them, by hormones, from cardiovascular diseases.[2,3] However, the dichotomous explanations, which have been generally based on the biological sex categories, are insufficient to understand the determinants of women's health because they neglect the social conditions created by gender roles. In terms of the gender issue, the notion of a social environment includes both economic and political structures and ideological norms through which being a woman is constructed. Understanding gender issues in health is particularly difficult due to its

relationship with patriarchal, religious and other cultural components in addition to socio-economic status (SES), particularly in the Turkish population.

This study is a pioneering one that aims at investigating the nationwide gender inequalities in health using a representative sample from the population of the Turkish Republic Among OECD countries, the prevalence of poor health among adults has ranged from 2.7% to 21.5% in women and from 2.1% to 14.5% in men[4]. For women, Portugal, Korea and Israel are the top three countries having high rates of poor health, while New Zealand, Ireland and Canada have the lowest poor health rates for women. For men, Estonia is at the bottom of the list with Portugal and Israel. When the women-to-men (W/M) ratio of poor health prevalence is considered, Turkey's second highest. Turkey's W/M ratio of poor health is 1.51, followed by 1.66 in Iceland, while Canada is the country with an equilibrium, having a ratio of 1.00.Ireland, Finland, USA and Australia are the other countries that are close to the equilibrium.[4]

The concept of gender has been increasingly accepted as one of the primary determinants of health. With respect to gender-based analysis of health inequalities, the majority of studies generally focus on socio-economic issues and indicate women's lower position in the social hierarchies, their vulnerabilities in the welfare structures, and in income inequalities in many societies. There have been some explanations offered concerning socio-economic determinants, health-related behaviours, psychosocial determinants. In addition one has to consider the results of exposures to health hazards, the possession health-protective resources and also the extent to which awareness of health hazards has been increasing over time.[5,6] Gender, interacting with other social stratifiers, such as race and socio-economic class, has been indicated to be a social determinant of health. Gender inequality in life opportunities, is a factor shaping social positions and suggesting that a sociological approach to understanding the differences between health of men and women may need to address samples from different disease groups.[7–9] In order to examine gender and health relationships, Bird and Rieker (2010) focused on four diseases or conditions; two were physical health problems (cardiovascular diseases and immune function disorders) and two were mental health problems (depressive disorders and substance abuse)[8] According to this approach, social policy, community actions and work–family relationships force women to make several decisions in their lives, which are generally gendered actions.

As expected, considering the reality of patriarchal structures of societies, gender is a highly context-dependent variable in determining health inequalities, depending on its particularity of historical and social conditions. Gender inequalities in Turkey have special features stemming from its socio-economic structure as a developing country and its ideological patterns, including the rise of religious politics.

Although the field of gender studies in Turkey has broadened considerably in recent years, comprehensive studies on gender inequalities in health remain limited. In this study, we conducted a gender-based analysis of self-rated health status and its determinants by analysing a national data set representing the Turkish population. The main hypothesis of the study is that health determinants of men and women differentiate due to gender patterns in society as a whole.

Methods

This study is a further analysis of the cross-sectional research conducted by the Turkish Statistical Institute (TurkStat). The sample is based on the National Address Database and data are collected by household visits and face-to-face interviews. The survey is designed to produce estimates for the entire country, urban and rural. Thus, the total sample size necessary was found to be 7,886 households. Strata and two phase cluster sampling method was used. For external stratification a rural – urban difference was used. First phase sampling units were blocks consisting of an average

of 100 households and the second phase used systematic sampling from each block.[10] The micro data set of the 2010 Health Survey were officially requested and obtained from TurkStat in order to develop gender-based analyses of ill-health status for this study.[10]

The study population comprised 12,637 individuals aged between 15 and 64 years in Turkey, with 5488 men and 7149 women. The older group, defined as 65 and older was not included in the study because of higher rates of chronic health problems that might be confounding. The data were collected using a self-reported questionnaire, and included the variables discussed below.

The dependent variable was self-perceived health, which was assessed via one question recommended for measuring population health, that is, by asking people to rate their health as 'excellent, good, fair, poor or very poor'.[11,12] It was coded as a binary variable, including 'good health' and 'poor health' for use in the analyses; accordingly, the points 'very good', 'good' and 'fair' were collected as 'good health', while 'poor' and 'very poor' as 'poor health'.

The independent variables of the analysis were age, educational level, marital status, area of residence, paid employment, having health insurance, having any chronic disease, smoking, alcohol consumption and body mass index (BMI) with self-reported weight and height. The variable of chronic disease was created using the list of diseases diagnosed by a physician in the questionnaire, which was reported by participants. The educational level was treated as two groups according to the duration of education: as '8 years and less' and 'more than 8 years' in the analyses.

Smoking status was grouped as 'current smoker', 'former smoker' and 'non-smoker', while alcohol consumption was defined by current consumption. BMI was treated as four groups, in which BMI below 18.5 kg/m^2 was accepted as underweight, 18.5–24.9 kg/m^2 as normal, 25–29.9 kg/m^2 as overweight and ≥30 kg/m^2 as obese.[13]

Although the types of health insurance are primarily public, private and no insurance, the public insurance type is highly diverse with subtypes are clustering in different socio-economic groups. The subtypes of public insurance are civil servant insurance financed by the government, employee's insurance financed both by the employee and employer, self-employed insurance financed by the employer and insurance for poor people with income less than one of third of minimum wage financed by the government. In Turkey, the minimum wage is about 425-450 USD monthly, so the poverty level for insurance is 140-150 USD per month per capita. The different types of health insurance were used to represent the different socio-economic strata in Turkey as "civil servants", "employees", "self-employed" and "poor people".

As for all TurkStat surveys, the employment refers to the week previous to the survey. To improve on this relationship between employment and health, we also considered current and previous jobs.

Statistical analysis

All analyses were conducted separately for men and women, and for each gender three models of logistic regression were executed consecutively. In the first model, socio-demographic variables such as age, education, marital status and living in rural areas were included. In addition, BMI, chronic disease, smoking and alcohol consumption were considered as individual risk factors. In the second model, employment variables were added. Finally, in the third model, the types of health insurance were included as indicators of SES. The database was obtained in SPSS format form TurkStat.

All analyses were performed using SPSS 17.0. Alpha error was accepted at 0.05 level. A two-sample z-test to compare proportions and backward conditional logistic regression were executed.

Results

Socio-demographic characteristics of the individuals:

Some individual characteristics, such as age, marital status, education, area of residence, BMI, smoking and alcohol consumption are shown with reference to gender in Table 1. Table 2 shows the characteristics of employment and health insurance.

Health status in men and women (self-rated health):

The overall rate of poor health was 7.8% among the Turkish population, aged 15–64 years. The rates were 9.8% for women and 5.2% for men ($p < 0.001$) (Table 3).

Table 1. Individual characteristics by gender (%), Turkey 2010 Health Survey.

	Men n: 5 488	Women n: 7 149	Total n: 12 637
Age groups			
15-24	20.6	21.5	21.1
25-34†	21.5	24.0	22.9
35-44	22.1	22.4	22.3
45-54†	21.5	18.5	19.8
55-65	14.2	13.6	13.9
Marital status			
Never married†	28.4	22.4	25.0
Married	69.8	70.3	70.1
Widowed†	0.6	4.8	3.0
Divorced†	1.2	2.6	2.0
Education level			
Illiterate †	1.7	12.4	7.7
Literate †	4.1	7.9	6.3
Primary education (5 yrs) †	36.8	38.9	38.0
Upper primary education (8 yrs)†	22.0	16.3	19.3
Secondary education (12 yrs) †	18.9	14.8	17.5
Tertiary education (>12 yrs) †	14.5	8.8	11.2
Area of residency			
Urban	73.7	72.5	73.0
Rural	26.3	27.5	27.0
BMI groups			
Underweight (<18.5) †	3.0	5.0	4.1
Normal (18.5-24.9) †	41.7	39.0	40.2
Overweight (25.0-29.9) †	36.4	24.1	29.4
Obese (≥30) †	13.6	18.4	16.3
Unknown †	5.3	13.6	10.0
Smoking status			
Currently smoker †	45.0	17.8	29.6
Former smoker †	22.4	11.8	16.4
Non-smoker †	31.6	70.4	54.0
Drinking alcohol			
Yes †	22.9	5.3	12.9
No †	77.1	94.7	87.1
Total	100.0	100.0	100.0

†: Statistically different by two proportion t-test

Table 2. Employment characteristics and health insurance types by gender (%), Turkey 2010 Health Survey.

	Men n: 5 488	**Women** n: 7 149	**Total** n: 12 637
Employment status			
Currently employed †	64.6	20.7	39.8
Unemployed †	35.4	79.3	60.2
Causes of not employed			
Household responsibilities †	1.0	77.7	58.0
Education (student) †	32.1	12.5	17.5
Retired †	34.1	4.1	11.7
Seeking a job †	20.2	2.7	7.2
Seasonal worker†	2.2	0.4	0.9
Not able to work †	5.9	1.5	2.6
Other †	4.6	1.2	2.1
Current or previous employment type‡			
Permanent †	85.5	79.3	83.2
Temporary †	8.6	10.0	9.7
Seasonal work / limited contract †	5.9	10.7	7.7
Current or previous employment ‡			
Full-time†	94.5	88.5	92.3
Part-time †	5.5	11.5	7.7
Health insurance types			
Public, employee †	43.0	45.7	44.5
Public, self-employed	13.6	13.8	13.7
Public, poor †	11.8	13.2	12.6
Public, retired	8.8	9.6	9.2
Public, civil servant †	8.1	6.1	7.0
Private insurance	2.3	2.6	2.5
Self-payment †	12.3	9.2	10.5
Total	100.0	100.0	100.0

†: Statistically different by two-sample z-test to compare proportions; ‡ Among currently or previously employed (Total: 7566, Men: 4708, Women:2858)

Table 3. Self-rated health status by gender, Turkey 2010 Health Survey.

	Perceived health	No.	Percent	Health Status
Total	Excellent	1370	10.8	Good: %92.2 (95%CI: 91.7-92.7)
	Good	7079	56.0	
	Fair	3206	25.4	
	Poor	859	6.8	Poor: %7.8 (95%CI: 6.1-9.4)
	Very poor	123	1.0	
	Total	12637	100.0	
Men	Excellent	751	13.7	Good: %94.8 (95%CI: 94.3-95.5)
	Good	3401	62.0	
	Fair	1053	19.2	
	Poor	250	4.6	Poor: %5.2 (95%CI: 2.7-7.9)
	Very poor	33	0.6	
	Total	5488	100.0	
Women	Excellent	619	8.7	Good: %90.2 (95%CI: 89.5-90.9)
	Good	3678	51.4	
	Fair	2153	30.1	
	Poor	609	8.5	Poor: %9.8 (95%CI: 7.5-11.9)
	Very poor	90	1.3	
	Total	7149	100.0	

Figure 1 shows the trend of health status by the age groups, increasing with age. Although the rate of poor health is similar in the youngest group (15–24 years), the difference between both genders begins at the 25- to 34-year-old age group and continues to the older groups ($p<0.001$).

Chronic conditions and injuries are shown in Supplementary Table-A. Also, the results of bivariate analysis are available at Supplementary Materials as Suppl Table-B.

The associations of poor health in relation to gender are shown in Table 4, analysed using the six logistic regression models.

In all the logistic regression models, the educational level has been associated with health in both genders. In the first and the second model, marriage was related to better health as a protective factor, whereas it showed no association in the third model. Being overweight appeared to have a relationship with good health of men in the three logistic regression models (odds ratio [OR]: 0.5; 95% confidence interval [CI]: 0.4–0.7). For women, obesity was found to be a risk factor (OR: 1.5, CI: 0.4-0.7), which increases poor perceived health.

Poor health assessments were not associated with smoking for men, although active smoker women reported 1.4 times worse health in the third model. No relationship was observed between alcohol consumption and health in the multivariate analysis models. Having at least one chronic disease was highly related to poor health for both men and women having ORs between 13.3-18.0 in the models.

Employment status had an association with poor health only for men, with ORs of 2.9 and 2.4 in the two models, respectively. No relationship was observed between health status and employment

features as temporary or seasonal working and part-time working in both gender groups.

When the civil servant health insurance was treated as the reference two health insurance types were related to poorer health in both men and women. Among those who had public insurance for the poor, a worse health status was observed for both men and women. Women having public insurance for retired civil servants showed better health assessments.

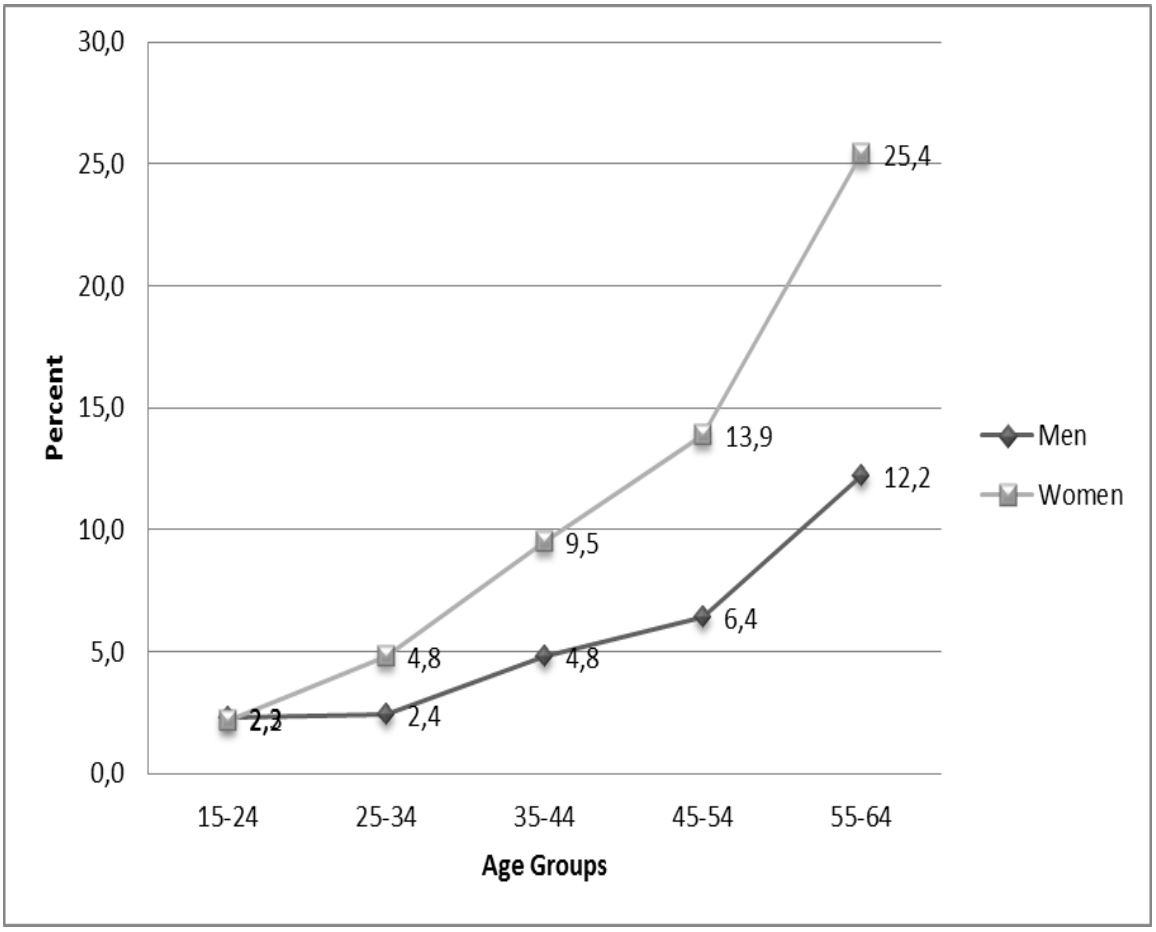

Figure 1. Self-rated health status among age groups with reference to gender, Turkey 2010 Health Survey.

Table 4. The models of multivariate analysis of self-rated health status (poor health) by gender, Turkey 2010 Health Survey.

Variables	**1. Model**		**2. Model**		**3. Model**	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Nagelkerke R^2	0.298	0.302	0.318	0.302	0.323	0.309
Constant	0.003	0.003	0.003	0.003	0.005	0.003
Age groups (Ref: 15-24 years old)						
25-34	NS	1.8 (1.3-3.1)	NS	1.9 (1.2-3.1)	NS	NS
35-44	2.2 (1.3-3.7)	3.1 (2.0-4.8)	2.2 (1.1-4.1)	2.2 (1.4-3.6)	2.3 (1.2-4.4)	1.8 (1.1-2.8)
45-54	2.2 (1.3-3.7)	4.1 (2.6-6.4)	1.8 (1.0-3.4)	2.4 (1.5-3.9)	2.2 (1.1-4.0)	2.2 (1.4-3.5)
55-64	3.0 (1.8-5.1)	9.4 (6.1-14.5)	1.9 (1.0-3.5)	4.6 (2.9-7.5)	2.3 (1.2-4.3)	4.7 (3.0-7.5)
Educated ≤ 8 years	2.6 1.8-3.7)	2.6 (1.9-3.7)	2.5 (1.7-3.5)	2.6 (1.9-3.7)	2.3 (1.6-3.3)	2.4 (1.7-3.3)
BMI groups (Ref: Normal(18.5-24.9)						
Underweight (<18.5)	NS	NS	NS	NS	NS	NS
Overweight (25.0-29.9)	0.5 (0.4-0.7)	NS	0.5 (0.4-0.7)	NS	0.5 (0.4-0.7)	NS
Obese (≥30)	NS	1.5 (1.1-2.0)	2.5 (1.7-3.5)	1.5 (1.1-2.0)	NS	1.5 (1.2-2.0)
Smoking (Ref: non-smoker)						
Currently smoking	NS	NS	NS	NS	NS	1.4 (1.1-1.8)
Former smoker	NS	NS	NS	NS	NS	NS
Drinking alcohol	NS	NS	NS	NS	NS	NS

NS: Not Significant

Table 4 (Continue).

Being married	NS	0.8 (0.6-1.0)	NS	0.8 (0.6-1.0)	NS	NS
Living in urban areas	NS	NS	NS	NS	NS	NS
Having any chronic disease	18.0 (12.5-25.9)	13.6 (10.1-18.3)	16.7 (11.6-24.1)	13.6 (10.1-18.3)	16.3 (11.3-23.4)	13.3 (9.9-18.0)
Employment status (Ref: not employing / student)			2.9 (1.2-7.0)	NS	2.4 (1.0-5.9)	NS
Unemployed			NS	NS	NS	NS
Employed						
Working temporarily/ seasonal (Ref: permanent)			NS	NS	NS	NS
Part time working (Ref: full time)			NS	NS	NS	NS
Health insurance (Ref: civil servant)						
Employee					NS	NS
Self-employed					NS	NS
Public insurance, retired from government					NS	0.6 (0.5-0.9)
Public insurance for poor					1.7 (1.2-2.5)	1.7 (1.3-2.3)
None, self-payment					NS	NS

NS: Not Significant

Discussion

Perceived health is a simple measure that has been shown to be a valid indicator of health, with the ability to predict mortality, morbidity and the use of health services[11] and also to measure subjective health.[14,15] Additionally, perceived health status is related to subsequent mortality, healthy lifestyle behaviour, subsequent medical use and multiple symptoms.[14,16] However, because of its subjective nature, perceived health not only has a physical but also a psychological component.[12,14]

The current study has confirmed some well-known results in the literature; that poor health is associated with ageing, having a chronic disease, smoking, unemployment, and poverty. Also, the determinants of health can differ in women and men with their gender roles for instance unemployed men reported worse health than unemployed women.

Health studies on gender inequalities are relatively rare in comparison to other inequality studies, especially in Turkey. Understanding gender issues in health is particularly difficult due to its relationship with patriarchal, religious and other cultural components, as well as SES, especially in the Turkish population. In this study, poor health was expectedly more common among women compared to men (25.3% vs. 38.4%), which is consistent with other studies.[17–19] In Turkey, the time spent on housework is very long for women compared with that in other European countries.[20]

In this study, the poor health prevalence was calculated to be lower than that in the OECD countries[4], probably due to limiting the age to 65 years. It is well known that poor health is likely to increase with age. The W/M risk ratio of poor health in Turkey is 1.88 in the 15- to 64-year-old age group. This difference between both genders appeared after 25 years and then reached more than two-fold values in the 55- to 64-year-old Turkish age group. Health status has worsened with ageing, probably due to increasing chronic conditions.[21] However, in contrast to the findings of this study, a closing gap between men and women with increasing age has been reported in US.[21]

A study from 11 European countries reported a higher rate of overweight among men, while obesity was higher among women aged more than 50 years.[18] In this study, we found that overweight is associated with good health among men. Obesity is a public health problem related to both excess energy nutrition and poor physical activity that are also determined by socioeconomic status.[13] In this study, obesity was a risk factor for women's perceived health despite a higher rate of "unknown" that could cause underestimation of the risk. On the other hand, the relationship disappeared after adding the health insurance (socioeconomic) categories for men. This finding could be related to gender issues about obesity among women.

Although SES is a well-known factor for poor health among men and women, education and household income are especially closely associated with poor health among women.[19,22] Education is a social determinant of health, as several studies have reported that educational inequalities cause health inequalities in most countries.[23–25] People who have a higher education are probably more qualified and are able to easily find higher status jobs as well as higher wages and social insurance in the labour market. In contrast, the low status jobs have negative effects due to not only a low income but also poor working conditions. In parallel to this literature, a positive relationship between health and education was found in Turkey. However, it was also reported that although increasing educational levels have a relationship with good health for both genders, the impact appears just after primary school among women, while it occurs after secondary school among men.[26]

It is well known that as a consequence of gender roles, women are responsible for household care, cleaning, cooking and so on, even if they are paid workers in the labour market. Women working for high wages are able to avoid

their housework by hiring another woman. It is important to note that if women work, they work in many precarious conditions such as low wage or part-time or flexible or insecure jobs. They have to carry out their gender responsibilities by themselves instead of hiring someone. Therefore, by adding paid work to their household work, so-called dual work, these women suffer more physical, mental and emotional burdens.[15,27]

As a result of the gender role defining men as the breadwinner, it has been observed that unemployment causes men's health to worsen but not women's health.[17] Chen et al. reported a similar finding in Taiwan[17], where a strong gender division of labour exists, as in Turkey. From a global analysis, it was similarly reported that unemployed women were 1.4 times as unhealthy and men 1.9 times as unhealthy compared to their employed counterpart. The health consequences of unemployment are higher for men than women.[26] However, the influence of poor health on employment transitions is more detrimental for women than for men.[15]

Women who have retired from government service have surprisingly good. In Turkey, being a government employee implies having a secure job during one's whole working life, whereas several types of flexible, insecure employments are common for others. Paid work is also known to have a positive effect on women's health[15], probably due to the benefits of both the instrumental and the symbolic rewards of paid work.[22] As a result, it is expected that paid women workers have better health than both unemployed women and housewives which are also classified as unpaid labour at household activities. This uneven situation indicates the burden of women's household responsibilities that continue after entering the labour market in addition to the paid work. For women, retirement also means getting rid of dual working, in addition to having a retirement income. According to a cohort study, their position in the occupational hierarchy does not affect women's health status, wheras it is associated with a decline in men's health status.[28]

Health insurance is actually a factor in decreasing the outcomes of poverty, because it provides the opportunity to access to health care. Moreover, the different types of health insurance also refer to the stratification of SES in our analysis in Turkey where the health insurance types are based on the individual's social status: that is, being an employee, self-employed etc. Although income is an important determinant of health, information on income was unavailable in this study. It has been reported that the gender gap increases in a low SES.[29] Furthermore, SES has been found to be significant for determining health, only among women.[30]

In Turkey, universal health insurance is obligatory for everyone, and the government pays the insurance premium for poor people. Civil servants, who have secure and permanent state employment in the public sector were found to have the best health status, although there is a different rate between men and women with regard to poor health, 1.6% and 3.9%, respectively. Self-rated health gets worse in both sexes with insurance for poor people, the rate for women being 15.4% and the rate for men 10.6%. Although in this insurance group both genders have the poorest health status, men's health status is worse than women's health status; the risk ratio for men is 6.7, while it is 3.9 for women compared to civil servants. The rate among poor women (15.4%) probably indicates a combination of poverty and gender disadvantage. The health risk ratio for poor women is expectedly lower than for men, because women have already higher prevalence in all groups, compared to men.

Marriage has some positive effects on health status in two ways, that is, marriage protection and marriage selection.[31] While marriage protection mechanisms are explained especially by life styles, marriage selection means that unhealthy people are less likely to get married. Divorced or never married men without partners and divorced women without partners tend to report poor health

status. Married people have been reported as having, positive health behaviours with regard to smoking, alcohol consumption and coffee and breakfast habits.[32] Another report indicated that marital status differentials in health are large for unemployed women.[32] In our first two models, it was found that married women have lower risks for poor health. However, the positive effect of marriage for women disappears after adding health insurance types in the third model. Because the majority of women have health and social insurance as dependents of their husbands in Turkey[21], marriage appears to be associated with good health for women, although health insurance has a fundamental effect on women's health. Otherwise, it should be considered that marriage can provide opportunities of higher living standards under the conditions of Turkey's gender inequality.

This analysis has some limitations due to its research design, relying on the cross-sectional design, which was orientated to the exploration of causal relations. The main limitation is that a self-rated health status is highly subjective. Another limitation is related to the fact that data in the health survey are not sensitive to gender division of labour within the household, such as sharing and spending time on domestic tasks in the individuals' daily life. Moreover, the lack of information about income and profession is a weak dimension of the socio-economic analysis; therefore, the SES analysis is based only on the educational status, which affects opportunities in the labour market. The dichotomy of the of self-rated health into good and poor health is another issue because women are more likely to be in the "fair health" category compared to men. The binary analysis may have caused an underestimation the risks especially for women.

However, the large sample of the analysis, which is representative of the Turkish population, is an important strength of the study. Furthermore, the national data set that was designed from the health survey is suitable for generating gender-based analysis of health inequalities, if a gender-sensitive perspective is applied, as in this study.

In conclusion, gender patterns result in differences in health determinants among men and women in Turkey. In this study, some consequences of gender inequality were found be shared among both sexes. For instance, marriage seems to be functioning as a social protection mechanism for women in cases where social policies to protect women are insufficient. Moreover, retirement from jobs in the public sector that provide secure employment is associated with good health, even at older ages after retirement. Consistent with traditional gender roles, only unemployment affects the health status of men who are accepted as the breadwinner in the society. Both socio-economic factors and societal factors, such as gender stereotypes, seem to have an effect on poor health status in Turkey. Further studies should be conducted in the Turkish population to understand the determinants of health associated with gender norms including quantitative studies as well as epidemiologic surveys.

Potential conflicts of interest

The authors declare that they have not competing interests.

Acknowledgments

I would like to thank to Assoc. Prof. Aynur Ozugurlu, PhD (sociologist) for her helpful comments and suggestions.

References

1. Udry JR. The nature of gender. Demography 1994;31(4):561-573.
2. Doyal L. Gender equity in health: debates and dilemmas. Soc Sci Med 2000;51(6): 931-939.
3. Pollard T & Hyatt S. Sex, gender and health: integrating biological and social perspectives. In: Pollard T & Hyatt S

(Eds) Sex, Gender and Health. Cambridge: Cambridge University Press; 1999. p.1-17.

4. OECD. Perceived Health Status. In Health at a Glance 2011: OECD Indicators, OECD Publishing. Available at: http://dx.doi.org/10.1787/health_glance-2011-12-en Accessed: April 14, 2014.
5. Denton M, Prus S, Walters V. Gender differences in health: a Canadian study of the psychosocial, structural and behavioural determinants of health. Soc Sci Med 2004;58(12): 2585-2600.
6. Wamala S, Lynch J. Introduction. Integrating research on gender and social inequities in health" In: Gender and Social Inequities in Health- A Public Health Issue. Eds. Wamala S & Lynch J. Sweden: Studentlitteratur Lund; 2002. p.12-20
7. Östlin P. Gender inequalities in health: the significance of work In: Wamala S & Lynch J (Eds) Gender and Social Inequities in Health- A Public Health Issue. Sweden: Studentlitteratur Lund; 2002. p.43-66
8. Rieker PP, Bird CE, Lang ME. Understanding Gender and Health. In: Bird CE, Conrad P, Fremont AM, Timmermans S (Eds) The Handbook of Medical Sociology, 6th ed. Nashville:Vanderbilt University Press, 2010. p.52-73.
9. Sen G, Östlin P. Gender as a social determinant of health: evidence, policies, an innovation. In: Sen G & Östlin P (Eds) Gender equity in health: the shifting frontiers of evidence and action. New York: Taylor & Francis 2010. p.4-7.
10. TurkStat. Health Survey 2010. Ankara: Turkish Statistical Institute. 2013 Available at:http://www.turkstat.gov.tr/PreTablo.do?alt_id=1095
11. Young TK. Population health: concepts and methods. New York: Oxford University Press; 2004. p.77
12. Bowling A. Just one question: If one question works, why ask several? J Epidemiol Community Health 2005;59:342-345.
13. World Health Organisation. Report of WHO Consultation Obesity: Preventing and Managing the Global Epidemic. Geneva: World Health Organization Technical Report Series; No: 894. 2004.
14. Costa-Font J, Hernandez-Quevedo C. Measuring inequalities in health: What do we know? What do we need to know? Health Policy 2012;106(2):195-206.
15. Ki M, Kelly Y, Sacker A, Nazroo J. Poor health, employment transitions and gender: evidence from the British Household Panel Survey. Int J Public Health 2013;58(4):537-546
16. van der Windt DA Dunn KM, Spies-Dorgelo MN, Mallen CD, Blankenstein AH, Stalman WA. Impact of physical symptoms on perceived health in the community. J Psychosom Res 2008;64(3):265-274.
17. Chen DR, Chang LU, Yang M. Gender-specific responses to social determinants associated with self-perceived health in Taiwan: A multilevel approach. Soc Sci Med 2008;67(10):1630-1640.
18. Crimmins EM, Kim JK, Sole-Auro A. Gender differences in health: results from SHARE, ELSA and HRS. Eur J Public Health 2010;21(1):81–91
19. Malmusi D, Artazcoz L, Benach J, Borrel C.Perception or real illness? How chronic conditions contribute to gender inequalities in self-rated health. Eur J Public Health 2012;22(6):781-786.
20. TurkStat. Family Structure Study 2006. Ankara: Turkish Statistical Institute Publication; 2008
21. Gorman BK & Read JG. Gender disparities in adult health: an examination of three measures of morbidity. J Health Soc Behav 2006;47(2): 95-110.
22. McDonough P, Walters V, Strohschein L. Chronic stress and the social patterning of women's health in Canada. Soc Sci Med 2002;54(5):767-782.

23. Marmot M. Social determinants of health inequalities. Lancet 2005;365(9464):1099-1104.

24. Sozmen K, Baydur H, Simsek H, Ünal B. Decomposing socioeconomic inequalities in self assessed health in Turkey. Int J Equity Health 2012;11:73. doi:10.1186/1475-9276-11-73

25. Mackenbach JP, Stirbu I, Roskam AJR et al. Socioeconomic inequalities in health in 22 European countries. New Eng J Med 2008;358(23):2468-81.

26. Witvliet MI, Kunst AE, Stronks K, Arah OA. Variations between world regions in individual health: a multilevel analysis of the role of socio-economic factors. The Eur J Public Health 2012;22(2):284-9.

27. Messing K, Silverstein BA. Gender and occupational health. Scandinavian journal of work, environment & health 2009;35(2):81-83.

28. Mustard CA, Vermeulen M, Lavis JN. Is position in the occupational hierarchy a determinant of decline in perceived health status? Soc Sci Med 2003;57(12):2291-2303.

29. Ladwig KH, Marten-Mittag B, Formanek B, Dammann G. Gender differences of symptom reporting and medical health care utilization in the German population. Eur J Epidemiol 2000;16(6):511-518.

30. Duetz MS, Abel T, Niemann S. Health measures differentiating associations with gender and socio-economic status. Eur J Public Health 2003;13(4):313-319.

31. Waldron I, Hughes ME, Brooks TL. Marriage protection and marriage selection- Prospective evidence for reciprocal effects of marital status and health. Soc Sci Med 1996;43(1):113-123.

32. Robles TF, Kiecolt-Glaser JK. The physiology of marriage: Pathways to health. Physiology & behavior 2003;79(3):409-416.