Turkish Journal of Geriatrics
2015;18(4):285-292

Çiğdem ÇAĞLAYAN
Nilay ETİLER

RESEARCH

HEALTH OF OLDER WORKERS IN TURKEY: A FURTHER ANALYSIS OF A NATIONAL SAMPLE

ABSTRACT

Introduction: The problems associated with ageing can add to the problems of working life. The aim of this study was to compare the general and work-related health problems of workers aged 45–64 years with those of workers aged 25–44years.

Materials and Method: This study was the extended analysis of the 2010 Health Survey of Turkish Statistical Institute (TurkStat)'s cross-sectional study, representing the country. Data from 4,431 people working actively between the ages of 25 and 64 years were extracted from the micro-dataset, and 2,925 adults (aged 25–44 years) and 1,506 older workers (aged 45–64 years) were then compared in terms of health status, work-related health problems and health care utilization. Chi-square tests and logistic regression were used for the analysis.

Results: The perceived health status was worse and the types of illnesses within the last four months were more serious in older workers. The rate of chronic disease was 22.1% in adult workers and 38.4% in older workers. No difference was found in terms of work accidents and work-related diseases; however, general health problems were more frequent in older workers. The results of the additional analysis showed that living in rural areas (OR=1.38), male gender (OR=1.51), primary school or lower education (OR=2.15), being married(OR=1.85), chronic disease existence (OR=1.64), musculoskeletal system disease (OR=1.31) and cardiovascular disease (OR=2.95) were more common, and mental disorders (OR=0.53) were less common.

Conclusion: To protect and improve the health of older workers, efficient health care should be provided and national policies should be created for workplaces.

Key Words: Occupational Health and Safety; Older Workers; Cross-sectional Study; Turkey, TurkStat.

ARAŞTIRMA

TÜRKİYE'DE YAŞLI İŞÇİLERİN SAĞLIĞI: ULUSAL BİR ÖRNEĞİN İLERİ ANALİZİ

ÖZ

Giriş: Çalışanların yaş ortalaması ileri yaşlara kaymasıyla, çalışma yaşamındaki sorunlara yaşlanmanın getirdiği sorunlar eklenmektedir. Bu çalışmanın amacı, Türkiye'de 45-64 yaşındaki çalışanların genel ve işe bağlı sağlık sorunlarını 25-44 yaş çalışanlar ile karşılaştırmaktır.

Gereç ve Yöntem: Bu çalışma Türkiye İstatistik Enstitüsü (TÜİK)'nün kesitsel tipte, ülke temsiliyeti olan bir örnekte yürüttüğü, 2010 Sağlık Araştırması'nın ileri analizidir. Mikroveri setinden 25-64 yaş arası aktif olarak çalışan 4431 kişinin verileri ayrılmış ve analizlerde 2925 erişkin işçi (25-44 yaş) ile 1506 yaşlı işçinin (45-64 yaş) çeşitli özellikleri, genel sağlık durumu, işe bağlı sağlık sorunları ve sağlık hizmet kullanımı açısından karşılaştırılmıştır. Analizlerde ki-kare testleri ve lojistik regresyon analizi yapılmıştır.

Bulgular: Yaşlı işçilerde hem algılanan sağlığın daha kötü olduğu hem de son dört haftadaki rahatsızlığın daha ciddi olduğu saptanmıştır. Erişkin işçilerde kronik hastalık sıklığı %22.1 iken yaşlı işçilerde %38.4'dır. İş kazası ve işten kaynaklanan hastalık sıklığı açısından iki grup arasında fark yokken, genel sağlık sorunları yaşlı işçilerde daha sıktır. İleri analiz sonuçlarına göre, yaşlı işçilerde kırda yaşama (OR=1.38), erkek cinsiyet (OR=1.51), ilkokul ve altı öğrenim düzeyi (OR=2.15), evli olmak (OR=1.85), kronik hastalık varlığı (OR=1.64), kas-iskelet sistemi hastalığı (OR=1.31) ve kalp-damar hastalığı (OR=2.95) daha fazla iken ruhsal rahatsızlık (OR=0.53) daha azdır.

Sonuç: Çalışma yaşamında yaşlı işçilerin sağlığının korunması ve teşviki için işyerlerinden başlayan etkili bir sağlık hizmeti sağlanması ve ulusal politikaların oluşturulması gerekmektedir.

Anahtar Sözcükler: İşçi Sağlığı ve Güvenliği; Yaşlı İşçi; Kesitsel Araştırma; Türkiye, TÜİK.

Correspondance

Etiler NİLAY
Kocaeli University, Faculty of Medicine,
Department of Public Healty, KOCAELİ

Phone: 2623037550
e-mail: nilayetiler@gmail.com

Received: 24/09/2015

Accepted: 18/10/2015

Kocaeli University, Faculty of Medicine,
Department of Public Healty, KOCAELİ

Introduction

Demographical changes, such as the increase in life expectancy and the ageing of the population, affect the structure of the labour force. As a result, the number of older workers in the labour market has increased in developed countries (1). The number of workers aged 50 years and older increased by 50% from 1951 to 2007 and reached 20.7 million in the United Kingdom (UK) (2). Similarly, while the percentage of workers over the age of 50 years in the labour markets was 27% in 2000, it is expected to exceed 35% by 2020 (3). Because of early retirement and an increase in health care costs, in 2001, the European Union (EU) decided to increase the employment rate of people within the 55–64 years age group to 50% by 2010. Despite not achieving this goal, a significant amount of progress has been made and the employment rate of this age group increased to 46% in 2010 (4).

The increasing age of those in the labour market has brought about the need to define the concepts for the older worker or ageing worker. In the Older Workers Recommendation (1980), the International Labour Institution (ILO) defined older workers as workers who had difficulties in their work life and employment because of ageing (5). Then, the World Health Organization (WHO) Working Group on Aging and Working Capacity reached an agreement, indicating that older workers and ageing workers can be used as synonyms and that workers aged 45 years and above would be accepted as older workers (6).

Older workers worldwide increasingly wish to and need to work and earn income because of demographic, economic and political reasons even if their health status is not good. ILO data has indicated that poverty is the most important reason for the need to work, even in European countries (7). Furthermore, in the Second Assembly of the United Nations in Madrid on Ageing, it was stated that the elderly should continue to work as long as they want and can remain productive (8). All of these developments demonstrated that work life can be extended and the share of older workers in the labour force can be increased. The extension of work life requires health service requirements be established for older/ageing workers to facilitate their requirements.

According to the ILO, older workers require more health services because they experience both long-term disabilities and short-term health problems more frequently than younger workers. Moreover, among all workers, females and those people working in manual labour-based careers have more disadvantages; in particular, these groups often need health services (7).

The Madrid Plan stated that health care for elderly workers should be available. In this context, providing workplace health services can be a way to meet the needs of an increasing number of older workers and to improve the awareness of health professionals on this subject. For these reasons, the aim of our research was to identify the general and work-related health status and utilization the health service of the workers aged 45–64 years and 25–44 years in Turkey.

Materials and Method

This study was a further analysis of the 2010 Health Survey that was conducted by the Turkish Statistical Institute (TurkStat) using the cross-sectional research method.

The TurkStat Health Survey was conducted to determine the general health profiles of the individual participants. The population of the study consisted of all individuals living in houses in Turkey (9). The data were collected from a total of 20,200 people and obtained as a micro-dataset from TurkStat with official consent. The sampling of this study was comprised of 4,431 people between the ages of 25 and 65 years that had been included in the analysis and that had been extracted from the dataset; all workers were actively working. Of these people, 2,925 were in the 25–44 years age group and 1,506 were in the 45–64 years age group.

The dependent variable of the study was the health status of the workers. The self-reported data concerning health status were perceived as health, chronic diseases and physical illnesses. Perceived health status was determined to be 'very good', 'good', 'medium', 'poor' and 'very poor'. A re-categorization was made within these classifications to combine the medium and better categories into a 'having good health' classification and the poor and very poor ones into a 'having poor health' classification. Diseases diagnosed by a physician and lasting for more than six months were defined as 'chronic disease'; it was defined as feeling a physical illness within the last four weeks.

The independent variables of the study were the sociodemographic characteristics: age, gender, marital status, location, pension income and health insurance. The 'older worker' and 'adult worker' in our study were categorized as the 45–66 years age group and the 25–44 years age group, respectively.

The variables regarding worker's health services included having occupational accidents or work-related disease and absenteeism within the last 12 months.

The need for worker's health services were investigated over the application to the physician, blood pressure, blood

sugar, cholesterol measurements, detection of parasite(s)in the stool and the administration of flu vaccine variables.

The Pearson chi-square test, Fisher's exact chi-square test and trend chi-square test were all used in the univariate analyses. Logistic regression was used in the further analyses. The statistical significance was accepted as 0.05. The analyses were performed in SPSS ver 21.0.

Results

Based on the TurkStat 2010 Health Survey sample, 2,925(51.2%) out of 5,717 people in the adult workers and 1,506(35.4%) out of 4,254 people in the older workers were in labour market. Therefore, the rate of participation in the labour market was significantly lower in the 45–64 years age group than that in the adult group. This difference was also observed between the genders ($p>0.001$). The rate of participation in the labour market was 26% among females in the adult age group, whereas it decreased to 16.9% in the older workers ($p>0.001$). The same rates were 86% among males in the adult age group and decreased to 57% in the older group. Table 1 shows the characteristics for both age groups.

Of older workers, 8.3% that were included in the analysis that described their perceived health status as poor/very poor; this was significantly higher than the rate in the adult workers (3.6%). Similarly, the rate of having a chronic disease for more than six months was higher in the older group (38.4%) than that in the other group (22.1%) ($p<0.001$). Regarding the chronic diseases, the older age group had more problems with acute diseases than the adult workers. The rate of workers answering the question 'Have you felt any bodily/physical illness in the last four weeks?' with 'I have not' was 52.9% in older workers; however, it was 65.1% in the adult workers. The rate of those that felt serious or very serious discomfort was 7.9% in older workers and 5.6% in the adult workers (data not shown).

As seen in Table 2, the older workers had higher disease rates than the other age group for all chronic disease diagnoses except for stroke, chronic anxiety and depression. The most diagnosed diseases were musculoskeletal problems of the lumbar region, hypertension, gastric ulcers, rheumatic joint disease and degenerative joint disease.

While the frequency that a work-related disease had been diagnosed over the previous year was similar for both older workers (4.8%) and adult workers (4.7%), the frequency with which a disease unrelated to work was diagnosed was significantly higher in older workers (7.9% and 5.5%, respectively). There were no differences for older and adult workers in terms of occupational accidents, and older workers had fewer absences from work (Table 3).

Table 1— Sociodemographic Characteristics of the Workers By Age Groups

		25-44 Age Group n: 2,925		45-64 Age Group n: 1,506		p
		n	%	n	%	
Gender	Male	2,060	70.4	1,118	74.2	0.008
	Female	865	29.6	388	25.8	
Location	Urban area	2,155	73.7	899	59.7	0.000
	Rural area	770	26.3	607	40.3	
Marital status	Married	2,382	81.4	1,374	91.2	0.000
	Not married†	543	18.6	132	8.8	
Health insurance	No	298	10.2	141	9.4	0.384
	Yes	2,627	89.8	1,365	90.4	
Pension	No	2,769	94.7	1,366	90.7	0.000
	Yes	156	5.3	140	9.3	
Level of education	Primary school and lower (≤5 years)	1,210	41.4	973	64.6	0.000
	Primary school or secondary school	340	11.6	124	8.2	

†Single/widow/divorced

Table 2— Prevalence of Chronic Diseases By Age Groups in the Working Population

		25-44 Age Group	45-64 Age Group	Total	p
Chronic disease (disease for more than six months)	n	646	579	1,225	0.000
	%	22.1	38.4	27.6	
Thyroid disease	n	59	48	107	0.016
	%	2.0	3.2	2.4	
COPD	n	59	48	107	0.014
	%	2.0	3.2	2.4	
Infarction (heart attack)	n	13	24	37	0.000
	%	0.4	1.6	0.8	
Coronary heart disease (angina, chest pain, spasm)	n	63	86	149	0.000
	%	2.2	5.7	3.4	
Chronic cardiac failure	n	10	18	28	0.001
	%	.3	1.2	.6	
Hypertension	n	101	245	346	0.000
	%	3.5	16.3	7.8	
Stroke-paralyzed (cerebral haemorrhage, cerebral thrombosis)	n	15	11	26	0.369
	%	0.5	0.7	0.6	
Calcification (osteoarthritis, arthrosis, degenerative joint disease)	n	71	152	223	0.000
	%	2.4	10.1	5.0	
Rheumatic joint disease (rheumatoid arthritis)	n	128	154	282	0.000
	%	4.4	10.2	6.4	
Lumbar region musculoskeletal system problems (back pain, herniated disc, and other lumbar defects)	n	306	250	556	0.000
	%	10.5	16.6	12.5	
Neck region musculoskeletal system problems (neck pain, cervical disc hernia, and other neck defects)	n	124	107	231	0.000
	%	4.2	7.1	5.2	
Diabetes	n	60	124	184	0.000
	%	2.1	8.2	4.2	
Gastric ulcer	n	219	184	403	0.000
	%	7.5	12.2	9.1	
Duodenal ulcer	n	22	28	50	0.001
	%	0.8	1.9	1.1	
Chronic anxiety	n	8	4	12	1.000
	%	0.3	0.3	0.3	
Chronic depression	n	53	28	81	0.911
	%	1.8	1.9	1.8	

†Fisher test

Older workers visited both primary care physicians and specialist physicians more frequently in the last 12 months. Table 4 shows the heath care characteristics of the age groups.

The multivariate analysis results showed that the primary school and lower education level factors appeared 2.15 times (95% GA, 1.84–2.51) more in older workers than in adult workers, whereas male gender appeared 1.51 times more, being married appeared 1.85 times more and living in rural areas appeared 1.39 times more. Older workers had 1.64 times more chronic diseases, 1.31 times more musculoskeletal system diseases and 2.95 times more cardiovascular diseases, but they had fewer mental disorders (OR, 0.53). No difference was observed between the age groups in terms of perceived health status, physical illnesses over the last four weeks, having an occupational accident, developing a work-related disease or receiving services from a specialist or GP as indicated by the univariate analyses.

Table 3— Occupational Accident, Work-related Disease, and Absenteeism Status According to Age Group in the Working Population

		25-44 Age Group	45-64 Age Group	Total	p
Catching a work-related disease in the last 12 months					
Has a work-related disease	n	138	72	210	
	%	4.7	4.8	4.7	
Has a disease unrelated to work†	n	162	119	281	0.009
	%	5.5	7.9	6.3	
Does not have a disease	n	2,625	1,315	3,940	
	%	89.7	87.3	88.3	
Frequency of absenteeism due to health problems in the last 12 months					
Yes	%	428	193	621	
	n	14.6	12.8	14.0	0.01
No / I don't know	%	2,497	1,313	3,810	
	n	85.7	87.4	86.0	
Frequency of having occupational accident in the last 12 months					
Yes	n	87	38	125	
	%	3.0	2.5	2.8	0.318
No / I don't know	n	2,838	1,468	4,306	
	%	97.0	97.5	97.2	

†Group creating the difference

Table 4— Accessing Health Care By Age Group in the Working Population

	25-44 Age Group	45-64 Age Group	Total	p
Admitted to physician	%	%		
Receiving care from general practitione r (GP) or family physician(FP) in the last 12 months	41.5	47.4	43.5	0.000
Receiving care from specialist physician in the last 12 months	52.9	56.3	54.0	0.029
Not receiving health care despite the need	21.3	21.6	21.4	0.849
Medical tests or examinations				
Administration of flu vaccine in the last 2 years	8.4	6.8	7.9	0.07
Blood pressure measurement in the last 12 months	41.8	55.3	46.4	0.000
Cholesterol measurement in the last 12 months	22.8	39.0	28.3	0.000
Blood sugar measurement in the last 12 months	24.7	39.2	29.7	0.000
Parasite in stool test in the last 5 years	12.5	10.5	11.8	0.048
Stool guaiac test in the last 3 years	4.9	5.4	5.1	0.45
Prostate examination in the last 3 years*	2.3	11.0	5.4	0.000

*For males

Discussion

This study was the first study on the health of older workers and their health service needs in Turkey. This study could serve as a guide for future studies and assist in determining the status of older workers. This is because of the fact that the demographic and economic changes in Turkey will cause this issue to remain at the forefront in the future. T he study data from a sample representing the entirety of Turkey was an important advantage because the results can currently be generalized to Turkey. The sampling size also increased the power of the hypothesis tests and enabled the performance of multi-

variate analyses. However, this study does have some limitations such as it only consists of an advanced analysis of an existing database; it also did not present subject features apart from the existing variables. All the features associated with the health status of older workers may not have been revealed because of the limited number of variables. The citations provided in the paper using other studies are limited, as fewer studies regarding this topic are conducted up till now, and this is the first study conducted in Turkey.

General Health Status

The health status of older workers was worse than that of the adult workers. This was expected and consistent with the literature (6,11,12). Health status often decreases because of the physiological changes brought about by age, leading to an increase in the frequency of chronic diseases. In a study, one in five people between the ages of 55–64 years and one in four between the ages of 65–74 years described their perceived health status as medium or poor (11) in the USA. Again, in the USA, morbidity because of chronic diseases increased among older workers. In Finland, the incidence of chronic diseases increased in parallel with ageing and caused premature mortality and disabilities (6). The changes and diseases because of ageing also decreased work capacity. A systematic review study by Crawford *et al.* showed that decreases in aerobic capacity, increases in BMI, increases in chronic diseases and work-related musculoskeletal system diseases were particularly common (12). In a study conducted in several countries in Europe, the disability rates of workers in the 45–54 years age group were between 9% and 32% and for workers in the 55–64 years age group, the rates were between 15% and 40% (7). Studies in UK have indicated that chronic diseases, particularly those such as hypertension and musculoskeletal system diseases were observed more in the older age group than in younger workers (2). On the other hand, despite the physiological changes and diseases because of ageing, older workers described their health status as better than those in the same age group who were retired or not working (11). In females, it has been stated that older workers had better mental health statuses and higher life satisfaction than those who were not working (13). As seen in the studies completed either in this country or in other countries, the frequency of chronic diseases increased because of physiological changes or the age of the workers aged 45 years or older; however, working positively affected the health. Therefore, providing health promotion activities in the workplaces may be of great importance for healthier workers and a healthy working life. This study showed that older workers had more health problems than adults; however, their mental health problems were no different than those of adults.

Occupational Health Characteristics

In this study, it was determined that older workers had more health problems among those who had work-related health problems; however, they had lower absenteeism because of health problems and frequency of occupational accidents. In a study conducted in 15 EU countries, work-related musculoskeletal system diseases and psychosocial problems were detected in 40% of males and females over the age of 45 years (1). A study from UK indicated that work-related stress and burnout were most commonly observed in the 50–55 years age group and they are decreased with age. Moreover, it was stated that older female workers reported more work-related diseases because they had roles other than their working life (2). According to a study in Finland, the sectors that caused the most disabilities in older workers were mining, construction and those that involved work that caused a physical toll, whereas those that caused the fewest disabilities were law, education and management (6). In addition to the studies showing that work-related diseases were observed more in older workers than those in adult workers, there have also been studies showing that the diseases observed in workers were not because of work, but because of ageing (12). The results of the studies that compared occupational accidents and workers' ages showed some differences. As in this study, the most definite finding was that the frequency of older workers that had occupational accidents was lower than that of younger workers. This was attributed to the fact that older workers had more experience and knowledge on occupational health and safety and they often worked in less risky positions (such as executive, foreman). Nevertheless, a study showed a positive correlation between experience and occupational accident risk; experienced workers were found to take more risks (6).

It has also been stated that accident risk increased because of reasons such as changes in visual and auditory senses because of ageing or a decrease in reflexes. The most observed occupational accident types in older workers were vehicle crashes and falls (6,14). Moreover, the results of accidents may be more serious for older workers. Occupational accidents can cause serious injuries, disabilities and even death in older workers and their return-to-work periods are often longer than those of adults (2). A group of 55–65 years workers in Sweden were determined to have the lowest occupational accident rate, but experienced more serious results on average (15). The

Table 5— Characteristics of Older Workers (45-64 age) By Logistic Regression Analysis

	B	S.E.	Wald	Sig.	Exp (B)	95% C.I	
						Low	Up
Location (rural area)	.321	.075	18.094	.000	1.38	1.19	1.60
Gender (male)	.414	.083	25.089	.000	1.51	1.29	1.78
Education (Ref: high school+)			105.352	.000			
Education (PS and lower)	.765	.079	94.171	.000	2.15	1.84	2.51
Education (SS level)	.083	.124	.444	.505	1.09	0.85	1.39
Marital status (Ref: married)	.613	.109	31.804	.000	1.85	1.49	2.28
Perceived health (Ref: poor)	.155	.158	.966	.326	1.17	0.86	1.59
Has chronic disease	.495	.083	35.261	.000	1.64	1.39	1.93
Has mental disorder	-.630	.134	21.966	.000	0.53	0.41	0.69
Has musculoskeletal system disease	.270	.087	9.677	.002	1.31	1.11	1.55
Physical illness in the last four weeks (serious or very serious)	-.093	.145	.413	.520	0.91	0.69	1.21
Has cardiovascular disease	1.081	.120	81.612	.000	2.95	2.33	3.73
Received care from specialist	.009	.075	.014	.905	1.01	0.87	1.17
Received care from PP/FP	.075	.073	1.065	.302	1.08	0.93	1.25
(Had) Occupational accident in the last 12 months	-.394	.210	3.528	.060	0.67	0.45	1.02
Caught a work-related disease in the last 12 months (ref: not)			6.284	.043			
Caught a disease unrelated to work	.211	.136	2.403	.121	1.23	0.95	1.61
Caught a work-related disease	-.309	.168	3.373	.066	0.74	0.53	1.02
Constant	-1.843	.216	72.858	.000	0.16		

median return-to-work period for the 45 years and older age group was determined to be eight days, whereas it was six days for those in the 35–44 years age group (11). Studies have shown that the frequency of absenteeism irrespective of the duration was higher in younger workers than that in older workers. Our study was consistent with the literature because the frequency of absenteeism was lower in older workers. The different rates in absenteeism between older and younger workers can mostly be attributed to the sector and work. The mean absenteeism duration for the 15–24 years age group working in the construction sector in Germany was 17 days; however, this increased to 20 days for the 45–55 years age group and to 35 days for the 55–65 years age group. It was found to be 8, 15 and 19 days, respectively, for the same age groups that were working in the management sector (7).

Health Care Utilisation

This study revealed that older workers utilized health services more than adult workers. One out of five people cannot utilize health services despite their need for it in both groups. The need for health services in the workplace can be accessed with the utilization rate of health services by older workers; the percentage of those who felt acute discomfort over the last four weeks was 47.1% and of those who had any chronic disease for more than six months was 38.4%. Awareness of the importance of worker's health services in the workplace to meet the health service needs of older workers has increased around the world. Current evidence has indicated that health promotion activities in workplaces may be useful, particularly for developing the health of older workers whose physical abilities may have decreased and who were at risk for acute and chronic diseases (16). In addition, health services in the workplace were also important to ensure that the elderly keep working as long as they wish and remain productive as stated at the World Assembly on Aging in Madrid. In a study conducted in the EU, 60%–70% of workers aged 45 years and above believed that it was possible for them to work at their current jobs after the age of 60–65 years. Nevertheless, one-third of them reported that they could not keep working because of health problems and that this would cause them to leave working life earlier (1). Intervention at the workplaces has demonstrated that early retirement or leave of employment because of health problems can be prevented. Furthermore, workers can respond positively to health promotion interventions (12). Therefore, provision of an efficient health service and he-

alth promotion programs in workplaces should include some features. Features of older workers should be considered while preparing these programs. For example, the fact that older workers have poorer health than young workers may limit the health promotion programs. It has been recommended that these activities should be initiated from lower levels because older workers may have a lower tolerance for external stresses based on their decreased functional and physical capacities. However, special motivation may be necessary for older workers as it can be difficult to change established habits. A personal approach is important and requirements should be determined based on the person's age (6,17).

In conclusion, these results showed that an effective health service should be provided for older workers. To do this, the national policies should ensure that older workers can be involved in working life in a socially and politically healthy manner. In addition, national policies should also support the improvement of workplace conditions and occupational health and safety services. Workplace doctors and nurses should be educated on ageing and its effects on worker's health during both pre-graduation and post-graduation periods. Periodical medical examinations should be conducted, particularly with respect to the cardiovascular system, visual or auditory disabilities and musculoskeletal system diseases for all workers aged 45 years and older within the scope of health promotion programs. Moreover, further research should be conducted to determine the health service needs of older workers.

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