



How much do chronic diseases and socio-demographic variables affect the risk of accidents?

Kronik hastalıklar ve sosyo-demografik değişkenler kaza geçirme riskini ne kadar etkilemektedir?

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ABSTRACT

Aim: The main objective of this study is to determine how chronic diseases and various socio-demographic variables affect the risk of accidents. The group of adults aged 18 and over was analyzed through a data set representing Turkey. **Method:** The variables used in the analysis were obtained from the "TurkStat Health Survey" micro data set for 2016. In total, four types of accidents (traffic accident, home accident, casual accident and occupational accident) were subjected to binary logit regression analysis in the light of two different models. **Result:** Being male, increased age, lumbar region problem, allergies and depression are variables that increase the risk of traffic accidents ($p < 0,005$). Increased age, worsening general health, stroke (paralysis) problem, presence of neck area problem, urinary incontinence and depression, increase the risk of home accidents. Arthritis, the presence of neck region problems, allergies, urinary incontinence and depression increase the risk of casual accidents ($p < 0,005$). Being male, increased age, presence of lumbar region problem, allergies and an increase in household income increase the likelihood of having an occupational accident ($P < 0,005$). **Conclusion:** According to the results of the study, authorities that shape the health policy should make an action plan for the variables affecting the risk of accidents in positive and negative directions.

ÖZ

Amaç: Kronik hastalıkların ve çeşitli sosyo-demografik değişkenlerin, kaza geçirme riskini ne kadar etkilediğini tespit etmek, bu çalışmanın temel amacıdır. 18 yaş ve üstü yetişkin grubu, Türkiye'yi temsil eden bir veri seti üzerinden analiz edilmiştir. **Yöntem:** Analizde kullanılan değişkenler, 2016 yılına ait "TÜİK Sağlık Araştırması" mikro veri setinden elde edilmiştir. Toplamda dört kaza türü (Trafik Kazası, Ev Kazası, Gündelik Kaza ve İş Kazası) iki ayrı model ışığında binary logit regresyon analizine tabi tutulmuştur. **Bulgular:** Erkek olmak, yaşın artması, bel bölge problemi, alerji ve depresyon, trafik kazası (TK) riskini arttıran değişkenlerdir ($p < 0,005$). Yaşın artması, genel sağlık durumunun kötüleşmesi, inme (felç) problemi, boyun bölgesi probleminin varlığı, idrar kaçırma ve depresyon, ev kazası (EK) riskini arttırmaktadır. Arthritis, boyun bölge probleminin varlığı, alerji, idrar kaçırma ve depresyon, gündelik kaza (GK) riskini arttırmaktadır. ($p < 0,005$). Erkek olma, yaşın artması, bel bölge probleminin varlığı, alerji ve hane gelirindeki artış, iş kazası (İK) geçirme olasılığını arttırmaktadır ($p < 0,005$). **Sonuç:** Araştırma sonuçlarına göre, sağlık politikasına yön veren yetkililer, pozitif ve negatif yönde kaza geçirme riskini etkileyen değişkenler için eylem planı yapmalıdır.

ARTICLE INFO/MAKALE BİLGİSİ

Key Words: Chronic diseases, Traffic Accident, Home Accident, Casual Accident, Occupational Accident

Anahtar Kelimeler: Kronik hastalıklar, Trafik Kazası, Ev Kazası, Gündelik Kaza, İş Kazası

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INTRODUCTION

Accidents in adults are a public health problem. Home accidents, occupational accidents and traffic accidents increase mortality, the number of people admitted to treatment, the number of disabled people due to accidents, the number of people in need of rehabilitation and the number of people in need of care. In addition, the above types of accidents increase social risks, reducing people's income and increasing their expenses. Accidents are examined in the literature under the title "injuries".

Injuries are divided into two, intentional and unintentional. Years of life losses associated with death and disability occur most often in low-and middle-income countries (more than 90%) (1). The top five causes of unintentional injuries, published by the WHO, are traffic accidents, drowning, poisoning, burns and falls. Globally, 973 million people are unintentionally injured each year, while 4.8 million die as a result of injuries. Unintentional injuries, including traffic accidents, falls, burns and drowning, account for about three-quarters of injury-related deaths (2).



About 1.35 million people die each year due to traffic accidents, according to the World Health Organization. Traffic accidents cost 3% of most countries' gross domestic product. More than 20 to 50 million people face non-fatal injuries. Most of the injured may face disability (3).

Data from the International Labour Organization (ILO) shows that around 2.34 million people worldwide die each year from work-related accidents or illnesses. It is also estimated that there are 374 million non-fatal accidents per year. Economic costs resulting from occupational accidents are high, amounting to about 3.9% of global gross domestic product (GDP) (4,5) occupational accident is a preventable type of accident (6). In the United States, occupational accident-related deaths are 3.6 per 100,000 workers, while in Latin American countries, the rate is up to 9.3. Occupational accidents are an important factor affecting mortality rates (7).

Information for persons aged 18 and over was analysed through a data set representing Turkey in terms of four types of accidents (traffic accidents, home accidents, casual accidents and occupational accidents). Each type of accident was subjected to basic and advanced binary regression analysis. The lack of a study in the form of regression analysis based on data representing Turkey and examining all types of accidents together is the main motivator of this analysis.

Methods: Turkey's 2016 health survey data includes more than 23 thousand people information. 2018 field research data has not been published yet. The most recent data set is 2016 data. The participants of the households were asked 349 questions and the data were coded with the help of the variable table. The survey consists of three main sections: health variables related to 0-6 age, 7-14 age data and variables belonging to the adult group aged 15 and over. The Health Survey of Turkey, which was first carried out in 2008, is conducted every two years. In the Turkey Health Survey, information such as general health status for individuals aged 15 and over, chronic diseases, functional competence in carrying out daily activities, personal care, use of health services, drug use, vaccines and measurements done, tobacco and alcohol use and height and weight values are compiled. Its scope is households located in all settlements within the borders of Turkey. The population defined as institutional (population living in dormitories, hospitals, jails, rest homes, and soldiers) are out of coverage and also the residential places having less than 20 addresses are left out of coverage since it is thought that we would not be able to reach enough sample household number. The data set was stratified and a two-stage cluster sampling methodology was used.

To collect information about health indicators, 9470 household addresses were selected and researched. The total number of observations in the data set is 23,606. Since the data was limited to over 18 years of age, the sample was reduced to 16256 people. In the simple model, seven socio-demographic variables and 15 chronic disease data were subjected to regression analysis according to four accident types. In the second model, in addition to the variables in the first model, it was tried to determine how much it affects the risk of having an accident with its different variables. The added variables include mental health parameters, pain, disability levels, and alcohol and cigarette use. Since there are missing data in the answers given to the questions in the new variables, the second model analyzes were made with 8992 people.

FINDINGS

The information about the four accident types is arranged in tabular form in terms of frequency, percentage, average and standard deviation. Each type of accident was categorized as hospitalization, outpatient service (outpatient clinic), applied to physicians or healthcare personnel and not applied to any health institution and their frequency and percentages were tabulated (Table 1 and Table 2). After this preliminary information, two separate regression models consisting of basic and advanced levels for each type of accident were designed and the results were interpreted under the tables.

Statistically, according to the Mean Whitney U test, there are differences in terms of accident types by gender ($p < 0.05$). In occupational accidents and traffic accidents, women were exposed to more injuries than men ($p = 0,000$), while in home accidents and casual accidents ($p = 0,000$ to 0.001), men were more exposed than women.

Table 1. Frequency and Rates of Accidents According to Injury Types (N: 16256)

Types of Accidents	N	%	Mean	STD
Traffic accidents	287	1,8	2,87	1,187
Home accidents	507	3,1	2,98	1,048
Casual accidents	464	2,9	2,83	1,101
Occupational accidents	212	1,3	2,61	0,915

The study, aimed at adults 18 and older, compiled information on only four types of accidents. The most common of these is home accidents and the incidence in the community is 3.1%. The least common type of accident is the occupational accident (1.3%). The incidence of other types of accidents are casual

Table 2. Types Of Treatment That Accident Survivors Receive (N:16256)

Types Of Accidents	H	%	OS	%	SPHP	%	N	%	T	%
Traffic accident	44	15,33	91	31,71	11	3,83	141	49,13	287	1,8
Home accident	30	5,9	192	37,9	41	8,1	244	48,1	507	3,1
Casual accident	48	10,34	183	39,44	33	7,11	200	43,1	464	2,9
Occupational accident	12	5,66	110	51,89	39	18,4	51	24,06	212	1,3

H: Hospitalization; OS: Outpatient Service (Clinic) SPHP: Seen by Physician or Health Personnel and N:Not applied; T:Total

accidents, traffic accidents and occupational accidents (Table 1).

After each accident, people did not access the hospital or medical staff. People who stated that they had each accident preferred one of these four alternatives: benefiting from the hospitalization service, receiving outpatient health services, seeing a physician or medical staff or thinking that no consultation or intervention was required. (Table 2).

Men are 2.8 times more likely to have a traffic accident than women. As age increases, the risk of traffic accidents increases 1,032 times. The increase in household income reduces the likelihood of traffic accidents by 0.906. Those with a lumbar region problem from chronic diseases increase the risk of traffic accidents 1,596 times, allergy, 1,659 times and depression 1,661 times. The presence of other chronic diseases does not affect the risk of traffic accidents ($p>0,005$). Men are 0.388 times less likely to have a home accident than women. As age increases, the risk of a home accident increases 1,014 times. As the overall health situation worsens, the risk of a home accident increases by 0.778 times. Stroke problem from chronic diseases increases the risk of home accidents 2,066 times; the presence of neck area problem 1,318 times, urinary incontinence 1,402 times and depression 1,595 times. The presence of other chronic diseases does not affect the risk of home accidents ($p>0,005$). No socio-demographic variables affect the risk of casual accidents. Arthrosis of chronic diseases increases the risk of casual accidents 1,515 times, presence of neck region problem 1,36 times, allergy 1,422 times, urinary incontinence 1,511 times and depression 1,555 times. The presence of other chronic diseases does not affect the risk of casual accidents ($p>0,005$). Men are 6,345 times more likely to have an occupational accident than women. The risk of the occupational accident increases 1,037 times as age increases. The increase in household income increases the likelihood of an occupational accident 1,165 times. From chronic diseases, asthma reduces the risk of having an occupational accident 0.332 times, bronchitis 0.253 times and diabetes 0.339 times. Those with lumbar region problems increase

the risk of occupational accidents by 1,845 times and allergies by 1,888 times. (Table 3)

According to the results of advanced regression analysis, bronchitis, allergies, anorexia, feeling worthless, tobacco use status, vision loss, and self-receiving food supplements affect the risk of occupational accidents ($P<0.005$). Height, urinary incontinence and lumber and neck disorders affecting the level of significance of 10% affect the risk of occupational accidents. The chronic condition that increases the risk of occupational accident exposure is bronchitis with 5,408 times. Anorexia increases the risk of occupational accident by 1,585 times, tobacco use by 1,362 times and self-food supplement by 0.919 times. The variables that affect the risk of casual accidents are arthrosis, urinary incontinence, increased levels of physical pain and alcohol use. The ones that affect the level of 10% significance are self-supplementing, decreased hearing ability and deterioration in general health. Arthrosis reduces the risk of casual accident exposure by 0.68 times and urinary incontinence by 0.69 times. While the decrease in physical pain reduces the risk of casual accident exposure by 0.836 times, alcohol use increases by 1.444 times.

The variables affecting the risk of home accidents are gender, age and self-food supplement status ($p<0,005$). Variables that affect the level of 10% significance are stroke (paralysis), neck area problems, anorexia, alcohol use and loss of remembering skills. Being male increases the risk of home accidents 2,525 times, age 1,015 times and self-supplementing 1,645 times. According to the advanced regression analysis results, infarction, allergy, gender, age, tobacco and alcohol use status, and decreased visual acuity are variables that affect the risk of traffic accident exposure. The variable that affects at the 10% significance level is the decrease in recall ability. The presence of infarction and allergy reduces the risk of exposure to traffic accidents by 0.424 and 0.619 times, respectively. Being male decreases 0,506 times, while increasing age increases 1,033 times. Increased visual acuity increases the risk of being exposed to the traffic accident by 1,419 times, tobacco use by 1,168 times and alcohol use by 1,505 times.

Table 3. Basic Binary Regression Analysis for Four Accident Types

Variables	Traffic accident (N:16256)					Home accident (N:16256)					Casual accident (N:16256)					Occupational accident (N:16256)				
	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI
GENDER	1,03	2,8	0,000	2,166	3,62	0,388	0,000	0,31	0,486	-0,112	0,894	0,279	0,731	1,095	1,848	6,345	0,000	4,436	9,075	
AGE	0,031	1,032	0,000	1,022	1,042	0,014	0,000	1,007	1,021	0,004	1,004	0,236	0,997	1,012	0,036	1,037	0,000	1,025	1,049	
SSI (SGK)	0,009	1,009	0,960	0,72	1,414	-0,144	0,866	0,256	0,675	1,11	-0,096	0,909	0,478	0,697	1,184	0,217	1,243	0,263	0,85	1,817
EDUCATION	0,008	1,008	0,334	0,991	1,026	0,002	1,002	0,798	0,988	1,016	0,003	1,003	0,662	0,989	1,018	-0,006	0,994	0,526	0,977	1,012
HOUSEHOLD INCOME	-0,099	0,906	0,034	0,827	0,992	-0,013	0,987	0,710	0,919	1,059	-0,004	0,996	0,925	0,926	1,072	0,153	1,165	0,007	1,043	1,301
GENERAL HEALTH STATUS	-0,148	0,862	0,130	0,712	1,045	-0,251	0,778	0,000	0,678	0,894	0,01	1,01	0,898	0,872	1,169	0,03	1,031	0,792	0,824	1,288
DISEASE HEALTH STATUS	-0,206	0,813	0,224	0,583	1,135	0,261	1,298	0,049	1,002	1,683	0,079	1,083	0,559	0,829	1,414	0,119	1,126	0,547	0,766	1,656
ASTHMA	0,179	1,195	0,476	0,732	1,953	0,006	1,006	0,970	0,744	1,36	-0,218	0,804	0,203	0,574	1,125	-1,132	0,323	0,052	0,115	0,905
BRONCHITIS	-0,284	0,753	0,326	0,427	1,327	-0,103	0,902	0,529	0,655	1,243	0,207	1,23	0,211	0,89	1,7	-1,374	0,253	0,023	0,078	0,825
INFARCTION	0,579	1,784	0,167	0,785	4,058	0,067	1,069	0,788	0,656	1,742	0,245	1,278	0,323	0,786	2,077	0,215	1,24	0,68	0,447	3,444
CORONARY HEART DISEASE	-0,439	0,645	0,161	0,349	1,191	0,187	1,206	0,229	0,889	1,636	0,239	1,27	0,144	0,922	1,749	0,213	1,237	0,503	0,663	2,308
HYPERTENSION	0,122	1,13	0,557	0,752	1,697	-0,025	0,976	0,846	0,76	1,252	-0,015	0,985	0,913	0,757	1,282	0,254	1,289	0,312	0,788	2,107
STROKE (PARALYSIS)	-0,23	0,795	0,755	0,188	3,356	0,725	2,066	0,013	1,163	3,667	-0,487	0,615	0,302	0,244	1,549	-0,409	0,664	0,69	0,089	4,973
ARTHRITIS	-0,455	0,634	0,135	0,349	1,152	0,136	1,146	0,330	0,871	1,507	0,416	1,515	0,003	1,15	1,996	-0,096	0,908	0,774	0,471	1,751
LUMBAR REGION DISORDERS	0,467	1,596	0,002	1,18	2,157	0,126	1,134	0,261	0,911	1,413	0,219	1,245	0,065	0,987	1,57	0,612	1,845	0,001	1,302	2,613
NECK AREA DISORDERS	0,15	1,162	0,384	0,829	1,628	0,276	1,318	0,015	1,054	1,648	0,308	1,36	0,012	1,071	1,728	-0,089	0,915	0,676	0,602	1,389
DIABETES	0,121	1,128	0,604	0,715	1,779	0,009	1,009	0,950	0,77	1,321	-0,157	0,855	0,299	0,636	1,149	-0,925	0,397	0,023	0,179	0,88
ALLERGY	0,506	1,659	0,004	1,178	2,337	-0,003	0,997	0,980	0,774	1,283	0,352	1,422	0,006	1,107	1,827	0,635	1,888	0,002	1,251	2,848
LIVER FAILURE	-0,172	0,842	0,743	0,301	2,353	-0,197	0,821	0,499	0,464	1,454	-0,046	0,955	0,871	0,545	1,673	0,143	1,154	0,814	0,351	3,799
URINARY INCONTINENCE	0,192	1,211	0,498	0,696	2,107	0,338	1,402	0,021	1,053	1,867	0,413	1,511	0,007	1,121	2,035	0,503	1,654	0,135	0,855	3,2
KIDNEY DISEASE	0,031	1,031	0,903	0,629	1,69	0,2	1,222	0,171	0,917	1,627	0,284	1,329	0,061	0,987	1,79	0,22	1,246	0,44	0,713	2,174
DEPRESSION	0,507	1,661	0,010	1,126	2,449	0,467	1,595	0,000	1,247	2,039	0,441	1,555	0,001	1,188	2,035	0,365	1,441	0,144	0,883	2,35
Constant	-0,133	0,875	0,950		0,743	2,102	0,501			-0,52	0,595	0,691			1,389	4,012	0,654			
Nagelkerke R Square	0,054				0,068					0,037					0,112					
Hosmer Lemeshow Sig	0,904				0,908					0,435					0,17					

Table 4. Advanced Binary Regression Analysis For Four Types Of Accidents

	Occupational accident (N:8992)				Casual accident (N:8992)				Home accident (N:8992)				Traffic accident (N:8992)				
	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI	B	OR	Sig.	95% CI	
ASTHMA	0,82	2,269	0,128	0,791	6,512	0,083	1,086	0,645	0,764	1,544	0,42	0,633	1,21	-0,085	0,918	0,517	1,631
BRONCHITIS	1,688	5,408	0,023	1,263	23,163	-0,162	0,85	0,361	0,6	1,204	0,235	0,891	1,796	0,339	1,404	0,304	2,679
INFARCTION	-0,225	0,798	0,733	0,219	2,914	-0,279	0,756	0,274	0,459	1,247	-0,14	0,869	0,587	0,424	0,409	0,18	0,997
CORONARY HEART DISEASE	-0,024	0,976	0,949	0,468	2,034	-0,212	0,809	0,217	0,578	1,132	-0,114	0,892	0,493	1,7	0,123	0,866	3,335
HYPERTENSION	-0,323	0,724	0,271	0,407	1,286	0,014	1,014	0,926	0,761	1,351	-0,001	0,999	0,995	-0,15	0,861	0,533	1,38
STROKE (PARALYSIS)	0,149	1,16	0,887	0,148	9,076	0,643	1,902	0,184	0,737	4,91	-0,611	0,543	0,054	1,113	0,887	0,254	4,886
ARTHRITIS	0,287	1,332	0,472	0,61	2,912	-0,386	0,68	0,010	0,507	0,911	-0,107	0,899	0,477	0,67	1,205	0,051	0,998
LUMBAR REGION DISORDER	-0,352	0,703	0,098	0,464	1,068	-0,174	0,84	0,183	0,65	1,085	-0,066	0,936	0,597	0,733	1,196	0,47	0,614
NECK AREA DISORDER	0,077	1,08	0,740	0,685	1,702	-0,183	0,833	0,161	0,644	1,076	-0,232	0,793	0,062	0,821	1,011	-0,205	0,814
DIABETES	0,535	1,707	0,209	0,742	3,928	0,136	1,145	0,405	0,832	1,576	0,012	1,012	0,936	1,364	0,994	0,577	1,725
ALLERGY	-0,671	0,511	0,007	0,313	0,835	-0,22	0,803	0,121	0,608	1,06	0,118	1,125	0,412	0,849	1,49	-0,48	0,619
LIVER FAILURE	-0,551	0,577	0,375	0,171	1,945	0,18	1,197	0,559	0,655	2,187	0,235	1,265	0,443	2,306	0,048	1,049	0,929
URINARY INCONTINENCE	-0,665	0,514	0,073	0,249	1,065	-0,37	0,69	0,022	0,503	0,949	-0,205	0,815	0,199	1,114	-0,073	0,929	0,817
KIDNEY DISEASE	0,055	1,056	0,874	0,538	2,072	-0,179	0,836	0,276	0,607	1,153	-0,226	0,798	0,146	0,588	0,568	0,506	1,453
DEPRESSION	0,403	1,497	0,225	0,78	2,87	-0,159	0,853	0,312	0,627	1,161	-0,187	0,83	0,198	0,624	0,707	0,138	0,448
GENDER	-2,045	0,129	0,000	0,073	0,228	0,137	1,147	0,411	0,828	1,589	0,926	2,525	0,000	1,791	3,567	0,000	0,785
AGE	0,042	1,043	0,000	1,025	1,061	0,005	1,005	0,324	0,995	1,014	0,015	1,015	0,001	1,006	1,025	0,032	1,018
HIS/HER TREATMENT EXPENSES	0,212	1,236	0,340	0,8	1,912	0,059	1,061	0,700	0,786	1,432	0,222	1,249	0,12	0,944	1,652	0,064	1,066
PHYSICAL PAIN	-0,208	0,812	0,054	0,656	1,004	-0,179	0,836	0,009	0,731	0,956	-0,015	0,985	0,822	0,863	1,124	-0,088	0,915
LIFE-LOCKING PAIN	0,199	1,22	0,101	0,962	1,546	0,113	1,12	0,147	0,961	1,304	-0,046	0,955	0,548	0,821	1,111	-0,031	0,97
FEELING THE PLEASURE	-0,031	0,969	0,839	0,716	1,312	-0,136	0,872	0,154	0,723	1,052	-0,053	0,948	0,562	0,793	1,134	0,095	1,1
UNREST	0,056	1,057	0,728	0,773	1,446	0,054	1,055	0,596	0,865	1,287	-0,01	0,99	0,913	0,819	1,195	0,197	1,217
INSOMNIA	-0,127	0,881	0,315	0,688	1,128	0,018	1,018	0,812	0,88	1,177	-0,011	0,989	0,87	0,862	1,134	0,018	1,019
TIREDNES	0,096	1,101	0,492	0,837	1,449	-0,027	0,973	0,749	0,824	1,15	-0,068	0,935	0,41	0,796	1,098	-0,045	0,956
ANOREXIA	0,461	1,585	0,006	1,142	2,2	0,101	1,106	0,225	0,94	1,301	0,149	1,16	0,059	0,994	1,354	-0,045	0,956
FEELING WORTHLESS	-0,493	0,611	0,006	0,432	0,865	-0,096	0,909	0,341	0,746	1,107	-0,128	0,88	0,173	0,732	1,058	-0,096	0,908
CONCENTRATION PROBLEM	-0,275	0,76	0,122	0,536	1,077	-0,162	0,851	0,106	0,699	1,035	-0,08	0,923	0,395	0,767	1,11	-0,15	0,86
RESTLESS	0,166	1,18	0,469	0,754	1,847	-0,021	0,979	0,840	0,797	1,203	-0,113	0,893	0,245	0,738	1,081	-0,199	0,819
TOBACCO USE STATUS	0,309	1,362	0,000	1,146	1,619	-0,049	0,953	0,403	0,85	1,067	0,078	1,081	0,175	0,966	1,21	0,155	1,168
ALCOHOL USE STATUS	0,3	1,35	0,127	0,918	1,986	0,367	1,444	0,010	1,091	1,911	0,284	1,329	0,053	0,997	1,772	0,409	1,505
EDUCATION	0,532	1,702	0,008	1,152	2,513	0,039	1,04	0,701	0,852	1,268	0,062	1,064	0,542	0,871	1,301	0,093	1,098
GENERAL HEALTH STATUS	0,159	1,173	0,275	0,881	1,562	0,158	1,171	0,074	0,985	1,392	-0,085	0,918	0,312	0,778	1,084	0,041	1,042
DISEASE HEALTH STATUS	0,146	1,158	0,548	0,718	1,866	-0,051	0,95	0,751	0,691	1,306	0,178	1,195	0,268	0,872	1,637	-0,328	0,72
WEARING GLASSES	0,191	1,21	0,383	0,788	1,86	-0,003	0,997	0,978	0,78	1,273	0,12	1,127	0,32	0,89	1,427	0,35	1,419
VISION PROBLEMS	0,159	1,172	0,364	0,831	1,653	-0,038	0,962	0,647	0,816	1,134	0,05	1,051	0,545	0,895	1,234	0,114	1,12
WEARING HEARING AIDS	-0,083	0,92	0,876	0,323	2,622	0,348	1,416	0,190	0,842	2,381	0,359	1,432	0,159	0,869	2,36	0,116	1,123
HEARING (SILENCE)	0,017	1,017	0,962	0,506	2,044	0,305	1,357	0,077	0,968	1,904	0,156	1,169	0,338	0,849	1,609	-0,06	0,942
HEARING (NOISE)	-0,277	0,758	0,240	0,478	1,203	-0,054	0,947	0,656	0,747	1,201	-0,152	0,859	0,186	0,686	1,009	-0,169	0,845
LEARNING	0,293	1,34	0,250	0,814	2,206	-0,084	0,92	0,318	0,78	1,084	-0,002	0,998	0,977	0,85	1,171	0,253	1,288
RECALLING	-0,021	0,979	0,923	0,643	1,493	-0,165	0,848	0,101	0,696	1,033	-0,177	0,838	0,063	0,695	1,01	-0,3	0,741
HIS/HER FOOD SUPPLEMENT	-0,085	0,919	0,835	0,414	2,04	0,329	1,39	0,068	0,976	1,979	0,498	1,645	0,003	1,19	2,276	0,056	1,058
HIS/HER MEDICINE	0,261	1,298	0,160	0,902	1,869	0,015	1,015	0,896	0,809	1,274	0,074	1,077	0,502	0,867	1,338	-0,039	0,962
HEIGHT	0,029	1,029	0,057	0,999	1,06	-0,001	0,999	0,912	0,982	1,017	-0,006	0,994	0,499	0,977	1,011	-0,011	0,989
WEIGHT	0,003	1,003	0,706	0,988	1,018	0,001	1,001	0,729	0,993	1,01	0,002	1,002	0,599	0,994	1,01	0,004	1,004
Constant	-4,251	0,014	0,155		1,88	6,554	0,276				0,076	2,532	0,581		3,552	0,067	34,867
Nagelkerke R Square	0,194				0,05						0,076				0,06		0,149
Hosmer Lemeshow Sig	0,163				0,868						0,648				0,6		0,163

Discussion; the factors affecting the four types of accidents were discussed separately under italic headings.

Home Accidents; Studies on home accidents usually consist of studies on home accidents of either the first six age groups (8-10) or older people over 65 (11-13). In this study, all persons 18 and older were included in the study. The most recent data on home accidents in Turkey is for 2016 and the accident rate is set at 4.0%. In our study, this ratio was determined to be 3.1%. Home accident frequency was reported in the study with rates ranging from 10.1% to 38.6% (14). Among the reasons for this, the distribution of age groups is different in each study, the period covered by the studies (3 months - 6 months -1 year) and the location of the study is different. There was also no association or effect between having chronic diseases and the risk of having a home accident. (15). Similar results were obtained in this study.

Although there are many studies saying that women are much more prone to home accidents, the risk of men getting home accidents in this study was found 2.5 times higher than women (16,17). This situation in favor of women may be due to the fact that women are often housewives and therefore spend most of their time with daily activities at home and become more familiar with the place. In addition to the literature, another factor that increases the risk of home accidents (1.6 times) is to take self-food supplements.

Traffic accidents: Many studies indicated a correlation between alcohol use status per capita and "traffic accident mortality"(18,19). Similar to this study, the presence of alcohol use increased the risk of traffic accidents by 1.5 times in Bakar's et al. study in 2014 (20). Chliaoutakis et al. (1999) also stated that there was a similar relationship (21).

A consistent result was obtained with the literature, which states that men have less risk of traffic accidents (according to the results of Table 4). Indeed, in a study conducted with the Structural Equation model, the model showed that male drivers tend to concentrate more than female drivers (22). This is consistent with reports based on the 2015 study of Márquez et al., who stated that women are more likely to use mobile phones while driving (23).

Occupational Accident: Tobacco users have a 1,4-2,5 times greater risk of occupational accidents (24). In this study, it was 1.36 times. A value close to the lowest limit was obtained. In their study conducted in 2007, Wilkins and Mackenzie found that there was a risk of 1.3 times for men and 1.5 times for women (25). They also stated that those with chronic diseases are at 1.8 times more risk. In this study, especially, the presence

of bronchitis disease increased the risk of occupational accident 5.8 times. Apart from this, the risk of being exposed to occupational accident increases 1.5 times as the anorexia increases. The variables that reduce the risk of occupational accidents are being male (-0.12 times) and increasing the frequency of feeling worthless in days (those who feel worthless every day -0.6 times) and having allergies.

Casual accident: There are chronic diseases that reduce the risk of casual accidents. Arthrosis (-0.68 times), urinary incontinence (-0.69 times) and increased physical pain (-0.83 times) are conditions that reduce the risk of casual accidents. Alcohol use status (1.44 times) is a condition that increases the risk of casual accidents.

LIMITATIONS

Questions such as whether death occurred as a result of the types of accidents were not asked in the Turkish Health Survey data. Therefore, no general evaluation has been made regarding the fate of the victims. There is only information about whether people who have been involved in the accident have applied for treatment. There are no answers to questions such as whether he has a disability as a result of the treatment and whether he has received physical therapy. There is also no information about the time of the accident and the factors that led to the accident.

As some parameters such as the presence of sleep apnoea (26), whether benzodizepine group drugs were used (27), data on weather conditions (28), whether people complied with speed limits (29), and post traumatic stress disorder (30) were not included in the Turkish Health Survey, these questions were not included in the analysis.

RESULT

Traffic accidents, home accidents and occupational accidents cause important economic losses for individuals, families and society as a whole. The first of the losses comes from the costs of treatment, rehabilitation costs and production losses and income losses of those who have to take care of those in need of care. Traffic accidents and occupational accidents cost 3% or more of the gross domestic product of most countries separately.

Based on WHO's wounds and accident prevention strategies, policy makers are required to develop an accident prevention action plan for unintentional injuries. The first precaution should be to determine the deaths related to accidents. The action plan should prioritize accident elements with the highest number of

applications to healthcare institutions and healthcare personnel and develop a financial burden calculation methodology for each type of accident. In addition, intervention and prevention strategies for unintentional injuries should be developed rapidly. For example, road safety improvements, the use of bicycle helmets, smoke alarms can significantly reduce the number of accidental injuries.

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