

## RESEARCH ARTICLE

# Turkish Adolescent Perceptions about the Effects of Water Pipe Smoking on their Health

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### Abstract

**Background:** Consumption of tobacco in the form of a water pipe has recently increased, especially among young people. This study aimed to develop a scale which would be used in order to detect perceptions about the effects of water pipe smoking on health and to test its validity and reliability. Our scale named “a scale of perception about the effects of water pipe smoking on health” was developed in order to detect factors effecting the perception of adolescents about the effects of water pipe smoking on health. **Materials and Methods:** The sample consisted of 150 voluntary students in scale development and 750 voluntary students in the study group. Data were collected via a questionnaire prepared by researchers themselves and 5-pont Likert scale for “a scale of perception about the effects of water pipe smoking on health” which was prepared through the literature. Data evaluation was carried out on a computer with SPSS. **Results:** The findings of the study showed that “a scale of perception about the effects of water pipe smoking on health” was valid and reliable. Total score average of the adolescents participated in the study was  $58.5 \pm 1.25$ . The mean score of the ones who did not smoke water pipe ( $60.1 \pm 11.7$ ) was higher than the mean score of the ones who smoked water pipe ( $51.6 \pm 13.8$ ), the difference being statistically significant. **Conclusions:** It is established that “a scale of perception about the effects of water pipe smoking on health” was a reliable and valid measurement tool. It is also found out that individuals who smoked a water pipe had a lower level of perception of water pipe smoking effects on health than their counterparts who did not smoke a water pipe.

**Keywords:** Adolescent - water pipe smoking-effects on health - scale development - Turkey

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### Introduction

WHO has named the people between 10-19 ages as adolescent. Adolescent period is the term that growing up and development is very fast, a transition period from childhood to adulthood which keeps on with cognitive and psychosocial development (World Health Organization, 2002 and Guler, 2009). Mostly it is turned towards risky behaviours in terms of health in adolescent period (Kara, 2003). Using tobacco and tobacco products are started in this period and using rates are increase with age. The studies show that using tobacco and tobacco products in adolescent period and using rates are getting more and more in our country as in world (Akter et al., 2011; Ibrahimov et al., 2012; Okdemir et al., 2013).

This adiction that is a traditional smoking equipment mostly in Middle East and South Asia and almost nearly disappear in the last century, starts spreading between the youngs nowadays (Bilir et al., 2010; Hassoy et al., 2011). It is estimated that a hundred million people throughout the world use waterpipe everyday (Maziak et al., 2004; Poyrazoglu et al., 2010; Alzohairy et al., 2012; Ibrahimov et al., 2012; Cinar et al., 2014). It is emphasized in studies that using water pipe as a tobacco shows a significant

increase among the youngs (Subasi et al., 2005; Gursoy et al., 2007; Orsel et al., 2010).

The smoke of water pipe involves nicotine, carbon monoxide and a large number of carcinogen and poses health risk (Amin and Dugas, 2010). The effect of the water pipe on health is smiliar with cigarette. Some of these effects are; cancer, repiratory system diseas, cardiovascular diseas, heart rate and increase on blood pressure, communicable diseas, nicotine addiction, low birth weight infants and decrease in fertility (Knishkowsy et al., 2005; Dugas et al., 2010; Arziman et al., 2011; Morton et al., 2013; Haroon et al., 2014).

Recently, smoking waterpipe has also been accepted as a popular behaviour among young people. Adolescent people try waterpipe smoking without knowing that it is a product of tobacco; thus after some time they become addicted. The recent increase in waterpipe smoking constitutes a new battle area in the world for tobacco control organizations (Okdemir, 2013 and Alvur, 2014). Waterpipe smoking has recently been described as a global tobacco epidemic by public health authorities (Hassoy et al., 2011; Alvur et al., 2014; Cinar et al., 2014). It is drawn attention to addiction effect of water pipe, families and a specialy youngs should be informed about the damage

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of water pipe.

This study aims to develop a scale which would be used in order to detect the perception about the effects of water pipe smoking on health and to test its validity and reliability. Our scale named "*The Scale of Perception About The Effects of Water pipe Smoking on Health*" is developed in order to detect the factors effecting the perception of adolescents about the effects of water pipe smoking on health.

## Materials and Methods

The research was carried out in methodological and analytical way. Ethical approval of the Research is taken from Sakarya University School of Medicine Clinical Research Ethics Committee. Necessary permissions are taken from Tokat Directorate of National Education, Tokat Governorship and school managements. Written permission is taken from the families of student took part in this research. The research is carried in four high school and a vocational education center which appertains to Turkish National Education Ministry and similar socio economic level, between 01 April/ 10 May 2014 in Tokat city center.

### *Developing scale*

Case selection criterias in developing this scale is determined as; being the ages between 13-19 high school student, haven't any communication problems. The universe of this research is formed 9, 10, 11, and 12 grade high school students in Tokat in 2013-2014 Education and Training Spring Term. Sample of this research is consist of 150 students who were studying in the four school that the research carried out and were at the when the researched was applied. The number of the students in the sample of the reasearch are determined taking consideration of the ten times of item in scale. Test-retest method is applied on 75 high school students.

A questionnaire containing the individual and issues related descriptive characteristics of adolescents were prepared. Questionnaire form was consisted of 32 question. First 12 question is about demographic features (age, sexuality, education level of mother and father, students' school, grade of students, weekly pocket money, living with family or not and etc.). The other questions are related using water pipe and cigarette. Perception scale of water pipe's effects on health was developed by researcher and thesis advisor. First of all, effects of water pipe on health (Sezer and Picak et al., 2005; Akter et al., 2011; Okdemir et al., 2013) and related literature about developing likert type scales were investigated (Tezbasaran, 1997) and as a likert type scales "*Perception Scale Of Water pipe's Effects On Health*" that contains 17 item, was prepared.

### *Validity Studies Of Scale*

**Content Validity:** Developed draft scale was sent to the experts on the subject evaluating the clarity of instructions and materials for language and expression, whether the subject cover the topic or not. Experts were asked to evaluate the scale by using measurement marks between 1-4 (1=not appropriate, 2=it should be corrected

seriously, 3=it should be corrected a little. 4=almost appropriate). Advises coming from 18 experts was evaluated. Nearly similar two item were combined and the scale was evaluated about 15 items. The items were corrected according to expert advises and scale was named as "*Perception Scale Of Water pipe's Effects On Health*". Mean average point of the experts about "*Perception Scale Of Water pipe's Effects On Health*" was not under 3.50 for each item. Congrutiy of the points coming from 18 experts for the 15 item were examined using Kendall Coefficient of Cohordance.

### *Construct validity*

Before examing the factor structure of Perception Scale Of Water pipe's Effects On Health Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy analysis is applied for evaluating whether number of samples are enough or not and Bartlett's Test of Sphericity (BTS) is applied whether the sample is appropriate for factor anlysis ot not. In this study Principal Component" is used as factor analysis and in determining the factor numbers eigenvalues bigger than one are evaluated. It is found that two factor's eigenvalue was bigger than 1. The first factor's eigenvalue is 7.934 and percentage of total variance is 52.892. The second factor's eigenvalue is 1.055 and percentage of total variance is 7.035. According to this results the scale shows two factor structure but when the factor loads was examined especially all items symbolises the first factor forms a group in the same factor. Because of this reason it can be said scale is represented in one factor.

### *Reliability studies*

**Test-Retest Method:** In repetitive measurements of Perception Scale Of Water pipe's Effects On Health test-retest method is used to find the situation about similar measurement values. Scale is applied 75 students in two weeks. Perception Scale Of Water pipe's Effects On Health test-retest values about all items are between 0.04-0.71

### *Invariant Against Time (Test-Retest Method Reliability)*

In this study Cronbach Alfa reability co-effident is found 0.93 (n=150) for adolescenens. The study mad efor internal consistency in the same group Cronbach Alfa results are 0.90 for the first practice and 0.91 for the second practice.

### *Item total score correlations*

Perception Scale Of Water pipe's Effects On Health total score correlations of all items in the application for adolescents found over 0.58 and all individual items consistent with the whole scale was determined.

### *Evaluation of the Scale*

Devoloped for determining the perceptions about water pipes effects on health, 5 point likert scale is consist of 15 positive items and each item has points 1 to 5 and points are changed according to answers. Grading for iltems: Absolutely Agree 5, agree 4, nearly agree 3, disagree 2, absolutely disagree 1. minumum point in scale is 15, and maximum point is 75 points. The more point the positive perception about the water pipe's effect on

health. Scale can be filled in by who can read and write and average time for filling the scale is 10 minutes.

#### Data collecting in developing scale

Before the scale was applied, talking with the school managers application time and place was determined. Before data collecting "Parent Permission Form" was handed out. According to incoming parent permission forms, student permission forms were handed out to the students who were volunteer for participating the implementation, and they were informed about the implementation and their questions about the implementation were answered. Data were collected by researcher. The forms related to the research were filled. During the process the teachers and school managements were not allowed to be in the classroom. The scale was applied to the students who are volunteer and in the classroom at the time and date of implementation. It was accepted the students who were not in the classroom during implementation were not participated to the implementation.

#### Data analyzing in developing scale

Data gained in the research were evaluated by using SPSS (version 16) on computer. For evaluating the sociodemographic data point and percentage analysis are

used. For evaluating validity of Perception Scale Of Water pipe's Effects On Health Content Validity Factor Analysis (expert views-Kendall's Coefficient of Concordance), for reliability study Test-Retest Correlation, Cronbach Alfa and Item Analysis were used. Adolescents' scale points are calculated by using point, percentage and average. Relation between adolescents' sociodemographic features, features about using water pipe and cigarette and scale scores are analyzed by using Student t Test and one way analysis of variance (ANOVA) before controlling variance homogeneity. Statistically  $p < 0.05$  points are accepted as meaningful.

#### Study group

Criteria about taking part in the study were determined as being 13-19 age volunteer students in the chosen school and having not communication problems. The universe of this research is formed 9, 10, 11, and 12 grade high school students in Tokat in 2013-2014 Education and Training Spring Term. Sample of this research is consist of 780 volunteer students who were at school that the research carried out. Data comes from 30 student who filled the forms missing took out and data comes from 750 student is take into evaluation. Determining the number of samples, 50 times bigger of the item number were took in consideration. As a data collection material,

**Table 1. Comparison Between The Introducing Features Of Adolescents And The Mean Of The Perception Scale Of Water pipe's Effects On Health**

Introducing Features	Mean of the Scale Points			t	F	p
	n (%)	SS				
Age Group						
13-14	27(3.6)	59.70	11.73		0.391	0.759
15-16	396(52.8)	58.83	13.21			
17-18	288(38.4)	57.94	12.00			
19-20	39(5.2)	57.92	10.28			
Gender						
Male	466(62.1)	56.40	13.28	5.915		0.001
Female	284(37.9)	61.87*	10.42			
School						
Anatolian High School	159(21.2)	59.13	12.25			
Trade Vocational H. S.	252(33.6)	57.80	11.76			
Vocational School of Health	126(16.8)	63.57*	11.07		8.300	0.000
Center of Vocational Education	42(5.6)	56.09	12.58			
Industrial School	171(22.8)	55.67	13.89			
Grade						
Grade 1	231(30.8)	57.43	14.25		1.943	0.121
Grade 2	230(30.7)	60.06	11.42			
Grade 3	172(22.9)	58.28	11.82			
Grade 4	117(15.6)	57.66	12.01			
Working or not						
Yes	107(14.3)	55.74	13.09	2.434		0.422
Not Working	643(85.7)	58.92	12.42			
Weekly pocket money						
Enough	540(72.0)	59.48	11.8		5.650	0.001
Less	160(21.5)	55.34	14.72			
Much	30(3.9)	60.10*	9.91			
Other	20(2.7)	53.85	12.87			
Living With Family						
Yes	679(90.5)	58.51	12.43	0.275		0.786
No	71(9.5)	58.08	13.76			

\*The mean difference is significant at the 0.05 level

**Table 2. Range Of The Answers Of The Adoloscence To The Perception Scale Of Water pipe’s Effects On Health**

Items	Absolutely Agree		Agree		Nearly Agree		Disagree		Absolutely Disagree		Mean
	n	%	n	%	n	%	n	%	n	%	
	1. Smoking water pipe affects lungs adversely	408	54.4	182	24.3	101	13.5	30	4.0	29	
2. The harmful carcinogenic substances are not filtered, while water pipe smoke passes through water.	233	31.1	207	27.6	197	26.3	81	10.8	32	4.3	3.7
3. A skin condition (eczema) may develop in water, pipe smokers	209	27.9	187	24.9	227	30.3	95	12.7	32	4.3	3.59
4. Increases the risk of cardiovascular disease	332	44.3	214	28.5	138	18.4	41	5.5	25	3.3	4.04
5. Being exposure to the water pipe smoke as a non-smoker causes respiratory tract diseases	324	43.2	201	26.8	145	19.3	54	7.2	26	3.5	3.99
6. Oral infections (cancer, herpes, aphta etc.) may develop in water pipe smokers	274	36.5	202	26.9	168	22.4	73	9.7	33	4.4	3.81
7. Fruity/flavored tobacco is addictive in water pipe.	253	33.7	191	25.5	167	22.3	80	10.7	59	7.9	3.66
8. Water pipe smoking cessation affects health positively	412	54.9	152	20.3	105	14.0	49	6.5	32	4.3	4.15
9. Water pipe contains nicotine.	302	40.3	201	26.8	158	21.1	51	6.8	38	5.1	3.9
10. Water pipe contains nicotine	281	37.5	170	22.7	150	20.0	90	12.0	59	7.9	3.69
11. Diseases like flu and cold can be transmitted , by sharing mouthpiece.	392	52.3	177	23.6	117	15.6	40	5.3	24	3.2	4.16
12. Fruity/flavored tobacco is not healthier than plain tobacco.	244	32.5	191	25.5	177	23.6	96	12.8	42	5.6	3.66
13. Hepatitis B, hepatitis C and AIDS, can be transmitted by sharing mouthpiece.	312	41.6	189	25.2	142	18.9	60	8.0	47	6.3	3.87
14. Water pipe is not more innocent than, the cigarette in terms of nicotine.	308	41.1	188	25.1	148	19.7	65	8.7	41	5.5	3.87
15. Water pipe mouthpiece should never be shared.	418	55.7	143	19.1	92	12.3	44	5.9	53	7.1	4.1
Common Stuation											3.89

\*Perception Scale Of Water pipe ’s Effects On Health; Mean 5.47, Standart Deviation 1.25, Min 15, Max 75, Scala á: 0.93

**Table 3. Comparison Between Adoloscences’ Smoking Cigarette and Water pipe and Perception Scale Of Water pipe’s Effects On Health Point Means**

Using Water pipe and Cigarette	n(%)	SS	t	p
Smoking Cigarette				
Smoker	147(19.6)	53.52	14.51	5.430
Non-smoker	603(80.4)	59.68*	11.73	0.002
Smoking Water pipe				
Smoker	144(19.2)	51.62	13.77	7.548
Non-smoker	606(80.8)	60.10*	11.68	0.005
Cigarette smoker in family				
Smoker	471(62.8)	58.44	12.72	0.082
Non-smoker	279(37.2)	58.52	12.3	0.668
Water pipe smoker in family				
Smoker	90(12.0)	51.90	14.24	5.392
Non-smoker	660(88.0)	59.37	12.04	0.025

\*The mean diffrence is significant at the 0.05 level

questionnaire, consist of information about the their selves (questionnaire form consists of 32 question. First 12 question is about demographic features. The others are about using water pipe and cigarette) and ths subject, and Perception Scale Of Water pipe’s Effects On Health developed by researchers were used.

*Collecting data from study group*

As in the scale developing group data in the study group was collected from the volunteer students, who were at school at the day and the time of the implementation, by applying the scale. The students who were not at the school at the time of implementation were not took part in the study. After data was collected the booklet about the “The Effects Of Water pipe On Health” that was prepared according to literature was given to the managers and the students of the related schools.

*Analysis of datas in study group*

Collected data in the study were transfered to the computer and evaluated by using SSPS program (version 16). For evaluating sociodemographic datas number and percentage analysis were used. For evaluatinh relation between the adoloscences’ sociodemographic features and features about using cigarette and water pipe, t test and one way analysis of variance were used. Statistically p<0.05 were accepted significant.

**Results**

As the adoloscences’ introducing features investigated; the avarage age of adolasances is 16.33±1.25, the 38.4% of adolasances are between 17-18 ages. 62.1% (n=466) of the adoloscences are male, 37.9% (n=284) of adolasances

are female. 85.7% of adolescences are not working, 90.5% (n=679) are living with their family, 72% (n=540) are getting enough pocket money.

It can't be found any significant difference between the total points means of adolescence taken from Perception Scale Of Water pipe's Effects On Health and age groups ( $F=0.391$ ,  $p>0.05$ ). When the total points' means of adolescence taken from Perception Scale Of Water pipe's Effects On Health and gender of the adolescences were compared it is determined there is significant difference between males and females ( $t=5.915$ ,  $p<0.05$ ). The mean points of the females ( $61.87\pm 10.42$ ) are higher than the mean points of males ( $56.40\pm 13.28$ ). It is found that there is a significant difference between the total points' means of adolescence taken from Perception Scale Of Water pipe's Effects On Health and their schools. Total points' means of adolescence in Trade Vocational High School is found ( $57.80\pm 11.76$ ) and Total points' means of adolescence in Industrial School is found as higher ( $55.67\pm 13.89$ ). A significant difference is not determined between the total points means of adolescence taken from Perception Scale Of Water pipe's Effects On Health and their grades in school ( $F=1.943$ ,  $p>0.05$ ). non-significant difference is determined between the total points means of adolescence taken from Perception Scale Of Water pipe's Effects On Health and their working situations ( $t=2.434$ ,  $p>0.05$ ). A significant difference is determined between the total points means of adolescence taken from scale and amount of the pocket money they have ( $F=5.650$ ,  $p<0.05$ ). It is found that the total points mean of the students who have enough pocket money ( $59.48\pm 11.80$ ) is higher than the students who haven't enough pocket money ( $55.34\pm 14.72$ ). In addition to this, according to independent sample t-test between total point means of adolescence taken from scale and living together with family; there is not any significant difference between total point mean of the scale and living with the family

( $t=0.275$ ,  $p>0.05$ ) (Table 1).

Total point means of adolescence were taken part in the research is determined as ( $\bar{x}=58.47\pm 1.25$ ,  $\min=15$ ,  $\max=75$ ). It was seen in Table 2, the adolescences' means of answers to the Perception Scale Of Water pipe's Effects On Health is = 3.89 and it was in "Agree" level. Adolescence's answer about "Smoking water pipe effects lungs badly", "Stop smoking water pipe effects health positively", "Diseases like flu and cold can be transmitted by using nozzle in common" and "Water pipe tube (nozzle) can not be used in common" is in the range of "Absolutely Agree". The other items were found in the range of "Agree" (Table 2).

When cigarette and water pipe usage is examined, it was determined that cigarette users are 19.6% (n=147), water pipe users are 19.2% (n=144). When smokers in families of adolescences are examined, it is determined that cigarette smokers in families are 62.8% (n=471) and water pipe smokers in families of adolescences are 12% (n=90) (Table 3). A significant difference is recognized between total point means of adolescence taken from Perception Scale Of Water pipe's Effects On Health and smoking cigarette and water pipe ( $t=5.430$ ,  $p<0.05$ ). Scale point means of non-smokers ( $59.68\pm 11.73$ ) is higher than the cigarette smokers ( $53.52\pm 14.51$ ) scale point means. A significant difference is found between the means of water pipe smokers and non-smokers ( $t=7.548$ ,  $p<0.05$ ). Scale point means of non-smokers ( $60.10\pm 11.68$ ), is higher than the water pipe smokers ( $51.62\pm 13.77$ ) (Table 3).

When the views of adolescence about water pipe is examined, 61.5% 'i' (n=461) of adolescences indicate water pipe is harmful, 39.6% 'sı' (n=297) water pipe and cigarette is equally harmful, 38.8% 'i' (n=291) of adolescence is no information about the addictive status of water pipe, 56.9% 'u' (n=427) has no information about water pipe's infection disease status (Table 4). A significant difference is determined between

**Table 4. Comparison Of the Adolescents' Views about Water pipe and Perception Scale Of Water pipe's Effects On Health Points' Means**

Information of Adolescents	n(%)	Scale Point Mean	SS	F	p
Effects of Water pipe on Health					
Harmful	461(61.5)	61.59*	10.66	66.244	0.000
Harmless	94(12.5)	46.86	13.61		
No information	195(26.0)	56.68	12.59		
Effects of Water pipe and Cigarette on Health					
Water pipe is harmful	55(7.3)	44.83	15.01	40.498	0.000
Water pipe is less harmful than cigarette	176(23.5)	54.72	10.19		
Equally harmful	297(39.6)	61.11	12.28		
Water pipe is more harmful	222(29.6)	61.29*	10.95		
Water pipe Addiction Status					
Addictive	254(33.9)	63.83*	10.69	58.990	0.000
Not addictive	205(27.3)	51.91	12.46		
No information	291(38.8)	58.42	11.94		
Water pipe's Infection Status					
Infect Diseases	177(23.6)	64.09*	9.92	41.330	0.000
Not Infect Disease	146(19.5)	51.96	14.53		
No Information	427(56.9)	58.37	11.7		

\*The mean difference is significant at the 0.05 level

adolescents' total mean points of Perception Scale Of Water pipe's Effects On Health and water pipe's effects on health ( $F=66.244$ ,  $p<0.05$ ). It is found that scale point means ( $61.59\pm 10.66$ ) of adolescence who said "*Water pipe is harmful*" is bigger than scale points means of adolescences who said "*Water pipe is harmless*" ( $46.86\pm 13.61$ ) and said "*No information*" ( $56.68\pm 12.59$ ). A significant difference is found between the adolescences' total mean points of Perception Scale Of Water pipe's Effects On Health and variable of harmful effects of the water pipe and cigarette ( $F=40.498$ ,  $p<0.05$ ).

The scale point means ( $61.29\pm 10.95$ ) of adolescence who said "*Water pipe is more harmful*" are higher than scale points means of adolescences who said "*Water pipe is less harmful than cigarette*" ( $54.72\pm 10.19$ ) and who said "*Water pipe is harmless*" ( $44.83\pm 15.01$ ). Statistically a significant difference is found between the adolescences' total mean points of Perception Scale Of Water pipe's Effects On Health and the water pipes addiction status ( $F=58.990$ ,  $p<0.05$ ). It is found that the scale point means ( $63.83\pm 10.69$ ) of adolescence who said "*Water pipe is addictive*" is higher than the scale points means of adolescences who said "*Water pipe is not addictive*" ( $58.47\pm 12.55$ ). A significant difference is found between the adolescences' total mean points of scale and transmitting infection diseases variable ( $F=41.330$ ,  $p<0.05$ ). The scale point means ( $64.09\pm 9.92$ ) of adolescence who said "*Water pipe transmits diseases*" are higher than scale points means of adolescences who said "*Water pipe doesn't transmits diseases*" ( $51.96\pm 14.53$ ) and who said "*no information*" ( $58.37\pm 11.70$ ) (Table 4).

## Discussion

This study aims to develop a scale which would be used in order to detect the perception about the effects of water pipe smoking on health and to test its validity and reliability. Our scale named "*The Scale of Perception About The Effects of Water pipe Smoking on Health*" is developed in order to detect the factors effecting the perception of adolescents about the effects of water pipe smoking on health.

It is determined that the 19.2% of the adolescences take part in the research is smoking water pipe and 19.6% of the adolescence is smoking cigarette. In an study made on high school students indicates that the range of cigarette smokers are 19% (Akter, 2011). Salameh et al. (2014) indicated that the range of smoking water pipe is 23% and cigarette 19.2%. KOse (2011) found that the 10.8% of the adolescence are smoking cigarette. The results acquired in this study shows similarity with the literature. When using water pipe status of adolescences taking part in this studies examined it is seen that the rate is highest in the 15-18 age group. It was determined in study made on high school student that water pipe users under age of 15 was 12.5% , age of 16 18.6%, age of 17 21.8% and at the age of 18 and over it is found 23.2% (Akter, 2011). In the research it is emphasised that the 62.1% of the water pipe smokers is male ( $n=118$ ) and 37.9% is female ( $n=26$ ). In another study it was emphasised that the 76.7% of water pipe users was male and 23.3% was female (Erbaydar, 2010).

In an other study made on univercity students 41.6% of male students and 20.2% of female students were using water pipe (Sezer, 2011). Kormaz and others (2013) find that the rate of using water pipe among the males is 37.5% and among the females is 17.2%.

When the views of adolescence about water pipe is examined, 61.5% of the adolescence think "*water pipe is harmful*", 39.9% of them think "*water pipe and cigarette is equally harmful*", 38.8% of them don't have knowledge about adictiveness of water pipe, 56.9% of the adolescences have no information about status of diseases infection. In a study it was implied that the 47.8% of the adolescences think water pipe is less harmful than cigarette, 59.2% of adolescences think water in water pipe filters the harmful substances and 65.9% of adolescences think water pipe is not addictive (Amin, 2011). In an other study, 27.1% (74 person) of the participants didn't know the harmful effects of water pipe, 18.3% (50 person) of the participants emphasis that water pipe has not harmful effects on health (Subasi et al., 2005). Bir Alvur and others (2014) indicated that the 6.3% of the univercity students thinks "*water pipe is not harmful*" and 12.1% says "*water pipe includes nicotine*".

In this study it is determined that the mean of the total points taken from the Perception Scale Of Water pipe's Effects On Health by adolescences is  $58.47\pm 1.25$ . The mean of the points taken from the scale is  $\bar{x}=3.89$  and it is in the level of agree. These results can be interpreted as the adolescences perceptions about the effects of water pipe on healt is in nearly high level. When the literature examined there couldn't be found any scale smiliar to this. The Perception Scale Of Water pipe's Effects On Health developed and found to be valid and reliable in this study can be used in the next researches and it will be made contribution to the literature.

When the mean of total points of water pipe's effects on healt and the intruductive features of adolescences, a significant difference is found between mean of total points taken from the Perception Scale Of Water pipe's Effects On Health and sexuality variable ( $p<0.05$ ). It is found that the mean points of the females taken from Perception Scale Of Water pipe's Effects On Health is higher than the mean points of males. There couldn't be find any studies about relation betwwen perception of water pipe's effects on health and the sexuality. Mostly in studies it is emphasized that males are using water pipes more than females. This can be realeted to the high perceptions of females about the water pipe's harmful effect on health. (Subasi et al., 2005; Erbaydar et al., 2010; Akter, 2011).

A significant difference is found between the mean of total points taken from Perception Scale Of Water pipe's Effects On Health and status of smoking cigarette and water pipe ( $p<0.05$ ). Mean of the scale points of non-smokers is higher than mean of the scale points of cigarette smokers and mean of the scale points of non-smokers than mean of the scale points of water pipe smokers. These results are important in terms of showing the more perception about the water pipe's harmful effects on health the less ranges in smoking cigarette and water pipe and it also shows perception of the sudents is changes

the students behaviours. A significant difference can not be found between mean of the total points taken from Perception Scale Of Water pipe's Effects On Health and the status of water pipe and cigarette smokers in family ( $p>0.05$ ). In a study students' families smoking behaviours at home were examined, among the students who use tobacco and tobacco products, the ones who said it is being usually smoked in their house is more than the ones who said it is rarely smoked and not smoked in their houses (Akter, 2011).

A significant difference is found between the mean of total points taken from Perception Scale Of Water pipe's Effects On Health and ideas about water pipe's effects on health ( $p<0.05$ ). It is found that the scale mean point of the adolescences who said "Water pipe is harmful" is higher than the scale mean point of the adolescences who said "Water pipe is harmless" and "No information". In a study it is stated that adolescences haven't seen water pipe as tobacco products and claimed water pipe has not harmful effects on health (Akter, 2011). In an other study, 30.6% of the students thinks that water pipe is less harmful than cigarette, 13.6% of the students thinks that fruit pieces and flavors added to the tobacco makes water pipe more healthier (Hassoy, 2011). Subasi and others state that % 54.6 of the participants thinks water pipe is harmful on health, % 18.3 of participants has no information about the harmful effects of water pipe on health. Alvur and others are determined in their study that 16.2% of the university students think that the fruitful/ aromatized water pipe is not addictive, 21.99% of the university students think water pipe is not addictive.

A significant difference is found between the mean of total points taken from Perception Scale Of Water pipe's Effects On Health and the variable of water pipe and cigarette is harmful on health ( $p<0.05$ ). The mean scale points of the adolescences who said "Water pipe is harmful" is higher than the adolescences points who said "Water pipe is harmless" and "Water pipe is less harmful than cigarette". In a study approximately one third of the group thinks water pipe is less harmful than the cigarette and about one quarter of the group think that the harmful substances is filtered when its crossing the water (Hassoy et al., 2011). In a study of Alvur and others (2014) 25.33% of the university students took part in the study thinks that the harmful substances filtered by the water during crossing, % 12.11 of the students thinks water pipe don't contain nicotine, 6.3% of students think water pipe is not harmful because it doesn't ignite the lungs.

A significant difference is found between the mean of total points taken from Perception Scale Of Water pipe's Effects On Health and water pipe's addiction status ( $p<0.05$ ). The mean scale points of the adolescences who said "Water pipe is addictive" is higher than the adolescences who said "Water pipe is not addictive". In a study made in water pipe cafes, 53.5% 273 youngs who at the average age is 23 are not know the water pipes addictiveness (Orsel, 2010). In an other study half of the participants thinks that water pipe is not addictive unlike cigarette (Hassoy, 2011).

According to these results; the misbelief about water pipe is not harmful as cigarette and it is not addictive, it

is thought that tendency about using water pipe will be increase among the young. Necessary measures should be taken about the subject, especially young people and the community should be ensured by the way of education.

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