The Turkish Journal of Occupational / Environmental Medicine and Safety

2017; Volume 2, Issue 1(3):356-364 Web: http://www.turjoem.com ISSN : 2149-471

WATER CONSUMPTION BEHAVIOR OF THE EMPLOYEES IN THE FIRST PRIMARY HEALTH CENTERS OF IPEKYOLU VAN

Sinemis ÇETİN DAĞLI[1], Selin TUNALI ÇOKLUK[1]. Tuba Duygu COŞKUN[2]

[1] Yüzüncü Yıl University, School of Medicine, Department f Public Health, Van, Turkey

[2] Van Ipekyolu Communıty Health Center, Department Of Public Health, Van, Turkey

Corresponding Author:
Selin Tunalı Çokluk, Md Research Assistant
School of Medicine
Department f Public Health
Yuzuncu Yıl Unıversıty,Van- Turkey
65080

Phone : +09005327394421
E-Mail : drselintunali@gmail.com

ABSTRACT

Introduction
Water is one of the most important needs of human life and has a crucial role in terms of sustaining a healthy life.

Aim of the study
In this study, it is aimed to determine the water consumption behaviors of the primary health care employees and to plan some educations that we will make in the next step to bring the suggestions at the point of correcting the detected water consumption behaviors.

Material – Method
The research is a cross-sectional study conducted at the the primary health care facilities in the province of Ipekyolu, Van. Water consumption behaviors' scale consisting of 16 questions and socio-demographic information questionnaire consisting of 16 questions were designed based on the literature.

Results
The water consumption behavior scale average score was 56.26 ± 10.52 in the study. This result shows that water consumption behavior of participants is moderate. Compared to total scale and independent variables, physicians and nurses, smokers, those who think they have enough

knowledge about environmental problems, who think today's most important problem is noise pollution, who gets information about environmental problems from newspaper is significantly higher than other groups (respectively ; p=0,001, p=0,033, p=0,014, p=0,009, p=0,008, p=0,018).

Conclusion
Healthcare employees who are role models for the public should be aware of water consumption behaviors. Educations should be organized for the use of water resources to establish a healthy water awareness. Projects to which their participation can be achieved should also be developed.

Key words: Water consumption behaviors, healthcare employees, Van

INTRODUCTION

Water is one of the most important needs of human life and has a crucial role in terms of sustaining a healthy life (1). As the World Health Organization (WHO) expressed many years ago, as well as in the TC. constitution among the extension of the understanding of the social state is the concept of healthy and safety water is among the health services that are expected to be equitable, accessible and free for every individual (2). In addition to being a nutrient, water plays an active role in the all kinds of biochemical reactions in our bodies with the minerals and compounds it contains (3). It has estimated that water consuming in the world will be 3800km^3/year up to 2025 with rapid population growth(4).
Water resources of the countries have been evuluating by the amount of avaliable water per capita. The classification of the countries by water resources is like this;

- Water poor countries: Amount of avaliable water per/year <1000 m3
- Water shortage countries: Amount of avaliable water per/year <2000 m3
- Water rich countries: Amount of avaliable water per/year >8000-10000 m^3

In our country amount of avaliable water per/year is1519 m^3. According to the amount of avaliable water per/year our country is a water shortage country.
TUIK Project that the population of our country will be 100 million in 2030. In this case it is suggested that the amount of usable water per capita for 2030 would be around 1,120 m3 / year (5).
The main reasons for reducing water resources are climate changes resulting from global warming, drying of underground and above ground resources, the geographical reasons such as the drought of the land and the unproper management of the agricultural activities, deforestation and wastage of water in industrial production. In addition activities of the individuals which leading waste of water, irresponsible, insensitive attitudes of the people about water consuption are intensiting the problem(6). Although various solutions have been proposed to change people's behaviours of water consumption and to make them use the existing water in a conservative way, the most effective of these is the creation of a awareness about the water consumption of the society. This can be achieved by effective water consumption awareness education. Water consumption awareness education aims to make people of all ages sensitive to water and make it a habit to use it with sensitively. For this reason, it is considered that conscious water consumption behaviors should be given to primary health care employees, which is a public role model in particular. In this study, it is aimed to determine the water consumption behaviors of the primary health care employees and to plan some educations that we will make in the next step to bring the suggestions at the point of correcting the detected water consumption behaviors.

MATERIAL - METHOD

The research is a cross-sectional study conducted at the Ipekyolu Community Health Center and 19 Family Health Centers (FHC), the primary health care facilities in the province of Ipekyolu, Van. The survey included physicians, nurse, midwife, health officer, medical secretary, and cleaning

staff who were still working at these institutions. No sample was chosen for the research, and 323 individuals working in these units were identified as the universe of the study and we aimed to reach the whole of the universe. The study data were collected at least 3 times of visiting on different days between 15-20 December 2016 to each health center. Totally 120 (%37,2) employees did not involve in the study because of, 61 (%18,9) with health report, annual leave or maternal leave and 24 (%7,4) did not agree to participate for work intensity and 35 (10,8) could not be reached. Three visits were made to the FHCs on different days to reach 61 indivudials with the health report and annual leave. The limitation of the our study is could not to reach a large amount number of individuals. Approval was obtained from the Van Public Health Department and local ethics committee for the research. Water consumption behaviors' scale consisting of 16 questions and socio-demographic information questionnaire consisting of 16 questions were designed based on the literature. The validity and reliability study of our scale was made by Çankaya and İşçen in 2014. The scale consists of 5 sub factors such as Water Consumption, Water Awareness, Water Pollution, Water Management in the House and Personal and Social Responsibility. 5-point Likert scale was used in the study as it was in the original study.
Scale scoring evaluated according to the method obtained from researchers who have done the validity and reliability; Always = 5, often = 4, occasional = 3, seldom = 2, never = 1. The minimum score to be taken from the scale is 16, while the highest score is 80. There are no cut-off levels. An increase in the score indicates that the water consumption behavior awareness has increased. The alpha reliability coefficient of the scale was found as 0.83 (5).
The study data were evaluated in the SPSS 22.00 statistical program. Chi-square analysis and Fisher's precision test were applied for frequency distributions and categorical variables. Because of the numerical values did not provide the parametric test conditions, Mann-Whitney U was used in 2 variable groups and Kruskal-Wallis was used in more than 2 variable groups.

RESULTS

203 (%62,8) of the 323 individuals currently working in primary care centers in province of Ipekyolu in Van have participated to this study. 120 individuals were not employed this study for various reasons (illnes, maternity leave, annual leave etc.).
%55,2 of the individuals were female and %44,8 of them male. The median age was 28 (min 18-max. 60) yaers. According to occupational groups; %34,5 are physcians, %42,8 are nurses and other health personnal, %7,4 are office personnal and medical secretaries and %15,3 are cleaning staff. While %17,9 of the female are physicians, %67,0 are nurses,% 7,1 are office personel and %8,0 are cleaning staff, %54,9 of the male of physicians, %13,2 are nurses, %7,7 office personel, %24,2 are cleaning staff.
%36,9 of the inviduals were single, %61,1 were married and %2,0 divorced. %32,5 live in their own home, %19,7 live in the homes belongs to family members, %44,8 in rental house and %3 in other houses. The median value of number of people living in the household was 3 (min 1-max 13), the rate of living alone is %12,8. While %49,3 of them do house cleaning by themselves,%50,7 of house cleaning is done by family members or a house keeper. It was determined that %56,2 of the participants in this study had never smoked, % 38,4 were still smoking and %5,5 quited the cigarette.
%68,0 of the participants think that they have sufficient knowledge about environmental problems in our country. When asked about information sources about environmental problems, %83 were referred to newspapers, %77,8 television, %77,8 internet, %16,3 magazinee/boks, %28,6 friends, %4,9 referred other sources. %14,3 of the participants in this study declareted that they have pet and %47,3 have a plant. The consumption of drinking water is 8-10 cups per day. %66,0 of the participants less than 1-7 cups, %25,1 of them ideal (8-10 cups), %8,9 of them11 cups and over water are consumed. When marnial status was evaluated according to gender it was determined that %60,7of female, %61,5 of male was married.

Table 1. Comparison of gender and information sources about environmental problems,2016-VAN

		Female		Male		Total		
		N	**%**	**n**	**%**	**n**	**%**	**p**
Newspaper	Yes	28	25	39	42,9	67	33	0,01*
	No	84	75	52	57,1	136	67	
Television	Yes	90	80,4	68	74,7	158	77,8	0,396
	No	22	19,6	23	25,3	45	22,2	
İnternet	Yes	90	80,4	68	74,7	158	77,8	0,396
	No	22	19,6	23	25,3	45	22,2	
Magazines /books	Yes	17	15,2	16	17,6	33	16,3	0,704
	No	95	84,8	75	82,4	170	83,7	
Friends	Yes	37	33	21	23,1	58	28,6	0,159
	No	75	67	70	76,9	145	81,4	
Others	Yes	5	4,5	5	5,5	10	4,9	0,755
	No	107	95,5	86	94,5	193	95,1	

While %70,5 of female do house cleaning by themselves %23,1 of male do house cleaning by themselves, this difference is statistically significant (p<0,001). There was no significant difference between gender and knowledge about environmental problems, having a pet, having a plant, consumption of drinking water.

Compared to the occupational groups;%22,9 of physcians, %32,2 of nurses, %46,7 of office personnel and % 47,4 of cleaning staff live in their own homes while %61,4 of physicians, %46,0 of nurses, %21,0 of office personnel and %16,1 of cleaning staff are in rental house, this difference wa statistically significant (p<0,001).

Table 2. Comparison of occupational groups and information sources about enviromental problems,2016-VAN

		Physician		**Nurses**		**Office personnel**		**Cleaning staff**			
		n	%	n	%	n	%	n	%	x^2	p
Newspaper	Yes	27	38,6	24	27,6	8	53,3	8	25,8	5,56	0,129
	No	43	61,4	63	72,4	7	46,7	23	74,2		
Television	Yes	48	68,6	71	81,6	14	93,3	25	80,6	6i43	0,092
	No	22	31,4	16	18,4	1	6,7	6	19,4		
İnternet	Yes	62	88,6	67	77,0	13	86,7	16	51,6	17,74	<0,001*
	No	8	11,4	20	23,0	2	13,3	15	48,4		
Magazines/books	Yes	17	24,3	11	12,6	4	26,7	1	3,2	9,21	0,02*
	No	53	75,7	76	87,4	11	73,3	30	96,8		
Friends	Yes	16	22,9	29	33,3	7	46,7	6	19,4	5,784	0,123
	No	54	77,1	58	66,7	8	53,3	25	80,6		
Others	Yes	2	2,9	6	6,9	1	6,7	1	3,2	1,649	0,648
	No	68	97,1	81	93,1	14	93,3	30	96,8		

Nowadays; %48,6 of physicians and %48,3 of nurses, %60,0 of office personnel and %22,6 of cleanig staff regard water pollution as an important problem, there is a significant difference between occupational groups and regarding water pollution as an enviromental problem (p=0,003).Compared to the number of people living in the home and occupational groups, office

personnel and cleaning staff family members living at home were found to be significantly higher than other groups (p<0,001).
Compared to consumption of drinking water and occupational groups, %32,9 of physcians, %25,3 of nurses and, %20,0 of office personnel, %9,2 of cleaning staff drinking ideal amount of water per 1day, this difference is statistically significant (p=0,003). When group comparisons were made, it was found that physicians, nurses and office personnel consumed significantly more water than cleaning staff.

Table 3. The mean score of water consumption behaviours scale,2016-VAN

Questions		**Mean ±SS**
1	Closing the tap while brushing my teeth.	4,23±1,047
2	Encourage other people around me to make water saving.	3,66±1,147
3	Evaluate the running water while waiting water warm up or cool down in bath.	3,18±1,418
4	Don't run the washing machine before it's full.	3,82±1,202
5	Take care to use mono-phosphate detergents.	2,65±1,542
6	I use the less polluted water to clean the balcony, the terrace, the toilet.	2,98±1,396
7	I control the water spills and leaks in the house.	4,20±1,140
8	I refrain from pouring unknown chemicals or toxic substances in to the sink.	4,05±1,267
9	I follow the written magazine about water use and water resources.	2,97±1,276
10	I close when I see an open faucet.	4,71±0,687
11	When I see using illegal water usage, I notify authorities.	2,73±1,551
12	I warning when I see someone wasting water.	4,00±1,137
13	I immediately repaire/repaired the dripping taps.	4,27±1,062
14	I participate in events organized for the conscious use and conservation of water.	2,01±1,210
15	I watch water related programs on TV	2,73±1,214
16	I avoid pouring solid and liquid wastes generated from domestic use in to the sink.	4,07±1,156

Total scale mean score was 56,26±10,52. Compared total scale and independent variables, physicians and nurses, smokers, those who think they have enough knowledge about environmental problems, who think today's most important problem is noise pollution, who gets information about environmental problems from newspaper is significantly higher than other groups (respectively ; p=0,001, p=0,033, p=0,014, p=0,009, p=0,008, p=0,018)
The mean of the sub-factors of the water consumption behaviour scale; water consumption (factor 1) 3,55±0,005, water awareness (factor 2) 2,56±0,06, water pollution (factor 3) 3,59±0,006, water management (factor 4) 3,73±0,65, personnel and social responsibility (factor 5) 4,12±0,55. Compared gender with sub-factors; factor 2 means in male 2,72±0,1, in female 2,44± 0,08, the water awareness sub-factor of males was found to be significantly higher than female (p=0,04).

Table 4: Comparison of the means of scale- sub-factors with occupational groups, 2016-VAN

	Physician	Nurses	Office personel	Cleanning staff		
	Mean±SS	Mean±SS	Mean±SS	Mean±SS	X^2	p
Water Consumption (factor 1)	3,40±0,10	3,48±0,08	4,06±0,15	3,82±0,18	12,69	0,005*
Water Awareness (factor 2)	2,48±0,11	2,47±0,10	3,06±0,28	2,80±0,21	5,87	0,134
Water Pollution (factor 3)	3,29±0,10	3,57±0,09	4,02±0,24	4,11±0,18	20,79	<0,001*
Water Management (factor 4)	3,48±0,10	3,77±0,09	4,02±0,21	4,04±0,17	12,17	0,007*
Personal and Social Responsibility (factor 5)	3,91±0,10	4,15±0,18	4,22±0,17	4,45±0,15	10,35	0,016*

Physicians were getting significantly lower scores than nurses in factor 3 and 4, lower scores than office personnel in factor 1,3,4, lower scores than cleaning staff in factor 4 and 5. Nurses were getting significantly lower scores than ooffice personnel in factor 1, lower scores than cleaning staff in factor 1 and 3.

Those who think that they have enough knowledge about environmental problems in our country were getting significantly higher scores than other group in factor 2, 3 and 4(respectively; p=0,01, p=0,007, p=0,02). Those who think the water pollution is the most environental problem getting significantly higher csores than other group in factor 2 (p=0,01)

Compared the factor 5 and number of people living at home, factor 5 mean of living alone were 3,94±0,13, 2-4 person living at home were 4,04±0,07, 5 person or over were 4,35±0,09. Living at home 5 person or over getting significantly higher scores than other groups (p=0,019)

Table 5: Comparison of the means scale- subfactors with smoking status,2016-VAN

	Never smoked	Still smoked	Quited smoke		
	Mean±SS	Mean±SS	Mean±SS	X^2	p
Water Consumption (factor 1)	3,63±0,82	3,45±0,83	3,45±0,99	2,179	0,14
Water Awareness (factor 2)	2,71±0,96	2,39±0,10	2,30±0,31	4,76	0,02*
Water Pollution (factor 3)	3,67±0,08	3,43±0,10	3,81±0,39	3,93	0,04*
Water Management (factor 4)	3,77±0,72	3,64±0,93	3,93±0,84	1,317	0,251
Personal and Social Responsibility (factor 5)	4,23±0,68	3,97±0,09	3,96±0,32	5,29	0,02*

Physicians getting significantly higher scores from factor 2,3 and 5 than nurses. Compared with the sub-factors, there was no significant difference between who was cleaning the house and being an animal or plant owner.

DISCUSSION

Water Consumption Behaviors' scale was used which validity and reliability studies has done by Çankaya and İşçen in 2014 in order to determine the water consumption behaviors of primary health care professionals. The water consumption behavior scale average score was 56.26 ± 10.52 in the study. This result shows that water consumption behavior of participants is moderate. When the subscale factors of the scale were evaluated, the score of personal and social responsibility had the highest and the water awareness had the least.

68.0% of the participants think that they have sufficient knowledge about environmental problems in our country. Erdal et al found that 83% of the students think that they have awareness about whole kind of environmental problems and problems which is linked to the environment in the survey of awareness of environment (9). Kızılaslan et al showed that half of the farmers had moderate environmental awareness in the study of level of awareness and behavior of rural people in environmental issues (10). We concluded that there is no significant difference in our study when we compare gender and having adequate knowledge of environmental problems.

However, when gender and water awareness sub-factor are examined, the average of the water awareness sub-factor scores of males was significantly higher than females. In the study conducted by Alas et al. in teacher candidates, no difference was found between gender and water awareness (1). When sensitivity of environmental problems related with gender is examined in similar studies the environmental attitudes of women were found more positive than men (11, 12, 13). The diversity of the social groups in which the studies were conducted may have led to differences in these outcomes. In this study, newspapers are the first source of information about environmental problems, followed by television, internet, magazines / books and friends / family respectively. Kızılaslan et al have found that most of the farmers get information about the environment on television in the study of level of awareness and behavior of rural people in environmental issues. The other sources of they informed about the environment are radio, family and friends, the agricultural organization, the courses and meetings they participate in (10). Erol showed that primery school teaching students were informed about environmental problems by TV / radio and press and newspapers respectively in the study of attitudes towards environmental and environmental problems (13). In study of environmentally friendly behaviors in preschool teacher candidates Erten has showed that the percentage of those who "frequently" talked about environmental problems with their parents and friends is 22.1% and who frequently read the news about environmental problems in newspapers is 36.7% (14). Nowadays, with the development of technology, information transfer has become easier. Furthermore, increasing the number of publications that will raise awareness of environmental issues in the visual and written has supported the development of environmental and water awareness.

According to the results of the study, the participants define air pollution as the first environmental problem. This is followed by water pollution, noise pollution and soil pollution. Physicians, nurses and officers regard water pollution as a more important environmental problem than cleaning personnel. In the study of attitudes towards environmental and environmental problems, Erol declerated that most of the primery school teaching students view the world's most important environmental problem as using of natural resources. This is followed by radioactive pollution, air pollution, urbanization, climate change, population growth, energy problems and water pollution (13). Erdal et al. have identified the most important environmental problem in our country is water pollution in the study of environmental awareness of university students (9). Oğuz et al. investigated the environmental awareness in the university students and found the most important environmental problem in Turkey is air pollution and water pollution respectively (15).

The results of this work is similar to ours. In the Environmental Problems and Priorities Assessment Report of Turkey published by the Ministry of Environment and Urbanization in 2016, air and water pollution has been reported to show a decreasing and increasing tendency between 1999 and 2014 when compared with the priorities of environmental problems (16). Most of the participants in the study consume less then 8 cups of water daily. The result of the

study showed that physicians, nurses and officers consumed more water than cleaning personnel. In Karagöz et al.'s survey which is determine the frequency of water consumption of municipal officials; 11.6% of them stated that they consume less than five cups per day while 0.7% stated that this amount of water should be consumed daily. In addition 44.4% of them think that 5-9 cups of water should be consumed per day, but 43.5% consume the same amount of water. While 35.6% of them think that 10-15 glasses of water should be consumed per day, 23.9% of the group consume water in this amount. Furthemore, 21.0% consume 15 cups of water a day while 19.3% of them think that 15 cups of water should be consumed per day (17). According to the Istanbul Water Consumption Awareness study conducted by Esen in 2210 people, 34.3% of them consume less than 4 cups, 52.3% of them consume 4-8 cups, and 13.4% of them consume more than 8 cups of water (6). In this study we have shown that water, which is essential for our body health, is not consumed in sufficient amounts in health professional as it is in other groups. Although the benefits of water are known, adequate water consumption is not considered. It can also be considered that consuming the non-water drinks in the day cause to decrease the consumption of amount of drinking water.

In our study, the average scores of the personal and social responsibility sub-factors of 5 and more people living at home were higher than others. In study of Erol, attitudes towards environmental and environmental problems in primary school teacher students, the attitudes towards the environmental problems of the students who grow up in a 3-member family are significantly positive according to the attitudes of the students who grow up in a larger family (13). This can show that people's attitudes towards the environment are influenced by the number of people living in with. It can be interpreted that those who live in a crowded environment such as a mult-child family and a large family have not equal opportunities but also they are more effective in carrying responsibility. In this study the avarege score of water consumption behavior scale was found as 56.26 ± 10.52. In the study of Çankaya conducted with science teacher candidates, the water consumption behavior scale pre-test average score was 59,22 ± 8,206. This result is similar to our study. However, at the end of the 5-week water awareness education given to these teacher candidates, the post-test scale score was determined as 65,22 ± 7,996 and there was a significant difference between pre-test and post-test scores (3). Alaş et al. found that teacher candidates had a moderate level of water consumption awareness in their study of using water consumption awareness scale (1).
Considering the previous studies, we suggest that the environment and water awareness education will be done may have a positive effect on water consumption behavior.

CONCLUSION-RECOMMENDATIONS

Scale sub-factor scores were found high in the result of the study. Nevertheless, there was no increase in scale scores with increase in education status. The reason for this is that the time spent for educations to develop environmental awareness during theeducation of employees in the primary health care units is low or not at all, especially when the health protective role is considered, and the education methods given are limited, and also the involvement of health employees in environmental education programs is not emphasized . It is remarkable that water awareness is high in men, even though it is the women who make the most cleaning work at home and use the water the most.
Healthcare employees who are role models for the public should be aware of water consumption behaviors. Educations should be organized for the use of water resources to establish a healthy water awareness. Projects to which their participation can be achieved should also be developed.
In addition, public educations should be provided with the same groups which have health protector roles for the public. It is important to monitor and re-evaluate changes in their own awareness and behavior during these education sessions with intervention studies.
Although the study was cross-sectional, the required sampling was not achieved. The results could not be generalized because it is applied in a specific group.
It would be useful to repeat the study in large amount of sample for generalized the results.

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