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Evaluation of Aids and hepatitis-B knowledge and job satisfaction among hairdressers and barbers in Turkey

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ABSTRACT. Blood-borne viruses, including the human immunodeficiency virus and hepatitis B virus, have certain common epidemiological characteristics and these viruses infect millions of people worldwide. This study aimed to determine the job satisfaction and the level of knowledge and practices regarding infectious diseases of employees working as hairdressers and barbers. This descriptive and cross-sectional study comprised 1200 hairdressers and barbers. The study sample comprised 628 people who consented to participate in the study. The mean age of the participants who participated in the study was 28, 13 ± 6. 9 years. The mean job satisfaction score of the participants was 3.85 ± 0.58. The job satisfaction score was found to be higher among those with sufficient knowledge of hepatitis B ($p < 0.005$). Employees should be provided performance trainings to achieve job satisfaction. It is recommended that employees be encouraged to wear gloves and gowns to protect their health and prevent contamination.

Keywords: aids, barber; infectious diseases; hepatitis B; job satisfaction; Turkey.

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Introduction

Blood-borne viruses, including the human immunodeficiency virus (HIV) and hepatitis B virus (HBV), have certain common epidemiological characteristics and these viruses infect millions of people worldwide (MacLachlan & Cowie, 2015). Patients with hepatitis/HIV are often unaware of the disease, and therefore, they can easily pass it on to others. During the shave, haircut, or pedicure, barbers may accidentally become exposed to the blood of their customers and become infected or transmit the infection from one customer to another (Ataei, Shirani, Alavian, & Ataie, 2013; Adoba et al., 2015). Therefore, hairdressing and barber salons can potentially spread infections. Considering these circumstances, everyone in society is at risk (Ngoupa et al., 2019). This risk is an important public health concern for society (Linnan, D'Angelo, & Harrington, 2014).

In countries, the incidence of these diseases in barbers has been reported to vary between 34 and 49% (Biadgelegn et al., 2012). The prevalence of hepatitis B is elevated in Asia, Africa, South America, the Middle East, the Pacific Islands, and Eastern Europe. Moreover, it is also increased in the Sub-Saharan and Southeast Asian countries and Alaska (8-20%) and at moderate levels in the Mediterranean countries, Japan, Central Asia, the Middle East, and South America. In addition, it has been known that the prevalence of hepatitis B is low in North America, Western Europe, Australia, and New Zealand (1-2%) (Merat, Malekzadeh, Rezvan, & Khatibian, 2000). Although the basic route of transmission is heterosexual sex in 46.1% of cases in Turkey, it is unknown in 39.4% of cases. Consequently, it is inevitable that the workers in hairdressing and barber salons will infect the customers and themselves if they do not give the necessary importance to personal hygiene, decontamination, sterilization and disinfection of work equipment, proper removal of wastes, and cleanliness of the working environment (Nassaji et al., 2015).

Research questions

-What are the job satisfaction mean scores of employees?

-Are there differences in knowledge about Hepatitis B and Aids of employees according to the knowledge of employees?

-Are there differences between knowledge of Hepatitis B and Aids features of employees with the mean for job satisfaction scale sub-dimensions?

Material and methods

The population of the study conducted in the Gaziantep province comprised 1200 people (700 hairdressers, 500 barbers) working in hairdressers and barber salons registered to the Gaziantep Chamber of Tradesmen and Craftsmen between December 2017 and March 2018. Because of the large geographical area of the study, we used the cluster sampling method and the research was completed with a total of 628 employees who volunteered to participate. A total of 78 neighbourhoods were visited based on the addresses obtained from the Chamber of Tradesmen and Craftsmen, a sample of 628 (hairdressers = 319, barbers = 309) volunteers was included in the study, and the questionnaire was administered to them. Inclusion criteria for the research: Resided in the Gaziantep region, were able to communicate verbally and speak Turkish, accepted participation in the study and answered the questions independently.

Data in the research were collected with a survey form prepared in line with the literature (Pan, Shen, Liu, Yang, & Wang, 2015, Boyacı, Karacabey, & Bozkuş, 2018; Jain, Clezy, & McLaws, 2019) and the Job Satisfaction Scale (JSS).

Job Satisfaction Scale (JSS): The scale was developed by Spector in 1985 (Spector, 1985). The total score varies between 36 and 216. The job satisfaction scale is defined with nine sub-dimensions.

These sub-dimensions salary, promotion, supervision, benefits coworkers, operating conditions, communication, performance, nature of work. The internal consistency reliability of the JSS, as determined by Cronbach's alpha coefficient, was 0.78. In our study, Cronbach's Alpha was calculated as 0.741. The Statistical Package for Social Sciences (SPSS) 22.0 software was used for statistical analyses, and number, percentage, mean, and standard deviation values were used for evaluation. The chi-square and t-test were used to analyze the difference between the groups. A P value of < 0.05 was considered statistically significant. The boredom of the employees, the time problems of the employers, and the fact that the study was performed only by the researcher have led to some difficulties.

The study was approved by the Institutional Ethics Committee of the university (no: 2017/338) and the Gaziantep Chamber of Hairdressers and Chamber of Barbers. Verbal consent was obtained from the workers who participated in the study.

Results

The mean age of the participants who participated in the study was 28.13 ± 6.9 years, and 65.8% were male, 49% were married. Of the individuals who participated in the study, 50.8% were hairdressers, 49.2% were barbers, and 69.4% had social security. Of the participants, 26.7% had been doing this job for 5 - 9 (± 1.33) years, 31.7% stated that they worked as masters in their trade, and 48.9% stated that they did all the work in the salon. The majority of the participants (82.5%) stated that they abided by hygiene rules in their workplace practices and washed their hands to protect from infections (34.7%), and wore gloves (30%). More than half of the participants (67.4%) stated that they washed their hands before and after hairdressing. Although 61.6% of the individuals used water and soap to ensure hand hygiene, 21.7% stated that they only used water. Among the hairdressers and barbers participating in the study, 69.4% stated that they did not clean their instruments in case they had any wounds on their hands, whereas 76.4% of the participants stated that they had sufficient knowledge of hepatitis B, and 58.8% stated that they had sufficient knowledge of Aids.

The mean job satisfaction score of the participants was 3.85 ± 0.58. In terms of the sub-dimensions, the highest mean score was obtained in the 'nature of work' sub-dimension with 4.20 ± 0.91, and the lowest mean score was obtained in the 'operating conditions' sub-dimension with 3.47 ± 0.75 (Table 1).

Depending on the occupational position of the individuals participating in the study, the scores obtained by the business owners with regards to the importance, awareness, contagiousness, and treatment of hepatitis B disease were higher and the difference was statistically significant ($p < 0.000$). There was a statistically significant difference in terms of the sources of information on hepatitis B, and it was found that the scores of individuals receiving information from hospitals were higher than the scores of those receiving information from courses ($p < 0.001$). Individuals who work as employees had a greater level of awareness regarding the tools and instruments that have a high risk of spreading hepatitis B. The difference between employees and business owners in this regard was statistically significant ($p < 0.37$). Employees were more likely to show an unwillingness to shave individuals with hepatitis B, and the difference between employees and business owners in this regard was statistically significant ($p < 0.007$) (Table 2).

Table 1. Job satisfaction mean scores.

Scale and subdimensions	x ± SD	Min-Max
Salary	3.65 ± 1.05	1-6
Promotion	3.93 ± 0.98	1-6
Supervision	4.02 ± 0.97	1-6
Fringe benefits	3.80 ± 0.90	1-6
Operating conditions	3.47 ± 0.75	1-6
Coworkers	3.99 ± 0.92	1-6
Nature of work	4.20 ± 0.91	1-6
Performance	3.77 ± 0.95	1-6
Communication	3.71 ± 0.96	1-6
Job satisfaction total score	3.85 ± 0.58	1-6

Table 2. Distribution of the knowledge of hepatitis B and Aids by employee and employer status.

	Employee		Employer		Statistics		Employee		Employer		Statistics
	n%		n%				n%		n%		
Has heard about hepatitis B						Has Heard about Aids					
Yes	310	85.2	244	92.4	$p < 0.000$	Yes	283	77.8	239	90.5	$p < 0.000$
No	54	14.8	20	7.6	$x^2 = 17.82$	No	81	22.2	25	9.5	$x^2 = 17.82$
Sources of hepatitis B information						Sources of Aids Information					
Hospital	239	65.7	139	52.7	$p < 0.001$	Hospital	256	70.3	156	59.1	$p < 0.003$
Course	125	34.3	125	47.3	$x^2 = 10.80$	Course	108	29.7	108	40.9	$x^2 = 8.56$
Hepatitis B is an important disease.						Aids is an Important Disease.					
Yes	297	81.6	244	92.4		Yes	266	73.1	228	86.4	
No	14	3.9	13	4.9	$p < 0.000$	No	12	3.3	7	2.7	$p < 0.000$
I don't know	53	14.5	7	2.7	$x^2 = 56.03$	I don't know	86	23.6	29	10.9	$x^2 = 16.99$
There is a treatment for hepatitis B.						There is a Treatment for Aids.					
Yes	198	54.4	183	69.3		Yes	223	61.2	209	79.2	
No	48	13.2	34	12.9	$p < 0.000$	No	21	5.8	13	4.9	$p < 0.000$
I don't know	118	32.4	47	17.8	$x^2 = 18.06$	I don't know	120	33.0	42	15.9	$x^2 = 5.97$
Hepatitis B is an infectious disease.						Aids is an Infectious Disease.					
Yes	241	66.2	238	90.1		Yes	129	35.4	116	44.0	
No	13	3.6	10	3.8	$p < 0.000$	No	119	32.7	84	31.8	$p < 0.000$
I don't know	110	30.2	16	6.1	$x^2 = 56.03$	I don't know	116	31.9	64	24.2	$x^2 = 24.59$
Most infectious tools for hepatitis B						Mode of Aids Transmission					
Razor-hair removal needle-scissors manicure/pedicure	346	95.1	240	91.1	$p < 0.037$	Sexual Intercourse	131	36.0	71	26.9	
Comb	12	3.2	13	5.0	$x^2 = 8.506$	Blood	191	52.5	158	59.8	$p < 0.002$
Brush	6	1.7	6	2.1		Respiration	4	1.1	11	4.2	$x^2 = 16.80$
Towel	0	0	5	1.9		Contact	23	6.3	21	8.0	
						Other	15	4.1	3	1.1	
Total	364	100.0	264	100.0		Total	364	100.0	264	100.0	

*Chi-square test was applied, $p < 0.05$

Depending on the occupational position of the individuals participating in the study, the scores obtained by business owners with regards to the importance, awareness, contagiousness, and treatment of Aids disease were higher and the difference was statistically significant ($p < 0.000$). There was a statistically significant difference in terms of the sources of information on Aids and Aids diseases, and it was found that scores of individuals receiving information from hospitals were higher than the scores of those receiving information from courses ($p < 0.003$). Business owners were more likely to know the most common routes of Aids transmission, and the difference between business owners and employees in this regard was statistically significant (Table 2).

The mean scores of participants with sufficient knowledge on hepatitis B were higher than those of participants with insufficient knowledge of hepatitis B ($p < 0.004$). There was a statistically significant difference between hepatitis B knowledge and the mean job satisfaction scores. Participants with sufficient hepatitis B knowledge had higher mean scores in the 'supervision' and 'performance' sub-dimensions than those with insufficient hepatitis B knowledge. The difference between the mean scores was statistically significant ($p < 0.000$). There was no significant difference between hepatitis B knowledge and the mean scores for the salary, promotion, fringe benefits, coworkers, operating conditions, communication, and nature work sub-dimensions ($p > 0.05$). There was no statistically significant difference between participants' knowledge of Aids and job satisfaction scores ($p > 0.05$). Participants who had sufficient knowledge on Aids had higher

mean scores in the "supervision" sub-dimension than those with insufficient knowledge on Aids. The difference between the mean scores was statistically significant ($p < 0.000$). There was no significant difference between Aids knowledge and the mean scores for the sub-dimensions performance, salary, promotion, fringe benefits, coworkers, operating conditions, communication, and nature of work ($p > 0.05$) (Table 3).

Table 3. Distribution of job satisfaction scale subdimensions of employees according to their knowledge of hepatitis B/Aids.

Scale and subdimensions		Hepatitis B knowledge				Scale and subdimensions		Aids knowledge			
		n	Mean±Std. Deviation	t	p			n	Mean ± Std. deviation	t	p
Salary	Sufficient	480	3.68±1.08	1.410	> 0.160	Pay	Sufficient	369	3.66±1.08	0.280	> 0.779
	Insufficient	148	3.55±0.93				Insufficient	259	3.64±0.99		
Promotion	Sufficient	480	3.92±1.01	-.607	> 0.544	Promotion	Sufficient	369	3.87±1.00	-1.118	> 0.70
	Insufficient	148	3.97±0.86				Insufficient	259	4.01±0.94		
Supervision	Sufficient	480	4.12±0.99	5.048	< 0.000	Supervision	Sufficient	369	4.17±0.99	4.591	< 0.000
	Insufficient	148	3.70±0.84				Insufficient	259	3.81±0.91		
Benefits	Sufficient	480	3.84±0.93	1.926	> 0.215	Fringe benefits	Sufficient	369	3.84±0.94	1.189	> 0.235
	Insufficient	148	3.69±0.78				Insufficient	259	3.75±0.85		
Coworkers	Sufficient	480	4.01±0.96	1.243	> 0.215	Coworkers	Sufficient	369	3.96±1.00	-1.217	> 0.224
	Insufficient	148	3.92±0.81				Insufficient	259	4.04±0.81		
Operating Conditions	Sufficient	480	3.48±0.70	0.652	> 0.515	Operating conditions	Sufficient	369	3.51±0.76	1.440	> 0.150
	Insufficient	148	3.43±0.91				Insufficient	259	3.42±0.73		
Communication	Sufficient	480	3.79±1.03	1.140	> 0.255	Communication	Sufficient	369	3.83±0.98	1.778	> 0.076
	Insufficient	148	3.71±0.67				Insufficient	259	3.69±0.92		
Performance	Sufficient	480	3.85±0.99	4.168	< 0.000	Performance	Sufficient	369	3.81±0.98	1.361	> 0.174
	Insufficient	148	3.53±0.75				Insufficient	259	3.71±0.90		
Nature of Work	Sufficient	480	4.19±0.94	-.306	>0.760	Nature of work	Sufficient	369	4.16±0.94	-1.242	> 0.215
	Insufficient	148	4.22±0.79				Insufficient	259	4.25±0.86		
Job Satisfaction Total Score	Sufficient	480	3.88±0.62	2.911	< 0.004	Job satisfaction total score	Sufficient	369	3.87±0.62	1.142	> 0.254
	Insufficient	148	3.75±0.42				Insufficient	259	3.81±0.53		

*Job satisfaction scale, X ± SD: Mean ± Standard deviation. *t = Independent samples test was applied; $p < 0.05$ *t = Independent samples *t*-test was applied, $p > 0.05$.

Discussion

HBV, HCV, and HIV infections continue to be an important public health concern despite increasing public awareness and the widespread implementation of vaccination programs (Aljarbou, 2013; Popping et al., 2019). In addition to being based on practical training, the professions of hairdressing and barbering also require theoretical training to prevent the spread of infectious diseases. Following and abiding by hygiene rules is extremely important for preventing infectious diseases (Mehta et al., 2014). In the current study conducted with the aim of evaluating the job satisfaction and knowledge regarding Aids and hepatitis B in hairdressers and barbers, it was determined that >50% of the participants had sufficient knowledge on hepatitis B and Aids (76.4% and 58.8%, respectively). Previous studies have reported varying rates of knowledge regarding hepatitis B knowledge (86-90%) and Aids (42-60%) (Wazir, Mehmood, Ahmed, & Jadoon, 2008; Amodio, Di Benedetto, Gennaro, Maida, & Romano, 2010; Joukar, Mansour-Ghanaei, Naghipour, & Hasandokht, 2017). The reason for the higher rate of knowledge regarding hepatitis may be that participants are more aware regarding hepatitis than Aids as it is more common worldwide, and governments and NGOs are engaging in mass vaccination efforts against hepatitis B in endemic regions.

In hairdressing and barber salons, washing hands is the most effective way for preventing the transmission of infectious diseases to self and the customers (Ukeme & Ukpe, 2016). Inadequate hand hygiene practices are estimated to affect 80% of the world population, and washing hands with soap and water is considered a measure of personal hygiene (Freeman et al., 2014; Pruss-Ustun et al., 2014). In the current study, it was determined that > 50% of the participants (67.4-61.6%) washed their hands with water and soap for their health and the health of the customers. Other studies also support our findings (Deneluz & Oliveira, 2010; Garbaccio & De Oliveira, 2013). Previous studies have reported that the rate of washing hands before and after procedures varied between 52 and 74%. Similarly, Garbaccio and De Oliveira (2013) reported that participants used water and soap to wash their hands. The most common causes of transmission include the fact that one-third of the individuals working in the hairdressing and barber salons do not pay attention to hygiene rules, and the fact that there is a lack of training and supervision. Another way for hairdressers and

barbers to prevent transmission is the use of gloves during their procedures. Gloves are the most effective barriers and directly prevent person-to-person contact (Jain et al., 2019). Considering the fact that busy barbers and hairdressers can forget to wash their hands, the more widespread and frequent use of gloves may be beneficial. In the current study, one-third of the participants (30%) stated that they used gloves. In previous studies, the reported use of gloves varies between 4 and 58% (Garbaccio & De Oliveira, 2013). These results indicate that there is no formal protocol regarding awareness in hairdressing and barber salons. The purpose of protective equipment is not only to protect these professionals but also to reduce the risk of spreading microorganisms. Another reason for the low level of use of gloves worldwide may be the lack of training. To prevent the transmission of infectious diseases, employees in hairdressing and barber salons should be aware about such diseases. In the current study, the majority of the participants (78.3%) stated that hepatitis B was transmitted by blood. Amodio et al. (2010) reported that more than half (67%) of the participants in their study stated that hepatitis B was transmitted by blood (Amodio et al., 2010). This result shows that most of the participants were aware regarding the modes of disease transmission. In the study of Kumar Krishanani et al. (2014) few (13%) of the participants correctly stated the mode of transmission of hepatitis B as blood (Kumar Krishanani, Ali, Khuwaja Late, Qidwai, & Ali, 2014). This may be owing to the lack of training among workers in barber/hairdressing salons in Pakistan and the lack of government supervision. Hepatitis B is most commonly transmitted by cutting and piercing tools (such as scissors and razors). In the current study, almost all of the participants (93.3%) stated that these diseases were transmitted by scissors, razor blades, or similar tools. In the study by Togan et al. (2014) 95.7% of the participants answered that transmission occurred through tools such as scissors and razors (Togan, Turan, & Tosun, 2014). This result suggests that the employees working in hairdressing and barber salons should be careful when using such tools.

In these salons, it is necessary to know the mode of Aids transmission, another important infectious disease, and to take the necessary preventive measures. In the current study, more than half of the participants (55.6%) stated that Aids was transmitted by sexual intercourse, whereas one-third (32.2%) stated that it was transmitted by blood. In the study of Brewer, the two most common modes of transmission described by the participants were sexual intercourse and blood (Brewer, 2012; Xu et al., 2019). Amodia et al. (2010) conducted a similar study, and although hairdressers were well aware of the risks associated with the transmission routes for HIV and hepatitis B, they still followed unsafe practices that could lead to infection by blood-borne viruses. These results can be attributed to the lack of training and protocols among employees of salons regarding the modes of Aids transmission.

Another factor affecting the level of knowledge of hairdressers and barbers is their job satisfaction. Job satisfaction is a positive emotion that employees experience when they meet expectations as well as their tendency to follow the current developments regarding their occupation and to better perform their tasks. A decrease in job satisfaction can be evaluated in two ways. Firstly, when we consider that a substantial amount of time of an individual's life is spent at work, limiting the material and emotional aspects of an individual's work life will decrease the satisfaction that the person draws from that job. Secondly, from an institutional point of view, the decrease in job satisfaction leads to a decrease in the quality of services provided by these hairdressing and barber salons. In the current study, it was found that job satisfaction increased as the number of years at work increased. It was also found that sex and marital status did not affect job satisfaction. Pan et al. (2015) investigated the job satisfaction level of teachers and reported that having their expectations met at the time they entered the profession and during their years in the profession increased their job satisfaction (Padhy & Bhuyan, 2015; Pan et al., 2015) and investigated the job satisfaction of public and private sector employees and the factors that affected them. They found that salary is a top determinant of the job satisfaction level for both public and private sector employees. In addition, they reported that liking the work and the working conditions are also important factors in achieving job satisfaction. It is reported that the job satisfaction level of academicians differed according to their time/years in the profession and their title, whereas sex and marital status did not affect job satisfaction (Ozturk & Sahbudak, 2015). These results can be interpreted as indicating that productivity increases in parallel with the time spent in the profession.

The total mean score of the JSS, which was used in our study and aimed to measure the effects of job satisfaction on participants' information, was 3.85 ± 0.58. Considering that the lowest score that can be obtained from the scale is one and the highest score is six, it can be said that the job satisfaction level of the participants are good. The mean scores obtained for the sub-dimensions of salary, promotion, supervision,

fringe benefits, operating conditions, nature of work, coworkers, performance, and communication were found to be > 3. This result can be interpreted as indicating that the participants can effectively cope with situations that will negatively affect their job satisfaction and the quality of their work. Other studies have stated that job satisfaction and its sub-dimensions affect the skills and knowledge of individuals regarding their occupations (Phonthanukitithaworn, Naruetharadhol, & Ketkaew, 2017; Boyacı et al., 2018).

Conclusion

According to the results of the study, approximately one-third of the employees did not have sufficient knowledge regarding hepatitis B and Aids. In general, hygiene was found to be among the lesser-known subjects. In the current study, there was no statistical difference between the level of knowledge and job satisfaction of hairdressers and barbers. Based on the results of the study, the following recommendations can be made: employees should be encouraged to use gloves and gowns to protect their health and to prevent transmission; course programs on hepatitis B and Aids should be planned as part of training activities aimed for adults, and inspections should be conducted from a single center; a hotline that employees can call when necessary should be established, along with a website from which they can receive information; employees should be informed about the cases in which they can benefit from public health centers/family physicians and receive their vaccinations, and support should be provided by professional chambers regarding the implementation of the appropriate sterilization methods in hairdressing and barber salons.

The study was limited to the worker of barbers who voluntarily participated in the study at the Chamber of Craftsmen and Artisans site that included small-scale enterprises in Gaziantep.

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