

Original Article

Evaluation of the Factors Associated with AIDS Prevention Performance among hairdressers based on the Theory Planned BehaviorSeyed Abolhassan Naghibi¹ Mahmood Moosazadeh² Seyedeh Somayeh Kazemi^{3*}

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Abstract

Background and Purpose: The Human Immunodeficiency Virus (HIV) include blood-borne viruses that have infected millions of people worldwide. During haircut or shaving, barbers may accidentally expose their clients' blood, transmit their own infection to them, or transmit the infection from one client to another. Hence, the knowledge of barbers toward topics related to AIDS is of great importance. The aim of the present study was therefore to evaluate knowledge and performance of hairdressers about HIV/AIDS based on the theory of planned behavior.

Materials and Methods: In this cross-sectional study, 275 hairdressers were systematically and randomly selected from five points in Sari. The data were obtained through self-design questionnaires. Data analysis was performed using SPSS 23.

Results: Of the total 275 participants, 236 (85.8%) were female and 39 (14.2%) men. Among participants, 14.2% were less than 25 years of age, and 10.9% participants were more than 44 years old. According to the correlation results, there was a statistically significant relationship between the intention with knowledge, attitude, and performance score of the hairdressers. As well, a significant correlation was observed between subjective norm with knowledge, attitude, performance, and perceived behavioral control with four variables.

Conclusion: The results showed that the level of hairdressers' knowledge, attitude, and performance about preventive behavior of AIDS in the workplace was optimal. Behavioral intention, subjective norms, and perceived behavioral control of hairdressers can be considered as effective factors in awareness, attitude, and performance. In spite of all that, educational programs were found to be necessary for raising hairdressers' awareness, and their performance was emphasized as one of the strata of society that deals with human health.

Keywords: Theory of Planned Behavior; Knowledge; Performance; AIDS; Hairdressers

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1. Introduction

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) epidemic is one of the most important public health problems in the world, especially in developing countries (1). The disease changed from a relatively small threat in the 1980s to a major cause of mortality in the last decade (2). Patients infected by HIV infections may not be aware of the disease, and thereby cause the transmission to others (3).

HIV, the virus that causes AIDS is one of the world's most serious health and development challenges. Based on the report of Global Health Policy 2021, approximately 38 million people are currently living with HIV, and tens of millions of people have died of AIDS-related causes since the beginning of the epidemic (4). The Middle East zone is foremost among the regions within the world with the quickly growing epidemic of HIV. During this time period, deterioration and disability have been in rise (5). Iran, a country in the Middle East, and North Africa (MENA) region have been actively involved in the fight against HIV/AIDS over the past three decades (6). This infection is transmitted through body fluids, blood, and blood products. HIV infected individuals may stay asymptomatic for years. Therefore, patients with HIV infection may not be aware of the infection, and cause transmission of the infection to others. The prevalence of these diseases in beauty salons and barbershops in countries, such as Ethiopia, Pakistan, and Bangladesh has been reported to be 34%–49% (7,8). Beauty Salons are places with considerable potential for the transmission of various diseases that sometimes pose the risk

of death. The cause of this transmission in beauty salons is usually the direct contact of several customers with the same apron, use of the same towels to dry the hair and face of different customers, nail implants, face threading without adherence to hygienic principles, the use of illegal cosmetics, and minor cuts by scissors and razors during the processes. All of these factors can cause fungal infection, skin rashes, as well as the transmission of blood borne pathogens, such as AIDS and hepatitis B and C among individuals (9). During the haircut, shave, or pedicure, barbers may accidentally cause their clients' blood transmit their own infection to them, or from one client to another. Thus, the beauty salon staff has a potential role in the expansion of infections. It seems that poor occupational factors in barbers' salons bring about health problems for the hairdressers (10). A study about the knowledge and practice of sterilization of instruments by barbers showed that 93.9% of the barbers were not aware of the necessity and method of sterilization (11). This meant that almost all consumers were in danger of getting infected. A study conducted by Gholami on the knowledge, attitude, and performance of barbers regarding infection control showed their knowledge levels were moderate (12). This meant that almost all hairdressers were in danger of contacting these deadly however preventable diseases. Indeed, inadequate knowledge, negative attitudes, and risky practices were found to be the major obstacles in preventing the spread of HIV (13). Educating people including hairdressers is the best way to prevent AIDS, which can provide a safe life by changing health behaviors.

Since there is no definitive treatment and vaccination for HIV, the most important way to prevent the transmission of the disease is to increase knowledge and awareness and preventive practice in the general population, especially the individuals at risk via an appropriate educational program (14,15). To change behavior, appropriate theories and educational models must be considered. Evidence shows that the most effective education is based on the theory that is rooted in behavioral change patterns. Choosing a health education model is the first step in the planning process of an educational program, and effective health education depends on mastering the use of the best theories and strategies appropriate to each event (16,18). The theory of planned behavior is one of the theories of behavior change that links beliefs to behavior. The theory is a cognitive-social model of value expectation that considers intention as the main determinant of behavior. The theory also states that there are three core components including; attitude, behavioral intention, subjective norm, and

perceived behavioral control, which together shape an individual's behavioral intentions (Figure 1). Attitude refers to the degree to which a person has a favorable or unfavorable evaluation of the behavior of interest. It entails a consideration of the outcomes of performing the behavior. Behavioral intention refers to the motivational factors that influence a given behavior, where the stronger the intention to perform the behavior, the more likely the behavior will be performed. Subjective norms refer to the belief about whether most people approve or disapprove of the behavior. It relates to a person's beliefs about whether peers and people of importance to the person think he or she should engage in the behavior. Perceived behavioral control refers to a person's perception of the ease or difficulty of performing the behavior of interest. Perceived behavioral control varies across situations and actions, which results in a person having varying perceptions of behavioral control depending on the situation (17).

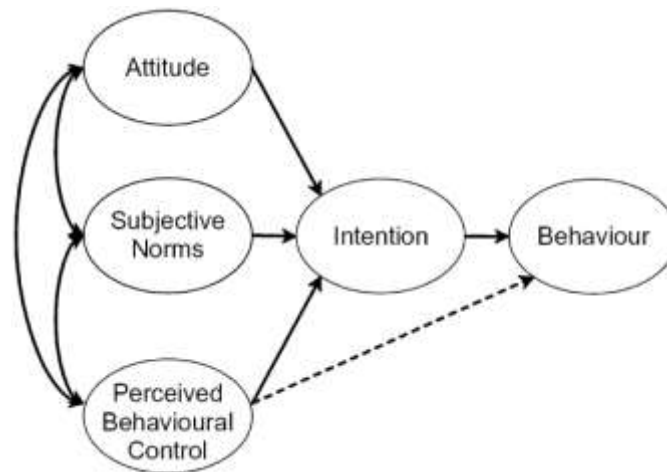


Figure 1. Theory of Planned Behavior (Ajzen, 1991)

Hairdressing is one of the professions not covered by the health education program in the field of AIDS, and due to the importance of the role of hairdressers in transmitting infectious diseases, especially AIDS, identifying the job performance of hairdressers in relation to AIDS can be done based on theories and models of behavior change, which can be useful in preventing the transmission of this disease. Therefore, given the importance of the role of hairdressers in the transmission of infectious diseases, especially AIDS, the present study aimed to investigate the factors related to the hairdressers' performance in AIDS prevention based on the theory of planned behavior.

2. *Materials and Methods*

It was a cross-sectional descriptive study carried out from June to September, 2017. With regard to the distribution of hairdresser salons in the city, hairdressers in five points of Sari (North, South, East, West, and Central) were selected by systematic random sampling. All hairdressers who had a health examination card and gave consent for the research study were included in the study. According to a similar study (18), the sample size was estimated to be 275. Hairdressers who were not willing to participate or refused to give consent for the study were excluded. Written permission was obtained from the Mazandaran University of Medical Sciences. Data collection was done by visiting directly the hairdressing salons and visiting the place and with a self-design questionnaire. In order to prepare the questionnaire items, similar previous studies and existing questionnaires were used (19,20). The questionnaire consisted of three parts. The first part was

related to measuring demographic characteristics (age, gender, education level, marital status, education, and occupation of the spouse). The second part of the questionnaire included knowledge assessment (12 items), attitude (7 items), and performance (4 items) in preventing HIV/AIDS. The third part of the questionnaire included subjective norms (5 items), intention (4 items), and perceived behavioral control (4 items) to measure the psychological constructs related to the theory of planned behavior. Measuring knowledge items were done based on "Yes (2), No (1), I do not know (0)". The attitude and subjective norms scales were measured on a 5-Likert Likert scale ranging from "strongly disagree (1) to strongly agree (5)". Intention and perceived behavioral control variables were measured using a 5-Likert type of scales from "very likely (1) to very unlikely (5)". The performance scale was assessed on a 5-Likert type scale ranging from "never (1) to always (5)". Reverse scoring was used for barrier items. Scoring was conducted by summing individual responses. Higher scores indicated better conditions of knowledge, attitude, intention, and performance.

Participants were assured that the questionnaires were anonymous and that all information would remain confidential. The time to complete the questionnaire was 15 minutes.

The validity of the questionnaire content was put in reach of 5 members of professors in health sciences to determine the properness of questions to reach the objectives of the research. In a pilot study, the reliability of the questionnaire was determined and the level of Cronbach's alpha (85%) was confirmed. In

order to analyze the collected data, SPSS Software, version 23 was used by determining descriptive statistics, and running two-sample t-test, and Pearson correlation. A Shapiro-Wilk test with skewness-kurtosis was also used to test the normal distribution of values.

The study went through the Ethics Committee approval obtained from Mazandaran University of Medical Sciences (IR. MAZUMS.REC1397.3046). Written informed consent was obtained from all individual participants included in the study. Participants were ensured that their names and information would be kept confidential,

and they were told that they were free to leave the study if they wished to do so.

3. Results

In total, 275 participants most of whom were female entered the study. Of the total participants, 236 (85.8%) were female and 39 (14.2%) men. The mean age of the participants was 32.59 ± 8.37 . The mean age of females and males were 32.73 ± 8.44 and 32.19 ± 8.15 , respectively. Among the participants, 14.2% were less than 25 years of age and 10.9% were more than 44 years old. Table 1 shows the demographic information of the participants.

Table 1. The demographic description of the participants

Socio-demographic characteristics	N= 275, n (%)
Age	
< 25	39 (14.2)
25-34	148 (53.1)
35-44	60 (21.8)
> 44	30 (10.9)
Gender	
Male	39 (14.2)
Female	236 (85.8)
Marital Status	
Single	100 (36.4)
Married	175 (63.6)
Education Level	
Diploma and less than diploma	162 (58.9)
More than diploma	113 (41.1)

Table 2 displays the mean and standard deviations for knowledge, attitude, and the

component of the theory of planned behavior (TPB) applied for hairdressers.

Table 2. The scores of knowledge, attitude, and component of TPB of hairdressers (Mean \pm SD)

N= 275	Total	Male	Female	P*
Knowledge	6.90 \pm 1.5	6.79 \pm 1.5	6.91 \pm 1.5	.63
Attitude	26.34 \pm 6.4	26.38 \pm 6.5	26.33 \pm 6.4	.96
Intention	17.92 \pm 2.2	18.15 \pm 2.7	17.88 \pm 2.2	.5
Performance	16.77 \pm 2.6	17.25 \pm 2.6	16.69 \pm 2.6	.22
Subjective Norm	23.05 \pm 2.7	23.38 \pm 3.1	23 \pm 2.7	.42
Perceived behavioral control	18.64 \pm 2.1	19.12 \pm 1.9	18.55 \pm 2.1	.12

* Derived from two-sample t-test

Frequency of knowledge, attitude, and also the component of TPB of hairdressers based on Likert classification are demonstrated in

Table 3. Higher scores indicated better conditions.

Table 3. Frequency distribution knowledge, attitude, and the component of TPB of hairdressers

N= 275, n (%)	
Knowledge	
Very poor	41 (14.9)
Poor	53 (19.3)
Moderate	90 (32.7)
Good	62 (22.5)
Very good	29 (10.5)
Attitude	
Strongly agree	3 (1.1)
Agree	22 (8)
Neither agree nor disagree	34 (12.4)
Disagree	128 (46.5)
Strongly disagree	88 (32)
Intention	
Very likely	166 (60.4)
Likely	99 (36)
Neutral	0
Unlikely	8 (2.9)
Very unlikely	2 (.7)
Performance	
Always	114 (41.5)
Usually	142 (51.6)
Sometimes	16 (5.8)
Rarely	3 (1.1)
Never	0
Subjective Norm	
Strongly agree	212 (77.1)
Agree	56 (20.4)
Neither agree nor disagree	5 (1.8)
Disagree	2 (.7)
Strongly disagree	0
Perceived behavioral control	
Very likely	222 (60.7)
Likely	48 (17.5)
Neutral	0
Unlikely	4 (1.5)
Very unlikely	1 (.4)

According to the correlation results, there was a statistically significant relationship between the intention and knowledge, attitude, and performance score of the hairdressers. In addition, a significant

correlation was observed between subjective norm and knowledge, attitude, and performance, as well as between perceived behavioral control and four variables (Table 4).

Table 4. Correlation of knowledge, attitude, and the component of TPB

	Knowledge	Attitude	Intention	Performance	Subjective Norm	Perceived behavioral control
Knowledge	-	.06	.14*	.05	.27**	.25**
Attitude	.06	-	.18**	-.035	.25**	.16**
Intention	.14*	.18**	-	.36**	.47**	.43**
Performance	.05	-	.36**	-	.28**	.29**
Subjective Norm	.27**	.25**	.47**	.28**	-	.63**
Perceived behavioral control	.24**	.16**	.43**	.29**	.63**	-

*Derived from Pearson Correlation

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

4. Discussion

The main goal of this study was to evaluate the knowledge and performance levels of staff of hairdressers in Sari about the transmission routes and preventive behavior of AIDS based on the Theory Planned Behavior. Moreover, we analyzed the correlation between the knowledge, attitude, and performance levels with the intention, subjective norm, and perceived behavioral control.

In the last few decades, hairdressing has increased in global popularity and belongs to the young and dynamic class of the community. Therefore, the young are considered as one of the most important groups with regard to their knowledge and practice about infectious and contagious diseases. The results of the current research showed that the knowledge on the concept of infectious risk associated with blood was moderate among many hairdressers. This indicated that low or moderate knowledge

about AIDS and transmission ways could pose a serious risk to the community and population. Also, it can result in transmitting hematic pathogens such as HIV/AIDS. Hence, having good knowledge to prevent hematic pathogens is essential. The study of Quarm (2021) reported that barbers exhibited inadequate knowledge and attitude regarding HIV/AIDS, and also they manifested poor prevention practices regarding HIV/AIDS (21). Almasi et al. (2017) indicated that the knowledge, attitude, and performance of barbers about AIDS were at a good level. But due to problems related to salons environmental health, the existing attitudes were not converted to performance (22).

We obtained optimal results about the attitude and performance levels of staff of beauty salons about AIDS. Hairdressers had the main role in virus transmission, so promoting knowledge, attitude, and practice was found to be important. It meant that good performance is practiced by good awareness

and attitude. This result was in line with the study of Ataei et al. (2013). They discovered that the best control, evaluation, and continuous teaching programs should be provided for hairdressers (23). Since the presentation of information and education through social media is increased and it is now easier to access such information (24,25), the desire of people, especially young people, to use social media makes them have a better attitude towards occupational health.

The relationship between the degree of awareness of hairdressers with parameters, such as age, gender, education level, and marital status was found to be not significant, which was consistent with the results of a study conducted by Almasi et al. (22).

This study applied the TPB framework to explain the preventive behavior of AIDS. The study findings demonstrated the role of knowledge, attitude, intention, subjective norm, and perceived behavioral control in the performance of hairdressers based on the TPB. According to the findings, subjective norm and perceived behavioral control affected the intention and finally the performance through improving it. Tailored behavior change communication might be a way forward to facilitate informed decisions. Attempts aimed at increasing hairdressers' motivation to the prevention of AIDS and promotion of performance should strengthen their intention to do so through informed awareness accompanied with social approval to provide mostly positive consequences.

The TPB expressed that changing intentions can be accomplished by influencing attitudes, subjective norms, and perceived behavioral control (26). At the same time, using

educational messages could positively influence attitudes towards the healthy practice. In addition, messages based on normative pressure might be an effective way to convince hairdressers toward preventive behavior of AIDS. In Mirkuzie et al.'s study (2011) on pregnant women, it was demonstrated that the behavioral intention was strongly influenced by attitude and subjective norm (27). In the present study subjective norm and perceived behavioral control significantly contributed to the behavioral intention that might be associated with the individualistic nature. But in the study of Ayodele (2017), attitude was significantly contributed to the prediction of HIV testing intention and over subjective norms (28).

The results of the present study showed that the level of hairdressers' knowledge, attitude, and performance about preventive behavior of AIDS in the workplace was optimal. The good performance of hairdressers in Sari was found to lead to the prevention of different diseases in society including skin and blood diseases. According to the obtained results, behavioral intention, subjective norms, and perceived behavioral control of hairdressers were effective factors in awareness, attitude, and performance. In spite of all that, educational programs were considered to be necessary for awareness raising and performance of hairdressers as one of the strata of society that deal with human health.

Limitations

The results of the current study highlighted the importance of perceived behavioral control, knowledge, attitude, and subjective norms in the behavioral intention among hairdressers. However, the study limitations

should be considered when interpreting its findings. First, the study was cross-sectional. Consequently, the relationship between behavioral intention and the actual behavior was not examined. Second, this study was conducted among hairdressers in Sari. Therefore, the findings cannot be generalized to all beauty salons. Third, the limitation of self-reported data also applied to the study, hence the validity of the responses provided by the participants cannot be ascertained, particularly, due to the sensitive nature of the subject.

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Conflicts of Interest

The authors declare that there is no conflict of interest.

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