


Levels and Predictors of Knowledge, Attitude, and Practice Regarding the Health Hazards Associated With Barber's Profession in Fiji

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Abstract

Introduction: This study aimed to determine the level and predictors of Knowledge, Attitude and Practice (KAP) among barbers regarding health hazards associated with their profession in Fiji. **Methods:** A quantitative study was used to assess the levels and predictors of KAP using a structured questionnaire among 117 barbers who were chosen between June and November 2020 in Suva, Fiji. All those barbershops that operated at least for 6 months, were licensed, and 18 years and above were included. A self-administrative closed-ended structured questionnaire was used to collect data. The level of KAP was assessed using the modified Bloom's cut-off points. A correlation test was used to determine predictors of KAP. **Results:** The majority of participants had a medium level of knowledge (62.4%), medium level of attitude (63.2%), and low level of practice (64.1%) towards health hazards associated with barbering the profession. However, 28.2% had low knowledge and attitude scores. The major source of knowledge was through the internet. The results of the correlation test showed that religion, education level, and weekly income were significantly correlated with knowledge ($<.05$) whereas age and weekly income was significantly correlated with the level of attitude of participants towards health hazards associated with their profession ($<.05$). **Conclusion:** Barbers had medium knowledge and attitude towards health hazards associated with the barbering profession while their practice was poor. These findings call for prompt and target group interventions such as strengthening enforcement, awareness, training on equipment decontamination and Good Hygiene Practices to be conducted.

Keywords

knowledge, attitude, practice, predictors, barbers, Fiji

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What Do We Already Know About This Topic?

Barbers are one of the potential high-risk groups due to the increased risk of Communicable Disease (CD) infection exposure to them from all the clients. Lack of Knowledge, Attitude and Practices (KAP) regarding health hazards associated with barbering profession and in-appropriate decontamination and prevention procedures might provide a fertile ground for propagation of CD in the community

How Does Your Research Contribute to the Field?

In this study barbers have medium knowledge and attitude towards health hazards associated with barbering profession while their practice was poor in Suva City, Fiji. The results of correlation test showed that the religion, education level and weekly income were significantly correlated with knowledge (<.05) whereas age and weekly income were significantly correlated with the level of attitude of participants towards health hazards associated with their profession (<.05).

What Are Your Research's Implications Toward Theory, Practice, or Policy?

These findings call for prompt and target group interventions such as strengthening enforcement, awareness, training on equipment decontamination and Good Hygiene Practices (GHP) to be conducted. There is a need for barbers to have formal training on health hazards, instrument decontamination, enforcement of standards and health promotion to increase their knowledge, attitude and practices on the likely hazards associated with barbering profession.

Introduction

Barbers are one of the potential high-risk groups due to the increased risk of Communicable Disease (CD) infection exposure to them from all clients.^{1,2} Furthermore, barbershops are places where there is frequent use of the same blade, trimmers, scissors, knife, clippers, razors, capes, neck clothes and neck protectors often without proper sterilization or disinfection which is important in order to prevent transmission of health hazards.^{3,4} The use of these instruments without decontamination on every client may represent a health hazard to the general population due to person-to-person contact, skin-to-skin contact, and also through injuries obtained from incidental cuts.^{5,6} It has been determined that barbershops are places of high risk which serve as a conglomeration for the transmission of various infections.^{7,8} This is further aggravated when proper instrument decontamination is not practiced, before use on every client.^{8,9}

In light of the Public Health Emergencies of International Concerns, in particular the COVID19 pandemic and previous pandemics such as Severe Acute Respiratory Syndrome, Middle East Respiratory Syndrome, H1N1, meningococcal and Ebola, barbers have become a potential source for transmission of these high-risk CD.^{10,11} Lack of Knowledge, Attitude and Practices (KAP) regarding health hazards associated with the barbering profession aggravated by inappropriate decontamination and prevention procedures might provide a fertile ground for the propagation of CD in the community.^{12,13} A good example is the transmission of COVID-19 cases in Suva Fiji related to a barbershop which has led to the classification of barbershops as one of the high-risk professions in Fiji. By doing so, the Fijian government has officially recognized that the epidemic can easily move from vulnerable 'high risk' groups to the general population through improper practices in barbershops.^{14,15} The use of

instruments such as knives, blades, clippers, scissors, razors, capes, neck clothes and neck protectors make it necessary to evaluate health hazards relating to barbers' profession and practices and to identify practices linked with infection transmission. Lack of attention to these issues by the barbers and the authorities, the transmission of different types of skin diseases and blood infections is inevitable.^{16,17}

According to the Fiji Ministry of Health and Medical Services, Health Information Unit's report of 2017, the prevalence of CD is on the rise. In particular, skin disease, bacterial and viral infections including Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) which has increased in numbers from all 15 reporting sentinel sites. The report states approximately 5560 cases per 100 000 populations per year which reduces the quality of life due to sickness, economical loss and loss in earnings for patients.¹⁸ Furthermore, hospital admission and bed occupation rates had increased which could have been better utilized for terminal patients. In addition, these patients increase the cost of health care service delivery which could be prevented through basic public health preventive measures. If unchecked, some of these practices can pose serious health hazards, even an increased risk for cancer down the line.^{19,20}

Fiji is known for outbreaks of CDs, however, there had been no study carried out in the past in particular on barbers nor in any other Pacific Island Countries (PICs) to determine the status of awareness and practices among barbershop operators and health hazards associated within their profession. There was also a vast gap in the availability of relevant literature on many database on the research topic. Many studies cited did not avail full text therefore only abstracts were used. Therefore, the study aimed to assess the level and predictors of KAP among

barbers regarding health hazards associated with their profession in the city of Suva, Fiji.

Methods

Study Setting and Sample

A cross-sectional quantitative study was conducted to assess the level and predictors of KAP among all those barbers operating as commercially licensed barbershops in the SCC area. The sampling method used for this study was “all available samples” during the study period. The total number of registered barbershops in the study area was collated from the records of the SCC. Forty-eight barbershops and estimated 120 barbers were working in these barbershops in study period in 2020 were used as the sample size for the survey. The estimation was done based on the records available from SCC. Suva city is a council area and the administrative capital of Fiji located in the central division of the country. The inclusion criteria applied were all those barbers that were currently licensed and were 18 years and above in Suva city. Barbers that refused to participate were excluded from the study. Overall, 120 barbers met the study criteria and only 117 consented to participate.

Data Collection Tool

A self-administrative structured questionnaire was used to collect data for this study. The questionnaire was developed based on the objective of the study and after reviewing various literature^{1,2,21} based on the research questions and had five sections. Section 1 had demographic characteristics with 7 questions, section 2: contains professional profile with 7 open-ended questions while section 3 contains 3 questions on microbiology which had 1 point for each correct response with a maximum of 3 points and 14 closed-ended questions which had 2 points for each correct response, 0 points for incorrect response and 1 point for unsure responses with a maximum of 28 points for each correct response. The total score for this section was 31 points. Similarly, section 4: contained 11 questions on barber's attitude with 2 points for each correct response, 1 point for unsure response, and 0 points for incorrect response with a maximum of 22 points while section 5 contained 10 questions on barbers' practices with 2 points for each correct response, 1 point for unsure response and 0 points for incorrect response with a maximum of 20 points. The level of KAP was assessed using the modified Bloom's cut off points where a score of 80-100% of correct responses meant a good KAP, a score of 50-79% was of a medium level KAP and a score less than 50% of the correct responses denoted poor KAP. Modified Bloom cut off points were adopted from John's knowledge, attitude, and practice study.^{16,20} Though the questionnaire was translated into three main languages, English, Hindi, and native Fijian (itaukei), using the online translation and rectified by the principal investigator who is a tri-lingual after pilot testing, all participants preferred to choose English for their response.

Where barbers had difficulties filling the questionnaire, it was then administered in the language of their choice by the researcher. A pilot study was done using similar settings to test the content and face validity of the questionnaire. All flaws were rectified before the main research took place. Participants involved in the pilot study were not included in the final analysis.

Study Procedure

The participants were contacted by phone and also by physical visit by the principal investigator. Each participant was explained the purpose of the study and once the participant agreed to take part in the study a written consent was obtained in the language of their choice which was English in all cases.

The questionnaire was distributed to the participants in the language of their choice to fill after providing a brief explanation on different sections to make them understand. One week time was provided to complete before collection began. Participants' contacts were also obtained and were followed up when responses were delayed. The investigator provided his contact to the participants in case the questionnaires were ready for collection or if they needed some clarifications. Participants who had difficulties filling the questionnaire, were assisted by the researcher in the language of their choice. Participants who did not respond after follow-ups were considered non-respondents.

Data Management and Analysis

Raw data were entered into Microsoft excel for cleaning and coding. Data analysis was done using the Statistical Package for the Social Sciences (SPSS) version 24. Mean and SD was used to summarize continuous variables, and categorical variables were summarized using counts and percentages. The normality of continuous variables was checked using the Kolmogorov-Smirnov test. Analysis of variations (ANOVA) was used for determining significant differences between groups. A Pearson correlation coefficient was used to evaluate the relationship between different domains of the questionnaires. A *P*-value of less than .05 was considered statistically significant.

Ethical Considerations

The study commenced after obtaining ethical approval from [removed for blind review]. The list of barbers and their contact details were obtained from licensing section. All the study participants were asked to sign a written consent form before participating in this study.

Results

Demographic Characteristics of Participants

The response rate for this study was 97.5% representing the entire traceable barbers in the study area. The age of the participants ranged between 18 and 61 years. When grouped, the age group

Table 1. Demographic Characteristics of Participants (n = 117).

Characteristics	Frequency	Percentage
Age		
18-29 years	69	59
30-39 years	35	29.9
40 years above	13	11.1
Sex (gender)		
Male	104	88.9
Female	13	11.1
Race		
Fijian of Indian decent	79	67.5
Fijian of native decent	34	29.1
Others	3	3.5
Religion		
Christian	41	35
Hindu	43	36.8
Muslim	31	26.5
Others	2	1.7
Marital status		
Currently married	54	46.2
Formerly married	16	13.7
Never married	46	39.3
Education level		
Never attended school	4	3.4
Primary	12	10.3
Secondary	89	76.1
Tertiary	12	10.3
Weekly income (FJD = USD .48)		
<FJD100	47	40.2
FJD100-150	50	42.7
>\$151	20	17.1

18-29 years predominated at 69 (59%). The majority of the barbers were males 104 (88.9%) and 14 (11.1%) were females. Fijians of Indian descent were highest 79 (67.5%) and the major religion practiced was Hinduism. Fifty-four (46.2%) were currently married which was the highest among all the respondents. There were a preponderance of 89 (76.1%) of respondents attained the secondary education level while the majority of 50 (42.7%) earned between FJD\$100 and \$150 (Table 1). The major mode of learning the art of barbering was self-learning 102 (87.2%). Those that have been practicing for more than 4 years predominated at 55 (47.8%). Only 53 (42.3%) barbers had received some form of training on Health hazards associated with the barbering profession. The survey shows that all barbers were legally operating with valid licenses from the SCC.

Levels of Knowledge, Attitude and Practice

Table 2 shows, that only 11 (9.4%) had high knowledge, 73 (62.4%) had medium knowledge and 33 (28.2%) had low/poor knowledge of health hazards associated with the barbering profession. The results also showed that 10 (8.5%) had a positive

attitude, 74 (63.2%) had a medium attitude and 33 (28.2%) had a negative attitude toward health hazards associated with the barbering profession.

There were 75 (64.1%) that had poor or low practical behaviors, 34 (29.1%) had medium and only 8 (6.8%) had high practical behaviors towards health hazards associated with the barbering profession. The overall knowledge mean scores were 19.47 ± 4.258 , attitude mean score was 12.59 ± 3.563 and practice mean scores were 8.90 ± 3.968 respectively.

Source of Information on Health Hazards

There was a preponderance of Internet accessibility, whereby 100% of participants identified it as one of the major sources of information followed by friends and professional colleagues which were 64 (54.7%) of the respondents. Among the least sources identified are radio 38 (32.5%), newspaper 33 (28.20%), research materials 19 (16.23%), TV 12 (10.26%), and books 11 (9.40%), which is illustrated in Figure 1 below.

Correlation of Knowledge, Attitude and Practice

Table 3 shows, that there was a significant, but weak positive correlation between the participant's knowledge and attitude ($r = .184, P = .047$) and attitude and practice ($r = .245, P = .008$) toward health hazards associated with the barbers' profession.

Determinants of Knowledge, Attitude and Practice

The results of the study revealed that religion ($P = .038$), education level ($P = .016$), and weekly income had a correlation with the participants' knowledge of health hazard associated with the barber's profession. Age ($P = .042$) and weekly incomes were the factors that correlated with participants' attitudes towards health hazards associated with the barber's profession. There was no correlation between the independent variable and participants' practice (Table 4).

Discussion

This study aimed to determine the level and predictors of KAP among barbers regarding health hazards associated with their profession in Suva, Fiji. The results showed that most participants had a medium level of knowledge (62.4%), medium level of attitude (63.2%), and low level of practice (64.1%) towards health hazards associated with the barbering profession. However, only 28.2% had low knowledge and attitude scores respectively, while the major source of knowledge was through the internet. The results of the correlation test showed that religion, education level, and weekly income were significantly correlated with knowledge whereas age and weekly income were significantly correlated with the level of attitude of participants towards health hazards associated with their profession.

Table 2. Level of Knowledge, Attitude and Practice.

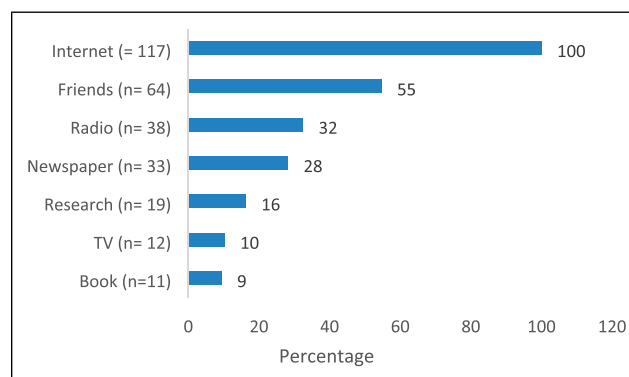
Knowledge	Frequency	Percentage	Mean \pm SD
Low/poor (<16)	33	28.2	19.47 \pm 4.258
Medium (16-24)	73	62.4	
High/good (\geq 25)	11	9.4	
Attitude			12.59 \pm 3.563
Negative/poor (>11)	33	28.2	
Medium (11-17)	74	63.2	
High/good (\geq 18)	10	8.5	8.90 \pm 3.968
Practice			
Low/poor (<10)	75	64.1	
Medium (10-16)	34	29.1	
High/good (>16)	8	6.8	

The majority of the participants were males and in the age range of 18-39 years. Though some females were encountered in the questionnaire survey, the barbering in Suva city is male dominated. This finding agrees with some recent studies carried out among barbers outside Fiji such as in Bangladesh²² and various previous studies⁵ including studies among barbers in Ethiopia.^{12,23} Few old barbers were still in the services probably to preserve the old styles of haircut among the elderly clients. The art of barbering is a fashion that is generational inclined.¹¹ The participants were fairly literate, as many had secondary a level of education which is at variance with the study conducted in Bangladesh that reported very low education among barbers in Dhaka City.²

Almost all the participants learned barbering through self-learning spending an average of 3-6 months. This is at variance with what is obtainable in developed countries where the art of barbering is learned in schools following a standardized curriculum and licensing guidelines.²⁴ Very few participants had undergone some form of training on health hazards associated with the barbering profession. These findings are similar to a recent study conducted in Port Said City in Egypt²⁵ and a previous study in Pakistan⁶ where authorities are disconnected from the barbers in regard to awareness of health hazards and compliances. However, these findings were at variance with developed countries where the art of barbering is learned from schools and appropriate training is provided before practicing.²²

Awareness on Transmission and Prevention

Knowledge is the cognitive predisposing factor that motives or provides a reason for behavior or practice.¹² Generally, in this study, the level of knowledge on health hazards associated with the barbering profession was medium among the barbers and this has been reported in previous studies in Iran¹ and Nigeria⁴ as well. Though most of the participants had high knowledge of decontamination/sterilization of barbering equipment, including good hygiene practices, the practices to eliminate and avoid infection transmission pathways in the barbering profession were low. Participants did not know that they were at risk of direct

**Figure 1.** Sources of information on health hazards.**Table 3.** Correlations of Knowledge, Attitude and Practice.

Variables	r-Pearson	P value
Knowledge vs Attitude	.184	.047
Knowledge vs Practice	.158	.088
Attitude vs Practice	.245	.008

infection from their clients. Similar views have been reported in recent studies in Vietnam,²⁶ and in previous studies conducted in Iran,¹ Tanzania²⁰ and Pakistan.⁴ Barbers are at direct risk of CD infection if they encounter an infected person or equipment especially blood or contagious diseases of the skin^{23,24} including air-borne viral infections such as COVID19.^{27,28} However, majority of the participants were not aware of how these diseases were transmitted in the barbershops. A similar study conducted in Hyderabad Pakistan showed similar results.⁶ Education level was found to significantly affect their knowledge on the health hazard associated with the barbering profession. The result shows that the literacy rate among barbers was high which may have resulted in high knowledge on CDs. Similar studies conducted in Cameroon¹⁷ and Tanzania²⁰ supported that those participants with adequate literacy had greater knowledge on infection compared to participants with inadequate literacy from the usual group which is similar to this study.

Attitudes Towards Communicable Disease Prevention

The assessment of the participant's attitude shows an overall medium attitude. Studies conducted in Ethiopia and Rawalpindi Pakistan reported similar findings.^{29,30} The attitude of the participants was found to be influenced by their educational level and age of participants. High education levels seem to have a positive influence on younger participants whereas the older age groups tend to have negative attitudes. A low attitude of barbers attending clients suffering from the infectious disease may have been seen as a hindrance to the business of the participants which is similar to a recent study conducted in Hong Kong,³¹ including previous studies conducted in Karachi Pakistan⁴ and Kumasi Ghana.³²

Table 4. Correlation of Demographic Characteristics with Knowledge, Attitude and Practice.

Characteristics	Knowledge	P-value	Attitude	P-value	Practice	P-value
Age		.584		.042		.407
18-29 years	19.61 ± 4.170		13.06 ± 3.162		9.20 ± 3.883	
30-39 years	19.63 ± 4.621		11.34 ± 3.842		8.14 ± 3.844	
40 years above	18.31 ± 3.816		13.46 ± 4.196		9.31 ± 4.750	
Sex (gender)		.686		.764		.446
Male	19.41 ± 4.182		12.63 ± 3.520		8.80 ± 3.740	
Female	19.92 ± 4.991		12.31 ± 4.029		9.69 ± 5.603	
Race		.060		.704		.846
Fijian of Indian descent	19.99 ± 4.084		12.77 ± 3.637		9.04 ± 4.413	
Fijian of native descent	18.06 ± 4.424		12.26 ± 3.342		8.65 ± 2.953	
Others	21.25 ± 4.272		11.75 ± 4.573		8.25 ± 2.217	
Religion		.038		.058		.492
Christian	17.98 ± 4.379		12.59 ± 3.186		8.41 ± 2.924	
Hindu	20.05 ± 4.041		11.67 ± 3.350		9.44 ± 4.900	
Muslim	20.48 ± 4.049		13.65 ± 4.045		8.61 ± 3.639	
Others	22.00 ± 2.828		16.00 ± 2.828		11.50 ± 6.364	
Marital status		.706		.683		.190
Currently married	19.80 ± 4.284		12.28 ± 3.843		8.20 ± 4.086	
Formerly married	18.88 ± 4.129		12.81 ± 3.250		9.94 ± 3.108	
Never married	19.30 ± 4.328		12.87 ± 3.366		9.34±4.023	
Education level		.016		.093		.063
Never attended school	18.50 ± 7.234		11.00 ± 4.082		8.75 ± 5.852	
Primary	19.17 ± 3.353		13.08 ± 3.315		9.83 ± 3.433	
Secondary	19.62 ± 4.265		12.57 ± 3.545		8.89 ± 4.190	
Tertiary	19.00 ± 4.390		12.75 ± 4.070		8.08 ± 1.676	
Weekly income		.037		<.0001		.119
<\$100	18.60 ± 4.480		11.45± 2.619		8.45 ± 3.933	
\$100-\$150	19.48 ± 4.052		12.66 ± 3.847		8.66 ± 3.915	
>\$151	21.50 ± 3.678		15.10 ± 3.582		10.55 ± 3.953	

However, these findings are at variance with studies conducted in developed countries.^{21,31}

A low level of attitude may be the consequence of low level of income of participants and the high cost of operation of barbershops, especially in rented facilities. Similar findings to this study were also noted in studies conducted in Malaysia,³³ Tanzania¹³ and Cameroon¹⁰ which highlighted the high operational cost and low revenue as an obstacle to further investment in barbershops.

Prevention Practices

The principle of “Universal precautions” considers all blood and body fluids to be potentially infectious and all invasive instruments to be potentially contaminated.³¹ This study shows that the decontamination practices of the participants in relation to health hazard prevention were low.

Results of the questionnaire survey show that majority of the participants stated that they do not wear coats/overalls, face masks or hand gloves while serving clients especially during this COVID19 pandemic. Furthermore, none were using any paper towels, clean and fresh face towels, neck

protectors, neckcloths, and other fabrics for every customer neither washed their hands after serving each customer nor screened any clients suffering from any infectious disease. This finding is similar to some previous studies conducted on barber’s practices.³²⁻³⁴ Some studies suggest that inappropriate practices may be due to a lack of practical knowledge about decontamination and the potency of disinfectants.^{10,35} Studies suggest that to improve the decontamination process and GHP in barbershops massive, repetitive, intensive and persuasive (MRIP) awareness may be involved.^{12,36}

Sources of Information

Many studies report that the most frequently reported source of information on health hazards associated with the barbering profession is mass media.³⁷⁻³⁹ Contrary to the above findings, this study was invariance. The major sources of information on health hazards associated with the barbering profession available to barbers in this study were the Internet followed by friends and professional colleagues. This study finds that beyond creating awareness, mass media is inefficient in impacting sufficient knowledge necessary to

influence the knowledge, attitudes, and behaviors of barbers. Similar findings were demonstrated in other studies where mass media was no longer the main source of information due to innovative technologies such as internet smartphones and accessibility of information's from social media.^{5,37} There is a need to complement mass media messages with more detailed and pertinent information through person-to-person health education approach including seminars, workshops, and peer education.^{9,39}

Predictors of Knowledge, Attitude and Practices

In this study, age religion, level of education and weekly income of barbers showed a significant association with Barbers' attitudes and knowledge respectively regarding health hazards associated their profession. The age of barbers has significant association with attitude ($P = .042$) at a 95% confidence interval. Barbers in the age group (18-29) and 40 years and above had a higher attitude about the health hazards than those in the age group (30-39). The results illustrate that younger and older participants had a medium level of attitude towards health hazards associated with the barbering profession. Age plays a crucial role in determining the attitude of barbers. Although there have not been any studies cited specifically on the correlation between age and attitude many studies have demonstrated that young, mature and educated participants have shown good attitude towards health hazards associated with the barber's profession.^{1,2,6-8}

This study also found that there was a relationship between religion and knowledge ($P = .038$). Better knowledge regarding health hazards linked to their profession was observed in barbers that were Hindus, Muslims, and others. It was noted that barbers who were of Christian denomination had lower mean and standard deviation compared to non-Christians. Religions offer a huge amount of knowledge on purpose to our lives and things that we do in life. However, the true extent of this scope depends on the perspective of the individuals and whether or not one accept the knowledge a religion proposes. A large volume of research shows that people who are more Religious and Spiritual (R/S) are more knowledgeable on health and adapt more quickly to health problems compared to those who are less R/S.⁴⁰⁻⁴²

Similarly, the level of education was found to be significant with participants' knowledge of health hazards associated with the barbers' profession and there is a significant difference ($P < .05$) in the knowledge of those who did not have formal education. There is a relationship between the educational level of participants and the level of Knowledge. The result shows that the literacy rate among barbers was high which may have resulted in high knowledge of CDs. The level of education does have a positive impact on the knowledge of the participants.

Barbers with the secondary level education were more likely to have good knowledge about biological hazards related to their work when compared to those at the primary

educational level. The result was consistent with the study conducted in Pakistan,⁷ Ibadan Nigeria,⁹ Rawalpindi and Islamabad³⁰ which suggests that barbers who had higher schooling were found to have better knowledge about health hazards related to barbering indirectly from their formal education. Educating barbers can help them improve their own knowledge, attitudes, and practices. In addition to this, a team of the same barbers could also be used for increasing awareness among their own community and co-workers to increase the effectiveness of the health education program. This could be a step towards risk reduction and, hence, disease prevention.³⁹

Similar studies conducted in Morocco²⁰ and Cameroon¹⁷ supported that participant with adequate literacy had greater knowledge of infection compared to participants with inadequate literacy from the usual group which is similar to this study. Other similar studies conducted in Ethiopia¹² and Hyderabad Pakistan⁶ had similar findings to this study.

Furthermore, studies also showed that low knowledge, promoted by low literacy was related to higher microbial infection.^{43,44} According to a study conducted in Abbottabad Pakistan⁸ results show that there was a significant difference in the level of knowledge among barbers in respect of literacy level. Also, studies conducted in Pakistan⁶ and Iran¹ have confirmed that the literacy level of barbers is an effective factor in the promotion of knowledge level among barbers.

Further to above this study also found that there was a correlation between participants' levels of income and their knowledge and attitude. The level of income plays a pivot role for barbers for return investment in their profession. Low income has become an obstacle to increasing standards, especially obtaining appropriate training, purchasing barbering equipment, decontamination materials, and consumables. Low income also relates to poor investment in the profession especially roadside vendors in developing countries.¹³ Many poor barbers are not able to decontaminate equipment or change direct blades due to low earnings and it becomes habitual to practice with whatever means affordable to them. Eventually, over a period and without much attention from the authorities, these practices become habits and attitudes which also impairs their level of acceptable knowledge of health hazards associated with the barbering profession.¹⁵ These findings are consistent with a similar study conducted in Pakistan where barbers including roadside vendors were unable to standardize their operations due to high cost of operations.⁶ Similar findings were also noted in studies conducted in Morocco,⁴⁵ Tanzania²⁰ and Malaysia³³ to this study which highlighted the high operational cost and low revenue as an obstacle to further investment in barbershops.

Limitations

Some of the limitations of this study where reliable data collection tool was lacking due to time limitations which had

to be validated, the sample size was small, the study was conducted during the COVID19 pandemic; therefore, an estimated number of barbers were not available due to layoffs and closer of few barbershops. The principal researcher was known to a few participants which may have compromised the outcome of the findings to some degree, lack of recent research materials from the Pacific and Asia on similar or related topics and the unavailability of research funds delayed data collection.

Conclusions

In this study, barbers have medium knowledge and attitude towards health hazards associated with the barbering profession while their practice was poor in Suva City, Fiji. These findings are evident in many other similar studies conducted outside Fiji, however Fiji being a small Island nation, standards of barbering practice is no different compared to other parts of the world. The difference in this study is the level of risk barbers and their customers are frequently exposed to during the barbering sessions and the ability of Fijian Health authorities to reverse this transmission pathway in a small island economy. In addition, Fiji is known for frequent outbreaks of CD throughout the year, therefore there is a need for policy decisions and strict adherence to barbers' practices to eliminate many CDs associated with the barbers' profession. In this regard authorities to conduct formal training on health hazards, instrument decontamination, and health promotion to increase barbers' knowledge, attitude, and practices to minimize transmission of the likely hazards associated with the barbering profession. Fiji has strict Laws on barbering under the Public Health Act of Fiji which needs to be aggressively enforced. This can be done through the organization of training and workshops for barbers as well as the need for improved specific health messages through the development of Information Education and Communication materials and social media campaigns to the general population on the health hazards associated with barbering profession.

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Author Contributions

MM conceived the idea. DC refined the focus and scope of work, did the introduction, literature searches, designed the methodology, questionnaire, and administered it. DC also produced the initial and final report. SK managed data analysis. MM also did the proof-reading. All the authors have read and approved the final manuscript.

Declaration of Conflicting Interests

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Ethical Approval

The study commenced after obtaining ethical approval from Fiji National University (FNU), College of Medicine Nursing and Health Sciences (CMNHS) – College of Health Research and Ethics Committee (CHREC). The list of barbers and their contact details were obtained from the Suva City Council (SCC) Licensing section.

Informed Consent

All the study participants were asked to sign a written consent form before participating in this study.

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Supplemental Material

Supplemental material for this article is available online.

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