

Research Article

**Assessment of Awareness Regarding Hepatitis C in Non-Health Care
Professionals Who Are At Risk of Spreading It**

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ABSTRACT

BACKGROUND-HCV infection is the most common chronic blood borne infection. In Pakistan prevalence of HCV is much more. HCV is spreading in some kind of work settings of some non-health care professions due to non-awareness of HCV among these professionals and due to mal standards regarding blood contact, reuse of needles, instruments. This study is attempted to assess the awareness regarding Hepatitis C in non-health care professionals who are at risk of spreading it.

OBJECTIVES-1.To assess the awareness of Hepatitis C among these Professionals 2.To know the source of awareness regarding Hepatitis C among these professionals.

STUDY DESIGN cross- sectional survey.

PLACE AND DURATION OF STUDY: -Shadman and areas around jail road, from 1st June to 15 July

RESPONDANTS AND METHODS. Pre- tested questionnaire was used to interview the professionals **RESULTS** 65% had basic knowledge about Hepatitis C.62% knew that it transmits through blood contact by unsterilized and contaminated instruments.32% respondents knew about its symptoms.28% were vaccinated against HBV.28% respondents have Hepatitis C in their family and close friends.75% were aware that Hepatitis C can spread through their work.68% were aware of the preventive measures against hepatitis C.22% respondents sterilized their instruments with autoclave.

CONCLUSION-Knowledge of professionals regarding awareness of spread and prevention of Hepatitis C was satisfactory but it needs to be improved to further decrease risk of HCV infection. Media (Electronic and print) and Health care providers were a major source of awareness.

Keywords:HCV, awareness, non-medical professionals.

INTRODUCTION

HCV infection is the most common chronic blood borne infection. About 200 million people are infected with HCV worldwide. HCV infection leads to chronic hepatitis in 50% to 80% of infected individuals. In Pakistan more than 10 million people are living with HCV.

Pakistan carries one of the world's highest burdens of chronic hepatitis and mortality due to liver failure and hepatocellular carcinomas.

However, national level estimates of the prevalence of and risk factors for hepatitis C are currently not available. Hepatitis C virus (HCV) is among the principal causes of severe liver disease, including hepatocellular carcinoma and cirrhosis-related end-stage liver disease. The World Health Organization (WHO) estimates that there are 170 million people with chronic HCV infection

worldwide. Hepatitis C is estimated to result in 366 000 deaths annually

In developing countries like Pakistan, HCV is spreading in some kind of work settings of some non-health care professions due to non-awareness of HCV among these professionals and due to non-implementation of international standards regarding blood contact, reuse of needles, instruments. As they are dealing with blood, blood-related products and instruments which may carry transmittable pathogens so there is a high risk of HCV infection. These professionals are also at risk of spreading it. It is also important to assess their level of awareness regarding spread of HCV. Professionals involved are working in Beauty Parlors (due to sharing items that are of personal use), Barbers (due to sharing personal items contaminated with infectious blood such as razors or toothbrushes), Professionals Doing Tattooing or acupuncture (by using contaminated instrument), Professionals doing ear and nose piercing (due to reuse of needles). According to a study conducted about awareness about ways of hepatitis among people of Faisalabad it was revealed that only 30.45% have knowledge that Hepatitis transmission was related to transfusion of contaminated blood and sharing unsterilized instruments, injections. According to a study conducted about prevalence, knowledge and awareness of hepatitis C among residents of Mansehra concluded that knowledge and awareness regarding HCV was inadequate among the study population. Hepatitis C is a problem whose transmission can be prevented by taking preventive measures. Therefore a need was identified to assess the awareness and knowledge of Hepatitis C among these professionals.

OBJECTIVES OF THE STUDY

àTo assess the awareness of Hepatitis C among these Professionals
àTo know the source of awareness regarding Hepatitis C among these professionals

LITERATURE REVIEW

In a research “Hepatitis C virus in Pakistan: A systematic review of prevalence, genotypes and

risk factors” published in World Journal of Gastroenterology in 2009 December it was found that in third world countries like Pakistan, most of the barbers are illiterate and unaware of transmission of infectious agents through the repeated use of razors and scissors for different customers. Janjua and Nizamy reported that only 13% of the barber knew that hepatitis is a liver disease and it could be transmitted by contaminated razors 11.4% of them were cleaning razors with antiseptic solution while 46% of them were re-using razors. Recent reports suggested that only 42% knew about hepatitis. [1]

In a study “Awareness Among Barbers About Health hazards Associated With Their Profession” at department of community medicine, Ayub Medical College, Abbottabad/IPH Lahore it was found that (58%) barbers denied about any health hazards associated with their profession whereas 42% had knew about hepatitis. 14% barbers were also performing minor surgeries like circumcision, in growing toe nail excision and abscess drainage. There was significant difference in level of awareness among barbers in respect of age, educational status and duration of working. Age group (15–25) had better knowledge about the health hazards than barbers in age group (26–50). There is a significant difference in the awareness of those who got formal education. As for the effect of media on the knowledge of these workers, it was observed that 78% of them had the access to TV and out of these 69% had significant knowledge about health hazards related to barbering profession [2]

In a study “Knowledge, attitudes and practices of barbers

About hepatitis B and C transmission in Hyderabad,

Pakistan” the responses to the knowledge questions showed that awareness of modes of transmission of hepatitis and the different sources/risk factors were low, 36.6% knew that hepatitis can be transmitted through barber’s shaving instruments. 20% were vaccinated against HBV. 74.7% had seen any information or radio/television programs on these or other blood

borne diseases. Observations of barbers' practices showed that 75.8% cleaned instruments with disinfectant between clients, 60.2% washed their instruments after shaving the clients, 72.0% washed razors with tap water before use on a new client, 96.2% also washed razors with an antiseptic solution after every use, 95.7% used a new blade on new clients and 39.2% used disinfectants for skin cuts [3]

According to another study in which 13% of barbers in Rawalpindi and Islamabad urban cities in 1999 reported having knowledge of HBV and HCV. Barbers (36.6%) were aware that hepatitis can be transmitted through barbers shaving instruments. Only 4.3% of barbers reused blades on different clients and 13.4% reused blades on the same clients for armpit shaving without antiseptic cleaning [4]

In the study "Evaluation of Knowledge and Practice of Hairdressers in Women's Beauty Salons in Isfahan about Hepatitis B, Hepatitis C" in 2010 and 2011 it was found that There was a statistically significant relationship between education level and knowledge score of hairdressers ($P < 0.001$). A statistically significant relationship between knowledge level and job history of hairdressers according to the Pearson's correlation coefficient ($P = 0.004$). The results did not show any statistically significant relationship between education level and practice scores ($P = 0.5$). Promising results were obtained about the knowledge and practice levels of staffs of women's beauty salons in Isfahan about AIDS, and hepatitis B and C. The target group exhibited an intermediate level of knowledge about the diseases because of important role of barbers in virus transmission. [5] According to a study by Haley and Fischer's 1991/92 626 selected patients of a spinal clinic reports that 22% of patients with a tattoo exhibit an HCV infection (as opposed to only 3.5% of patients with no tattoos). Moreover, Haley and Fischer report that commercially-obtained tattoos may be the source of twice as many HCV infections as is injection drug use [6] According to a study "Awareness of complications of oral piercing in a group of

adolescents and young South African adults" in Griffith university data revealed that 59.4% of the respondents were not aware of any complications in oral piercing. 24% of the respondents had intraoral piercing in the last 12 months, with a combined total of 17.2% having the procedure performed 5 to 7 years before [7]

According to a meta-analysis described in the April 2012 Clinical Infectious Diseases It was found that there is no evidence of increased transmission risk for tattoos or piercings done in professional studios. However, the risk of HCV infection was significant overall when tattoos are done in prison or by friends especially among high-risk groups [8]

A cross-sectional study including 5000 U.S. college students found no risk of HCV infection when tattoos were performed in a professional setting, though the risk was significant for tattoos in non-professional settings. [9]

According to a study "FREQUENCY AND RISK FACTORS FOR CHRONIC HCV INFECTION: A COMMUNITY BASED STUDY" in Pakistan Armed Forces Medical Journal it was found that the frequency of HCV was found to be 53.6%. The most important risk factor associated with the transmission of HCV infection was unsafe injection therapy with contaminated equipment. Other risk factors include ear and nose piercing by unsterilized means in females and sharing of razors in males [10] A study "Transmission of Hepatitis C Virus Infection through Tattooing and Piercing" evaluated the risk of HCV infection from tattooing and piercing using the Meta-analysis of Observational Studies in Epidemiology (MOOSE) guidelines. Studies that specified the venue of tattooing and/or piercing showed no definitive evidence for an increased risk of HCV infection when tattoos and piercings were received in professional parlors. However, the risk of HCV infection is significant, especially among high-risk groups, when tattoos are applied in prison settings or by friends. [11] A Californian team investigated 494 patients with hepatitis C in order to determine the risk factors for this infection. Specifically they wanted to find out whether the risk factors differ

between various ethnic groups. 55% of all patients were Caucasian, 20% Hispanic and 25% Asian. It was concluded that for Asian patient's population, acupuncture was a prominent risk factor. Some 50% of this subgroup had had acupuncture prior to the infection [12]

MATERIALS AND METHOLDOLGY

STUDY DESIGN-Cross Sectional (Descriptive) study

STUDY AREA-Work settings of specific professionals (mentioned above) in Shadman and areas around Jail Road

STUDY DURATION-1st June 2017 to 15 July 2017

STUDY SUBJECTS- All professionals that are at risk of spreading HCV

Inclusion criteria Both sexes

All ages

Willing to participate

Exclusion criteria Patients of Hepatitis, Family members of Patients of Hepatitis C, Health professionals who give awareness of Hepatitis C

ETHICAL CLEARANCE-All the subjects will be explained the purpose and process of the study. They will be explained the benefits of study.

Assurance will be given to protect the life, health, privacy, and dignity of the human study subjects.

DATA COLLECTION METHOD AND INSTRUMENTS

A questionnaire will be developed in keeping with the study objectives and questions will be directed at finding the preference for awareness of ways of transmission of Hepatitis C among professionals at risk and questionnaire will be pretested before use for study.

SAMPLING

Sampling Technique: Stratified Random Sampling.

Sampling Size: Sample Size calculated according to Epi Info was 32 subjects. Four strata were made. One type of professionals constituted one strata. Samples of 8 subjects were were taken from each strata.

Data management and analysis plan-

Epi Info and SPSS computer software will be used for entry, compilation analysis of the data. Descriptive and inferential stat will be applied on data. Chi Square test of significance will be applied.

STUDY RESULTS

Table 1: Frequency distribution according to age of professionals

Age	Frequency	Percent
10-20	2	6.3
20-30	14	43.8
30-40	10	31.3
40-50	4	12.5
50-60	1	3.1
60-70	1	3.1
Total	32	100.0

Table 2: Frequency distribution according to sex

Sex	Frequency	Percent
Male	22	68.8
Female	10	31.3
Total	32	100.0

Table 3: Frequency distribution according to education

	Frequency	Percent
Uneducated	1	3.1
Primary	6	18.8
Middle	5	15.6
Matric	7	21.9
F.A,Fsc	6	18.8
Graduate	7	21.9
Total	32	100.0

Table 4: Frequency distribution according to Occupation

Occupation	Frequency	Percent
Barber	8	25.0
Beauty Parlor	8	25.0
Ear and Nose Piercing	8	25.0
Acupuncture	3	9.4
Tattooing	5	15.6
Total	32	100.0

Table 5: Frequency Distribution according to having basic knowledge about Hepatitis C

Knowledge about Hepatitis C	Frequency	Percent
Liver Disease, Liver Inflammation/ Jaundice	11	34.4
Cancer/Fatal Disease,	10	31.3
Don't know	11	34.4
Total	32	100.0

Table 6: Frequency distribution according to knowledge about spread of Hepatitis C

Knowledge about Spread	Frequency	Percent
Unsterilized Infected Instruments	10	31.3
Blood Contact through Instruments	10	31.3
Food	1	3.1
Don't know	11	34.4
Total	32	100.0

Table 7: Frequency Distribution according to Vaccination status against hepatitis B

Status	Frequency	Percent
Yes	9	28.1
No	23	71.9
Total	32	100.0

Table 8: FREQUENCY DISTRIBUTION ACCORDING TO AWARENESS ABOUT SPREAD THROUGH THEIR WORK

Spread	Frequency	Percent
Unsterilized Instruments	9	28.1
Blood Contact	7	21.9
Reuse Of Instruments	8	25.0
No	8	25.0
Total	32	100.0

Table 9: FREQUENCY DISTRIBUTION ACCORDING TO KNOWLEDGE OF PREVENTIVE MEASURES

Preventive Measures	Frequency	Percent
Using new instruments	15	46.9
washing instruments with Dettol	1	3.1
Sterilization	6	18.8
No	10	31.3
Total	32	100.0

Table 10: FREQUENCY DISTRIBUTION ACCORDING TO STERILIZATION OF INSTRUMENTS

	Frequency	Percent
Washing with Dettol	8	25.0
Washing with spirit	2	6.3
Washing with water	1	3.1
Boiling in water	7	21.9
Autoclave	7	21.9
No	7	21.9
Total	32	100.0

Table 11: FREQUENCY DISTRIBUTION ACCORDING TO SOURCE OF INFORMATION

Source	Frequency	Percent
Media	10	31.3
Journal	1	3.1
Newspaper	7	21.9
Doctors Clients	5	15.6
Doctors	5	15.6
Teachers	1	3.1
People	3	9.4
Total	32	100.0

Table 12: Cross tabulation between age of professionals and basic knowledge of hepatitis C

		Basic Knowledge Of Hepatitis C			Total
		Liver Disease, Liver Inflammation	Cancer, Fatal Disease, Jaundice	Don't know	
Age Of Professionals	10-20	0	1	1	2
	20-30	5	3	6	14
	30-40	3	4	3	10
	40-50	2	1	1	4
	50-60	0	1	0	1
	60-70	1	0	0	1

Assessment of Awareness Regarding Hepatitis C in Non-Health Care Professionals Who Are At Risk of Spreading It

Total	11	10	11	32
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Table 13: Cross tabulation between age of professionals and source of information

	Source Of Information							Total
	Media	Journal	Newspaper	Doctors Clients	Doctors	Teachers	People	
10-20	1	0	0	1	0	0	0	2
20-30	4	0	2	2	3	1	2	14
30-40	2	1	4	1	2	0	0	10
40-50	2	0	1	1	0	0	0	4
50-60	1	0	0	0	0	0	0	1
60-70	0	0	0	0	0	0	1	1
Total	10	1	7	5	5	1	3	32

Table 14: Cross tabulation between sex of professionals and Basic Knowledge of Hepatitis C

	Basic Knowledge Of Hepatitis C			Total	
	Liver Disease, Liver Inflammation	Cancer, Fatal Disease, Jaundice	Don't know		
Sex Of Professionals	Male	9	3	10	22
	Female	2	7	1	10
Total		11	10	11	32

Table 15: Cross Tabulation between occupation of professionals and sterilization of Instruments

	Sterilization Of instruments						Total	
	Washing with Dettol	Washing with spirit	Washing with water	Boiling in water	Autoclave	No		
Occupation Of Professionals	Barber	5	1	0	1	1	0	8
	Beauty Parlor	0	0	0	3	1	4	8
	Ear and Nose Piercing	3	1	1	0	0	3	8
	Acupuncture	0	0	0	1	2	0	3
	Tattooing	0	0	0	2	3	0	5
Total		8	2	1	7	7	7	32

Table 16: Cross Tabulation between occupation of professionals and basic knowledge of Hepatitis C

	Basic Knowledge Of Hepatitis C			Total	
	Liver Disease, Liver Inflammation	Cancer, Fatal Disease, Jaundice	Don't know		
Occupation Of Professionals	Barber	2	1	5	8
	Beauty Parlor	1	7	0	8
	Ear and Nose Piercing	5	1	2	8
	Acupuncture	1	1	1	3
	Tattooing	2	0	3	5
Total		11	10	11	32

Table 17: Cross Tabulation between occupation of professionals and awareness about spread of Hepatitis C through their work

	Spread through their work				Total	
	Unsterilized Instruments	Blood Contact	Reuse Of Instruments	Do not know		
Occupation Of Professionals	Barber	4	2	2	0	8
	Beauty Parlor	1	2	1	4	8

Assessment of Awareness Regarding Hepatitis C in Non-Health Care Professionals Who Are At Risk of Spreading It

Ear and Nose Piercing	2	1	5	0	8
Acupuncture	2	1	0	0	3
Tattooing	0	1	0	4	5
Total	9	7	8	8	32

Table 18: Cross Tabulation between occupation of professionals and knowledge of preventive measures

	Knowledge of Preventive Measures				Total
	Using new instruments	washing instruments with Dettol	Sterilization	Do not know	
Barber	8	0	0	0	8
Beauty Parlor	5	0	0	3	8
Occupation Of Professionals Ear and Nose Piercing	2	1	2	3	8
Acupuncture	0	0	3	0	3
Tattooing	0	0	1	4	5
Total	15	1	6	10	32

Table 19: Cross tabulation between education of professionals and basic knowledge of Hepatitis C

	Basic Knowledge Of Hepatitis C			Total
	Liver Disease, Liver Inflammation	Cancer, Fatal Disease, Jaundice	Don't know	
Uneducated	0	1	0	1
Primary	1	1	4	6
Middle	2	0	3	5
Matric	5	0	2	7
F.A,Fsc	1	4	1	6
Graduate	2	4	1	7
Total	11	10	11	32

Table 20: Cross tabulation between education of professionals and awareness about spread of Hepatitis C through their work

	Spread through their work				Total
	Unsterilized Instruments	Blood Contact	Reuse Of Instruments	Do not know	
Uneducated	0	0	1	0	1
Primary	3	1	2	0	6
Middle	1	0	3	1	5
Matric	2	2	1	2	7
F.A,Fsc	1	0	1	4	6
Graduate	2	4	0	1	7
Total	9	7	8	8	32

Table 21: Cross Tabulation between education of professionals and source of information

	Source Of Information							Total
	Media	Journal	Newspaper	Doctors Clients	Doctors	Teachers	People	
Uneducated	0	0	0	1	0	0	0	1
Primary	2	0	1	2	0	1	0	6
Middle	1	0	2	0	0	0	2	5
Matric	2	0	1	2	1	0	1	7
F.A,Fsc	0	0	2	0	4	0	0	6

	Graduate	5	1	1	0	0	0	0	7
Total		10	1	7	5	5	1	3	32

DISCUSSION

This study was conducted to explore knowledge and awareness about Hepatitis C in non-health care professionals. Questionnaires were administered to a total of 32 professionals in which there were 8 barbers (25%), 8 beauty parlor professionals (25%) 8 ears and nose piercing professionals (25%) 5 tattooers, (15.6%) and 3 acupuncture professionals (9.4%) [Table 4]. Out of these, 22 were male (68.8%) and 10 were female (31.3%) [Table 2]. The age of participants ranged from 15–70 years [Table 1] and their educational status showed that 60% were matric or below it and rest 40% were above matric to graduates [Table 3].

Regarding basic knowledge about Hepatitis C it was found that 34% of professionals know that Hepatitis C is related to liver and 31% had knowledge that it is a serious and fatal disease and rest 35% didn't know about it [Table 5]. While in study conducted by Dr Ishtiaq (2009) it was found that 13% of professionals knew about hepatitis C [1]. So in our study more number of professionals had the basic knowledge about Hepatitis C.

Regarding the knowledge of causative agent it was found that 28% knew about the causative agent. They knew that it is a viral disease. 65% didn't have the knowledge and 6% answered incorrectly.

Regarding the transmission of Hepatitis C 62% were aware that it spreads through blood contact through unsterilized instruments while 34% didn't have the knowledge about its spread [Table 6]. While in study by A.H. Jokhio (2007) it was found that 36.6% knew about way of transmission of Hepatitis C [3][4].

31% professionals knew about the symptoms of Hepatitis C while 56% didn't have knowledge of symptoms and 13% thought that symptoms are related to GIT.

Regarding the vaccination status against hepatitis B it was found that 28% were vaccinated against

Hepatitis B while 72% were not vaccinated or they didn't know about it [Table 7]. In study by A.H. Jokhio (2007) it was found that 20% were vaccinated against Hepatitis B [3]. So in our study more professionals were found to be vaccinated against Hepatitis B.

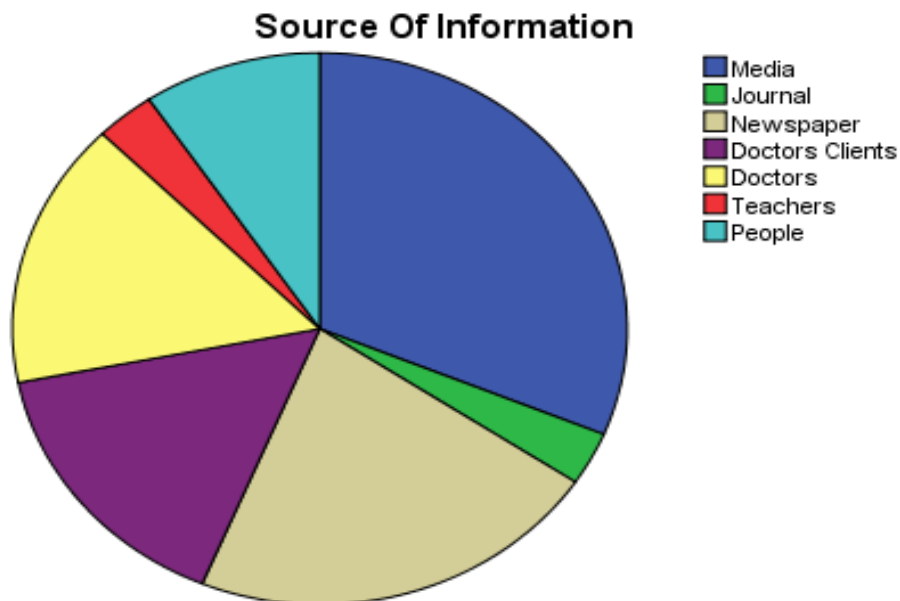
Regarding the family history of Hepatitis C it was found that 28% of respondents have hepatitis C in their family or friends while 72% have negative family history of it. 75% of professionals were aware of the fact that Hepatitis C can spread through their work through blood contact unsterilized instruments and reuse of instruments and 25% were not aware of it [Table 8].

Regarding the knowledge about preventive measures and action on them it was found that the 65% were aware of the preventive measures while 30% didn't have knowledge of appropriate preventive measures [Table 9]. 64% acted on these preventive measures by using new instruments and sterilization [Table 13].

It was found that the 31% of respondents used antiseptic for sterilization of instruments and 22% used boiling for sterilization and 22% used autoclave for sterilizing instruments and 3% merely washed with water [Table 10]. As autoclave is proper method for sterilization though less number of them used it. While in study conducted by Dr Ishtiaq (2009) showed that 11.4% used antiseptic for sterilization [1].

Regarding source of this knowledge it was found that 56% of respondents got this knowledge from electronic or print media while 32% got it from doctors or their doctor clients and rest of them got it from other sources like people and their teachers [Table 11]. In study by A.H. Jokhio (2007) 74% of information in professionals was through media [3]. Also in a study by Dr Shahid (2003) it was found that there was considerable effect of media on the awareness in barbers about health hazards related to their profession [2]. This shows that the

media has significant effect on their knowledge of Hepatitis C.



Regarding the role of age of professionals on having basic knowledge of Hepatitis C it was found that professionals in age 20-30 years had better awareness [Table 12]. In a study by Dr Shahid (2003) it was found that age group 15-25 of barbers had better awareness about health hazards [2].

The relationship between age of professionals and their source of information was not statistically significant ($p=0.77$) [Table 13].

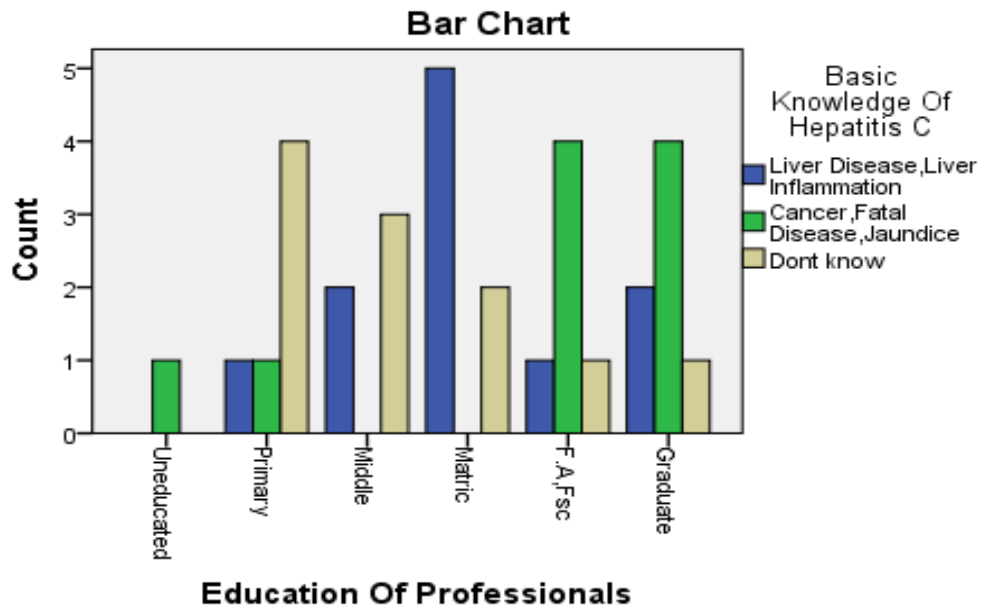
Role of sex of professionals in having basic knowledge of Hepatitis C was statistically significant ($p=0.006$) [Table 14]. Females had better basic knowledge about Hepatitis C than males and also females had better vaccination status against Hepatitis B than males [Table 14].

The role of occupation in sterilization of instruments was statistically significant ($p=0.02$) [Table 15]. Barbers had better awareness regarding sterilization of instruments. In study of A.H. Jokhio (2007) it was found that 96.2% of barbers washed razors with anti-septic before use [3]. So in our study almost same level of awareness was found regarding sterilization.

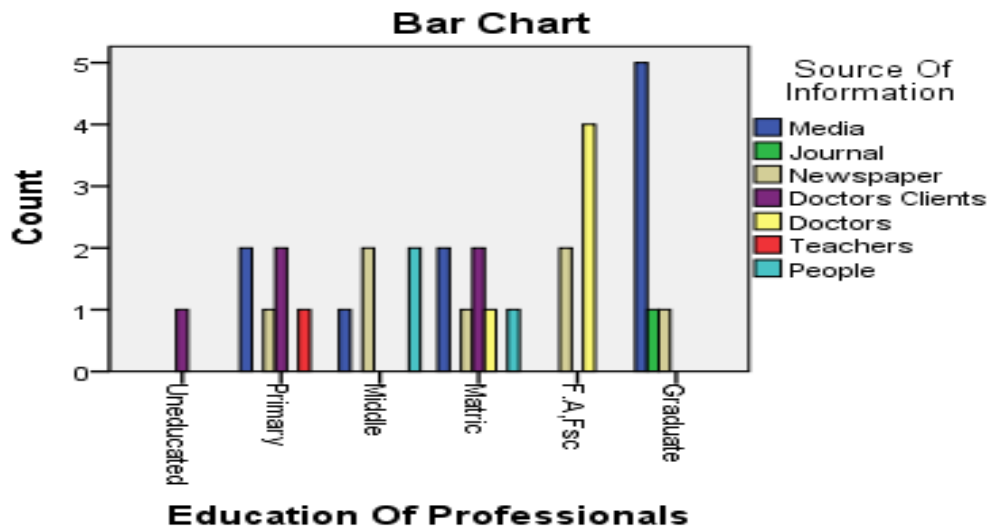
The role of occupation of professional in having knowledge of spread was statistically significant ($p=0.013$). While regarding basic knowledge about Hepatitis the ear and nose piercing professionals had better knowledge and awareness [Table 16].

There was a statistically significant ($p=0.001$) relationship between occupation of professionals and knowledge of preventive measures [Table 18]. It was better among barbers which used new blades for prevention.

A statistically significant ($p=0.047$) relation was found between education of professional and basic knowledge of Hepatitis. Professionals having matriculation had better basic knowledge [Table 19] so apparently it shows that education has no appreciable role in having basic knowledge as people get most info from media. In study of Behrooz Ataei (2010) it was found that there was a statistically significant relationship ($p=0.005$) between education level and knowledge score of hairdressers [5].



There was a statistically significant relationship ($p=0.038$) in education of professional and source of information [Table 21].



CONCLUSION

- ❖ Knowledge of professionals regarding awareness of spread and prevention of Hepatitis C was satisfactory. Education was important factor contributing to awareness regarding Hepatitis C.
- ❖ Although awareness and knowledge of Hepatitis C among these professionals is satisfactory but it needs to be improved to further decrease risk of HCV infection.

- ❖ Media (Electronic and print) and Health care providers were a major source of awareness and basic knowledge about spread and prevention of Hepatitis C among professionals.

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