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Knowledge, Attitude and Practice Regarding Hospital Waste Management among Health Care Professionals of Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

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Abstract

Introduction: Hospital wastes is defined as the wastes which are produced or extracted as an outcome of the procedures like diagnosis, treatment, or immunization of human beings or animals or research activities or in the production of biologicals. The wastes which are generated from health care institutions subsequently has the maximum probability of infection as well as risks in comparison to any types of waste produced. Inadequate and appropriate knowledge seems to be the major reason behind haphazard management of hospital wastes which directly imposes deleterious effects on environment.

The crucial issues in response to mismanagement of hospital waste includes absence of proper waste management, lack of awareness about health problems, insufficient financial and human resources. Management of biomedical wastes under good scale specially, at hospitals setting is directly proportional to dedicated waste management teams, good administration, careful planning, sound organization, underpinning legislation, adequate financing and full participation by trained staff. Biomedical wastes are to be managed accordingly because mishandling of these wastes invites serious health effect. Spread of diseases like Hepatitis-B, C and HIV/AIDS are the major effects seen associated with biomedical wastes.

Although health care professionals are aware about the proper consequences of improper disposal of biomedical wastes, the necessary precautions are not yet being practiced properly. Likewise, there is no data available by the researcher regarding hospital waste management that were conducted in the hospital of Lumbani Province.

Results: Out of 188 participated, shows that 49.46% of the respondents were of age 20-29 years and 65.96% were female. Most of the respondents have completed their diploma degree 38.29. Likewise, in term of profession, majorities of professionals i.e. 57.98% were nurses while paramedics was 23.47 and only 19.15% were doctors. Regarding working hours per day, maximum work around 5-10 hours a day i.e. 97.87 and only nearly half of the respondents i.e. 42.55% has work experience of 1-5 years and only 12.23% of respondents received training on hospital waste management. Most of the respondents 57.98% had good knowledge and 42.02% had poor knowledge regarding hospital waste management. Likewise, 61.70% of the respondents had favorable attitude and only 38.30% of the respondents had unfavorable attitude. Similarly, 59.04% had good practices and only less than half 40.96% had poor practices. Association between level of knowledge and socio-demographic characteristics, only the respondent's sex ($p=0.266$) and respondent's qualification ($p=0.102$) was highly significant. It shows same sex ($p=0.630$) and qualification ($p=0.102$) is highly significant with association of level of attitude and demographic characteristics. But there is no any association between level of practices and demographic characteristics.

Conclusion: The finding of this present study concluded that majority of the respondent were in 20 to 29 years of i.e. 49.46% where female was high than male 65.96%. Most of the respondents are diploma 38.29% and only 17.1% were bachelor pass. Nurses were in the highest proportional 57.98 followed by paramedic and doctors respectively 25.47%, 19.15%. About level of knowledge more than half 57.98% have good knowledge followed by 61.70% respondents had favorable attitude and 59.04% had good practices regarding hospital waste management. Association between level of knowledge and socio-demographic characteristics, only the respondent's sex ($p=0.266$) and respondent's qualification ($p=0.102$) was highly significant. It shows same sex ($p=0.630$) and qualification ($p=0.102$) is highly significant with association of level of attitude and demographic characteristics. But there is no any association between level of practices and demographic characteristics.

Keywords: KAP, HWM, HCP, RAHS

Introduction

Healthcare facilities are the primary producers of healthcare waste. This waste is commonly referred to as healthcare waste, though it is also known by various other terms, including medical waste, biomedical waste, clinical waste, and health facility waste [1].

The World Health Organization (WHO), (2000) defines hospital solid waste as "any solid waste that is generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or testing of biological, including but not limited to: soiled or blood-soaked bandages, culture dishes and other glassware". Furthermore, it consists of used surgical gloves and equipment, needles, lancets, stocks, cultures, and swabs employed to remove body organs and inoculate cultures [2]

Hospitals alone produce around 3.2 million tons of biomedical waste yearly, and 10% to 15% of total biomedical waste is thought to be potentially harmful, according to estimates from the Environmental Protection Agency- 2019[3].

The main issues associated with healthcare waste include inadequate waste management, a lack of awareness regarding the health risks posed by biomedical waste, insufficient financial and human resources, and ineffective waste disposal controls [4].

Improper management of hazardous healthcare waste can result in exposure that may cause infections, infertility, genital deformities, hormone-related cancers, mutagenicity, dermatitis, asthma, and neurological disorders in children. It can also lead to diseases such as typhoid, cholera, hepatitis, AIDS, and other viral infections through sharps contaminated with blood [5]. Proper biomedical waste management is not only a legal requirement but also a social, professional, and ethical obligation [6].

Waste management can be defined as the series of activities involved in the entire process from waste generation to final disposal. This includes strategic measures for the generation, segregation, quantification, storage, handling, collection, transportation, and disposal of waste [7].

Managing hospital-generated waste is not solely the responsibility of the hospital administration; it also involves every department and all healthcare personnel within the hospital. The process should start at the point of generation, where medical waste must be properly collected and separated from non-hazardous waste using designated color-coded containers [8].

The process of segregation, collection, storage, transportation and treatment of wastes till the end are the key steps which have inter relationship with one another during the management process of these biomedical wastes [9]. Health care wastes are to be managed accordingly because mishandling of these wastes invites serious health effect. In addition to air, water and soil pollution, the spread of diseases like Hepatitis-B, C and HIV/AIDS are the major effects seen associated with biomedical wastes [10].

In Nepal health care wastes generation is about 0.99 to 1.73 kg per bed out of this hazardous waste is 0.33 to 0.59 kg per patient per day [11]. Although health care professionals are aware about the proper consequences of improper disposal of biomedical wastes, the necessary precautions are not yet being practiced properly. Likewise, there is no data available by the researcher regarding hospital waste management that were conducted in the hospital of Rapti Academy of Health Sciences.

Materials and Methods

Research Design: Descriptive cross sectional study design was used to find out knowledge, attitude and practice regarding hospital waste management among health care professionals of Rapti Academy of Health Sciences.

Research Setting and Population: The study was conducted among health care professionals of Rapti Academy of Health Sciences.

Inclusion criteria: All willing participants who had working as health care professionals of Rapti Academy of Health Sciences and were present during data collection were included.

Sampling Procedure:

Sampling Technique: Sample random sampling technique was used to select sample for the study. Sample was collected from among health care professionals in Rapti Academy of Health Sciences..

Sample Size:

Sample size was estimated by using Cochran formula,

$$n = [z^2(pq)]/e^2$$

$z = (1.96)$ = standard normal variate/ distribution

$p = 78.2\%$ [12]

$q = 100 - p = 21.8\%$

$e = 5\%$

n = sample size

now, using above given formula:

$$n = [(1.96)^2 (78.2 \times 21.8)]/5^2$$

$n = 261.9$, which can be taken as

$n = 262$

Since we know the total number of health care professionals = 487

Using finite population:

$$N_0 = n/[1 + (n/N)]$$

$$= 262/[1 + (262/487)]$$

$$= 171$$

Here, non-response rate = 10%

So 10% of population = $10/100 \times 171 + 171 = 188$

Hence, total sample size was 188

Research Instrumentation: Semi structured questionnaire was developed by researcher after reviewing the related literatures. The questionnaire was developed in English and Nepalese languages.

The research instrument consisted of following three parts:

Part I: Semi structured questionnaire related to socio-demographic information.

Part II:Semi structured questionnaires related to knowledge of health care professionals regarding hospital waste management with 15 questions. 1 point was given for each correct response and 0 for incorrect response.

The level of knowledge was calculated by using median score (11) and was categorized as score equals to and above median (i.e. ≥ 11)= Good Knowledge and score below median score (<11)= Poor Knowledge.

Part III:It include 15 statements using five-point Likert Scale [1= Strongly Agree (SA), 2= Agree (A), 3= Neutral (N), 4= Disagree (D) and 5= Strongly Disagree (SD)].

Total score for attitude was 75. The level of attitude was calculated by using the median score (65) and was categorized as a score equal to and above median (i.e. ≥ 65) = Favorable attitude and score below median score (<65) = Unfavorable attitude.

Part IV:It related to practices questionnaire which include 15 statements. Yes/No checklist. 1 point was given for each correct response and 0 for incorrect response.

Total score of for practices was 15 with median 12. Score equals to and above median (i.e. ≥ 12) was categorized as Good practices and below median (i.e. <12) as Poor practices.

Validity: The content validity of this research instrument was maintained through consultation with the research expert as well as research advisor, literature review and peers. Prepared questionnaire was checked and verified by advisor.

Data Collection Procedure: Ethical approval was taken from Institutional Review Committee, Rapti Academy of Health Sciences (Ref. No 653) for conducting research. Permission for data collection was obtained from Hospital Administration of RAHS. Informed written consent was taken from the every respondents. Data was collected by using semi structured questionnaire which approximately 30 minutes was given to fill the form. The questionnaire form was collected on the same day. After receiving the filled form, it was rechecked for completeness and consistency. Data form was collected within two weeks period. Confidentiality and anonymity was maintained in the study.

Data Analysis Procedure: Data entry was done in Epi -data 3.1 version. After collection of data, data was checked out systematically then edited, coded and entered. A data analysis was done in IBM SPSS 16.0 version. Descriptive statistics in terms of frequency and percentage was used to present the data and chi – square test was applied to test the association.

Findings

Table 1: Socio-demographic Variables of the Respondents (n=188)

Characteristics	Number	Percentage (%)
Age		
20-29	93	49.46
30-39	77	40.95
40-49	18	9.56
Mean 62.67		
Sex		
Female	124	65.96
Male	64	34.04
Qualification		
Masters	37	19.86
Bachelor	31	17.01
Diploma	72	38.29
Intermediate	48	25.53
Profession		
Nurses	109	57.98
Doctors	36	19.15
Paramedics	43	23.47
Working Hours		
5-10 hours	184	97.87
>10 hours	4	2.13
Working Experience		
<1 years	23	12.23
1-5 years	80	42.55
6-10 years	48	25.53
>10 years	37	19.68
Received Trainings		
No	165	87.77
Yes	23	12.23

Table 1 shows that 49.46% of the respondents were of age 20-29 years and 65.96% were female. Regarding qualification, maximum respondents have completed their diploma degree 38.29 while minimum qualification level was bachelor 17.01%. Likewise, in term of profession, majorities of professionals i.e. 57.98% were

nurses while paramedics was 23.47 and only 19.15% were doctors. Regarding working hours per day, maximum work around 5-10 hours a day i.e. 97.87 and only nearly half of the respondents i.e. 42.55% has work experience of 1-5 years and only 12.23% of respondents received training of hospital waste management.

Table 2: Knowledge Regarding Hospital Waste Management of the Respondents (n=188)

Characteristics	Correct Response (%)	Incorrect Response (%)
Knowledge regarding meaning of biomedical wastes	188 (100.00)	0.00
Knowledge regarding secondary sources of health care wastes	104 (55.32)	84 (60.64)
Knowledge regarding color coded container for disposal of wastes generated from hospital	74 (39.36)	114 (60.64)
Knowledge regarding transmission of diseases through exposure of biomedical wastes	188 (100.00)	0.00
Knowledge regarding storage duration of biomedical wastes	141 (75.00)	47 (24.99)
Knowledge regarding guidelines proposal by government of Nepal for biomedical wastes	185 (98.40)	3 (1.60)
Knowledge regarding disposal of wastes generated from hospital	119 (63.03)	69 (36.71)
Knowledge regarding use of PPE while handling wastes	185 (98.40)	3 (1.60)
Knowledge regarding categories of health care wastes	48 (25.53)	140 (74.46)
Knowledge regarding responsible persons for waste management in hospital	102 (54.26)	86 (45.75)
Knowledge regarding best suitable methods of hospital waste managements	151 (80.32)	37 (19.68)
Knowledge regarding criteria for the inclusion of hospital waste	188 (100.00)	0.00
Knowledge regarding disposal of anatomical wastes	104 (55.32)	84 (44.68)
Knowledge on being more careful while handling types of wastes	132 (70.21)	56 (29.79)
Knowledge regarding the steps required for proper management of hospital wastes	172 (91.49)	16 (8.51)

Table 3: Attitude Regarding Hospital Waste Management of the Respondents (n=188)

Characteristics	SA (%)	A (%)	N (%)	D (%)	SD (%)
Attitude regarding proper handling of medical waste generated from hospital	164 (87.33)	24 (12.77)	0.00	0.00	0.00
Attitude regarding the use of color- coded containers for segregation of waste	163 (86.70)	23 (12.23)	0.00	0.00	0.00
Attitude regarding the importance of PPE only during handling of biomedical waste	28 (14.89)	18 (9.57)	18 (9.57)	99 (52.65)	25 (13.29)
Attitude regarding the covering of hospital waste containers before disposal	13 (6.91)	4 (2.13)	7 (3.72)	109 (57.98)	55 (29.26)
Attitude regarding the necessary of separate site for segregation of waste	63 (33.51)	123 (65.43)	2 (1.06)	0.00	0.00
Attitude on imparting the tanning on biomedical waste practices to health care professionals	78 (41.49)	104 (55.32)	1 (0.53)	0.00	2 (1.06)
Attitude regarding the transmission of infectious diseases via medical waste	5 (2.66)	2 (1.06)	0.00	91 (48.40)	90 (47.87)
Attitude regarding biomedical waste management as a team work	59 (31.38)	127 (67.55)	1 (0.53)	0.00	1 (0.53)
Attitude regarding the necessity of maintaining hospital waste records	57 (30.32)	113 (60.11)	14 (7.45)	2 (1.06)	2 (1.06)
Attitude regarding the responsibility of government towards safe management of hospital waste	4 (2.13)	8 (9.26)	5 (2.66)	68 (36.17)	103 (54.79)
Attitude regarding the labelling of infectious wastes with biohazard symbol	79 (42.02)	104 (55.32)	1 (0.53)	2 (1.06)	2 (1.06)
Attitude regarding biomedical waste not requiring storage facility	6 (3.19)	3 (1.60)	11 (5.85)	88 (46.81)	80 (42.55)
Attitude regarding the need of separate vehicle for transportation of biomedical waste	45 (23.94)	34 (71.28)	2 (1.06)	2 (1.06)	5 (2.66)
Attitude regarding increment of financial burden due to efforts for safe management of waste by hospital	6 (3.19)	29 (15.43)	24 (12.77)	43 (22.87)	86 (45.74)
Attitude regarding the clinical significance of labeling the waste containers	123 (65.43)	64 (34.04)	0.00	1 (0.53)	0.00

Table 4: Practice Regarding Hospital Waste Management of the Respondents (n=188)

Characteristics	Yes (%)	No (%)
Practice of providing the supplies for biomedical waste management by the hospital	179 (94.68)	10 (5.32)
Practice of observing the occupational measures	153 (81.38)	35 (18.62)
Practice of disposing medical waste in specified color coded containers	176 (93.62)	12 (6.38)
Practice of hand washing thoroughly after the contact with biomedical waste	182 (96.81)	6 (3.19)
Practice of receiving any in-service training in biomedical waste	33 (17.55)	155 (82.45)
Practice of reporting accidental injuries from improperly disposed sharps to concerned authority	134 (71.28)	54 (28.72)
Practice of using PPE while handling biomedical wastes	171 (90.96)	17 (9.04)
Practice of receiving vaccines	188 (100)	0.00
Practice of implementing waste management plan by the hospital	170 (90.43)	18 (9.57)
Practice of following hospital waste management guidelines	178 (94.68)	10 (5.32)
Practice of using trolleys for disposal of hospital waste	143 (76.06)	45 (23.94)
Practice of discarding sharp materials in puncture proof containers separately from other waste	118 (62.77)	70 (37.23)
Availability of separate site for biomedical waste management	110 (58.51)	78 (41.49)
Practice of disinfection hospital waste before disposal	52 (27.66)	136 (72.34)
Awareness regarding environmental hazards of improper disposal of hospital waste	184 (97.87)	4 (2.13)

Table 5: Level of Knowledge, Attitude and Practice Regarding Hospital Waste Management of the Respondents (n=188)

Characteristics	Frequency	Percentage
Knowledge		
Good	109	57.98
Poor	79	42.02
Attitude		
Favorable	116	61.70
Unfavorable	72	38.30
Practice		
Good	111	59.04
Poor	77	40.96

Table 5 shows that 57.98% of the respondents had good knowledge and 42.02% had poor knowledge regarding hospital waste management. Likewise, 61.70% of the respondents had favorable attitude and only 38.30% of the respondents had

unfavorable attitude. Similarly, more than half of the respondents 59.04% had good practices and only less than half 40.96% had poor practices regarding hospital waste management.

Table 6: Association between Level of Knowledge and Socio-demographic variable of the Respondents (n=188)

Characteristics	Level of Knowledge		Chi-square	p-value
	Good Knowledge (%)	Poor Knowledge (%)		
Age				
20-29	56 (60.21)	37 (39.79)	1.55	0.460
30-39	45 (58.44)	32 (41.56)		
40-49	8 (44.45)	10 (55.55)		
Sex				
Male	30 (46.88)	34 (53.12)	4.91	0.266
Female	79 (63.70)	45 (36.30)		
Qualification				
Masters	17 (45.95)	20 (54.05)	9.12	0.277
Bachelor	15 (46.88)	17 (53.12)		
Diploma	39 (73.59)	14 (26.41)		
Intermediate	38 (57.57)	28 (42.43)		
Profession				
Nurses	70 (64.23)	39 (35.77)	4.80	0.184
Doctors	16 (44.45)	20 (55.55)		
Paramedics	23 (53.48)	20 (56.52)		
Working Hours				
5-10 hours	108 (59.01)	75 (40.99)	3.04	0.811
>10 hours	1 (20.00)	4 (80.00)		
Working Experience				
<1 years	13 (56.53)	10 (43.47)	0.16	0.982
1-5 years	46 (57.5)	34 (42.5)		
6-10 years	29 (60.41)	19 (39.59)		
>10 years	21 (56.75)	16 (43.25)		
Received Trainings				
No	16 (69.57)	7 (30.43)	1.44	0.229
Yes	93 (56.36)	72 (43.64)		

Table 6 shows the association between respondent's level of knowledge and socio-demographic characteristics regarding hospital waste management. There was highly statistically

significant association between level of knowledge regarding hospital waste management and respondents sex (p=0.266), and respondents qualification (p=0.277)

Table 7: Association between Level of Attitude and Socio-demographic variable of the Respondents (n=188)

Characteristics	Level of Attitude		Chi-square	p-value
	Favorable (%)	Unfavorable (%)		
Age				
20-29	54 (58.06)	39 (41.94)	1.04	0.591
30-39	50 (64.93)	27 (35.07)		
40-49	12 (66.6)	6 (33.34)		
Sex				
Male	46 (70.76)	19 (29.24)	3.45	0.630
Female	70 (56.91)	53 (43.09)		
Qualification				
Masters	21 (56.75)	16 (43.25)	6.18	0.102
Bachelor	20 (60.60)	13 (39.40)		
Diploma	39 (54.93)	32 (45.07)		
Intermediate	36 (76.59)	11 (23.41)		
Profession				
Nurses	63 (57.79)	46 (42.21)	7.40	0.024
Doctors	19 (52.77)	17 (47.23)		
Paramedics	34 (79.06)	9 (20.94)		
Working Hours				
5-10 hours	112 (61.21)	71 (38.79)	0.72	0.393
>10 hours	4 (80.00)	1 (20.00)		
Working Experience				
<1 years	9 (39.13)	14 (60.87)	9.32	0.025
1-5 years	55 (68.75)	25 (31.25)		
6-10 years	33 (68.75)	15 (31.25)		
>10 years	19 (51.35)	18 (48.65)		
Received Trainings				
No	11 (47.83)	12 (52.17)	21.13	0.143
Yes	105 (63.63)	60 (36.37)		

Table 7 shows the association between respondent's level of attitude and socio-demographic characteristics regarding hospital waste management. There was highly statistically

significant association between level of attitude regarding hospital waste management and respondents sex ($p=0.630$), as well as respondents qualification ($p=0.102$)

Table 8: Association between Level of Practice and Socio-demographic variable of the Respondents (n=188)

Characteristics	Level of Practice		Chi-square	p-value
	Good Practice (%)	Poor Practice (%)		
Age				
20-29	55 (59.13)	38 (40.87)	1.61	0.44
30-39	43 (55.84)	34 (44.16)		
40-49	13 (72.22)	5 (27.78)		
Sex				
Male	39 (60.93)	25 (39.07)	0.14	0.704
Female	72 (58.06)	52 (41.94)		
Qualification				
Masters	19 (51.35)	18 (48.65)	0.46	0.482
Bachelor	20 (64.51)	11 (35.49)		
Diploma	46 (63.89)	26 (36.11)		
Intermediate	26 (54.16)	22 (45.84)		
Profession				
Doctors	19 (52.78)	17 (47.22)	4.12	0.127
Nurses	63 (57.79)	46 (42.21)		
Paramedics	17 (39.53)	26 (60.47)		
Working Hours				
5-10 hours	108 (58.69)	76 (41.31)	4.12	0.511
>10 hours	3 (75.00)	1 (25.00)		
Working Experience				
<1 years	11 (50.00)	11 (50.00)	2.28	0.515
1-5 years	47 (58.75)	33 (41.25)		
6-10 years	27 (56.25)	21 (43.75)		
>10 years	26 (68.42)	12 (31.58)		
Received Trainings				
No	16 (69.57)	7 (30.43)	1.19	0.273
Yes	95 (57.57)	70 (42.43)		

Table 8 shows the association between respondent's level of practices and socio-demographic characteristics regarding hospital waste management. There was no any statistically

significant association between level of practices regarding hospital waste management and socio-demographic characteristics of the respondents

Discussion

Hospital waste management is the main problem among Nepal hospitals. A previous study among 283 health care professionals, that include 75 doctors, 60 nurses, 78 lab technicians and 70 sanitary staff. The doctors, nurses and lab technicians has better knowledge than sanitary staff. However, the practices were low among all health care professionals [13].

A cross-sectional study conducted in Lucknow shows, 30% doctors and 20% nurses had good knowledge. 100% doctors and 60% in nurses had positive attitude towards biomedical waste management's [14]. Hospital based study carried out among health care professionals at tertiary care hospital in Rajkot shows that knowledge and attitude are found relatively average 40.04% while practice was only 44.03% [15]. Among 300 nurses and paramedics of Lahore, Jinnah Hospital showed that 50.03% of the respondents, 50.03% had good knowledge, 45.07% had average knowledge and only 4% had poor knowledge. 70.07% had good practice, 23.75% had average practice and only 5.07% had poor practice about biomedical waste management [16].

But Thailand study conducted among health workers from 172 clinics shows the higher level of knowledge, attitude and practice (89.05%), (91.95%) and (92.2%) respectively [17]. Study conducted at medical college at Trevandrum, showed that majorities of doctors had good knowledge and attitude towards biomedical waste management. The knowledge and practice were significant positive correlation (p -value=0.002) and (p -value=0.001) respectively but not towards attitude (p -value=0.110) [18].

In our study most of the respondents most of the respondents are 20-29 years and 65.96% were female. Regarding qualification, maximum respondents have completed their diploma degree. Likewise, in term of profession, majorities of professionals i.e. 57.98% were nurses. Regarding working hours per day, maximum work around 5-10 hours a day i.e. 97.87 and only 12.23% of respondents received training of hospital waste management. 57.98% of the respondents had

good knowledge and 42.02% had poor knowledge regarding hospital waste management. Likewise, 61.70% of the respondents had favorable attitude and only 38.30% of the respondents had unfavorable attitude. Similarly, more than half of the respondents 59.04% had good practices and only less than half 40.96% had poor practices regarding hospital waste management.

In our study there was highly statistically significant association between level of knowledge regarding hospital waste management and respondents sex ($p=0.266$), and respondents qualification ($p=0.277$). There was highly statistically significant association between level of attitude regarding hospital waste management and respondents sex ($p=0.630$), as well as respondents qualification ($p=0.102$), but there was no any statistically significant association between level of practices regarding hospital waste management and socio-demographic characteristics of the respondents.

Conclusion

The finding of this present study concluded that majority of the respondent were in 20 to 29 years of i.e 49.46% where female was high than male 65.96%. Most of the respondents are diploma 38.29% and only 17.1% were bachelor pass. Nurses were in the highest proportional 57.98 followed by paramedic and doctors respectively 25.47%, 19.15%.

About level of knowledge more than half 57.98% have good knowledge followed by 61.70% respondents had favorable attitude and 59.04% had good practices regarding hospital waste management.

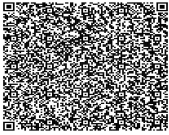
Association between level of knowledge and socio-demographic characteristics, only the respondent's sex ($p=0.266$) and respondent's qualification ($p=0.102$) was highly significant. It shows same sex ($p=0.630$) and qualification ($p=0.102$) is highly significant with association of level of attitude and demographic characteristics. But there is no any association between level of practices and demographic characteristics.

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