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Effect of multimedia assisted teaching program in awareness of knowledge, attitude and practice about prevention of communicable diseases among the Indian Hajj Pilgrims, Makkah

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Abstract
As Hajj is one the largest gathering and there is more chance for the communicable diseases. Most of the communicable diseases are preventable. The objectives for this study were to assess the awareness of knowledge, attitude and practice about prevention of communicable diseases among the Indian Hajj pilgrims in Makkah; determine the effectiveness of multimedia assisted teaching on it, and find out the association among variables. 107 samples were selected by using convenient sampling method. Structured questionnaire with semi structured interview schedule was used to assess the Knowledge and attitude. An observational checklist of hand hygiene is used for the assessment of practice. After 4-5 days of intervention post test was conducted. The findings revealed that there is significant improvement in knowledge level (p<0.01), attitude (p<0.01) and practice (p<0.01) after the multimedia assisted teaching program. There also found association between age & education with knowledge and gender & education with attitude.

Keywords: Hajj pilgrims, communicable diseases, prevention

Introduction
Communicable diseases are the diseases that can be spread from one person to another person through variety of ways. The causative agents of these diseases are microorganisms such as bacteria, virus, parasites and fungus. Some diseases caused by these microorganisms are pneumonia, influenza, measles, diarrhoea, conjunctivitis, chickenpox, meningitis etc. [1, 2].

The communicable disease affects both the individuals and the communities, so need to control both. It can also affect the performance of working people [7]. The treatments of these diseases are also a method of prevention. The simple way for the prevention of communicable diseases are eliminating the infectious agent through proper hand hygiene, proper cooking and taking of food materials and drinking safe water [1].

A variety of disease-producing bacteria and viruses are carried in the mouth, nose, throat and respiratory tract and can be spread by coughing, sneezing, and saliva or mucus on unwashed hands [2].

Hajj is a largest religious gathering event for the Muslims. Millions of people from different part of the world gather together in the month of Dul-Hajj of lunar calendar in Saudi Arabia. There is more chance for the communicable diseases during this time. It can lead to high number of hospitalization and cross contamination of microorganism among the pilgrims. These factors may lead to the international spreading of diseases [3, 4].

The respiratory system infections are most common and biggest problem among the Hajj pilgrims. The report shows more than half of the pilgrims got affected by the respiratory disease. There isolated more than 200 viral agents that causes the respiratory tract infections. There should be appropriate strategies should be taken for prevention and control of the communicable diseases not only by the Saudi Government but also by the national health authorities from where the pilgrims are coming [5, 6]. The communicable diseases can cause death for millions of people around the world in each year pose serious economic and social challenges in both developing and developed countries [11].

Objective of the study

Primary objective

- Assess the awareness level on knowledge, attitude and practice on prevention of communicable disease among hajj pilgrims.
- Determine the effectiveness of multimedia assisted teaching module on awareness knowledge, attitude and practice in prevention of communicable diseases among hajj pilgrims.

Secondary objective

- Develop a multimedia assisted teaching module.
- Find the association between the awareness knowledge and practice with the selected socio-demographic variables.

Literature Review

A study conducted in India result shows the spread of infection to the public in international level [15]. The lack of proper health education and low perception of the pilgrims found as one of the major causative factor for the communicable diseases [16]. There are more studies showing the lack of proper knowledge, attitude and awareness even in the medical staffs on prevention of communicable diseases and improvement is needed including hand hygiene [18, 19]. All of these studies recommended the importance and need m for the proper health education especially for vaccination cough etiquette and hand hygiene for the prevention and control of these diseases.

The studies related to knowledge, attitude and practice on prevention of infectious among travellers shows that there is considerable deficiencies in knowledge attitude and practice. One study shows 90% of the samples were not concern about the risk of getting the infectious disease during travel. All these studies recommended need of proper education to them [28, 29, 30].

Most of the communicable diseases are preventable [3] and can be managed much better if identified earlier on [9].This means giving people the knowledge, skills and confidence to take full control of their lives and their health and social care, and making healthy choices as easy as possible [10].

Islam insists on several practices to facilitate keep the body clean and prevention of many communicable diseases. This can be seen in Quran the teaching of Prophet Muhammad [17] (صلى الله عليه وسلم).

The quality health is the fundamental right of the all people. There is important role for the health education to achieve quality health. The government should ensure the health education in all level of healthcare [8].

The planned teaching program for improving knowledge, attitude and practice level on prevention of communicable diseases were very effective and statistically significant. Some studies is recommended to increase the sample size to aware more people about the present education programme [20, 21].

The use of technology in education has come a long way since the earliest times of human civilization. The newer educational technology can be effective tools of teaching and learning in this rapidly changing technological world and be part of a comprehensive system for lifelong education. [12]. Among this the multimedia is more effective as it uses a combination of different content forms such as text, audio, images, animations, video and interactive content [13, 14].

The video assisted and the animation teaching method shows highly significance, effectiveness and most of the students preferred these methods than the traditional teaching and the intervention teaching method than the traditional didactic teaching method [22, 23, 24].

The multimedia provides information effectively, promotes learners' cognition, promotes learning motivation, improves learners' understanding of and adherence to the instructional content, reducing learning anxiety, can change passive learning to active learning, can reduce associated costs, influence learning effectiveness and increases the learning satisfaction and self- efficacy. It is proved with a lot of studies [14].

The multimedia assisted teaching shows as effective component and teaching tool as it can reduce the lecture time and cost of repeating the topics [25, 26]. The studies were statistically significant effectiveness on both knowledge and satisfaction level. Most of the study highly recommend for the multimedia assisted teaching programme [14]. Some studies recommended that the multimedia should be used with the combination of traditional teaching for more effectiveness of teaching [27].

Study Design

One group pretest-posttest research design.

Study Population

All Indian Hajj pilgrims were staying in Aziziyah, Makkah.

Inclusion Criteria

- Hajj pilgrims from different part of India.
- Hajj pilgrims who are 20 years of age and above.
- Male and female participants.
- Hajj pilgrims came under government sector

Exclusion Criteria

- Hajj pilgrims of more than 75 year old.
- Hajj pilgrims who are not willing to participate in study.
- Hajj pilgrims who are completely illiterate.

Study Procedure

After getting official permission from KAMC IRB, the aim of this study and the procedures was explained to the hajj mission officers who were responsible for the hajjis and the hajj buildings. After that obtained verbal permission from them to conduct the study. After getting the permission same explained to the participants to obtain their cooperation. The participants was hajj pilgrims from India who were staying in Aziziyah. An information sheet explains the study details explained to the pilgrims and obtained the verbal consents. Signed consent was taken to maintain anonymity and confidentiality of residents at highest degree. The pilgrims were allowed to choose whether to participate or not, and they have the right to withdraw from the study at any time without penalty. The study samples were selected by using convenient sampling method. The semi structured interview schedule was used to collect data from the participants.

A validated questionnaire was used for collecting data that has three main sections. The first part includes questions about socio demographic data. The second part is validated questionnaire about the knowledge and attitude of communicable disease prepared by the researcher. The third

part is having a checklist prepared for the hand washing procedure.

The researcher selected the building number according to the convenience of the researcher. After this the researcher finds out the eligible participants according to the inclusion and exclusion criteria. The participants were identified with three numbers like building number then room number and after that participant number. There was different number for each participant in the same room that was already displayed on the door of each room. The researcher identified the participants only with this number to ensure the confidentiality. Then the researcher conducted a pre-test for the participants with the prepared validated questionnaire with a semi structured interview schedule and also used the check list to observe the practice level of the participants. For that used the hand hygiene checklist with pictures. After this the same day the researcher conducted a teaching session. For the teaching session the researcher used the content from the trusted books, journals, pamphlets & booklets distributed by the ministry of health, and the trusted websites including the MOH website and WHO website. For the effectiveness of the teaching purpose the researcher divided the participants into different groups. Each group will had 15-20 participants only. The teaching make effective with the help of the pamphlet, pictures, gif images, animated and educational video in the laptop. The researcher also used the traditional lecture method to explain the content. The last part of the session there was one demonstration section along with the video. There also distributed the translated copy of the hand hygiene steps with picture for the participants for the hand hygiene and a observational checklist was used for the validation of this. The participants were allowed explaining in some steps on practice section if feeling any difficulties and will be scored for them. After2-3 days of the pre-test and intervention, the post-test was conducted according to the convenient date and time of researcher and the hajjis for the maximum availability of the participants. The researcher conducted the post-test with the same questionnaire with the same method with the same participants with the identification by the unique number.

Outcome Measurement: In this study, the researchers would measure the outcomes by, Analyze the effectiveness of multimedia assisted teaching module on the awareness knowledge, practice and attitude in prevention of communicable diseases among hajj pilgrims.

The scoring as follows: A structured questionnaire in the form of a multiple choice for assessing knowledge level, likert scale for assessing the attitude and a observational checklist for assessing the practice was prepared by the investigator to assess the effect of multimedia assisted teaching program in awareness, knowledge and practice about prevention of communicable diseases among the Indian hajj pilgrims, Makkah. The multiple choice questionnaire contained 11 multiple choice questions, 16 items in likert scale questions including 4 negative questions and 9 observational checklist items. Each correct answer on multiple choice will get 1 score and wrong answers is counted as 0 score. In likert scale consists of 16 items, each item having 5 responses scoring from 0 to 4. The scoring was reversed for the negative items. The maximum score for multiple choices is 11 and maximum score for likert scale is 64 and the maximum score for the checklist is 9 only. The minimum score for all is 0 only. As there are three different dimensions checking in this study and using three different scales the total is not calculating for this study.

Duration of the Study: One Month.

Data collection and management

Data collected from hajj pilgrims by semi structured interview schedule and observational checklist by the researcher. The researcher contacted the participants individually in their accommodation provided in the Aziziyah area after IRB approval. After verification, data's were transferred to statistical database directly.

Sample size determination

The study conducted in different Hajj building located in Aziziyah area and 107 samples were selected for the study with convenient sampling method.

Data analysis and discussion

Result is organized, analyzed and presented as follows.

1. **Section-I:** Percentage analysis of Socio-demographic Variables (n=107).
2. **Section-II:** Awareness knowledge of adult Indian pilgrims attending Hajj 2019.
3. **Section-III:** Awareness attitudes of adult Indian pilgrims attending Hajj 2019 Section- IV: Awareness practices of adult Indian pilgrims attending Hajj 2019.
4. **Section-V:** Association of knowledge, attitude and practice with the selected socio demographic variables.

Table 1: Percentage analysis of Socio-demographic Variables (n=107)

Variables		Frequency	Percentage
Age	20-50 years	29	27.1%
	51 years and above	78	72.9%
Gender	Female	69	64.5%
	Male	38	35.5%
Education	Primary	22	20.6%
	Secondary	54	50.5%
	Higher secondary	19	17.8%
	Graduate or above	12	11.2%
Marital status	Married	75	70.1%
	Widow/widower	31	29.0%
	Divorce	0	0.0%
	Unmarried	0	0.0%
	Separated	1	0.9%
Nature of occupation	Health sector	16	15.0%

	Non health sector	91	85.0%
Number of time visited Makkah	1 time	22	20.6%
	2-3 times	57	53.3%
	>3 times	28	26.2%
Food habits	Self-cooking	90	84.1%
	Eating from hotels	3	2.8%
	No preference	14	13.1%
Residence in India	Village Area	66	61.7%
	Town area	15	14.0%
	City area	26	24.3%

The above table shows that 72.9% of participants were above 51 year old, 64.5% were females, 71% were education up to secondary class, 70.1% were married, 85% were in non-health sector, 79.4% were visited Makkah before, 84.1% were self-cooking and 75.7% were staying in village or town area.

Section II

Awareness knowledge of adult Indian pilgrims attending Hajj 2019.

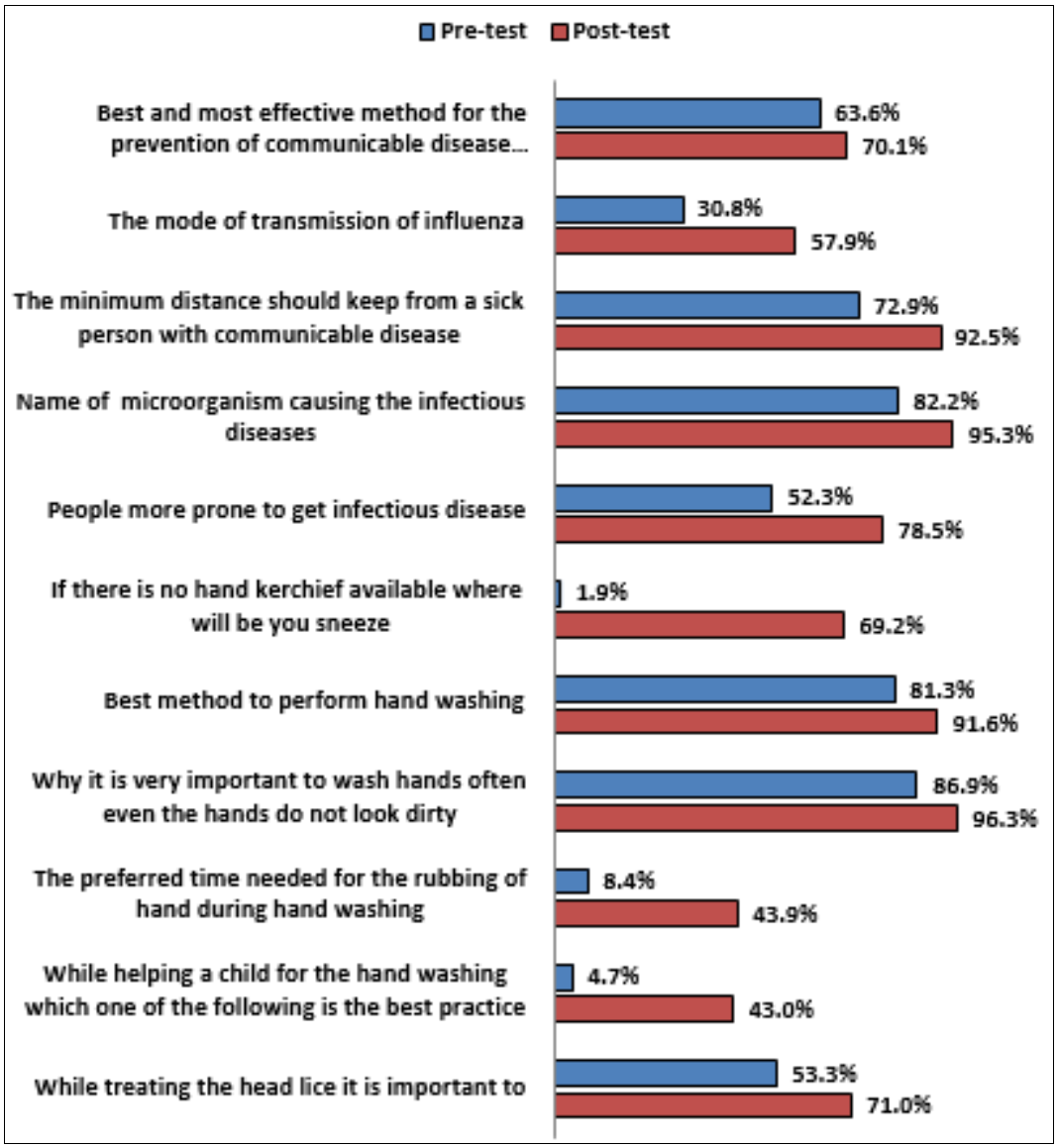

Fig 1: Percentage answering correctly

Mean, S.D and t-value of pre & post-test Knowledge on the prevention of communicable disease among the Indian HAJJ pilgrims.

Table 2: Comparison of Knowledge Levels before and After Multimedia Assisted Teaching Among Indian Hajj Pilgrims in Makkah

Time	Mean Knowledge	S.D	N	Mean Difference	DF	t	p-value
Pre-test	5.38	1.71	107	2.71	106	15.43	*P*< 0.001*
Post-test	8.09	1.67					

There is significant improvement in the knowledge in comparison between pre-test and post-test knowledge among the Hajj pilgrims. The improvement in mean knowledge2.71 is significant at 1% level of significance. Hence we can conclude that the intervention has very much improved the knowledge on the prevention of communicable disease among the Indian HAJJ pilgrims.

Section III: Awareness attitudes of adult Indian pilgrims attending Hajj 2019.

Table 3: Comparison of Pre-test and Post-test Responses (%) on Knowledge Items Related to Preventing Communicable Diseases Among Indian Hajj Pilgrims

Items	Response in (%)									
	Pre-test (%)					Post-test (%)				
	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
It is important to strengthen the immunity through balanced diet adequate rest and proper exercises	9.3	1.9	3.7	8.4	76.6	1.9	1.9	0.9	4.7	90.7
The food materials' can carry the germs	5.6	5.6	2.8	23.4	62.6	1.9	1.9	0.9	9.3	86
Always wash the fruits and vegetables before conception	3.7	0	2.8	7.5	86	0.9	0	0.9	5.6	92.5
The food materials should be cooked properly and stored a proper temperature	5.6	0	8.4	15.9	70.1	0.9	0	0.9	10.3	87.9
Sharing of my personal razors or towels to friends and relatives is a very good habit	41.1	39.3	2.8	2.8	14	70.1	22.4	0	0.9	6.5
The vaccination can prevent many infectious diseases	7.5	0.9	4.7	19.6	67.3	4.7	0	0	17.8	77.6
The pets have an important role in transmission of infectious diseases	7.5	2.8	8.4	25.2	56.1	1.9	0.9	0.9	21.5	74.8
I will stay isolated and take precautions when I am sick	6.5	0	3.7	15.9	73.8	0.9	0	0.9	11.2	86.9
I will try to avoid unnecessary touching of my nose, eyes and ear with my hand as much as possible	6.5	0.9	4.7	31.8	56.1	0	1.9	0	16.8	81.3
I will keep healthy distance from the sick people with communicable disease	6.5	0.9	7.5	25.2	59.8	1.9	0	0.9	14	83.2
It is very important to dry the hands after hand washing	8.4	3.7	14	33.6	40.2	1.9	0.9	2.8	15.9	78.5
It is necessary to shave the head to get rid of lice completely	11.2	24.3	15	19.6	29.9	32.7	30.8	2.8	14	19.6
It is acceptable eat the raw camel products including milk and meat without proper cooking	18.7	25.2	22.4	12.1	21.5	60.7	25.2	3.7	4.7	5.6
It is necessary to consult a doctor when I have flue like symptoms which is worsening	5.6	1.9	4.7	14	73.8	0	0	0	9.3	90.7
The infectious disease can be transmitted through the different route ad everyone need to cautious about this.	2.8	0.9	7.5	21.5	67.3	0.9	0	0	15.9	83.2
All the vaccines have same duration and action. So taking a vaccine itself prevents me from getting any infectious disease.	10.3	25.2	29	11.2	24.3	43.9	19.6	12.1	10.3	14

Mean, S.D and t-value of pre & post-test Attitudeon the prevention of communicable disease among the Indian HAJJ pilgrims.

Table 4: Comparison of attitude scores before and after multimedia assisted teaching among Indian Hajj Pilgrims

Time	Mean Attitude	S.D	N	Mean Difference	DF	t	p-value
Pre-test	49.21	8.82	107	8.06	106	11.84	$p< 0.001$*
Post-test	57.27	5.14					

There is significant increase in the attitude in comparison between pre-test and post-test attitude among the Hajj pilgrims. The improvement in mean attitude8.06 is significant at 1% level of significance. Hence we can conclude that the intervention has very much influenced the attitude on the prevention of communicable disease among the Indian HAJJ pilgrims.

Section IV: Awareness practices of adult Indian pilgrims attending Hajj 2019.

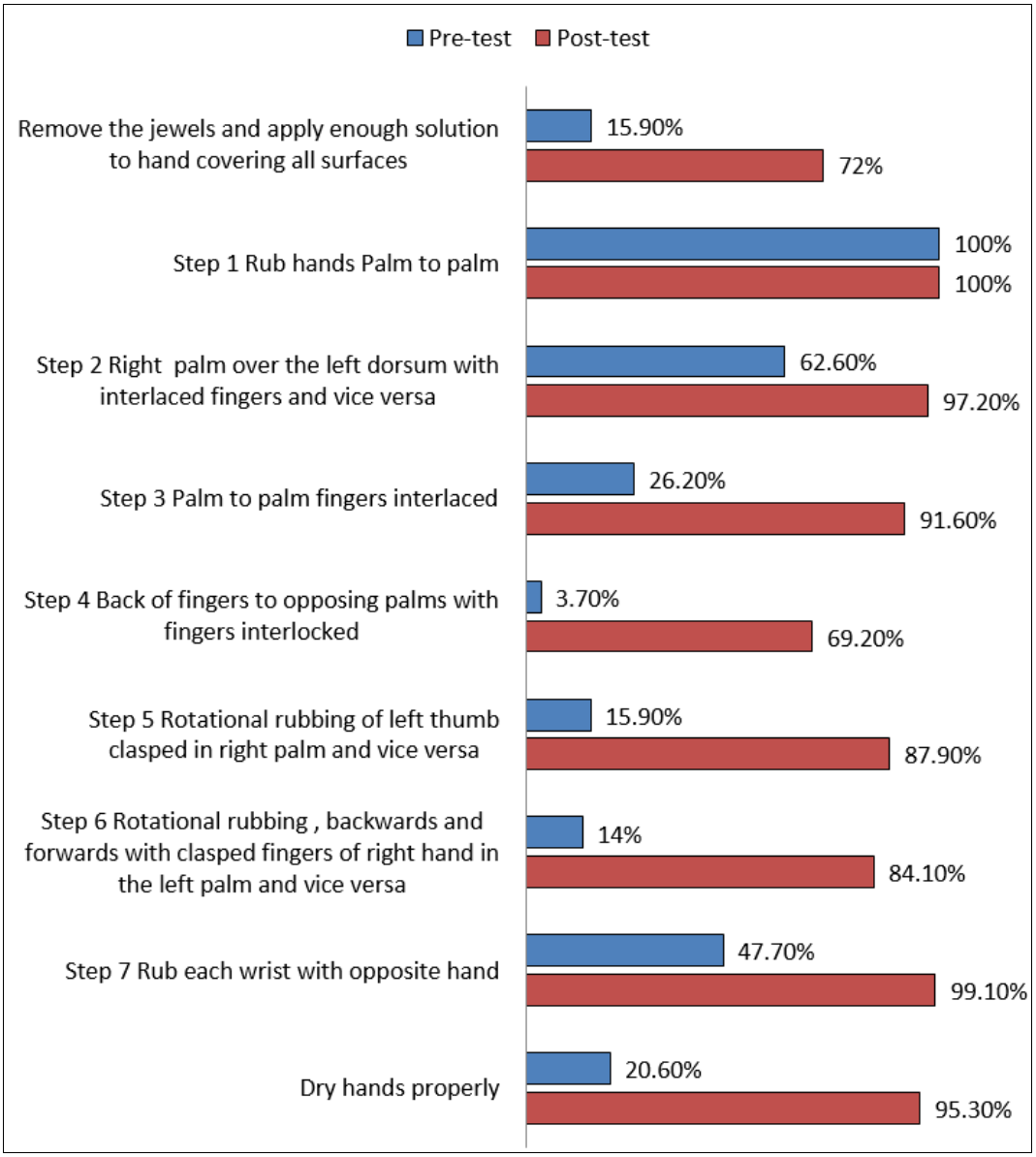

Fig 2: Percentage practice correctly

Mean, S.D and t-value of pre & post-test Practice on the prevention of communicable disease among the Indian HAJJ pilgrims.

Table 5: Comparison of Practice Scores Before and After Multimedia Assisted Teaching Among Indian Hajj Pilgrims

Time	Mean Practice score	S.D	N	Mean Difference	Df	t	p-value
Pre-test	3.07	1.84	107	4.89	106	28.37	$p< 0.001$*
Post-test	7.96	1.13					

There is significant improvement in the practice in comparison between pre-test and post-test practice scores among the Hajj pilgrims. The improvement in mean practice score4.89 is significant at 1% level of significance. Hence we can conclude that the intervention has very much influenced in the improvement of practice on the prevention of communicable disease among the Indian HAJJ pilgrims.

Section-V: Association of knowledge, attitude and practice with the selected socio demographic variables.

The above table shows that the age group of 20-50 years having high level of knowledge compare to the age of 51years and above (p=0.085). The higher secondary and above educational qualification have high level of knowledge (p=0.018). There is no significant association between the other socio demographic characteristics with the pre knowledge of Indian hajj pilgrims.

Table 6: Sociodemographic characteristics with Pre-knowledge of adult Indian pilgrims attending Hajj 2019

Variable	Low level of Knowledge (n=76)	High level of knowledge(n=31)	P-Value
Age			
20-50yrs	17 (58.6%)	12 (41.4%)	0.085
51 yrs and above	59 (75.6%)	19 (24.4%)	
Gender			
Female	48 (69.6%)	21 (30.4%)	0.653
Male	28 (73.7%)	10 (26.3%)	
Education			
Primary & Secondary	59 (77.6%)	17 (22.4%)	0.018
Higher & above	17 (54.8%)	14 (45.2%)	
Marital Status			
Married	52 (69.3%)	23 (30.7%)	0.554
Not Married	24 (75%)	8 (25%)	
Nature of occupation			
Health Sector	12 (75%)	4 (25%)	0.704
Non health sector	64 (70.3%)	27 (29.7%)	
Number of time visited Makkah			
1 time	17 (77.3%)	5 (22.7%)	0.469
>1 time	59 (69.4%)	26 (30.6%)	
Food habits			
Self-cooking	64 (71.1%)	26 (28.9%)	0.965
Out cooking	12 (70.6%)	5 (29.4%)	
Residence in India			
Village and Town area	56 (69.1%)	25 (30.9%)	0.446
City area	20 (76.9%)	6 (23.1%)	

Table 7: Sociodemographic characteristics with Pre-attitudes of adult Indian pilgrims attending Hajj 2019

Variable	Negative attitudes (n=35)	Positive attitudes (n=72)	P-Value
Age			
20-50yrs	9 (31%)	20 (69%)	.822
51yrs and above	26 (33.3%)	52 (66.7%)	
Gender			
Female	28 (40.6%)	41 (59.4%)	.019
Male	7 (18.4%)	31 (81.6%)	
Education			
Primary & Secondary	31 (40.8%)	45 (59.2%)	.005
Higher & above	4 (12.9%)	27 (87.1%)	
Marital status			
Married	20 (26.7%)	55 (73.3%)	.041
Not Married	15 (46.9%)	17 (53.1%)	
Nature of occupation			
Health Sector	5 (31.3%)	11 (68.8%)	.893
Non health sector	30 (33%)	61 (67%)	
Number of time visited Makkah			
1 time	6 (27.3%)	16 (72.7%)	.542
>1 time	29 (34.1%)	56 (65.9%)	
Food habits			
Self cooking	32 (35.6%)	58 (64.4%)	.149
Out cooking	3 (17.6%)	14 (82.4%)	
Residence in India			
Village and Town area	26 (32.1%)	55 (67.9%)	.812
City area	9 (34.6%)	17 (65.4%)	

The above table shows that the males having more positive attitude than females with (p= 0019). The higher secondary and above educational qualification have high more positive attitude than others (P= 0.005). The married people have more positive attitude than unmarried (P= 0.041). There is no significant association between the other socio demographic characteristics with the pre attitude of Indian hajj pilgrims. There is no significant association between the socio demographic characteristics with the pre-practices of Indian hajj pilgrims.

Table 7: Sociodemographic characteristics with Pre-practices of adult Indian pilgrims attending Hajj 2019

Practice	Correct Practices (n=101)	Incorrect practices(n=6)	P-Value
Age			
20-50yrs	27 (93.1%)	2 (6.9%)	0.724
51yrs and above	74 (94.9%)	4 (5.1%)	
Gender			
Female	64 (92.8%)	5 (7.2%)	0.321
Male	37 (97.4%)	1 (2.6%)	
Education			
Primary & Secondary	71 (93.4%)	5 (6.6%)	0.494
Higher & above	30 (96.8%)	1 (3.2%)	
Marital status			
Married	72 (96%)	3 (4%)	0.269
Not Married	29 (90.6%)	3 (9.4%)	
Nature of occupation			
Health Sector	12 (75%)	4 (25%)	0.000
Non health sector	89 (97.8%)	2 (2.2%)	
Number of time visited Makkah			
1 time	21 (95.5%)	1 (4.5%)	0.808
>1 time	80 (94.1%)	5 (5.9%)	
Food habits			
Self cooking	86 (95.6%)	4 (4.4%)	0.229
Out cooking	15 (88.2%)	2 (11.8%)	
Residence in India			
Village and Town area	78 (96.3%)	3 (3.7%)	0.131
City area	23 (88.5%)	3 (11.5%)	

Discussion and Conclusion

The present study conducted in holy Makkah during the period of hajj 2019. The samples selected from the hajj pilgrims from India. As it is a largest gathering there is more chance for the communicable diseases and can lead to high number of outpatient consultation and inpatient hospitalization. It can also lead to the international spreading of diseases [3-6].

Most of the communicable diseases are preventable. In this study there is assessment of knowledge, attitude and practice on prevention of communicable diseases and after that health education is giving accordingly. This article shows the impotence of present study and supports this study [3, 5, 8-11].

In present study it is observed that the age group from 20-50 shows higher level of knowledge compare to people age 51 years and above. This may be due to more educational opportunity for the young people than the old age.

The higher secondary and above educational qualification also have high level of knowledge on prevention of communicable diseases. Both of these result supporting each other and was expected. Another study was conducted in Bangladesh reflecting the same result that the younger people shows more knowledge [32].

If we are looking at the attitude level male having more positive attitude than the females. Higher secondary and above qualification also have more positive attitude than the others. The married people also showing more positive attitude than the un married people. Another study conducted in Bangladesh also showing the result that the more educated people shows more positive attitude in prevention of communicable diseases [32].

In this study there use one group pre test post test research design. This is a familiar design using in the nursing research [29, 30]. Another study to know the effectiveness of video assisted teaching for assessment of knowledge among the health care workers without any control group was conducted and the study was effective [22].

In this study multimedia assisted teaching program is used for the health education for more effectiveness. There is evidence that there is more importance for the Medias in health education programmes [12]. The multimedia have more importance than one media. [13, 14]. The multimedia have more advantages also [14].

In this study the multimedia assisted education improved the level of education and showing significant changes in the knowledge and attitude of prevention of communicable disease. Another study conducted by Baraz *et al*. (2015) noted that video training instruction improved individual knowledge and social behaviour among patients with diabetes [33]. Another experimental study with multimedia assisted instruction on pain assessment learning also found that it helped them obtain a more realistic learning experience; deepens understanding of the topics to be learned, facilitate faster learning; increases memory retention and also enhance learners' attitudes toward learning [14].

This study conducted among hajj pilgrims and giving needed health education for the prevention of communicable diseases to them. Another study was conducted in India find out the presence of the respiratory virus on the pilgrims who came back to India after Hajj and Umrah explain the importance for the health education that already reflected in the present study [15].

In present study the pre-test score shows need of health education to the pilgrims. It may cause the communicable disease. Another study conducted in Iran-Iraq land terminals on 2017-18 shows this lack of proper health education and low perception of the pilgrims found as one of the major causative factor for the communicable diseases [16]. In the present study the pre-test knowledge level was low mean knowledge was 5.38 and after that the education given and the post test score is 8.09 and $p<0.01$ is showing significant changes in the knowledge.

In the present study their used hand hygiene and its steps as practise session for the prevention of communicable

diseases. The pre-test mean score was low (3.07) and showing importance of the education and need of improvement on this area. Another study conducted in Bangladesh to assess the knowledge and attitude of hand hygiene maintenance among the healthcare workers and the patients of hospitals a study also reflected same recommendations [18].

In the present study a teaching program is used and shows significant improvement in knowledge after the teaching session. Another study reflecting the same result which was conducted in Mumbai and their result shows that planned teaching program have significant improvement in knowledge [20].

In the present study educational video is used as intervention, then assess the changes in the knowledge level and it was found as an effective intervention. Another pre-experimental study was conducted in Odisha, India to find out the effectiveness of video assisted teaching module on knowledge, and shows highly significant) difference between pre-test and post test knowledge [22].

In present study there used the conventional method along with the multimedia and given important for both for more effectiveness. Another study conducted in Saudi Arabia among students shows animated video shows more statistically significant and the traditional method is more dependent on the educator and his knowledge and enthusiasms [23]. Another study conducted among medical undergraduate students in the topic of psychiatry also showing that more students preferred the video assisted teaching even though both methods have significant results [24].

As there used multimedia there is reduction in lecture time. Another experimental study was conducted with the aim of designing a multimedia application for the drug calculation and to compare its effectiveness with the lecture method among nursing students was also showing multimedia as effective component as it can reduce the lecture time and cost of repeating the topics [25]. There are multiple studies supporting the use of multimedia as a teaching tool due to its more effectiveness [26] and highly recommend multimedia assisted teaching programme [14]. Another study conducted in Uganda also recommended that the multimedia should be used with the combination of traditional teaching for more effectiveness of teaching [27].

The above mentioned studies are nearly similar to the present study which suggests a positive impact of multimedia assisted teaching program in awareness of knowledge, attitude and practice on prevention of communicable disease among Hajj pilgrims. from the present study it was concluded that the multimedia assisted teaching program can be effectively used for the prevention of communicable diseases by improving knowledge, attitude and practice. The study results can be generalized to prevention of communicable diseases.

Conclusion

Based on the findings of the study the following conclusions were drawn. This study revealed that the knowledge, attitude and practice on awareness of prevention of communicable diseases among hajj pilgrims were low in the pre- test. There is need of proper health education among hajj pilgrims to prevent the communicable diseases.

The multimedia assisted teaching program shows statistically significant changes in knowledge, attitude and practice on awareness of prevention of communicable diseases among hajj pilgrims.

There were no such similar studies found which deal all the aspect of knowledge, attitude and practice for the prevention of the communicable disease among the Hajj pilgrims.

The multimedia assisted teaching program can be effectively used for the prevention of communicable diseases by improving knowledge, attitude and practice. The study results can be generalized to prevention of communicable diseases.

Further studies should be conducted with more samples size among all the nationalities and multimedia assisted teaching program should be recommended among the hajj pilgrims to prevent the communicable diseases. The health care workers should take more initiation for such programmes.

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References

1. Communicable disease journals, articles & PPTs list. Available from: http://www.imedpub.com/scholarly/communicable-disease-journals-articles-ppts-list.php
2. Communicable diseases. Available from: https://www.afro.who.int/health-topics/communicable-diseases
3. Gautret P, Steffen R. Communicable diseases as health risks at mass gatherings other than Hajj: what is the evidence. Int. J Infect Dis. 2016 Jun;47:46-52. Available from: https://www.sciencedirect.com/science/article/pii/S1201971216309948
4. Benkouiten S, Gautret P. Circulation of respiratory pathogens at mass gatherings, with special focus on the Hajj pilgrimage; c2016 Dec. p. 81-93. Available from: https://www.researchgate.net/publication/305908396_Circulation_of_respiratory_pathogens_at_mass_gatherings_with_special_focus_on_the_Hajj_pilgrimage
5. Panahi J, Panahi S, *et al*. Indo American Journal of Pharmaceutical Sciences (2017). Tehran, Iran; Indo Am J P Sci., 2017, 4(11). Available from: http://eprints.rhc.ac.ir/1730/1/cc3f97f9b1d6c0f1e0ee428b0a185b57e9ea.pdf
6. Rapid Risk Assessment: Mass gathering in Saudi Arabia Hajj, 10 Aug 2017. Available from: https://ecdc.europa.eu/sites/portal/files/documents/RRA-Mass-gathering-Saudi-Arabia-Hajj-10-Aug-2017.pdf
7. Brown NJ. Communicable diseases and the workplace. Ithaca, NY: Cornell University, Workplace Health and Safety Program; c2019. Available from: https://digitalcommons.ilr.cornell.edu/manuals/18/

8. International Journal of Yogic, Human Movement and Sports Sciences 2018;3(1):87-89. Available from: http://www.theyogicjournal.com/pdf/2018/vol3issue1/PartB/3-1-6-383.pdf
9. Prevention is better than cure. Available from: https://www.nib.com.au/the-checkup/healthy-living/prevention-is-better-than-cure
10. Prevention is better than cure. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/753688/Prevention_is_better_than_cure_5-11.pdf
11. Preventing communicable and noncommunicable diseases. Available from: https://www.peacecorps.gov/educators/resources/preventing-communicable-and-noncommunicable-diseases/
12. Jayakumar M, Jayadevan S, Rizwan B, *et al*. Evolution of technology in teaching: Blackboard and beyond in Medical Education. Nepal J Epidemiol. 2016 Oct;6(3):588-592. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5082488/
13. Multimed. Available from: https://en.wikipedia.org/wiki/Multimed
14. Chu TL, Wang J, Lin YE, *et al*. Multimedia-assisted instruction on pain assessment learning of new nurses: A quasi-experimental study. BMC Med Educ. 2019 Mar 4;19(1):68. Available from: https://www.ncbi.nlm.nih.gov/pubmed/30832632
15. Koul PA, Krishnan A, *et al*. Respiratory viruses in returning Hajj & Umrah pilgrims with acute respiratory illness in 2014-2015. Indian J Med. Res. 2018 Sep;148(3):329-333. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=30425224
16. Karampourian A, Ghomian Z, Khorasani-Zavareh D. Exploring challenges of health system preparedness for communicable diseases in Arbaeen mass gathering: A qualitative study; c2018 Sep 11. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6234742.1/
17. Infection control in Islam. Available from: https://www.islamreligion.com/articles/2534/infection-control-in-islam/
18. Amit AR, Aziz MA, Sajon, *et al*. Knowledge and attitude of hand hygiene maintenance among the health care workers and patients in hospitals of Jessore district, Bangladesh. Pharmocologyonline. 2018;2:1-8. Available from: https://www.researchgate.net/profile/Md_Aziz11/publication/327646162_KNOWLEDGE_AND_ATTITUDE_OF_HAND_HYGIENE_MAINTENANCE_AMONG_THE_HEALTH_CARE_WORKERS_AND_PATIENTS_IN_HOSPITALS_OF_JESSORE_DISTRICT_BANGLADESH/links/5b9b82f192851ca9ed06b9e8/KNOWLEDGE-AND-ATTITUDE-OF-HAND-HYGIENE-MAINTENANCE-AMONG-THE-HEALTH-CARE-WORKERS-AND-PATIENTS-IN-HOSPITALS-OF-JESSORE-DISTRICT-BANGLADESH.pdf
19. Ibrahim AA, Elshafie SS. Knowledge, awareness, and attitude regarding infection prevention and control among medical students: A call for educational intervention. Adv. Med. Educ. Pract. 2016;7:505-510. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5001551/
20. Mahajan N, Jadhav V. Innovational: Journal of Nursing and Healthcare. 2019;5(2):10-12. Available from: http://www.innovationalpublishers.com/Content/uploads/PDF/1402349225_01_IJNH.pdf
21. Mamta, Sarin J, *et al*. A study to evaluate the effectiveness of structured teaching program in terms of practice regarding hand washing techniques among school going children in selected school of Barara, Ambala. The Pharma Innovation Journal. 2018;7(5):168-170. Available from: http://www.thepharmajournal.com/archives/2018/vol7issue5/PartC/7-5-3-182.pdf
22. Pradhan M, Dash B. Effect of Video-Assisted Teaching Module (VATM) on Knowledge of ASHAs regarding RNTCP in Kuchinda Block of Sambalpur (Odisha). Nurs J India. 2015 May;106(3):107-110. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=video+assisted+teaching+communicable+disease
23. Ibrahim A, Awad S, Shahzeb, *et al*. The effect of conventional oral health education versus animation on the perception of Saudi males in primary school children. J Int. Oral Health. 2018;10(3):121-126. Available from: http://www.jioh.org/article.asp?issn=0976-7428;year=2018;volume=10;issue=3;spage=121;epage=126;aulast=Alhayek
24. Nongmeikapam M, Ravishankar S, *et al*. Video-assisted teaching versus traditional didactic lecture in undergraduate psychiatry teaching. Indian J Psychiatry. 2019;61(4):376-379. Available from: https://www.ncbi.nlm.nih.gov/pubmed/31391641
25. Sousan F, Virani F, *et al*. Effect of Education of Principles of Drug Prescription and Calculation through Lecture and Designed Multimedia Software on Nursing Students' Learning Outcomes. Electron Physician. 2016 Jul;8(7):2691-2699. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5014511/
26. Arora M, Muzammil, *et al*. Impact of multimedia as a teaching tool on the performance of the 1st year MBBS students for academic achievements in India. Future Med. Educ. J. 9(2):46-51. Available from: http://eprints.mums.ac.ir/11653/
27. Inuwa A, Maigari B, *et al*. Comparing Effects of Traditional and Multimedia Teaching of Vital Signs Assessment on Knowledge Acquisition of Nursing Students at Islamic University in Uganda; c2017. Islamic University of Uganda. Available from: https://ir.iuiu.ac.ug/handle/20.500.12309/485
28. Health guidelines from Quran and Sunnah. Available from.

https://www.soundvision.com/article/health-guidelines-from-quran-and-sunnah
29. Knapp TR. Why Is the One-Group Pretest-Posttest Design Still Used? J Nurs. Scholarsh. 2016 Aug 24;48(5):521-523. Available from: https://journals.sagepub.com/doi/full/10.1177/1054773816666280
30. Jiang Y, Jiao N, Nguyen HD, *et al*. Effect of a mHealth programme on coronary heart disease prevention among working population in Singapore: A single group pretest-post-test design. J Adv. Nurs. 2019 Feb 20;75(4):839-848. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/jan.13980
31. Kigozi NG, Heunis JC, Engelbrecht MC, Janse van Rensburg AP, van Rensburg HCJ. Tuberculosis knowledge, attitudes and practices of patients at primary health care facilities in a South African metropolitan: research towards improved health education. BMC Public Health. 2017 Oct 10;17:795. Available from: https://link.springer.com/article/10.1186/s12889-017-4825-3
32. Ferdous MZ, Islam MS, Sikder MT, Mosaddek ASM, Zegarra-Valdivia JA, Gozal D, *et al*. Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. PLoS One, 2020 Oct 9, 15(10). Available from: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0239254
33. Baraz S, Shahbazian HB, Miladinia M, Zarea K. Video training programs and the quality of life of patients with type II diabetes. Jundishapur J Chronic Dis Care; c2015. 10.17795/jjcdc-29611.

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