

Effectiveness of Video Assisted Teaching on Knowledge among ASHA Workers Regarding HPV Infection in a Selected Rural Community of Mangaluru, India

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ABSTRACT

Introduction: Human Papilloma Virus (HPV) is a major aetiological agent for cervical cancer, the second most common cancer in the world. The main role of Accredited Social Health Activist (ASHA) includes, motivating women to give birth in hospitals, bringing children to immunisation clinics, encouraging family planning, treating minor ailments, keeping demographic records, and improving village sanitation. In the community, ASHA create awareness on health and its social determinants and mobilise the community towards local health planning and increased utilisation and accountability of the existing health services.

Aim: To evaluate the effectiveness of video-assisted teaching on knowledge regarding HPV infection among ASHA workers.

Materials and Methods: A pre-test post-test design was adapted for this study. Fifty-eight ASHA workers were selected using a convenience sampling method. A pre-test was conducted to assess the existing knowledge on HPV infection with the help of structured knowledge questionnaire, followed by Video-Assisted Teaching on HPV infection and seven days later a post-test was done. Interpretation of score of knowledge

questionnaire between 1-5 was considered as poor knowledge, 6-10 an average knowledge, 11-15 good knowledge and 16-20 excellent knowledge. Data were analysed using descriptive statistics and inferential statistics. The p-value less than 0.05 were considered to be significant by Z-test.

Results: The knowledge of HPV infection was improved noticeably after the video-assisted teaching program as the pre-test mean knowledge score was 7.19 ± 2.55 , and the post-test score was 13.10 ± 1.95 at $p < 0.05$. Statistically significant effectiveness of the video-assisted teaching program was established using Willcoxon signed-rank test (Z-value = -6.56 with $p < 0.05$); however, no significant association was found between the pre-test level knowledge and demographic variables.

Conclusion: Knowledge of HPV infection among peripheral community workers is vital as it can influence the broader population and avoid this preventable disease condition at the grass root level. The current study revealed that a video-assisted teaching program on HPV infection effectively improved the knowledge level of ASHA workers.

Keywords: Accredited social health activist, Awareness, Human papilloma virus, Knowledge scores, Perception, Structured knowledge questionnaire

INTRODUCTION

Sexually Transmitted Infections (STIs) caused by viruses, including HSV-2, HIV-1, HPV, are among the most prevalent infectious diseases worldwide and a major cause of morbidity and mortality [1]. Cervical cancer remains a leading cause of cancer deaths caused by high prevalence of HPV infection and also due to lack of Pap smear (Papanicolaou test) screening of susceptible women. The constant campaign on cervical cancer has reduced the impact on the morbidity and mortality [2]. Among the sexually active adults, infected with HPV the highest rate of infection is for sexually active women of less than 25 years [3]. HPV causes cervical cancer which is the second most common cancer in the world [4]. Presently, it is estimated that, nearly 132,000 newly diagnosed cases and annually 74,000 deaths in India; contributing approximately one-third of the deaths worldwide by cervical cancer which rise to an aggregate lifetime risk of 2.5% and collective death risk of 1.4% which are faced by the Indian women. It is calculated that in general population at about 6.6% of women harbour HPV infection at any given time [5]. It is also estimated that about 20 million women are infected with HPV in the United States and 6.2 million are newly diagnosed annually [6].

ASHA workers are the activists and facilitators that work for the healthcare of the community; they act as mediators between the public health and community. Under the National Rural

Health Mission; an ASHA is a community health worker sport at grassroots' level. In 2016 ASHA workers were designated as the key instigators for screening and to detect cervical cancer among women [7]. Knowledge on HPV infection can be disseminated through ASHA workers in the rural areas that will limit the occurrence of HPV infection in society. Hence, the investigators felt that there is a need to conduct the study and give more awareness on HPV infection to ASHA workers. A training programme conducted for 250 ASHA workers aimed at improving their knowledge on cervical cancer screening; revealed that there was an overall improvement of knowledge (25%) of ASHA workers after the training programme [8].

The key role of Healthcare Providers (HCPs) is to constitute a knowledgeable class regarding health related information in any community settings. This can minimise the gap between knowledge and perception of various disease conditions. HCPs play a vital role in creating awareness and encouraging women for cancer cervix screening. Therefore, it's necessary to assess the level of knowledge regarding HPV infection and cervical cancer screening amidst HCPs. Participation in the programme will help them to refresh their knowledge and disseminate the gained knowledge to the general public [9]. Healthcare providers generally support client's education regarding HPV and cervical cancer prevention. They deal with illiterate or less educated population residing in resource-poor

areas. Their role is not only to provide healthcare but also to educate them and refer or escort them to higher centre when needed [10]. Thus, the study aimed at effective teaching on knowledge regarding HPV infection among ASHA workers.

MATERIALS AND METHODS

Quantitative research approach was adopted in the study conducted from 27th December 2019 to 3rd January 2020. Convenient sampling technique was used to select 58 ASHA workers from Natekal and Kotekar Primary Health Care (PHC). Ethical approval with letter number from the NITTE University, to which the PHC is affiliated was taken (NUINS/CON/NU/IEC/2019-2020-11470). One group pre-test post-test design was adopted to accomplish the objectives. The data collection instruments were demographic proforma and a structured knowledge questionnaire on HPV infection. It consisted of 20 multiple choice questions related to HPV infection and the participants were asked to choose the most appropriate answers [Appendix-1]. Each correct response was given 1 point and wrong answer was given 0. The maximum points expected were 20 and the minimum was 0. The total Knowledge score were divided into four categories based on the previous literatures in the field as; poor knowledge (1-5 score), average knowledge (6-10 score), good knowledge (11-15 scores), and excellent knowledge (16-20 score) [11].

Questions were formulated in English by the principal investigator and translated to Kannada, which is the local language. The instrument was also submitted to 7 experts (4 were PhD holders and 3 were PhD scholars from the nursing fraternity) not associated with this study. There was 100% agreement for the selection of the content. The value of the reliability of the tool was obtained through Cronbach's alpha using Statistical Package for the Social Sciences (SPSS) software version 23 and the tool was found to be reliable with the score 0.87. A pilot study was conducted in Natekal PHC from 27th November to 4th December 2019. The research design and tools were found feasible and practicable to conduct the final study. PHC is affiliated to Nitte University and utilising the same to sensitise the students to community environment and to carry out the outreach programmes. However, intimation was given prior to the conduction of the study.

Inclusion criteria: ASHA workers visiting Natekal and Kotekar PHC and available during the period of data collection. Consent was obtained from the participants.

Exclusion criteria: ASHA workers who were not willing to participate in the study.

A pre-test was conducted by administering the structured knowledge questionnaire to the participants. They filled it and gave back within half an hour; followed by a video-assisted session for one hour. Post-test assessment was done after one week of intervention to know the effectiveness of the video-assisted teaching on the level of knowledge regarding HPV infection among ASHA workers.

STATISTICAL ANALYSIS

Data were analysed using descriptive statistics and inferential statistics. The normality test using Shapiro-wilk showed that the data was not following the normality, hence the effectiveness of video-assisted teaching on HPV infection among ASHA workers were computed using Wilcoxon signed rank test (Z-Test). The p-value less than 0.05 were considered to be significant.

RESULTS

Majority of the participants 28 (48.28%) were in the age group of 36-45 years. Less than half of the subjects 7(12.0%) had education up to 7-8th standard and only 5 (8.6%) of them had 7 to 8 years of experience as ASHA workers [Table/Fig-1].

The data depicted that there was a marked improvement in the knowledge level with mean difference of 5.91 ($p < 0.05$ and 95% CI of

Demographic variables	Frequency	Percentage
Age (Years)		
25-35	16	27.58
36-45	28	48.28
46-55	14	24.14
Educational status		
7 th -8 th standard	7	12.07
9 th -10 th standard	37	63.79
11 th -12 th standard	14	24.14
Experience of ASHA workers (Years)		
2-3	12	20.7
4-5	25	43.1
7-8	5	8.6
9-10	16	27.6

[Table/Fig-1]: Depiction of samples according to the sample characteristics (n=58).

difference = 5.17-6.65) between pre mean (7.19±2.54) and post mean score (13.10±1.95). The computed z-value was -6.56 with $p < 0.05$ showed the significant effectiveness of the video-assisted teaching in improving the level of knowledge among ASHA workers [Table/Fig-2]. No significant association was found between the pre-test level knowledge and the selected demographic variables [Table/Fig-3].

Level of knowledge	Pre-test knowledge	Post-test knowledge	Mean difference	Z-value	p-value
	Mean±SD	Mean±SD			
Poor	3.18±1.40	0	(Not able to compute)	-6.56	<0.05
Average	7.68±1.27	9.80±0.45	2.12		
Good	11.17±0.41	12.96±1.35	1.79		
Excellent	0	16.43±0.54	(Not able to compute)		
Overall knowledge	7.19±2.54	13.10±1.95	5.91		

[Table/Fig-2]: Effectiveness of video-assisted teaching on the level of knowledge regarding HPV infection among ASHA workers (n=58).

SD: Standard deviation; p-value less than 0.05 considered significant.

Demographic characteristics	Pre-Test Level of Knowledge			Likelihood ratio	p-value
	Poor	Average	Good		
Age (Years)					
25-35	2	12	2	0.832	0.934
36-45	6	19	3		
46-55	3	10	1		
Education					
7 th -8 th	3	2	2	7.484	0.112
9 th -10 th	7	27	3		
11 th -12 th	1	12	1		
Experience (Years)					
2-3	0	10	2	10.784	0.095
4-5	6	17	2		
7-8	0	5	0		
9-10	5	9	2		

[Table/Fig-3]: Association between levels of knowledge with the demographic variable using likelihood ratio (n=58).

p-value less than 0.05 considered significant.

DISCUSSION

The aim of the study was to evaluate the effectiveness of video-assisted teaching on knowledge regarding HPV infection among ASHA workers. In the present study, among the 58 participants; 11 (19%) of ASHA workers had poor knowledge before the intervention. The mean knowledge score before the intervention was

7.19±2.54 which was enhanced to 13.10±1.95 after the intervention. The percentage distribution was based on the age of ASHA workers. It was observed that among 58 participants; 28 (48.3%) of them were in the age group of 36-45 years. A significant difference was observed in the study by Sabeena S et al., majority of participants (50.7%) were in the age group of 25-44 years and the mean age of study participants was 38.9 years (SD=12.6) [12]. In the present study, 63.8% of ASHA workers had an educational level between 9th to 10th standard. The study by Khanna D et al., showed that 60.3% of ASHA workers were educated up to 10th standard, which supported the findings of this study. However, no significant difference in knowledge was observed when compared with education level [7].

In this study, 43.1% of the participants had 4-5 years of experience. On the contrary to the findings reported in a study by Varghese R et al., on impact on health education program among ASHA workers; results revealed that about 35% of the sample had five years of experience. Experience is another way of learning with crucial knowledge and personal attributes [13]. The data depicted that there was a marked improvement in the knowledge level with mean difference of 5.91 ($p < 0.05$ and 95% CI of difference=5.17-6.65) between pre mean (7.19±2.54) and post mean score (13.10±1.95). The computed z-value was -6.56 with $p < 0.05$ showed the significant effectiveness of the video-assisted teaching in improving the level of knowledge among ASHA workers. The findings of the present study were consistent with the study by Santhi MD et al., which showed a significant difference in the post-test knowledge scores; indicates that the video-assisted teaching was highly effective in changing the subjects' knowledge [14]. In the present study, there was statistically no significant association between pre-test knowledge score and demographic variables like age, education and experience. On the other hand, results of Lindau ST et al., showed that literacy was the only factor independently associated with knowledge related to cervical cancer screening [15].

Limitation(s)

The study was limited to the selected rural PHC, Mangaluru and evaluated only the knowledge aspect. The study could be conducted to evaluate the attitude and practice too.

CONCLUSION(S)

The present researchers found that video-assisted teaching can be one of the best options for creating awareness among the general public. Proper information about HPV, cervical cancer and preventive options will improve the participation of rural women in screening programmes.

Awareness about the virus and its health effects will enable the women in modifying their health compromising behaviours.

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English version of the questionnaire (Appendix- 1)

SECTION A: Demographic Variables

INSTRUCTIONS:

Please provide the information required. This information will be kept confidential.

1. Age in years_____

2. Education status_____

3. Source of information regarding HPV infection

a) Yes

b) No

If yes, mention the sources.

SECTION-B: STRUCTURED KNOWLEDGE QUESTIONNAIRE

In this section there are questions related to HPV infection. Tick (✓) the appropriate answer that you feel is the most relevant one.

1. Word HPV stands for
 - a) Hepatitis P virus
 - b) Herpes P virus
 - c) Human Papilloma virus
 - d) Human Para virus
2. HPV infection is a
 - a) Respiratory infection
 - b) Urinary infection
 - c) Viral infection
 - d) Bacterial infection
3. HPV is the major causative agent for
 - a) Polio
 - b) AIDS
 - c) Gonorrhoea
 - d) Cervical cancer
4. HPV infection can occur in
 - a) Animals
 - b) Males
 - c) Females
 - d) Both males and females
5. Causative agents of HPV infection
 - a) Cyclo virus
 - b) Human Papilloma virus
 - c) Human herpes virus
 - d) Hepatitis B virus
6. HPV mainly affect
 - a) Brain and skin
 - b) Kidney and heart
 - c) Skin and moist membrane
 - d) Brain and kidney
7. The mode of transmission of HPV infection
 - a) Holding hands
 - b) Hug
 - c) Sexual contacts
 - d) Kissing
8. The types HPV can be
 - a) 40
 - b) 60
 - c) 80
 - d) >100
9. Each HPV type is represented by a
 - a) Signs
 - b) Alphabet
 - c) Number
 - d) Symbol
10. The HPV classified into
 - a) Big and small size
 - b) High risk and low risk
 - c) High density and low density
 - d) High class and medium class
11. Low risk type of HPV is causing
 - a) Fever
 - b) Warts
 - c) Bleeding
 - d) Cancer
12. Risk factors of HPV infection
 - a) Smoking
 - b) Open wound
 - c) Multiple sexual partner
 - d) Excess use of alcohol
13. The risk for getting HPV infection is higher among
 - a) Infant
 - b) Toddlers
 - c) Adolescents
 - d) Adults
14. The word Papilloma mean
 - a) Fever
 - b) Warts
 - c) Swelling
 - d) Cancer
15. The diagnosis of a HPV infection can be confirmed by
 - a) Widal test
 - b) Vinegar solution test
 - c) Montoux test
 - d) Western blot test
16. HPV infection can be prevented by
 - a) Vaccinating at the age of 5 years
 - b) Avoid smoking
 - c) Not having many sexual partners
 - d) Avoid over weight
17. The number of vaccines available to prevent HPV infection are
 - a) 1
 - b) 2
 - c) 3
 - d) 4
18. The vaccines developed against HPV infection.
 - a) MMR and DPT
 - b) Vaccines and DPT
 - c) Cervarix and Gardasil
 - d) BCG and OPV
19. The HPV vaccines doses to be administer in
 - a) Single dose
 - b) 2 dose
 - c) 3 dose
 - d) 4 dose
20. HPV vaccine doses to be administered in
 - a) Less than 9
 - b) 9-26 years
 - c) 27-44 years
 - d) Greater than 44 years