



A Feasibility Study of an Online Educational Program on Human Papillomavirus Vaccination for Parents of Adolescents During the COVID Pandemic

Ramesh Byali^a, Jyothi^b

^acse dept PDIT Hospet India ramesh.byali@gmail.com

^bcse dept PDIT Hospet India

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ABSTRACT

Background: Human papillomavirus (HPV) vaccination for adolescents helps within the prevention of preventable cancers caused thanks to HPV infection. However, many adolescents don't seem to be vaccinated because of a scarcity of information among parents.

Objective: This study aimed to check the extent of information and attitude of oldsters on HPV vaccination before and after the net educational intervention.

Methods: A cross-sectional pilot study was conducted among a sample of 45 parents of adolescents studying at school 7th–9th. The oldsters were selected through two-stage simple sampling and assigned randomly to a few groups with three different methods of education – an internet lecture with a PowerPoint presentation, a web short film with discussion, and a self-learning online booklet. Pre- and post-intervention knowledge was assessed with a structured questionnaire and attitude with a modified Likert scale administered online. Wilcoxon and Kruskal–Wallis tests were accustomed to find the statistical significance of the study.

Results: Only 36% of samples stated that they need not heard about HPV vaccination, while others had heard from healthcare workers, members of the family, friends, or television, but their knowledge was inadequate. All told the three groups, there have been significant improvements within the level of data, but there was no significant difference in attitude. The post-test knowledge countless parents educated with the short film were significantly over the opposite two interventions.

Conclusion: Online educational programs were found to be effective in improving the knowledge of fogeys on HPV vaccination and of the three methods; the short film was more practical than the opposite two methods

Keywords: Teenagers, the human papilloma virus, a pamphlet, a lecture, online instruction, and a short movie.

Introduction

Cervical cancer is that the second commonest explanation for cancer death in women, with an estimated 510,000 newly diagnosed cervical cancer cases and 288,000 deaths.[1] Cervical cancer accounted for an estimated 96,922 new cases and 60,078 deaths in India in 2018, which is near one fifth of the world burden of this cancer.[2] Virtually, all cervical cancers are causally related to infections by human papillomavirus (HPV).[3] HPV Types 16 and 18 account for 80%–85% of cervical cancers in the country.[4] Approximately 80%–90% of anal cancers are caused by either HPV16 or HPV18.[5] A minimum of 40% of vulvar cancers are HPV related.[6] It's found that some types of penile,[7] vaginal,[8] urethral, and head-and-neck cancers[9] contain carcinogenic HPV types. Almost 90% of anogenital

warts are caused by HPV Types 6 or 11.[10] HPV 6 and 11 have been reported to cause papilloma of the larynx, esophagus, and bronchi which can transform into carcinomas later.[11] At any given time, about 6.6% of ladies within the general population harbor cervical HPV infection.[12] However,

there are vaccines that may prevent infection with HPV which is that the most typical explanation for genital and oropharyngeal cancers. At present, two forms of HPV vaccines are available. Gardasil, a quadrivalent vaccine, protects against HPV Types 6, 11, 16, and 18 and Cervix, a bivalent vaccine, protects against Types 16 and 18. The aim of vaccination is to reduce the incidence of genital cancers, warts and reduction in the papillomatosis of the oropharynx, esophagus, and larynx.[13] The Center for Disease Control recommends HPV vaccine for girls and boys aged 9–13 years and two doses protect them

against HPV infections that cause genital warts and cervical cancer.[14] Three doses remain recommended for persons who initiate the vaccination series at ages 15 through 26 years and for immune-compromised persons.[14] Two vaccines like Gardasil and Cervix are available in India. Although the WHO recommendation dates back to 2006, it is still found that almost all of the adolescents aren't vaccinated at the correct time.[15] this might flow from to lack of awareness among the general public. The American Cancer Society guideline for HPV vaccine use to stop cervical cancer and its precursors states that there's a critical need for education of providers, policy-makers, parents, adolescents, and young women about cervical cancer prevention and vaccination.[16] The report of a qualitative study assessing the views of policy-makers and other stakeholders on perspectives on HPV vaccine introduction in province, India, states that because of high enrollment and low dropout rates in Tamil Nādu, most 10–14 year old girls may be reached through schools and by educating them on HPV vaccination. Hence, the school may be portal to succeed in the oldsters of adolescents. The implementation of a good program to extend the acceptance rate of HPV vaccination requires educational strategies geared toward involving parents, supported by health professionals.[17] Hence, it had been decided to undertake a study to identify the simplest educational methodology to achieve the foyes of adolescents to enhance their knowledge and attitude toward HPV vaccination and thereby encourage the uptake of vaccines. As the COVID pandemic has struck the country, the colleges have resolved to coach children through online mode. The possibility of teaching the foyes through the web methodology, comparing the effectiveness of lecture with PowerPoint presentation, a brief film with discussion, and sharing a self-learning booklet were explored through this study.

Methods:

This study used an experimental pre- and posttest design and a quantitative research methodology. The study was carried out between March and May 2020. Parents of teenagers (either the mother or the father) who were enrolled in the 7th, 8th, and 9th grades made up the study population. Parents who were familiar with using a smart phone and understood either English or Tamil were included in the study.

Study Design:

The study was conducted at Oddanchatram, a taluk under Dindigul District in Tamil Nadu. the oldsters were reached through three matriculation schools. The pilot study was conducted among a sample of 45 parents and an equal size of 15 in each group. The study adopted a two-stage sampling technique for randomization and recruitment of the participants. the first sampling units were the 17 schools in Oddanchatram taluk. By lottery method, each school was selected assigned to a particular interventional group. School 1: Group 1 – lecture with PowerPoint presentation method; School 2: Group 2 – short film with discussion method; and college 3: Group 3 – online self-learning booklet method. the main points of the oldsters were obtained from the teachers and therefore the parents were contacted over the phone to realize consent. Among the oldsters who fulfilled the inclusion criteria and were willing to participate within the study, a complete of 45 parents (secondary sampling units), 15 in each group, were selected by lottery method. As this can be a feasibility study, 10% of the samples from the particular samples calculated using power analysis to be included within the larger study were selected. If the chosen participant failed to come about for the web teaching session, replacement of the sample was done following the identical sampling method.

Tools and methods for gathering data:

The pre- and posttest data were collected with the employment of a validated structured tool. The study tool had three sections. Section A consisted of the data regarding the sociodemographic details of the participants like gender, parent who is participating within the study, family type, religion, area of residence, education status of father and mother, occupation of father and mother, monthly income of the family, exposure to information about HPV vaccination, history of cancer within the family, and vaccination status of the kid. Information on the knowledge of foyes on HPV infection and vaccination was collected in Section B employing a structured questionnaire and also the attitude of the oldsters on HPV vaccination was observed employing a 5-point modified Likert scale in Section C. The study tool was shared online through Google Forms with the topics. The intervention package consisted of the data on HPV infection, its causes and mode of transmission, signs and symptoms, the diseases that are caused thanks to infection, the vaccine available for prevention of HPV infection, and also the advantages and details of vaccination and its side effects. After the pretest, the participants in each group were taught the identical information using different methodologies of teaching. For Group 1, the participants got a lecture with PowerPoint presentation through the Zoom platform. For Group 2, through the Zoom platform, a prerecorded short film was played which was followed by discussion. For Group 3, after the pretest, a self-learning booklet was shared online. After an interval of 1 week of administering the interventional package, posttest was done by sending the study tool through Google Forms to the themes.

Statistic evaluation:

The information was gathered, coded, verified, entered into MS Excel, and then analyzed with the aid of the statistical program SPSS (version 21.0) IBM SPSS Statistics for Windows. IBM Corp., Armonk, New York The sociodemographic factors, knowledge level, and attitude were all expressed as percentages and proportions. The Wilcoxon nonparametric test for paired outcomes was used to compare the knowledge and attitude pre- and post-test results within each individual group. The Kruskal-Wallis's test, a nonparametric analysis of variance, was used to compare the post-test results between the three groups. The threshold of significance ($\alpha = 5\%$) $P = 0.05$ was deemed statistically significant based on the nonnormality of the data. groups of parents who received instructional modalities was discovered.

Results:

Among the chosen participants, 82% of the oldsters were the mother of the adolescent, 58% lived in nuclear families, 64% were Hindus by religion, and 47% lived within the geographical area. Most of the oldsters were either graduates or postgraduates. over 60% of the fathers were non health care professionals, whereas 42% of the mothers were unemployed. Of all the samples, 36% said that they need not heard about HPV vaccination and most of them, 73%, reported that they need not vaccinated their child with HPV vaccination. The three groups of foyeys subjected to different methods of teaching were found to be homogenous. within the pretest – Group 1, most of the themes (66.7%) had inadequate knowledge (75%). In Group 2 pretest, 66.7% had inadequate knowledge, while in posttest, 73.3% had gained adequate knowledge. In Group 3, most of the topics, 66.7%, had inadequate knowledge within the pretest and 13.3% had gained adequate knowledge within the posttest. The pretest mean percentage score of Group 1 was 32.3%, Group 2 was 33.6%, and Group 3 was 32.0%, whereas the posttest mean knowledge scores were improved to 65.1% in Group 1, 79.4% in Group 2, and 63.8% in Group 3. In pretest, 26.7% of the themes had unfavorable attitude (75%) toward HPV vaccination. But in posttest, it had been found that 20.0% had favorable attitude ($>75\%$) in Group 1, 60.0% had favorable attitude in Group 2, and 26.7% had favorable attitude, the remaining proportion in each group had moderately favorable attitude and none of them had unfavorable attitude toward HPV vaccination. The pretest mean percentage score for Group 1 was 51.9%, Group 2, was 52.7% and Group 3 was 50.6%. The posttest mean percentage attitude of Group 1 was 68.2%, Group 2 was 75.6%, and Group 3 was 69.7%. The pre- and posttest comparison (Wilcoxon test) of information in each group was found to be invariably significant ($P < 0.05$). It implied that every mode of teaching was individually effective in improving the knowledge on HPV vaccination. Between group comparison (Kruskal–Wallis test) of pre- and posttest scores over the groups resulted that not significant for pretest scores ($P > 0.05$) and significant for posttest scores ($P < 0.05$). It implied that the knowledge on HPV vaccination in pretest was similar over the groups but, in posttest it differs significantly. Further, it evidence that the rise in knowledge among who were educated with the web screening of the short film were comparably more other two groups. Table 1 depicts the statistical analysis done to seek out the effectiveness of the web education program on the knowledge of the oldsters of adolescents on HPV vaccination. Table 2 presents the statistical analysis done to elicit the effectiveness of the web school-based education program on the attitude of the foyeys of adolescents on HPV vaccination. The pre- and posttest comparison (Wilcoxon test) of attitude in each group was found to be invariably significant ($P < 0.05$). It implied that every mode of teaching was individually effective in improving the attitude on HPV vaccination. The comparison of the pretest attitude scores between the groups (Kruskal–Walli's test) showed no significant difference ($p > 0.05$). But the comparison of the posttest attitude scores between the groups showed significant difference ($P < 0.05$). It implied that the attitude on HPV vaccination in pretest was similar over the groups but, in posttest, it differs significantly. Further, it evidence that the rise in attitude among who were educated with the web screening of the short film was comparably more other two groups.

Conclusion:

Despite having a favorable attitude toward vaccination, the parents of adolescents have little understanding of the HPV vaccine. A school-based online education program is successful in influencing parents' attitudes on HPV vaccination by increasing their awareness of the topic. The most effective way to educate parents online is to screen a brief film and then hold an open conversation thereafter. The web platform can be used to create and distribute educational short films to parents. By approaching the parents through the school, you may raise awareness and encourage them to vaccinate their adolescent kids.

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