Effect of Health Education on Patients with Cervical Human Papilloma Virus Infection

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Abstract: Cervical HPV is an important factor leading to the occurrence of cervical cancer. Its occurrence and development is a gradual pathological change process, including high-risk HPV persistent infection, CIN, early invasive cancer and invasive cancer from quantitative to qualitative changes Continuous development process. At present, there is no good treatment for patients who have been infected with HPV. In order to enable HPV to achieve better prevention effects and postoperative rehabilitation effects, we have analyzed the application effects of health education in patients with cervical HPV infection to understand the importance of health education. Through a survey of patients who have undergone HPV treatment in hospitals in this city, the rehabilitation of patients who have adopted the same treatment method is compared. Experimental results prove that patients who have undergone the same treatment, but have different levels of understanding of health education, have a great difference in their rehabilitation. Patients who understand health education are less than those who do not understand health education, and they receive treatment in patients. Later, patients who understand health education recover more than 40% faster than those who do not. This shows that health education plays an important role in the prevention and treatment of HPV, which can effectively prevent the occurrence of HPV, improve the postoperative rehabilitation effect of patients, and reduce postoperative risks.

Keywords: Health Education, Cervical HPV Infection, Infection Prevention, Postoperative Rehabilitation
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Human papilloma virus (HPV) is a DNA virus with strong squamous epithelial characteristics. As you know, high-risk HPV is the cause of cervical cancer [1]. However, so far, different studies in different regions have reported that the correlation between HPV infection rate and cancer histology is very different. At present, the carcinogenic mechanism of HPV in cancer is not yet fully understood, and further studies are needed to confirm it. HPV is a non-enveloped circular double-stranded DNA virus with strong squamous epithelial characteristics. Currently, there are at least 130 recognized HPV subtypes. According to the carcinogenic effects of each subtype, it can be divided into low-risk and high-risk types [2]. Low-risk types include HPV6, 11, 42, 43, 44 and other types that usually cause benign lesions, such as skin and vulvar warts, including cervical intraepithelial neoplasia. High-risk types include HPV 16, 18, 31, 33, and 35. 39. 45 types are related to the occurrence of cervical cancer, anal cancer, head and neck cancer, esophageal cancer, cancer, etc., especially HPV 16 and 18, which are the most common high-risk HPV subtypes [3].

As we all know, high-risk HPV is a clear cause of cervical cancer. Statistics show that about 70% of cervical cancer patients around the world can detect high-risk HPV16 and 18[4]. In addition to cervical cancer, HPV is also closely related to anal cancer, penile cancer, oropharyngeal cancer, head and neck cancer, and esophageal cancer. Different methods have gradually appeared around the world to study the correlation between HPV and cancer, but so far, different regions and different studies have reported that HPV infection rates and histological types of cancer are still quite different, and there is no

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uniformity. Moreover, the current carcinogenic mechanism of HPV in cancer is not fully understood and needs to be confirmed by more studies [5].

Research on HPV has long been conducted at home and abroad. Starting early abroad, Syrjänen first proposed that HPV and bronchial cancer may have a certain connection. This hypothesis is mainly derived from Syrjänen's observation that a small part of bronchial squamous cell carcinoma is similar to the morphology of the female reproductive tract infected with HPV at that time. Syrjänen used HPVDNA mixed probe technology to confirm the presence of HPVDNA in bronchial squamous cell carcinoma [6]. In China, due to the influence of various factors, the research on HPV is relatively late. Cheng Xiuyan analyzed the application of health education in medical prevention, especially in HPV patients. Through health education, patients can better maintain their recovery function., Which designed experiments on the clinical data of the hospital in recent years, treated patients for several weeks, compared the parameters of the patient's physical skills with those who did not understand the health education treatment methods, and finally concluded that it is beneficial to the patients. Rehabilitation [7]; In order to evaluate the impact of health education on patients, Xu Lei created a three-dimensional gait analysis system, divided patients into groups, and treated patients in different ways. The more important indicators are tested, and the experimental results prove that health education has a good effect on improving the walking ability of patients [8]. These studies have improved the relevant reference role for this article. However, due to insufficient samples of these studies, too much emphasis on theories, and unreasonable practical schemes, the research has too many variables and the conclusions are unconvincing.

This article analyzes the advantages and disadvantages of previous studies, and then conducts a comparative experiment based on the effect of health education in patients with cervical HPV infection. This article mainly elaborates on the harm of HPV to women and health education after HPV prevention and treatment. The system objectively evaluated the importance of health education in HPV, explained the harm of HPV to patients, and verified the role that health education can play in the prevention and treatment of HPV.

CERVICAL HPV AND ITS DETECTION METHODS

Health Education

Due to the influence of thousands of years of feudal thinking, most of the health education for women in my country is controversial. Because of the geographical location of different regions, women's health education has been imprisoned. This kind of education status makes many places "talk about sex". Especially in rural and mountainous areas, little is known about women's health. This restraint was gradually broken in the 1970s. At present, many scholars have begun to pay more and more attention to the close connection between sexual health education and students' physiology and psychology. However, there is no uniform statement about sexual health education in our country. All scholars have different opinions.

Women's health education can be implemented in three ways: family, society, and school [9]. The family is the primary environment for the growth of students. Parents are the enlightenment teachers for teenagers. However, due to the influence of our country's feudal thinking, many parents choose not to talk about women's health education, or some parents are aware of the necessity and need to educate their children. It's important, but I don't know where to start. Today is a high-tech information age. Every day, all kinds of texts, pictures, videos, etc. are spread on the Internet. Social education is very extensive, but it is difficult to control. There is a lot of unhealthy knowledge on the Internet. The thinking is immature, it is difficult to distinguish the true from the false, and believe that it is true, and thus go astray.

It is generally believed that girls should pay more attention to their physical health, but the reality is contrary to this. Many women mistakenly believe that HPV disease is far away from them. On the one hand, many non-medical professional girls lack a systematic way to understand HPV and have poor

self-prevention and protection awareness. They have not systematically and correctly understood modern health concepts. They unilaterally believe that being healthy means being strong and not getting sick. Extensive transmission of the skills that have been mastered is helpful for the early preventive diagnosis and later treatment of HPV [10].

HPV

Cervical HPV is one of the most common malignant viruses in women, and the incidence of cervical cancer caused by it ranks first among gynecological malignancies in my country. Current studies have confirmed that persistent infection of specific HPV genotypes is a necessary process to cause cervical intraepithelial neoplasia and cervical cancer [11]. With the application of bivalent, quadrivalent and ninth-valent vaccines overseas, people have seen the light on the prevention and treatment of cervical cancer. However, recent epidemiological studies in various regions have confirmed that there are differences in the types of HPV infection in different countries and regions, so are there differences in the main types of cervical intraepithelial neoplasia (CIN) and cervical cancer? How about people in different regions Choose from dozens of hundreds of high-risk HPV types that are effective for the population in the region? And understand the distribution characteristics of HPV genotypes in the region, prevent and treat cervical cancer, formulate reasonable clinical interventions, and choose health education and vaccines. Significance [12].

It is currently believed that the best way to stay away from cervical cancer is still to carry out cervical cancer screening. The latest practice guidelines for cervical cancer screening and prevention have been released, stating that for those younger than 21 years old, regardless of the initial age of sexual life and other high-risk factors, cervical cancer screening is not required, unless human immunodeficiency virus infection is used for those 21-29 years old. , It is recommended to have a cytological examination every 3 years. For those aged 30-65, a combined HPV and cytological examination every 5 years, or a cytological examination every 3 years. Those who are older than 65 years old, if they are 3 consecutively in the past 10 years If the second cytology result is negative or the HPV combined cytology result is negative for 2 consecutive times, and the last examination is within 5 years, the screening can be terminated if there is no CINII or above disease in the past [13]. For patients after total hysterectomy, there is no need for screening if there is no CINII or above disease in the past 20 years. After vaccination, women are screened as if they were not vaccinated. As early as 1999, China first proposed the high sensitivity and high reproducibility of high-risk HPV-DNA, which could be used as a primary screening method for cervical cancer. my country's cervical cancer guidelines suggest that the screening targets are women who have sex for more than 3 years or women who have sex for more than 21 years. At present, HPV-DNA testing has been valued by many scholars in my country, but it is often expensive because of its high price. It has become a routine cervical cancer screening project for the majority of women in my country, and the screening coverage is still limited, and opportunistic screening is the main focus. Therefore, health education for women is particularly necessary [14].

Cervical HPV Research Methods

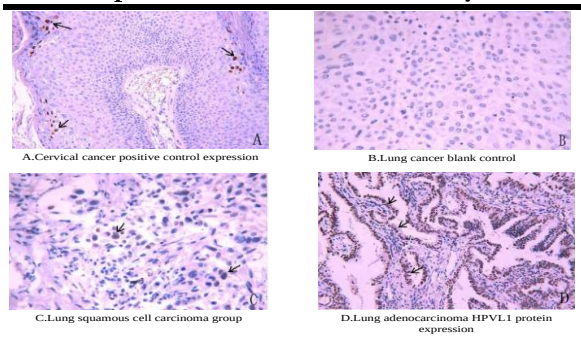
HPV is more sensitive to radiotherapy and chemotherapy. The current general principle of HPV treatment is surgery, supplemented by radiotherapy and chemotherapy. Radical radiotherapy for early HPV has the same effect as surgery. The standard treatment principle for patients with advanced and inoperable conditions is simultaneous radiotherapy and chemotherapy. . However, the effects of radiotherapy and chemotherapy in cervical cancer patients vary greatly among individuals. With the in-depth study of miRNAs, it has been found that some miRNAs regulate the key genes of DNA damage response, cell cycle, and apoptosis by activating a variety of signal pathways to regulate cervical cancer cell radiotherapy and chemotherapy Sensitivity [15].

Use HPV type detection kit. The basic principle of the kit is to first amplify the DNA of the viral gene, and then use the flow-through hybridization

technology to transfer the target molecule to the membrane of the gene chip fixed with the DNA probe. Fast hybridization. Therefore, 21 HPV genotypes were typed and tested. This biological kit uses a variety of asymmetric PCR combined with a universal chip, uses HPV virus genome DNA as a template, and uses type-specific primers with tag sequences to amplify and fluorescently label the L1 region in each HPV virus genome Fragment. Hybridization with the microarray chip, the chip can identify the corresponding tag sequence of each gene locus encoded, and finally scan the chip by the HPV typing detection system, and analyze the data to obtain HPV genotype results. The two sets of kits can detect a total of 25 HPV genotypes. If the result is positive, HPV infection can be diagnosed [16].

So far, there are at least 130 recognized HPV subtypes. Among them, high-risk HPV16/18 is most closely related to cancer. Gene integration theory may also be one of the important carcinogenic mechanisms of HPV-induced tumorigenesis, but the differences related to HPV are different. Tumor integration sites and mechanisms may be different [17]. Compared with cervical cancer, the HPV DNA viral load detected in cancer is lower. The HPV detection image is shown in Figure 1:

Figure 1.
Comparison of cancers caused by HPV



CERVICAL HPV EXPERIMENT

Subjects

Selected female patients who were willing to undergo HPV testing from January 2020 to December 2020 in the gynecology department of the First People's Hospital, Maternity and Child Health Hospital of this city and other hospitals from January 2020 to December 2020 as the research subjects, and recorded the patient's age and HPV test results. The age range is 17-90 years old, the average age ± standard deviation (38.91 ± 10.18) years old.

Included subjects: 1) have a history of sexual life; 2) non-menstrual patients; 3) no intravaginal drugs or vaginal douches were performed 3 days before the examination.

Excluded objects: 1) Those who had cervical surgery or total hysterectomy before screening; 2) those who had repeated sampling.

Experimental Grouping

This study divided the age groups into groups: <21 years old group, 21-30 years old group, 31-40 years old group, ≥40 years old group. Table 1 shows the distribution of HPV subtypes in different age groups. The high-risk HPV infections in each age group are mainly 52 and 16 types, followed by 58, 53, and 39 types. Low-risk HPV infections are mainly cp8304 and 6 subtypes. The curves of total HPV infection rate, high-risk HPV infection rate, low-risk HPV infection rate, and low-risk + high-risk HPV mixed infection rate of all age groups are generally consistent.

Table 1.
Grouping of HPV patients

	<21		21-30		31-40	
HPV typing	Number of cases	Infection rate	Number of cases	Infection rate	Number of cases	Infection rate
HPV52	50	8.51	615	5.21	834	4.37
HPV16	35	5.78	390	3.01	485	2.58
HPV58	25	4.21	335	2.64	413	2.19
HPV53	21	3.52	247	1.99	325	1.84
HPV39	24	4.17	208	1.62	264	1.32
HPV51	18	3.34	168	1.31	161	0.87
HPV68	14	2.38	171	1.33	187	0.95
HPV33	9	1.89	131	0.98	169	0.88

Determine the Evaluation Weight

The index weight is a numerical index indicating the importance and function of the index. In the indicator system of the evaluation plan, the weight

of each indicator is different. Even if the indicator level is the same, the weight is different. Index weight is also called weight and is usually represented by a. It is a number greater than zero but less than 1, and the sum of the weights of all first-level indicators must be equal to 1, that is, satisfy the conditions of 0 <a <1 and ∑a-1.

Statistics

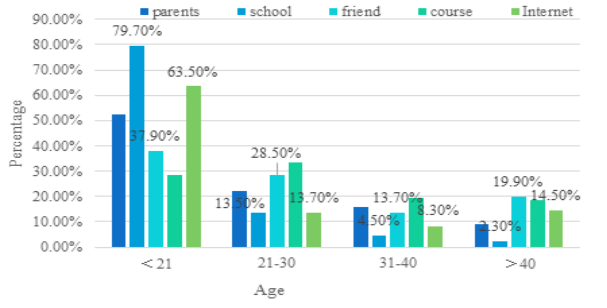
All data analysis in this article uses SPSS19.0, statistical test uses two-sided test, significance is defined as 0.05, and p <0.05 is considered significant. The statistical results are displayed as mean±standard deviation (x±SD). When the test data obeys the normal distribution, the double T test is used for comparison within the group, and the independent sample T test is used for comparison between the groups.

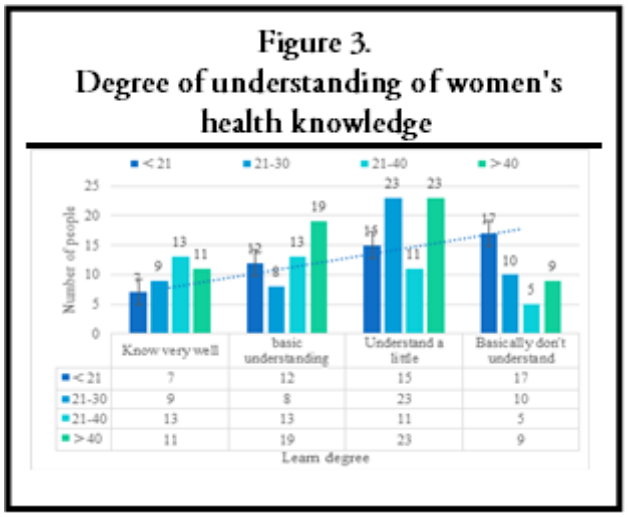
EXPERIMENTAL ANALYSIS OF CERVICAL HPV

Understanding of Women's Health Education

We have made statistics on the level of understanding of health education among women of different age groups, and grouped them according to age groups, as shown in Figure 2:

Figure 2.
Women's health education understanding





It can be seen from Figure 2 that girls' understanding of health education mainly comes from their parents and the Internet. For women under the age of 21, they mainly receive the dissemination of women's health knowledge from their parents and the Internet. Women, they mainly receive health knowledge through friends and the Internet. Women of other age groups learn about women's health knowledge mainly through friends and the Internet. It can be seen that women have a wide range of ways to understand health education, but it is difficult to form a systematic to understanding. We collected statistics on the level of understanding of health education among a total of 200 women, as shown in Figure 3:

From Figure 3, we can see that among the 200 women surveyed, most of the 200 women have a general understanding of women's health education, but the number of women who know well about it is not many, accounting for 20% of the surveyed population. Most women have a general understanding of health education. The number of people who only know a few, and those who don't know at all are roughly the same as those who know very well, accounting for about 20%.

Patient's Recovery

We conducted a survey of women with different levels of understanding of HPV and health education, and counted their physical parameters after treatment, as shown in Figure 4 and Figure 5.

Figure 4.
Recovery of patients who do not understand health education

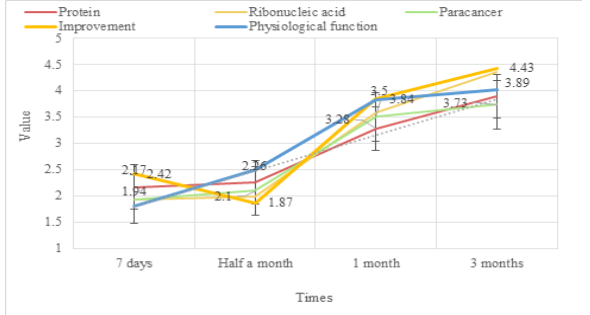
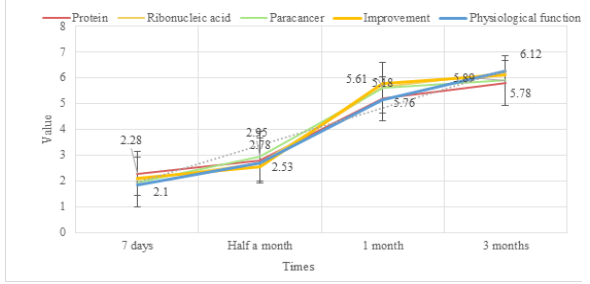


Figure 5.
Understanding health education patient recovery



From Figure 4 and Figure 5, we can see that for patients with the same HPV, their knowledge of health will lead to different physical indicators in the treatment. For patients who have knowledge of HPV, the overall physical indicators basically, they are higher than those who don't know. This shows that, for HPV, prior knowledge of relevant health education is conducive to the effect of HPV prevention and treatment in advance.

CONCLUSIONS

HPV vaccines are divided into preventive vaccines and therapeutic vaccines. Preventive HPV vaccination is the key to the primary prevention of cervical cancer. According to foreign statistics, more than 70% of cervical cancer patients are caused by high-risk HPV 16 and 18 infections, and preventive vaccines are mainly used for high-risk HPV infections. Although the promotion of HPV vaccine is expected to reduce the incidence of cervical cancer, HPV vaccine is mainly targeted at uninfected people and has no therapeutic effect on patients with HPV infection. Therefore, it is particularly important to take preventive measures for women's health education. In addition to smoking, pollution and other factors, HPV may be another important factor in the incidence of cancer. However, the relationship between HPV and cancer is still controversial, and more and more sample studies are needed, especially prospective studies. These studies can explain the role of HPV infection in the etiology of cancer at the molecular level for future research.

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