Application of Multi-participatory Health Education Model in the Prevention of Infectious Diseases in Colleges

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Abstract: Objective: To study the application effect of multi-participatory health education model in infectious disease prevention in Colleges. Methods: 1860 college students were selected as the research object and divided into experimental group and control group. The experimental group students were given multi-participatory health education model. The control group was given health education by routine health education methods. The two groups were compared: ①knowledge score of infectious diseases before and after the implementation of health education; ②attitude and behavior selection rate of infectious diseases. Results: After the implementation of health education, the scores of infectious diseases knowledge in the two groups were significantly improved (P<0.05); and the rate of students' attitude and behavior towards infectious diseases in the experimental group was significantly increased (P<0.01). The students in the experimental group scored significantly higher than those in the control group in the knowledge of infectious diseases and the rate of choosing attitudes and behaviors related to infectious diseases (P<0.01). Conclusion: The effect of multi-participatory health education model on improving students' awareness of infectious diseases and increasing the rate of attitude and behavior choice related to infectious diseases is better than that of routine health education.
***Keywords*:** health education, multi-participatory, infectious diseases, education model, disease prevention, college

1. Introduction

The outline of the "Healthy China 2030" plan clearly puts forward that "health education should be included in the national education system, and health education should be an important part of quality education at all stages of education". Health education is a health care measure with less investment, more output and high efficiency. Effective health education measures are crucial to improve the level of health literacy.

Infectious disease is a kind of disease that can spread between people, people and animals, and animals and animals, which seriously threatens people's health. The university is densely populated and highly mobile. Once an infectious disease breaks out, it will spread at a very fast speed, which will have a great impact on the physical health of university teachers and students. Therefore, it is necessary to take measures to prevent and control infectious diseases in schools, reduce the risk of infectious diseases, and ensure the health of college students [1-4]. Health education improves people's correct understanding of infectious diseases and is an important means of prevention and treatment of infectious diseases [5]. However, at present, health education mostly stays at the level of knowledge, which is too formal and unitary, with low participation, and the intervention effect is not obvious [6-7].

In recent years, many studies have tried to apply participatory methods to health education, and have achieved certain results [8]. Based on the "participatory" teaching concept, this study has established a comprehensive and three-dimensional health education network by enriching the content of health education, adopting various educational approaches, and constructed a multi-participative health education model. It has also verified the feasibility and effectiveness of this model in the prevention of infectious diseases in colleges and universities by taking freshman students of our university as the object of education.

2. Object and methods

2.1 Research object

We selected 1860 students of Grade 2021 who had no history of major diseases in the past, were in good health after entrance examination, and had no obvious physical discomfort recently. They were randomly divided into the experimental group and the control group. The students in the experimental group were treated with a multi-participative health education model. The control group was treated with routine health education methods. The final 926 students in the experimental

group and 934 students in the control group completed the health education process. There was no statistically significant difference in the number of students, gender, age and other general data between the two groups (P>0.05). Comparability.

2.2 Health education methods

(1) Education time: from October 2021 to June 2022.

(2) Education content: including the types of infectious diseases, sources of infection, ways of disease transmission, vulnerable groups, scientific prevention, scientific medical treatment, rational drug use and methods of treating students with infectious diseases.

(3) Traditional health education methods: Health Education is a compulsory course for all freshman students in the university. It mainly teaches the basic health knowledge and basic rescue skills necessary for college students. Each class has 12 class hours and is divided into two semesters. Among them, 4 class hours are health education related to infectious diseases. In the control group, the teaching was conducted according to the traditional teaching method, and no other activities were carried out.

(4) Multi-participative health education model: establish a comprehensive and three-dimensional health education network. Specifically, it includes carrying out participatory teaching through situational intervention in the teaching of Health Education. According to the teaching objectives of the course, the teaching teachers emphasize that students should actively participate rather than "instill" in the teaching process, and guide students to actively, creatively and pleasantly participate in each link of teaching activities by creating appropriate teaching scenarios, so as to acquire knowledge, change the degree of abnormality and change behavior; At the same time, we should train peer backbone, carry out peer education, and give full play to the advantages of real-time health information dissemination among peers; After the whole course, a health knowledge and skills competition will be held to consolidate the teaching results; Carry out health education lectures irregularly according to the main health problems of students in school; The disease publicity day carries out various thematic publicity activities [9]; Regularly push health education knowledge to students through school website, WeChat official account, etc. [10]; The school infirmary and Youth League Committee provide face-to-face health consultation services for students; Carry out 24-hour online social platform consultation, etc. [11]

2.3 Observation indicators

Record and compare: ① Before and after the health education, a self-made questionnaire was used to evaluate the two groups of students' knowledge of infectious diseases, including the source of infection, transmission routes, treatment methods, etc. of infectious diseases. The total score of the questionnaire is 100 points, and the higher the score is, the higher the awareness of infectious diseases is; ② The positive selection rate of attitudes and behaviors related to infectious diseases among the two groups of students before and after health education.

2.4 Statistical methods

Statistical software SPSS 20.0 was used for statistics: the incidence of infectious diseases and other counting indicators were expressed in the form of (%); Measurement and observation indicators such as knowledge score of infectious diseases are expressed in the form of ($\bar{x}\pm s$); The positive selection rate of attitudes and behaviors related to infectious diseases is expressed in the form of (%), and is tested by t test or chi-square test respectively.

3. Results

3.1 Comparison of the scores of the two groups of students on knowledge related to infectious diseases: see Table 1

Table 1. Comparison of scores of two groups of students on knowledge related to infectious diseases

Group	Pre-education	After education	P
experimental group (n = 926)	75.34±5.12	84.21±5.98	<0.01
control group (n = 934)	75.13±6.14	80.52±6.74	<0.01
P	>0.05	<0.01	

After the implementation of health education, the scores of infectious disease knowledge of the two groups of students were significantly improved (P<0.01). The score of infectious disease knowledge of students in the experimental group was significantly higher than that in the control group (P<0.01).

3.2 Comparison of positive selection rates of attitudes and behaviors related to infectious diseases between the two groups of students: see Table 2

Table 2. Comparison of positive selection rate of attitudes and behaviors related to infectious diseases (%)

Group	Pre-education	After education	χ^2	*P*
experimental group (n = 926)	55.29	64.25	15.47	<0.01
control group (n = 934)	54.39	57.82	2.23	>0.05
χ^2	0.15	8.11		
P	>0.05	<0.01		

After the implementation of health education, the positive selection rate of attitudes and behaviors related to infectious diseases among the students in the experimental group was significantly higher than that before the implementation ($P<0.01$). There was no significant improvement in the control group ($P>0.05$). The positive selection rate of attitude and behavior related to infectious diseases in the experimental group was significantly higher than that in the control group ($P<0.01$).

4. Discussion

At present, infectious diseases such as tuberculosis and chickenpox occur from time to time in colleges and universities, seriously affecting the physical and mental health of students. Therefore, prevention of infectious diseases is of great significance to the health and future development of students. Health education imparts relevant knowledge of infectious disease transmission routes, prevention measures, treatment methods and other related knowledge to students through various forms of education to standardize their daily life style. The popularization of health education knowledge has effectively increased students' understanding of infectious diseases, stimulated students' self-care awareness, and helped students better master and develop good living habits. Cut off the transmission route of infectious diseases, achieve early detection, early isolation and early treatment, ensure the effective treatment of students, avoid the infection of other students, and reduce the incidence of infectious diseases [12].

In this study, after the two groups of students implemented health education through different health education models, the scores of infectious disease knowledge were significantly improved, effectively improving the students' understanding of infectious disease knowledge. However, the teaching effect of the multi-participative health education model group was significantly better than that of the traditional health education model group in terms of the score of knowledge related to infectious diseases, the positive selection rate of attitudes and behaviors related to infectious diseases.

Traditional health education, often in the form of classroom teaching or lectures, mostly stays at the level of knowledge, which is too formal and unitary, with low participation and ineffective intervention, and can no longer meet the learning needs of current college students [13]. In this study, although the score of infectious disease knowledge has also been significantly improved through traditional health education, the effect is not obvious in the positive selection rate of attitudes and behaviors related to infectious diseases. Knowledge alone cannot completely change people's healthy behaviors. The change of attitudes and behaviors requires participants to make decisions to change their attitudes and behaviors based on their own thinking through various activities. Traditional health education cannot meet this demand. Effective health education requires not only comprehensive content, but also rich and diverse forms to attract students to pay attention to health problems. Through the multi-participative model of the comprehensive and three-dimensional health education network, it can more effectively help students complete the transformation from knowledge to attitude, and finally to behavior, and promote the comprehensive development of their physical and mental health.

The multi-participative education model takes students as the main body, makes full use of diversified teaching methods and means, and teachers and students work together to establish a positive, warm and harmonious good education atmosphere to stimulate students' learning initiative. Let students voluntarily participate in the process of education and teaching, strengthen the interaction between educators and educatees and between educatees, let students think actively, and better internalize the application to specific behavior. The multi-participative education model blends the elements of the participatory teaching method into classroom teaching to stimulate students to participate in the classroom and inspire students to think actively. Teachers should have an overall design for the classroom. Through group discussion, role play, scenario simulation, case analysis, game method and other forms, teachers should guide students to participate actively, increase the interaction between students and students, students and teachers, encourage students to think about relevant content, form their own judgments, and then change their attitudes and behaviors. The multi-participative education model also adopts a variety of thematic participatory activities, such as knowledge and skills competitions, art performances,

salons, etc. During the process of participating in various activities, students not only receive health education, but also enjoy fun. At the same time, students are encouraged to actively participate in the whole process of educational activities, from the planning of the activities, the publicity of the activities, the implementation of the process, and the feedback and summary at the later stage, to trust and give full play to students' potential, so that students can truly be the main body of educational activities and achieve better results [14].

In a word, the multi-participative health education model for college students can better play the role of students as the main body of education through all-round and three-dimensional health education. Make educational activities more close to the characteristics and needs of students, comprehensively improve the health awareness of college students, effectively complete the transformation from knowledge to attitude, and finally to behavior, promote the comprehensive development of their physical and mental health, and ensure the healthy growth of students.

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