

# Influence of HBM Intervention based on Wechat Platform on Gynecological Health Belief Level of Female College Students

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**Abstract:** Purpose: To investigate the cognition of gynecological health knowledge among female college students by health belief model, through the wechat platform, integrate the health belief mode into wechat health education, and the relevant intervention of gynecological health education is carried out for female college students, so as to enhance female college students' perception of the susceptibility and threat of gynecological diseases, the severity of gynecological diseases, the benefits of gynecological health promotion behavior, helping them understand the possible difficulties in the process of behavior change, and promote the level of health literacy. Method: To investigate 400 undergraduate students in SIAS International College of Zhengzhou University in 2018 using a self-designed questionnaire. The survey included general information questionnaire and Health Belief Scale (CHBMS). It includes susceptibility cognition, severity cognition, interest cognition and obstacle cognition. Health belief intervention was conducted among 40 respondents, and a questionnaire survey was conducted after intervention to compare the findings before and after intervention. Result: The survey showed that the total score of gynecological health belief level of female college students before the intervention was  $36.54 \pm 1.09$ , and the total score of gynecological health belief level before and after the intervention was  $45.67 \pm 1.23$ , the difference was statistically significant ( $P < 0.01$ ). Conclusion: The level of gynecological health belief of female college students is not optimistic. Taking the perception of gynecological health promotion behavior disorder, the score of this dimension is low. The intervention method based on wechat platform is convenient and easy to operate, and is popular with college students. After the intervention, the level of gynecological health belief of college students has been improved. We should pay attention to the education of relevant knowledge during the period of school, so as to improve the overall level of health literacy of female college students.

**Keywords:** WeChat; HBM; Female college students; Gynecology; Health belief

## 1. Introduction

With the rapid development of modern society, great changes have taken place in people's way of life and ideas. Some gynecological diseases are becoming younger and younger, and gynecological diseases among female college students are also on the rise. As a special social group, the health of female college students is not only related to themselves, but also to family happiness and the development of the whole society. The female university student's social psychology maturity is low, which is easy to receive each kind of factor the violation to contract the department of gynaecology disease. Therefore, in gynecological health education, we should also pay attention to the group of female college students, providing them with detailed gynecological health knowledge, strengthening health guidance, and intervening in gynecological health for female college students to prevent and reduce gynecological diseases. Health behavior is closely related to individual health belief, which is the

basis and key for female college students to accept advice, changing bad behavior and adopting health promotion suggestions. Therefore, this study attempts to apply health belief model to investigate the cognitive status of gynecological health knowledge among female college students. Through the WeChat platform, we will integrate the health belief model into WeChat health education, and will intervene in gynecological health education for female college students, popularizing the education of health belief model, and enable female college students to perceive the susceptibility and threat of gynecological diseases, the severity of gynecological diseases, the benefits of gynecological health promotion behavior, to help them to understand the difficulties that may arise in the process of behavior change, and give them confidence to change behavior, so as to promote the improvement of health literacy [1].

## 2. Objects and Methods

### 2.1. Research objects

A. Survey objects: By convenient sampling method, 400 female undergraduates of Sias College, Zhengzhou University, 2018 were selected as the research objects to conduct a questionnaire survey. Inclusive criteria: All the subjects agreed to participate in and complete the questionnaire voluntarily; The physical condition could be completed in cooperation; The undergraduate students in 2018; The expected ability to maintain normal online. Exclusion criteria: Refuse to participate in the survey and intervention; Undergraduate students not in 2018.

B. Sample size calculation: According to the formula  $n = 2 \times \{[(u \alpha u \beta) 2 \times \sigma 2] / \delta 2\}$ , search the literature of intervention research on health belief level. About 38 samples were calculated, with a 10% miss rate considered, and 40 samples were included. Inclusive criteria: female college students who participated in the questionnaire survey voluntarily participated in the study and signed the informed consent form.

## 2.2. Research methods

### 2.2.1. Methods of investigation

The data of the respondents were collected by using the WeChat platform questionnaire, and the uniform guiding operation terms were used in this study. The questionnaire was distributed by using the method of questionnaire, and the questionnaires were returned without signature. All the results were summarized and classified [2]. The survey included two parts, one was the general questionnaire and the other was the belief questionnaire of gynecological diseases. The questionnaire includes 4 dimensions: perceptions of susceptibility to gynecological diseases, the severity of gynecological diseases, the benefits of health promotion behavior, and the factors of health promotion behavior disorder. Each dimension contains four items, all of which are scored by Likert with five grades, namely, "very dissenting", "dissenting", "neutral", "agreeing" and "very agreeing", respectively scored 0-4 points for positive questions, 4-0 points for reverse questions, and the total score is 64 points for all four dimensions. The higher the score is, the better the belief in gynecological health is. Scoring levels were 0 ~ 21 poor, 22 ~ 42 as a general, 43 ~ 64 better. Cronbach's  $\alpha$  value is 0.817.

### 2.2.2. Methods of intervention

A. The contents of the intervention mainly include the understanding of the basic information of gynecological diseases, the change of the attitude of the college students towards the patients with gynecological diseases in their daily life, the basic measures for the prevention of common gynecological diseases and the cognition and education effects of the high-risk behaviors of the college girls.

B. Stages and specific methods of intervention:

a. Investigate the cognition of gynecological diseases among female college students, to establish cooperative

relationship with specific population and to conduct health intervention.

b. Establish a WeChat platform management team, determining personnel responsible for the development and arrangement of health education contents, the review of relevant contents, and the daily maintenance and information update of the platform. Researchers use WeChat platform, reference books and literature, through WeChat public account periodically to push the knowledge of gynecology and health education materials, to achieve diversified dissemination of health knowledge, and reasonably arrange the implementation process of the research program.

c. According to the model of health belief, firstly, push the knowledge of gynecological diseases made female college students' to strengthen the susceptibility belief of gynecological diseases, then push the knowledge of the severity of gynecological diseases, and then push prevention behavior knowledge, so that make female college students to realize the benefits of taking preventive behavior, and then the factors that may occur in the process of behavioral change. Finally, the health education is pushed to give them the confidence to change their behavior, improving their self-efficacy and promote their physical health.

d. Establish WeChat communication group for gynecological health of female college students to promote them to communicate with each other, discussing their problems and learning from each other's skills and methods. The interaction among groups can help female college students to establish correct health consciousness and strengthen health promotion behavior. It can also promote the dissemination of health knowledge, so that it affects groups other than individuals. Encourage female college students to inquire about health knowledge through WeChat platform to prevent gynecological diseases as soon as possible.

e. Carry on the questionnaire investigation to collect the material again, with the investigation stage data contrast analysis, summary appraisal.

### 2.2.3. Statistical methods

Excel 2016 is used to input the data, and SPSS16.0 software is used to describe and infer the data.

## 2.3. Quality control

### 2.3.1. Measures to ensure the quality of questionnaires during their distribution and collection

It has ensured that the content and form of the questionnaire are in line with common sense and easy to accept; It has provided appropriate training for the questionnaire issuers; and each person is required to effectively fill in the questionnaire online within the prescribed time limit, and each person is required to fill in the questionnaire

once. By the monitor of each class to help answer the online questionnaire and other issues to deal with.

**2.3.2. Ways to ensure the effectiveness of interventions**

The monitor of the class under investigation should inform the participants to participate in the intervention WeChat group, participating in knowledge lectures, and sign in online, and issue small gifts to students who actively answer questions; Ensure that WeChat tweets are novel in layout and easy in content and form; and PPT should be broadcast live by the developers.

**II. Results**

A total of 400 female students aged 19 to 21 ( $19.12 \pm 0.76$ ) from Sias International College, Zhengzhou University, 2018, were selected for the study. School of Foreign Languages 215 people, 95 people in School of International Education, 90 people in School of Nursing. There were 400 questionnaires, in which 385 were collected and 380 were collected, with the recovery rate 96.3%, and the efficiency was 98.7%. The intervention results of Gynecological Disease Belief Questionnaire for Female College Students are shown in Table 1.

**Table 1. Score of gynecological disease beliefs of female college students before and after intervention**

Dimensions	Before intervention	After intervention	T	P
	Score ( $\bar{X} \pm S$ )	Score ( $\bar{X} \pm S$ )		
Perception of susceptibility to gynecological diseases	10.02±2.32	12.07±2.61		
Perception of the severity of gynecological diseases	9.26±1.68	11.26±1.68		
Perception of the benefits of gynecological health promotion behavior	9.48±2.15	13.48±2.36		
Perception of the obstacle of gynecological health promotion behavior	7.34±5.66	9.24±1.88		
Total score of gynecological health belief	36.54±1.09	45.67±1.23	-17.19	< 0.01

The detailed results of the scores of gynecological health beliefs before and after the intervention are shown in Table 2.

**Table 2. Gynecological health belief scores grade of female college students (n = 40)**

Grade	Score range	Number of cases	
		Before intervention	After intervention
Fairly good	43~64	5	15
Common	22~42	24	23
Poor	0~21	11	2

**3. Analysis and Discussion**

**3.1. Analysis of health belief level of gynecological diseases of female college students**

Before the intervention, 24 female college students had the average score of health belief, and 11 were poor. On the whole, the level of gynecological health-related beliefs of female college students is not optimistic. Studies have shown that the perception of the severity of a disease is a subjective assessment of the outcome of the disease, including the personal consequences of the disease (the degree of physical distress and the likelihood of death), the social consequences of the disease (the impact on the individual's family, unemployment, the emotional damage to the family and partner), and that the resulting fear can lead to an individual's attention to health problems and is therefore an important motivational factor [3].

Of the pre-intervention questionnaires, 73.4% of the students thought "the thought of gynecological diseases frightened me", and 89.1% thought "the thought of gynecological diseases made me nervous". Reflecting the female students for gynecological disease susceptibility perception is better, 48.7% of the students think "I am afraid to consider gynecological diseases." On the one hand, it can become the motivation for female college students to develop good health literacy, but it may also have some resistance to the relevant examination of disease prevention. 58.8% of the students thought "if I suffer from gynecological diseases, my quality of life will be seriously affected", 35.4% of the students thought "suffering from gynecological diseases will affect my relationship with my family or friends", but 47.5% of the students objected to this problem, reflecting the female college students' insufficient understanding of the severity of the impact of gynecological diseases on their social relations. In the dimension of perceived benefits of gynecological health promotion behavior [8], the recognition of each problem is about 50.0%, which reflects that female college students have a certain understanding of gynecological health promotion behavior. In the dimension of perceptions of taking gynecological health promotion behavior disorders, 44.5% of the respondents said they had not found a way to learn women's health care knowledge, and 49.1% said they had not provided relevant learning materials. The top three media ways to obtain gynecological health knowledge are "Internet infor-

mation", "medical organization publicity" and "television and film broadcasting". After HBM intervention based on WeChat platform, the dimensions of the questionnaire were  $45.67 \pm 1.23$ , which was statistically significant compared with the pre-intervention.

### 3.2. Strategy

Nowadays, there are differences in female college students' acceptance of gynecological knowledge and awareness of gynecological health beliefs. According to the survey, female college students lack the knowledge about gynecological diseases, eager to get measures to prevent common gynecological diseases. Therefore, it is necessary for schools to increase the courses of gynecological knowledge and health education to help female college students master the knowledge of female health care. Gynecological diseases can bring a series of problems, such as physiology, psychology, family life, etc. When serious, it can even affect normal study and life. It is very important to cultivate a correct attitude towards Gynecological diseases and to strengthen the awareness of Gynecological health. School courses are an effective way. For contemporary college students, the main source of contact education is the courses taught in schools. Therefore, schools can effectively use teaching space to offer general courses on Gynecological diseases, so that female college students can realize the importance of Gynecological health and improve their knowledge of Gynecological diseases [4].

Due to the colourful particularity of university life, campus activities also have an important influence on students. Carrying out health knowledge lectures in colleges and universities to publicize the importance of good life and health habits will help girls develop good life and health habits, and prevent gynecological diseases. Therefore, schools can use a variety of forms of gynecological knowledge to carry out publicity. For example, broadcasts the propaganda video frequency, the propaganda broadcast, holds the prize competition to enhance the female university student to the gynecology knowledge grasp. Compared with the monotonous brochures, campus activities can improve the initiative and enthusiasm of female students to understand the knowledge of gynecological diseases, knowledge education can be a good promotion [6].

In addition, with the development and progress of society, the power of science and technology also plays an important role in college students. At present, WeChat has a huge user base, and in terms of various functions and health education tasks, can achieve the release of health tasks. In the construction of new media, WeChat public account is an indispensable part [5]. Therefore, it is effective to promote the contemporary female college students' knowledge of gynecological diseases by periodically pushing the articles about gynecological diseases

through WeChat public account. By means of WeChat official accounts, regular tweets, establishment of WeChat chat groups, regular sending of popular science knowledge about gynecological diseases, daily WeChat punching cards and other modern ways that keep pace with the times, the popularization of knowledge about gynecological diseases can be promoted more smoothly. In addition, questionnaires can be sent out through WeChat platforms in the form of online competitions to regularly check the acceptance of knowledge about gynecological diseases by female college students, and better educational purposes can be achieved according to the rhythm of pushing appropriate knowledge based on the acceptance level.

Secondly, with the maturity of network technology, webcast is becoming more and more popular among college students. Compared with traditional offline teaching, the diversity and diversification of webcasting make it more approachable, which can greatly shorten the distance between teachers and students and transfer knowledge immediately. In addition, the live broadcast makes use of its own network advantages such as online interaction, watching playback and so on, which makes it stand out in the propaganda media of knowledge. Therefore, it is of great significance to invite experts to carry out online broadcast of gynecological disease related knowledge to improve the health literacy of female college students [6]. Finally, the full mobilization of class strength is also to urge female college students to learn gynecological diseases - related knowledge of the favorable methods. As a group, in a group of people to do a thing together more effective and dynamic, the class can take the lead in the way of monitor and other class committee, choosing the right time, such as the big class to urge everyone to study the knowledge of gynecology disease-related, during which the use of incentives and other means to mobilize the enthusiasm of female college students to learn, so as to achieve good learning results, today to promote the healthy behavior of female college students and improve the health literacy of female college students [7].

### 4. Conclusions

This survey shows that the condition of female college students' gynecological disease health belief is not optimistic, but after the implementation of HBM intervention measures based on wechat platform, the overall gynecological belief level of female college students has been improved compared with that before the intervention. Therefore, it is necessary to carry out health education on common gynecological diseases among female college students in order to improve their health literacy level [8].

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