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The Impact of Nursing Health Education on The Cognitive Level and Negative Emotions of Women Screened for Two Cancers

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Abstract： *Objective:* To analyze the effect of applying nursing health education in improving cognitive level and improving bad mood among women screened for two cancers. *Methods:* In our hospital from January to December 2024, 100 women who were screened for two cancers were selected to participate in the study. They were divided into groups using the random number table method, with 50 cases in each group. The research group applied nursing health education, and the control group applied routine health education. The data between the groups were compared. *Results:* Compared with the control group, the study group had a significantly higher mastery of knowledge related to cancer screening, a significantly lower psychological state score after the intervention, a significantly higher confronting score of coping styles after the intervention, a significantly lower avoidance and yielding score of coping styles after the intervention, and a significantly higher willingness to be screened for the two cancers, $P < 0.05$; compared with the pre-intervention psychological state scores and coping style scores of the two groups, $P > 0.05$. *Conclusion:* The effect of applying nursing health education in improving cognitive level and improving negative emotions among women screened for two cancers is ideal.

Keywords: nursing health education; women screened for two cancers; cognitive level; bad emotions

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1. Introduction

Two cancers are malignant tumors that pose a serious threat to women's reproductive health and life safety, including cervical cancer and breast cancer. The incidence rate is increasing year by year, and the incidence group is getting younger. In order to reduce the mortality rate of the two cancers and significantly improve the quality of life of screened women, it is necessary to carry out screening and diagnosis for women as early as possible, and to carry out early treatment for screened women [1]. Currently, my country's public health service has included it as a key research project. Clinical studies have found that most women do not understand relevant knowledge and have insufficient knowledge of the screening process, precautions and applicable groups. In addition, they are worried about abnormal screening results, have fear of the screening process, and have serious negative emotions. They may avoid or refuse to participate in two cancer screenings, and will miss the best opportunity for intervention. In order to improve the group's awareness of the two cancers, health

education needs to be carried out. After application, the negative mental state of screened women can be significantly improved. However, the application of conventional health education[2] mainly transmits a single message, which is not systematic and targeted, and the intervention effect is poor, while the application of nursing health education Education can start from the overall nursing concept, combine it with women's individual cognitive characteristics and psychological needs, and use diversified methods to provide women with precise health guidance. It can significantly improve women's cognitive cancer screening level[3], effectively alleviate women's negative emotions, and enhance women's willingness to be screened. This article selects 100 women screened for two cancers for data analysis to analyze the effect of nursing health education on women screened for two cancers in improving their cognitive level and improving bad mood.

2. Materials and methods

2.1. Information

From January to December 2024, 100 women screened for two cancers were selected to participate in the study in our hospital. They were divided into groups using random number tables, with 50 cases in each group. The age of the study group was 34-68 (48.25±5.26) years old, and the age of the control group was 33-67 (48.21±5.24) years old. Comparing the two sets of data, $P > 0.05$ was obtained.

2.1.1. Inclusion criteria

Participating in two cancer screenings; having good communication and understanding skills, normal cognition; voluntary participation and informed consent.

2.1.2. Exclusion criteria

Physiological defects; mental illness; malignant tumors.

2.2. Method

In the control group, routine health education was applied, and a brochure was distributed before screening. The manual included precautions and basic screening procedures. While waiting for the screening process, nurses needed to focus on oral explanations, emphasize the dangers of the two cancers and the importance of screening, and answer questions.

The research team applies nursing health education, specifically: (1) Personalized assessment: Before screening, communicate one-on-one with screened women to fully understand the relevant situation, not only to master their basic information, but also to understand their psychological concerns and awareness of the two cancer screenings, and build a personal health file, which is conducive to subsequent targeted intervention. (2) Stratified health education: Carry out corresponding education according to the different cognitive levels and educational levels of screened women, distribute brochures to women with high educational levels, provide professional popular science articles, provide corresponding video links for two cancer screenings, and provide information on the causes of disease, early symptoms, high-risk factors and Screening technology and other aspects will be explained in depth. For women with low education levels, the screening process and precautions will be explained in an easy-to-understand manner, and the significance of early screening for treatment will be informed. Pictures, animations and other methods can be used to assist women who are screened to ensure that they fully understand the relevant content. (3) Psychological intervention: Screened women may have negative emotions, such as fear, anxiety, etc. Nurses need to provide one-on-one psychological counseling, patiently listen to screened women's inner thoughts, provide corresponding comfort and emotional support, explain successful cases of curing two cancers after early screening, strengthen screened women's confidence in treatment, inform screened women of their comfort and safety during the examination, and eliminate fear. (4) Full follow-up guidance: Before screening, women need to be reminded to make corresponding preparations. For example, they need to avoid vaginal douching and sexual intercourse 3 days before screening. Screening cannot be done during the menstrual period. During the screening

period, nurses need to accompany them, answer questions, and effectively relieve the nervousness of women who are being screened. Afterwards, it is necessary to provide timely feedback on the test results, provide healthy lifestyle guidance to women with normal test results, provide patient explanations to women with abnormal test results to avoid unnecessary panic, assist women with abnormal two cancer screening results to carry out further examinations and diagnosis and treatment, and provide continuous health guidance and psychological support services.

2.3. Observation indicators

(1) Compare the mastery of knowledge related to two cancer screenings between the two groups. A questionnaire survey is used, and a score of less than 60 points is considered not mastered.

(2) Compare the psychological state scores of the two groups. Use the Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS) to evaluate, with high scores indicating poor mood.

(3) Compare the coping style scores of the two groups. Assessed using the Medical Coping Questionnaire (MCMQ), high scores indicate a preference for this coping style.

(4) Compare the willingness of two groups to be screened for two cancers. Ask to get.

2.4. Statistics

Data calculation was completed with statistical SPSS 28.0 software. Measurement data were described with $\bar{x}$ ±S, t test, count data was described with %, χ^2 test, P<0.05, statistically significant.

3. Results

Compared with the control group, the study group had a significantly higher mastery of knowledge related to cancer screening, a significantly lower psychological state score after the intervention, a significantly higher confronting score of coping styles after the intervention, a significantly lower avoidance and yielding score of coping styles after the intervention, and a significantly higher willingness to be screened for the two cancers, P < 0.05; Comparing the pre-intervention psychological state scores and coping style scores of the two groups, P > 0.05.

Table 1. Comparison of knowledge about two cancer screenings between the two groups (%)

Group	Mastery of knowledge related to cancer screening
Research group (n=50)	48(96.00)
Control group (n=50)	40(80.00)
χ^2	6.0606
P	＜ 0.05

Table 2. Comparison of psychological state scores between the two groups (points)

Group	SAS		SDS	
	Before intervention	After intervention	Before intervention	After intervention
Research group (n=50)	56.81±4.06	47.95±2.12	60.05±5.72	48.86±2.16
Control group (n=50)	56.67±4.12	50.41±2.23	59.96±5.81	51.02±2.25
t	0.1711	5.6534	0.0781	4.8969
P	0.05	＜ 0.05	0.05	＜ 0.05

Table 3. Comparison of coping style scores between the two groups (points)

Group	Face		Avoid		surrender	
	Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Research group (n=50)	12.15±2.06	16.45±2.18	18.03±3.02	2.25±0.67	15.25±2.47	2.06±0.25
Control group (n=50)	12.22±2.12	14.12±2.05	17.85±3.14	3.55±0.78	15.18±2.35	3.46±0.36
t	0.1674	5.5057	0.2922	8.9398	0.1452	22.5865
P	0.05	＜0.05	0.05	＜0.05	0.05	＜0.05

Table 4. Comparison of two groups' willingness to be screened for two cancers (%)

Group	High Willingness	Average Willingness
Research group (n=50)	45(90.00)	5(10.00)
Control group (n=50)	32(64.00)	18(36.00)
χ^2	9.5426	
P	＜0.05	

4. Discussion

In order to achieve early diagnosis and early treatment of female malignant tumors, two cancer screenings have been proposed clinically, and its participation and quality are directly related to female reproductive health. Currently, screened women lack cognition and have negative emotions, which will restrict the advancement of screening work[4]. Therefore, there is a clinical need to explore effective and scientific health intervention strategies to improve the quality of maternal and child health care services. This article analyzes this and shows that through nursing and health education, the cognitive level of women screened for two cancers has been significantly improved, and negative emotions have been effectively improved.

First of all, nursing health education can significantly improve the knowledge of two cancer screenings. This is because the research team carried out one-on-one assessment before screening, accurately located the cognitive blind spots and then established personal health files, and used layered education to adapt to the cognitive characteristics of women with different educational levels [5]. For example, for those with higher educational levels, Women provided professional popular science articles to help them deeply understand the causes of disease and high-risk factors. For women with lower education levels, they used easy-to-understand language for education and in-depth understanding of the screening process and cooperation points. The research group's knowledge mastery was 96.00%, which was significantly higher than that of the control group. At the same time, nursing health education carries out a full-process tracking and guidance model, which can transfer knowledge throughout the entire cycle, prepare preparation reminders before screening, and carry out result interpretation and health guidance after screening [6], which can also further ensure the cognitive improvement effect.

Secondly, after the intervention, the SAS and SDS scores of the research group were significantly lower than those of the control group. The reason was analyzed because nursing and health education improved screening women's cognition through two major ways: insufficient knowledge of cancer screening and negative emotional problems. The first was to improve cognition through accurate knowledge education to avoid irrational fear among screened women due to information asymmetry, and early detection of lesions It does not mean that the diagnosis of cancer can be obtained, and the best opportunity for intervention can be obtained. By sharing early cure cases in nursing, the confidence in the treatment of screened women can also be enhanced. The second is to carry out targeted psychological intervention and

build an emotional channel for screened women. Through one-on-one communication, and through the listening and emotional support of nurses, screened women can be encouraged to fully express their concerns and gain psychological security. In addition, accompanying the whole process of care and providing timely feedback on the results after screening [7] provides continuous psychological support to screened women, which can effectively alleviate their nervousness, provide corresponding explanations for women with abnormal results, and connect with diagnosis and treatment services, which can effectively reduce panic. The data shows that after the intervention, the SAS and SDS scores of the research group dropped to 47.95±2.12 points and 48.86±2.16 points respectively, which were significantly lower than those of the control group.

Furthermore, the application of nursing health education can actively reshape the coping styles of screened women. In this study, after the intervention, the study group's confrontation scores were significantly higher than those of the control group, and their avoidance and surrender scores were significantly lower than those of the control group. The reason is that the coping styles are closely related to the screening women's perceptions. Knowledge level and psychological state. Lack of cognition and emotional anxiety will lead to negative coping [8]. On the contrary, it will form face-to-face coping. In the process of nursing and health education, through personalized assessment, the coping tendencies of screened women can be clarified, which can be used in the process of psychological intervention and layered education. Targetedness helps screened women form a positive coping philosophy. If screened women have avoidance tendencies, the benefits of early intervention and the importance of screening are emphasized to guide their active participation, which can ensure the health of screened women. For screened women with a tendency to surrender, psychological counseling and case sharing can be used to establish health initiative, and with the continuous support of full-process tracking and guidance, screened women can enhance their confidence and ability to actively cope. This positive change will effectively improve the negative emotions of screened women, actively participate in screening, and form a virtuous cycle of health management.

Finally, the high willingness rate for cancer screening in the study group (90.00%) was significantly higher than that in the control group (64.00%). This result fully reflects the positive effects of cognitive improvement and mood improvement. The analysis shows that the awareness of the value of screening and the psychological acceptance during screening, as well as the proactive awareness of women who are screened for health management, will have an impact on their willingness to screen. In the process of nursing and health education, precise education is used to help screened women clearly understand the importance of two cancer screenings, so that they can detect and diagnose diseases as early as possible and actively intervene in the progression of the disease. After understanding this knowledge, women's willingness to screen is significantly improved. Through targeted psychological intervention, the negative emotions of screened women can be effectively alleviated, and the psychological resistance to screening can be significantly reduced. By reshaping the coping methods, the health initiative awareness of screened women can be strengthened, and the screened women can be encouraged to actively participate in two cancer screenings. In addition, through detailed care during the whole process of follow-up guidance, the degree of trust of screened women in the screening service can be improved, and the acceptance rate is significantly increased, so the willingness to be screened is further enhanced.

In summary, the effect of nursing health education in improving cognitive levels and improving negative emotions in women screened for two cancers is ideal. Moreover, the confrontation scores of coping styles after the intervention are significantly higher, the avoidance and yielding scores of coping styles after the intervention are significantly lower, and the willingness to be screened for two cancers is significantly higher. It is worthy of clinical use and promotion.

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Disclosure statement

The author declares no conflict of interest.

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