

## **Effect of solution focused approach on negative emotion and stress response in patients with uterine fibroids receiving MRI examination.**

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### **Abstract**

**Objective:** To investigate the effect of solution focused approach on negative emotions and stress responses in patients with uterine fibroids receiving MRI examination.

**Methods:** 84 patients diagnosed with uterine fibroids in the gynecology department of the hospital from January 2016 to October 2016 were selected, and they were divided into the two groups: observation group and control group according to the random number table, 42 cases in each group. Patients in the control group received the routine health education and psychological intervention. Patients in the observation group received the Solution Focused Approach intervention on the basis of routine health education and psychological intervention. The compliance, satisfaction, negative emotion and stress response of patients in the two groups were compared.

**Results:** Compared with the control group, the compliance rates and satisfaction rates of patients in the observation group were increased significantly after examination ( $P < 0.05$ ). The Self-rating Anxiety Scale (SAS) score of patient in the observation group after examination is  $41.60 \pm 5.15$  and that in the control group is  $52.53 \pm 5.39$ . The score comparison of two groups has significant difference and statistical significance ( $P < 0.05$ ). The Self-rating Depression Scale (SDS) scores of observation group and control group are  $45.53 \pm 5.36$  and  $50.62 \pm 5.78$ . The comparison of two decreased groups has significant difference and statistical significance ( $P < 0.05$ ). The decrease degrees of Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP) and heart rate in the observation group were significantly higher than those in the control group after examination ( $P < 0.05$ ).

**Conclusion:** Solution Focused Approach intervention can effectively reduce the negative emotions and stress responses of patients with uterine fibroids receiving MRI examination.

**Keywords:** Solution focused approach, Uterine fibroid, MRI, Negative emotion, Stress response.

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### **Introduction**

Uterine fibroid is a common gynecological disease, with main clinical symptoms of back pain, prolonged menstruation, shortening of cycles and secondary anemia, which brings great adverse influence on women's reproductive health, social medical resources and health economy [1]. MRI, with a multi-directional imaging and PDW1, T2W1, cross-sectional T1W1, can show a clear boundary of the lesion, and have a multi-parameter selection, to enhance the accuracy of the diagnosis of uterine lesions [2]. However, due to the large scan noise and longer scanning time, and relatively closed scanning room, patients may have fear and anxiety, affecting patient's examination compliance, thereby reducing the image quality and affecting the examination results.

Solution focused approach is a kind of psychological intervention approach, focusing on the positive direction of

persons and emphasizing to maximize the potential of individuals or groups to solve the problem [2]. As an effective approach of psychological intervention, solution focused approach interventions are widely used in clinical patients and achieved good results. In this study, solution focused approach was applied to patients with uterine fibroids receiving MRI examination, to reduce the patient's negative emotions and stress responses.

### **Materials and Methods**

#### **Subjects**

Eighty-four patients diagnosed with uterine fibroids in the gynecology department of the hospital from January 2016 to October 2016 were selected, aged 36 to 54 y, mean age of 42.5 y. They were diagnosed with uterine fibroid clinically, and

ultrasound examination showed that the fibroid diameter was greater than 2 cm. All patients signed informed consent. Those patients with cervical fibroids, TCT abnormalities, pelvic adhesions, retroversion and combined with severe heart, liver and kidney diseases and receiving radiotherapy and chemotherapy were excluded, and those in the menstrual period, lactating and pregnancy period were excluded. Patients were divided into two groups: observation group and control group, 42 cases in each group. The general data between the two groups had no statistically significant difference ( $P>0.05$ ), and they were comparable.

### ***Intervention method***

The two groups of patients received routine health education and psychological intervention before examination, and they were informed relevant matters needing attention during MRI examination. Patients were advised to select appropriate position and relax themselves to receive the examination. At the end of examination, patients were asked to drink more water to promote the discharge of the contrast agent as soon as possible. In the observation group, solution focused approach intervention was adopted on the basis of routine nursing.

### ***Intervention***

Before the intervention, professionally trained nurses would communicate with patients and establish a good nurse-patient relationship. During intervention, patient's intentions should be fully respected and intervention was implemented gradually.

1) **Description of problems:** A good relation should be established with the main caregiver of patient, and through communication, to ask them to tell his/her own psychological feelings and know his/her problems and real thoughts during nursing the patients.

2) **Construction of a feasible goal:** Help patients to face the adverse effects of diseases and establish a clear goal of treatment, so as to enable patients to better achieve the goal and enhance the patient's confidences.

3) **Probing exceptions:** Patients were correctly guided to feel the effect of diseases on themselves and their families, and think the problems from another aspect, so that patients could be aware that they may have unexpected growth and harvest during the process despite the unfortunate illness.

4) **Feedback:** For the previous efforts made by the main caregivers, explore their own advantages and favourable resources for dealing with problems, and give them appropriate praise and encouragement, strengthen their initiatives and achieve the goal.

5) **Evaluation on their progress:** Perform evaluation on the patient's vital signs, emotional state, and give patients appropriate encouragements even for their little progress, to help them to get social supports.

*Table 1. Treatment compliance and satisfaction of patients in the two groups.*

### ***Observation indexes***

1) **Compliance and satisfaction:** The compliance was evaluated by the compliance evaluation form, mainly containing examination compliance, treatment compliance, medication compliance, compliance of nursing, and compliance of life management. In each aspect, it was evaluated by 1 to 5 points, 1 point represented non-compliance, 2 points represented occasional compliance, 3 points represented often compliance, 4 points represented basic compliance, and 5 points represented full compliance, total score of 25 points, if the score was  $\geq 20$  points, it indicated good compliance and if the score was  $<20$  points, it indicated poor compliance. The evaluation of satisfaction was implemented according to the patient satisfaction questionnaire, including scoring on professional nursing, nurse-patient communication, nurse's attitude and nursing records, etc. The total score was 100 points and it represented satisfactory when the score was more than 90 points ( $>90$ ). After examination, the patient's compliance and satisfaction were checked.

2) **Negative emotion and stress response:** For negative emotion, patient's anxiety and depression were evaluated using Self-rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS). The two scales were composed by 20 items, 1 to 4 points for each item, total score of 20 to 80 points. 50 points was used as the critical value of SAS, and 53 points was used as the critical value of SDS, the higher the score, the more serious the anxiety and depression. For the stress responses, the changes in the SBP, DBP and heart rate of patients before and after examination were recorded by professional nursing staffs.

### ***Statistical processing***

Statistical analysis was performed by SPSS18.0. The measurement data were expressed as mean  $\pm$  standard deviation ( $\bar{x} \pm s$ ). The measurement data between groups were compared by t test.  $P<0.05$  was considered statistically significant difference.

## **Results**

### ***Treatment compliance and satisfaction of patients in the two groups***

The treatment compliance and satisfaction of patients in the two groups were shown in Table 1. As shown from Table 1, compared with the control group, the compliance rate and satisfaction rate of patients in the observation group were increased significantly ( $P<0.05$ ), suggesting that the solution focused approach intervention could enhance the compliance and satisfaction of patients with uterine fibroids receiving MRI examination.

Group	Number of cases (n)	Compliance rate	Satisfaction rate	General satisfaction rate	Dissatisfaction rate
Observation group	42	41 (93.55%)	36 (87.11%)	6 (12.89%)	0
Control group	42	29 (70.97%)	27 (64.52%)	10 (23.58)	5 (11.90%)

***Negative emotions of patients before and after examination in the two groups***

The negative emotions of patients before and after examination in the two groups were shown in Table 2. As shown from Table 2, there were no significant differences in the SAS and SDS scores of patients before examination between the two groups.

After examination, the SAS and SDS scores of patients were decreased significantly in the two groups; and the values of SAS and SDS scores in the observation group were significantly lower than those in the control group, showing statistically significant differences (P<0.05).

**Table 2.** Negative emotions of patients before and after examination in the two groups.

Group	Number cases	SAS score		SDS score	
		Before examination	After examination	Before examination	After examination
Observation group	42	52.61 ± 5.75	41.60 ± 5.15	56.26 ± 6.88	45.53 ± 5.36
Control group	42	52.53 ± 5.39	46.80 ± 5.73	55.92 ± 6.25	50.62 ± 5.78
P value		0.91	0.02	0.61	0.02

Note: Compared with the difference before and after examination in the control group, P<0.05 in the observation group.

***Stress responses of patients before and after examination in the two groups***

The stress responses of patients before and after examination in the two groups were shown in Table 3. As shown from Table 3, there were no significant differences in the SBP, DBP and heart rate of patients before examination between the two groups.

After examination, the SBP, DBP and heart rate of patients were decreased significantly in the two groups and the values in the observation group were significantly lower than those in the control group, showing statistically significant differences (P<0.05).

**Table 3.** Stress responses of patients before and after examination in the two groups.

Item	Number of cases	SBP/mmHg		DBP/mmHg		Heart rate (times/min)	
		Before examination	After examination	Before examination	After examination	Before examination	After examination
Observation group	42	134.2 ± 14.2	115.8 ± 15.7	81.3 ± 5.2	70.2 ± 4.5	88.2 ± 12.4	70.2 ± 3.6
Control group	42	133.4 ± 14.8	125.2 ± 15.6	81.2 ± 4.8	80.2 ± 5.4	87.9 ± 11.3	86.2 ± 5.7
P value		0.875	0.001	0.718	0.003	0.789	0.001

Note: Compared with the difference before and after examination in the control group, P<0.05 in the observation group.

**Discussion**

Uterine fibroids are common gynecological diseases, which can be diagnosed by ultrasound contrast, CT, PET and MRI enhanced scan, etc. The MRI, with the feature of high soft tissue resolution and three-dimensional imaging, is used as an important supplementary technique for B ultrasound. Routine MR Examination should be performed for patients with uterine fibroid before operation, which can make up the deficiency of B-ultrasound in finding lesions and qualitative examination.

Clinically, studies have shown that, patients have varying degrees of anxiety and depression before MRI examination,

and the bad mood can lead to a variety of physiological reactions of the body, promote catecholamines and sympathetic nerve excitement, so that patients show shortness of breath, palpitations, chest tightness, irritability, etc., in such state, the images of MRI enhanced scanning may be blurred, affecting the examination effect and aggravating the patient's discomforts [3]. Some patients may refuse the examination and treatment due to lack of confidence in their own diseases. At the same time, patients should be attended (psychological support and nurse-patient communication), to significantly enhance the treatment compliance. In this study, the

compliance rate and satisfaction rate in the observation group were significantly higher than those in the control group.

Solution focused approach emphasizes the nursing staff's understanding of the problem, which is not limited to the problem itself; it emphasizes to make full use of patient's own resources to help them find problems and solve them, and enhance patients confidence to fight against the disease [4]. Its key is to help patients build constructive solutions, and use their own resources and potential to solve the current nursing problems and puzzles [5]. In this study, after the Solution focused approach intervention was implemented, the negative emotion indexes (SAS score, SDS score) and the stress response indexes (SBP, DBP, heart rate) of patients in the observation group were decreased significantly compared with those before examination; and compared with the control group after examination, the decrease rate was significantly lower, showing statistical significance. The results suggested that, the Solution Focused Approach intervention could significantly decrease the negative emotion and stress response indexes of patients, which were consistent with those reported in relevant literatures [6].

In summary, the solution focused approach could significantly enhance the compliance and satisfaction, and reduce negative emotions and stress responses of patients when used in patients with uterine fibroids receiving MRI examination.

## References

1. Lu JZ. Nursing experiences of 3.0T magnetic resonance abdominal dynamic enhanced scan. *J Nurs Training* 2013; 28: 2182-2183.
2. Jianfen N, Wenming H. Effect of individual mental intervention on psychologic status of 5 patients with breast cancer in gestation period. *Nurs Rehabil J* 2014; 13: 80-82.
3. Yan Y. Application of solution focused approach in psychological nursing of patients with breast cancer. *Clin Med* 2012; 32: 122-124.
4. Zhao M, Ren L, Ning L. Application of solution focused approach in improving anxiety depression of breast cancer patient in perioperative period. *Chin J Mod Nurs* 2014; 20: 1003-1006.
5. Chen ZL, Jiang JF, Zeng S. Effect of Solution Focused Approach on negative emotions and countermeasures of cancer patients receiving chemotherapy. *J Clin Med Pract* 2016; 20: 167-169.
6. Chen BX, Zeng P. Effect of Solution Focused Approach on negative emotions and stress responses of patients with breast cancer receiving MRI examination. *Nurs Rehabil J* 2015; 14: 615-618.

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