



The Effect of Cognitive Behavioral Therapy Combined with Standardized Nursing on the Success Rate of Egg Retrieval and Embryo Transfer in IVF

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Abstract

Objective To analyze and discuss the effect of cognitive behavioral therapy combined with standardized nursing on the success rate of IVF egg retrieval and embryo transfer. **groups** were compared before and after nursing. **Results** After nursing, the psychological status of the observation group (33.6 ± 2.1 , 40.32 ± 4.43) was better than that of control group ($P < 0.05$). The success rate of operation in observation group was higher than that in control group ($P < 0.05$). IVF egg retrieval and embryo transfer is obvious, and it is worthy of widespread popularization and application.

Keywords

Cognitive behavioral therapy; Standardized nursing; IVF egg retrieval; Embryo transfer; Success rate

In recent years, for some patients with reproductive disorders, reproduction can be achieved by extracting eggs from test tubes and transplanting embryos. The implementation of this technology can significantly increase the success rate of pregnancy for patients with fertility disorders [1]. Test tube babies, commonly known as in vitro fertilization and embryo transfer technology, refers to the artificial transfer and fertilization of eggs and sperm in vitro of early embryonic development, and then transfer to the mother's uterus to produce a baby. The successful collaboration between British gynecologist Patrick Steptoe and physiologist Robert Edwards caused a sensation in the international scientific community [2]. Due to the long time of manual assistance during the process of test tube baby egg retrieval and embryo transfer, it may cause emotional distress or some physical complications to the patient. Therefore, effective care is very necessary during this process. This article aims to analyze and discuss the effect of cognitive behavioral therapy combined with standardized nursing on the success rate of test tube baby egg retrieval and embryo transfer. The specific report is as follows.

1. Materials and Methods

1.1 General Information

The study involved 80 patients who underwent in vitro fertilization (IVF) egg retrieval and embryo transfer at the hospital between January 2023 and March 2024. The patients were divided into an observation group (40 patients, aged 23 to 38 years, average (30.20 ± 4.31) years) and a control group (40 patients, aged 22 to 39 years, average (31.00 ± 5.34) years). There was no statistically significant difference in general information ($p > 0.05$).

1.2 Methods

1.2.1 Control Group

The control group received routine care: the nursing staff explained the knowledge about in vitro fertilization egg retrieval and embryo transfer, basic daily care, and surgical precautions.

1.2.2 Observation Group

The observation group received cognitive behavioral therapy combined with standardized nursing care

1. Cognitive behavioral therapy: a. Cognitive assessment: Understand the patient's understanding of IVF technology. Conduct a semi-structured interview tailored to the patient's specific situation to understand their care needs, focusing on the care and knowledge they desire, and provide cognitive education. b. Cognitive restructuring: Organize relevant information about the condition into a portable booklet and distribute it to each patient, encouraging them to spend time studying and improving their understanding of the procedure. Nurses can communicate with patients during the education process to understand their psychological well-being and tailor health education to their specific circumstances, such as their personality, education level, and family situation. c. Psychological cognition: Utilize structured, short-term, and cognitively oriented psychotherapy. Nurses focus on patients' negative emotions, actively communicate with them, accept all their emotions, and engage them in interaction. Provide various forms of psychological counseling to address the various causes of negative emotions and help patients understand the dangers and negative impacts of negative emotions on recovery and surgical outcomes. For anxious patients, it is important to divert their attention to things other than the disease itself. Daily activities such as playing music and reading newspapers and magazines can help calm their mind and body. For patients experiencing depression, family members are encouraged to spend time with the patient, increase family support, and create a suitable and calming psychological environment. Pay more attention to patients, use language to promote their mental health, actively support and communicate with patients. Think from both psychological and physical perspectives, and pay attention to caring for patients. From the very beginning, treat them as close people, so that they can develop a certain degree of dependence on the nursing staff, gain the patient's confidence, and increase the probability of successful surgery.

2. Standardized Nursing Care: a. Preoperative Care: Three to seven days before the procedure, the nurse will inform the patient's husband about self-ejaculation. Two days before and on the day of the procedure, the patient will be assisted in vaginal cleansing. Both the husband and wife should bathe and cleanse. Breakfast is recommended on the day of the procedure. The patient will be re-introduced to a large number of successful surgical cases to help them maintain a calm and trusting attitude during the procedure. b. Postoperative Care: The nurse must monitor all patients' physical signs and symptoms and check for vaginal bleeding or abdominal pain. If any concerns are detected, the attending physician must be notified and immediate action taken. After the embryo transfer procedure, the patient should rest adequately and avoid strenuous exercise to improve the success rate of the embryo transfer. The patient should be carefully monitored for symptoms of ovarian hyperstimulation syndrome. c. Daily Activities: After the embryo transfer procedure, the patient is advised to rest for 3-5 days to avoid fatigue. The patient and family members should be reminded to take medications appropriately and continue luteal support until the day of the pregnancy test. The patient should be informed that medications should not be discontinued or the dosage adjusted without permission. The family members should be instructed to monitor the patient for adverse reactions to the medications and notify the physician promptly if any adverse reactions are severe. Simple walking activities are permitted, but strenuous physical activity should be avoided. Sexual activity and sitz baths are prohibited for one month after surgery. During follow-up, medical staff and nurses jointly develop discharge and rehabilitation plans, implement discharge training, and conduct satisfaction assessments. One week later, patients' readiness for home rehabilitation is monitored via telephone monitoring. High-quality rehabilitation services are provided, integrating medical services with patient care.

1.3 Observation Indicators

1. The Self-Rating Depression Scale (SDS) and the Self-Rating Anxiety Scale (SAS) have 20 items. The higher the score, the worse the psychological condition.

2. Surgery success rate.

3. Occurrence of complications.

1.4 Statistical Methods

SPSS 23.0 software was used to process and analyze the data. Statistical data ($\bar{x} \pm s$) were analyzed using *t*-tests, and enumeration data (%) were analyzed using χ^2 tests. $P < 0.05$ indicated statistical significance.

2. Results

2.1 Psychological Status

before nursing ($P > 0.05$); after nursing ($P < 0.05$), see Table 1.

Table 1. Comparison of psychological status ($\bar{x} \pm s$, points)

Group	Number of cases	SDS		SAS	
		Before care	After care	Before care	After care
Observation Group	40	65.5 ± 4.3	33.6 ± 2.1	55.25 ± 4.14	40.32 ± 4.43
control group	40	65.4 ± 2.2	43.1 ± 3.6	55.83 ± 4.53	48.43 ± 4.15
<i>t</i>	--	0.1309	14.4163	0.5977	8.4498
<i>P</i>	--	0.8962	0.0001	0.5517	0.0001

2.2 Surgical Success Rate

In the observation group, 39 cases underwent successful surgery, with a success rate of 97.5%. In the control group, 33 cases underwent successful surgery, with a success rate of 82.5%. The success rate of the observation group was higher than that of the control group ($\chi^2 = 12.5000$, $P < 0.05$).

2.3 Surgical Success Rate

In the observation group, there were 1 case of abdominal pain, 1 case of abdominal distension, 1 case of constipation, and 0 case of bleeding, with a total incidence of 7.5%; in the control group, there were 4 cases of abdominal pain, 5 cases of abdominal distension, 3 cases of constipation, and 2 cases of bleeding, with a total incidence of 35.0%. The risk rate of complications in the observation group was lower than that in the control group ($\chi^2 = 22.5957$, $P < 0.05$).

3. Discussion

There is no significant difference between babies born through in vitro fertilization (IVF) and naturally, mainly due to the difference in the method of conception, which mainly occurs in the fallopian tube. In vitro fertilization is not a baby that actually grows in a test tube, but a baby that is created by taking some eggs from the ovaries in the laboratory, combining them with male sperm to form an embryo, and then transferring it to the uterus to allow it to develop in the uterus [3]. Normal conception requires the sperm and egg to meet in the fallopian tube, where they combine to form a fertilized egg and then return to the uterine cavity to continue the pregnancy. In vitro fertilization technology brings good news to patients who have difficulty conceiving, but clinical experience shows that the treatment process only focuses on the patient's quality of life, not their emotional changes during the treatment. Some patients may give up halfway due to pain, fear, etc. [4].

Nursing is the main method in clinical practice. Traditional nursing care includes measuring the patient's vital signs, helping the patient to carry out daily activities, providing medication and dietary care to maintain the patient's physiological function during treatment and ensure the patient's comfort and safety. Traditional nursing staff only focus on the patient's quality of life and fail to consider the patient's emotional changes throughout the treatment process. Patients who experience painful stimulation, psychological and emotional fear, and other influencing factors may stop treatment midway or reduce their nursing cooperation, ultimately leading to pregnancy failure. With the change of modern medical model, the role of psychological care has been increasingly valued. As a very practical discipline, psychological nursing has been widely recognized and implemented in clinical nursing teaching. As an important part of the modern nursing model, psychological nursing should cover the entire clinical nursing process and all aspects of nursing training. Through psychology, communication skills can be mastered and strengthened, and psychological counseling can be provided. Psychological nursing can reduce patients' fear and depression. Through multidimensional psychological care, patients can adjust their psychological state, reduce psychological stress, and increase psychological construction. Cognitive behavioral therapy is a short-term cognitive psychotherapy method developed by T.T. Beck in the 1960s, focusing on mental illnesses such as depression, anxiety, and psychological

problems caused by irrational knowledge [5]. The focus is on addressing patients' incorrect cognitive problems and changing their views and attitudes toward the past, people, or things to address psychological issues. Cognitive behavioral therapy suggests that treatment is not simply a behavioral response to a goal; it also requires strategies to analyze the patient's thinking and mental state, identifying and correcting erroneous cognitive situations. Standardized nursing care is based on caring for the patient. All efforts revolve around the patient's psychology and physiology, and appropriate intervention methods are developed, fully embodying the nursing philosophy of "patient -first " [6-8]. During implementation, greater attention should be paid to the patient's actual needs, which is crucial for further stabilizing patients' emotions and improving their physical and mental health. Nurses should also uphold professional ethics, continuously improve their professional qualities and skills, maintain a positive professional image in accordance with nursing ethics, and provide patients with professional, high-quality nursing services. The results of the study showed that the post-nursing psychological status of the observation group was better than that of the control group, the surgical success rate was higher, and the complication rate was lower. This suggests that the combined effect of cognitive behavioral therapy and standardized nursing care is significant and has important clinical application value.

In summary, the use of cognitive behavioral therapy combined with standardized nursing has a significant impact on the success rate of in vitro fertilization egg retrieval and embryo transfer. It can effectively improve the psychological state and increase the success rate of the operation, and has important application value.

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