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Application of Solution-Focused Approach in Nursing Care of Advanced Schistosomiasis

Ning Li*, Yuhong Zhao, Meiling Qi, Biao Zhang, Zhimei Wang

Nanjing Jiangning District Center for Disease Control and Prevention, Nanjing 211100, Jiangsu Province, China

Corresponding author: Ning Li, liningreal@163.com

Abstract: *Objective:* To analyze the effect of solution-focused approach on advanced schistosomiasis (AS). *Methods:* 10 cases of patients with AS that were treated with a solution-focused approach were included in our study. The indicators before and after the intervention were measured (knowledge mastery, prevention and treatment compliance, personal behavior, self-care ability, management satisfaction, complication rate). *Results:* After analyzing pre- and post-intervention indicators, statistical significance was found ($P < 0.05$). The intervention received a satisfaction rate of 80.00%, with a complication rate of 10.00%. *Conclusion:* Using a solution-focused approach for ankylosing spondylitis (AS) patients can enhance their understanding and attitude toward disease prevention and treatment, improve their behaviors and self-care ability, resulting in high satisfaction and reduced complications.

Keywords: Solution-focused approach; Advanced schistosomiasis; Knowledge mastery; Prevention and treatment attitude

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1. Introduction

Advanced schistosomiasis (AS) is a severe parasitic infection resulting from schistosomiasis. China was previously heavily affected by this disease. Patients with AS require ongoing care and treatment to alleviate symptoms, enhance their quality of life, and ultimately achieve remission and rehabilitation [1]. However, conventional intervention alone cannot fully meet the needs of the patients, and may lead to complications such as hepatic encephalopathy. The solution-focused approach is a novel management strategy that tailors care to patients' unique needs and specific issues, offering personalized and comprehensive intervention plans. In this context, this study examined 10 cases of AS patients to assess the impact of the solution-focused approach intervention.

2. Materials and methods

2.1. General information

The study started in May 2021 and the ended in May 2023. 10 patients with AS in the charge of the Center for Disease Control and Prevention (CDC) were included, which consisted of 6 males and 4 females; the age

ranged from 64 to 82 years old, with an average of 70.28 ± 2.71 years; in terms of marital status, 1 patient was unmarried, 7 were married, 1 was widowed, and 1 was divorced.

2.2. Methods

The solution-focused approach was implemented through a structured training plan. This involved defining the approach, identifying its advantages, and formulating key management principles. CDC staff conducted literature reviews and brainstorming sessions to enhance the management strategy. Subsequent services were provided in designated stages: (i) CDC staff communicated with patients regularly, establishing trust and addressing concerns subtly. Misconceptions were clarified, treatment plans were explained, and long-term adherence was encouraged. (ii) Feasible self-care goals were set through face-to-face discussions with patients and their families. Goals started with simpler ones and progressively advanced. Positive behaviors were encouraged, and support was provided. (iii) Exceptions and challenges were explored to enhance problem-solving skills. Patients' correct attitudes were praised, and effective solutions were discussed to increase awareness of related issues. (iv) Daily evaluations were conducted, providing timely feedback and guidance. Praise and positive language were used, guiding patients to change existing behaviors and focus on self-care. (v) Weekly evaluations assessed progress, identified gaps, and offered improvement strategies to enhance the management approach's effectiveness.

2.3. Observation indicators

A self-designed questionnaire was employed to evaluate patients' knowledge mastery, attitudes towards prevention and treatment, and health-related behaviors. The questionnaire covered aspects such as disease symptoms, transmission routes, risks, treatment choices, prevention of complications, diet, and exercise, each with a maximum score of 100 points. Personal behaviors include diet, treatment compliance, and medication adherence, each of which is worth 100 points. The study utilized a self-care ability measurement scale comprising self-concept, health status, self-care skills, and self-care responsibility, each rated up to 42 points, indicating better self-care ability with higher scores. Management satisfaction was assessed through a self-developed scale, encompassing service attitude, operational skills, and communication efficiency, with a maximum score of 100. Categories for satisfaction were set as highly satisfied (> 75 points), satisfied (45–75 points), and dissatisfied (< 45 points). Furthermore, complications such as spontaneous peritonitis, gastrointestinal bleeding, and hepatic encephalopathy were monitored and recorded.

2.4. Analytical statistics

The data was processed with high precision by SPSS 20.0. The measurement data was compared/tested with a *t*-test, and the count data was compared/tested with a x^2 test. $P < 0.05$ indicates statistical significance

3. Results

3.1. Comparing the degree of knowledge mastery before and after the intervention

Compared with the degree of knowledge mastery before and after the intervention, the data was recorded as $P < 0.05$.

Table 1. Comparison of knowledge mastery before and after intervention (mean ± standard deviation, min)

	Number of cases	Disease symptoms	Transmission route	Disease hazard	Treatment programs	Complication prevention	Daily diet and exercise
Before intervention	10	87.15 ± 4.17	88.21 ± 3.50	87.16 ± 4.15	90.76 ± 2.76	89.17 ± 3.72	88.27 ± 3.80
After intervention	10	92.56 ± 4.33	93.26 ± 3.54	92.79 ± 4.17	94.33 ± 2.81	93.66 ± 3.75	93.79 ± 3.82
t	-	2.846	3.208	3.026	2.866	2.688	3.240
P	-	0.011	0.005	0.007	0.010	0.015	0.005

3.2. Comparison of attitude towards prevention and treatment before and after intervention

The scores in terms of attitude towards prevention and treatment were significantly higher after intervention ($P < 0.05$), as shown in **Table 2**.

Table 2. Comparison of prevention and treatment attitude scores before and after intervention (mean ± standard deviation, point)

	Number of cases	Disease prevention attitude	Check-up attitude	Treatment attitude
Before intervention	10	90.02 ± 2.71	89.33 ± 2.41	90.32 ± 2.57
After intervention	10	93.58 ± 2.74	94.53 ± 2.63	95.12 ± 1.67
t	-	2.921	4.610	4.952
P	-	0.009	0.000	0.000

3.3. Comparison of personal behavior before and after intervention

The scores for personal behavior were much higher after intervention ($P < 0.05$), as shown in **Table 3**.

Table 3. Comparison of health behavior scores before and after intervention (mean ± standard deviation, point)

	Number of cases	Eating behavior	Treatment behavior	Medication behavior
Before intervention	10	81.23 ± 3.61	85.33 ± 3.45	84.29 ± 3.57
After intervention	10	89.21 ± 3.75	90.11 ± 3.61	90.33 ± 3.60
t	-	4.848	3.027	3.767
P	-	0.000	0.007	0.001

3.4. Comparison of self-care ability scores before and after intervention

The scores for self-care ability were much higher after intervention ($P < 0.05$), as shown in **Table 4**.

Table 4. Comparison of self-care ability scores before and after intervention mean ± standard deviation, point)

	Number of cases	Self-awareness	Fitness level	Self-care ability	Self-care responsibility
Before intervention	10	28.33 ± 2.46	27.16 ± 3.05	30.22 ± 2.84	25.13 ± 2.97
After intervention	10	35.94 ± 2.61	36.74 ± 3.14	38.94 ± 2.70	30.02 ± 2.87
t	-	6.710	6.921	7.037	3.744
P	-	0.000	0.000	0.000	0.001

3.5. Intervention satisfaction

Five patients were highly satisfied with the treatment given, accounting for 50.00%; while 3 patients were satisfied, accounting for 30.00%; and 2 cases were dissatisfied, accounting for 20.00%; the total rate of satisfaction was 80.00%.

3.6. Rate of complication

There was no gastrointestinal bleeding and hepatic encephalopathy in the patient, and there was 1 case of spontaneous peritonitis, and the complication rate was 10.00%.

4. Discussion

AS is a disease resulting from schistosomiasis infection, involving a life cycle with two hosts: snails and humans or other mammals [2,3]. When infected snails release schistosomiasis cercariae and they come into contact with human skin, the cercariae enter the bloodstream, settle in blood vessels of the liver and intestines, and mature into adults. Mating and egg-laying occur, with some eggs deposited in various organs and excreted with feces. This cycle can lead to reinfection through contaminated water sources. Symptoms vary based on infection severity and individual variations. Common symptoms of schistosomiasis include intestinal issues like abdominal pain, diarrhea, and bloody stools, as well as bladder symptoms such as frequent urination, painful urination, and hematuria. Hepatobiliary symptoms like hepatomegaly (enlarged liver) and jaundice can also occur. Nervous system symptoms like headaches, memory loss, and convulsions are also possible manifestations of the disease [4]. AS poses significant health risks to the body. Schistosomiasis can parasitize in organs like the intestines, bladder, and liver. Prolonged infection can result in conditions such as organ inflammation, ulcers, fibrosis, and even tumor formation. Impaired intestinal absorption can lead to malnutrition and anemia in patients, while also compromising their immune function [5]. In addition, the eggs of the parasite can cause an inflammatory response in the nervous system, resulting in damage to the nervous system, which may lead to serious neurological disorders in the long run.

Patients with AS need to receive systematic treatment to eliminate pathogens, alleviate symptoms, and prevent related complications. Proper clinical management is needed to ensure the therapeutic effect of the treatment [6,7]. Conventional management interventions for AS have limitations, such as being one-dimensional, lacking effective communication, and having limited scope in terms of management content. To address these issues, a solution-focused approach is employed. This approach focuses on the patient's strengths, resources, and problem-solving abilities rather than focusing solely on the root of the problem [8]. The principle behind the solution-focused approach is that the patient's behavior will be more positive when he/she focuses on the desired outcome. It encourages the patient to think about and describe their desired solution in order to better understand the goal and direction of the problem. Then, the patients are guided to achieve self-care according to their resources, abilities and strengths [9,10]. The solution-focused approach enables progress through incremental and rapid steps. It involves collaboratively developing practical and specific action plans with patients to break down overarching goals into smaller, achievable milestones. This process establishes a pattern of success. Moreover, this approach fosters patient engagement by encouraging them to explore potential solutions and positive changes through dialogue and questioning. It guides patients in contemplating self-care objectives, actions, and outcomes, ultimately enhancing their adherence to treatment [11].

The results showed that after the intervention, the scores of knowledge mastery, attitude towards prevention and treatment, personal behavior, and self-care ability were all significantly improved, and the patients were generally satisfied with the treatment program. Besides, the rate of complications was also low.

The reason is that the solution-focused approach focuses on discovering and utilizing the patient's resources and abilities. Through fostering a collaborative relationship and enhancing nurse-patient communication, this approach enables patients to recognize their existing knowledge and skills. This process boosts their self-confidence and motivation, subsequently enhancing their capacity to acquire knowledge, shift attitudes, and embrace constructive health behaviors [12]. This approach encourages patients to participate in the development of feasible, quantifiable self-care goals. This clear goal setting helps patients better understand and take ownership of their own behaviors, thereby enhancing their ability to care for themselves. Emphasis on exceptions and timely feedback emphasizes exceptions and positive behaviors of patients in solving problems [13,14]. The CDC staff recognizes the correct attitude and positive attempts of patients, and gives timely feedback and recognition to patients, which can motivate patients to maintain healthy behaviors and enhance their sense of recognition for their own efforts. The staff's detailed explanation of the pathogenesis and treatment plan of AS can help patients understand the nature of the disease and the importance of treatment and improve their confidence in the treatment, thus effectively controlling the progression of the disease, and avoiding risk factors for complications [15]. In addition, the staff evaluates the patient's management effectiveness on a daily basis and gives timely positive feedback and guidance, which can enable patients to understand the progress of the disease and enhance their awareness of their own efforts, thereby improving self-care ability and management satisfaction.

5. Conclusion

In conclusion, the solution-focused approach proves to be a valuable routine intervention for AS patients, effectively enhancing their treatment knowledge and behaviors, while maintaining a high level of safety and benefit.

Disclosure statement

The authors declare no conflict of interest.

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