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Correlation Analysis between Self-Disclosure and Social Support in Patients with Breast Cancer

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Abstract

Objective: Describe the status quo of self-disclosure and social support in breast cancer patients and analyze the correlation between them. **Methods:** General data questionnaire, distress disclosure Index scale and Chinese version of medical social support scale were used to investigate the correlation between self-disclosure and social support in breast cancer patients by Pearson correlation analysis. **Results:** 1) The total self-disclosure score was (38.75 ± 9.18); the total score of social support was (70.57 ± 14.04) scores, including emotional information support dimension (28.39 ± 6.06) scores, practical support dimension (15.62 ± 3.31) scores, elastic support dimension (14.85 ± 3.23) scores, and emotional support dimension (11.70 ± 2.56) scores. 2) Self-disclosure was positively correlated with social support (r = 0.433, p < 0.01). **Conclusion:** Breast cancer patients had a moderate level of self-disclosure, and the higher the level of self-disclosure, the better the social support. It is suggested that improving the self-disclosure level of breast cancer patients can help them obtain more social support.

Keywords

Breast Cancer, Self-Disclosure, Social Support

1. Introduction

The concept of self-disclosure, first proposed by psychologist Sidney Jourard, involves the process by which individuals sincerely share personal information, private thoughts or emotions with others through communication [1], and is widely

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used in psychology. In recent years, Chinese scholars have studied the self-disclosure of cancer patients from the perspective of nursing, and redefined it to include the communication mode and interaction mode between patients and caregivers or listeners. This self-disclosure covers the patient's expression of their own cognition, emotions, consciousness, and experiences during the course of the disease, as well as their feedback on the external environment and attitudes of others [2]. As an effective means to maintain mental health and deal with psychological problems, self-disclosure has been applied especially in cancer patients, which helps to promote the improvement of patients' mental health and quality of life [3] [4]. Therefore, clinical staff should attach great importance to self-disclosure of breast cancer patients, and actively introduce interventional studies based on self-disclosure into breast cancer patients, which can help reduce negative emotions and psychological pressure of breast cancer patients, and thus improve the quality of life.

Social support refers to help and support from all aspects of society, including material and spiritual support provided by individuals or organizations such as family, friends, colleagues, neighbors, etc. This support can be manifested as direct material assistance, such as money, food, medical help, etc. It can also be expressed as spiritual support, including emotional support, encouragement, understanding and empathy [5]. In 1983, Wallson *et al.* [6] defined the concept of social support, describing it as the process by which individuals gained information, comfort and security by establishing contact with others or groups through formal or informal means. Cheng Hongjuan *et al.* [7] proposed that social support can be understood from three aspects: first, the interaction and contact between individuals, which not only includes specific help, but also involves the subjective experience perceived by individuals. This connection can be expressed in concrete actions as well as in emotional support and care. Secondly, social support also includes the individual initiative to meet the needs of others to provide help, help or support the behavior process. This behavior reflects the individual's care and respect for others, and is also one of the important forms of social support. Finally, social support is also regarded as an external resource that individuals can call upon when facing pressure, which can provide emotional support and coping strategies, relieve stress and enhance psychological resilience. With the deepening understanding of the role of positive psychology, social support factors, as an important influencing factor on the health outcomes of chronic diseases, have attracted much attention from scholars [8] [9].

Social support is one of the key factors for a comprehensive psychological assessment of cancer patients, and Easley's findings show that adolescent cancer survivors with high levels of self-disclosure can receive more social support [10]. Self-disclosure is conducive to the establishment of intimate relationships and the formation and development of interpersonal relationships, thus improving the level of social support, which in turn will further promote individual self-disclosure [11]. Tsuchiya *et al.* [12] investigated 473 cancer patients and found that

social support was an important factor influencing patients' self-disclosure. In addition, social support is also an important factor influencing the fear of cancer recurrence [13]. According to the process model of self-disclosure [14], self-disclosure can improve mental health and personal happiness through social support.

2. Object and Method

2.1. Object of Study

In this study, a total of 350 patients with breast cancer who visited a cancer hospital from February 2023 to July 2023 were selected by convenience sampling method. Inclusion criteria: 1) age must be 18 years or older; 2) the pathology is consistent with the diagnostic criteria for breast cancer; 3) education level above primary school. Exclusion criteria: 1) distant metastasis or recurrence of breast cancer; 2) a history of other major organ diseases and malignant tumors; 3) suffering from mental illness or cognitive impairment.

2.2. Survey Instrument

2.2.1. General Information Questionnaire
Self-compiled, including breast cancer socio-demographic data and disease-related data. Socio-demographic data include age, sex, ethnicity, religious belief, education level, marital status, childless, family relationship, etc.; Disease related data included clinical stage, type of surgery, complications, family history, etc.

2.2.2. Revised Distress Disclosure Index
The scale was first developed by Kahn and Hessli [15], in 2008, Chinese scholar Li Xinmin [16] carried out a sinicization and revision of the scale to evaluate the degree of self-disclosure. There are 12 items in total, and Likert5-level scores are adopted. From "strongly disagree" to "strongly agree", scores of 1 to 5 are scored in turn, among which items 2, 4, 5, 8, 9 and 10 are scored in reverse order. The total score was 12 to 60 points, and the higher the DDI score, the higher the self-disclosure level, and the lower the score, the higher the degree of self-concealment [16].

2.2.3. Simplified Chinese Medical Outcomes Study Social Support Survey
This scale was developed by Sherbourn *et al.* [17] in 1991 to measure the social support of patients with chronic diseases. In 2012, Li Huan [18] modified the scale into the simplified Chinese version. The Cronbach's α coefficient of the total volume table was 0.889, and the retest reliability was 0.77, indicating that the scale had high reliability and stability. The scale consists of 20 items, covering four dimensions of emotion-information support, practical support, emotional support and elastic support. Each dimension was scored using the Likert 5-level scoring method, that is, from 1 to 5 points, according to the degree of feeling of the patient. The score ranges from 0 to 100, with higher scores representing higher levels of social support felt by the individual.

3. Results

3.1. Analysis of Self-Disclosure Status of Breast Cancer Patients

The total score of self-disclosure scale of breast cancer patients was (38.75 ± 9.18), which was in the middle level. Grading the self-disclosure scores of patients showed that 15.7% of breast cancer patients had low levels of self-disclosure, 58.3% had moderate levels, and 26% had high levels (Details for Table 1). Table 2 is for an average breakdown of each item.

Table 1. Self-disclosure level of breast cancer patients.

Self-disclosure level	N	(%)
Low level (12 - 29)	55	15.7
Medium level (30 - 44)	204	58.3
High level (45 - 60)	91	26

Table 2. Self-disclosure items for breast cancer patients are ranked from highest to lowest (n = 350).

Items	Scoring range	Score
Self-disclosure score	12 - 60	38.75 ± 9.18
7. When I am in a bad mood, I will chat with my friends	1 - 5	3.5 ± 1.04
8. If I'm upset, the last person I want to talk to is someone else	1 - 5	3.45 ± 1.08
11. When I'm in a bad mood, I usually talk to someone	1 - 5	3.45 ± 0.97
1. When I am sad, I usually talk to my friends	1 - 5	3.33 ± 1.01
10. When I'm in pain, I don't tell anyone	1 - 5	3.3 ± 1.09
6. I talk to someone about my problems	1 - 5	3.29 ± 1.04
12. I'm willing to tell people what I'm not happy about	1 - 5	3.11 ± 0.98
9. When I encounter difficulties, I seldom talk to others about them	1 - 5	3.11 ± 1.08
5. When I feel down or sad, I always take it on myself	1 - 5	3.06 ± 1.15
2. I don't like to talk about my problems	1 - 5	3.06 ± 1.04
4. I don't usually discuss things that upset me	1 - 5	3.05 ± 1.1
3. When something unpleasant happens to me, I often find someone to talk to about it	1 - 5	3.04 ± 1.05

3.2. Analysis of Social Support Status of Breast Cancer Patients

In this study, the score of social support level of breast cancer patients ranged from 35 to 95, with a score of (70.57 ± 14.04). Among all dimensions, the score of emotional information support dimension was the highest (28.39 ± 6.06), and the score of emotional support dimension was the lowest (11.70 ± 2.55), as shown in Table 3.

Table 3. Scores of various dimensions of social support in breast cancer patients.

Dimension	$\overline{x} \pm s$	Scoring range	Entries in all dimensions are equally divided
Emotional information supports the overall score	28.39 ± 6.06	15 - 40	3.55
Actual support score	15.62 ± 3.31	6 - 20	3.91
Total elastic support score	14.8 ± 53.23	4 - 20	3.64
Emotional support score	11.70 ± 2.56	4 - 15	3.9
Social support score	70.57 ± 14.04	35 - 95	3.53

The scores of various items for breast cancer patients are shown in Table 4. The scores for each item are 5 grades, that is, none at all, a little, some of the time, most of the time, and all of the time. The higher the score, the patient has the disease.

Table 4. The scores and ranking of social support items in breast cancer patients.

Rank	Items	$\overline{x} \pm s$	No completely N (%)	A little while N (%)	Sometimes N (%)	Most of the time N (%)	All the time N (%)
	1.1. How many relatives do you have	4.51 ± 3.44					
	1.2. How many familiar friends do you have	3.67 ± 2.82					
1	5. If you need it, someone will take you to the doctor*	4.1 ± 0.96	5 (1.4)	23 (6.6)	49 (14.0)	128 (36.6)	145 (41.4)
2	6. Someone tells you they love you and care about you****	3.99 ± 0.97	5 (1.4)	24 (6.9)	66 (18.9)	130 (37.1)	125 (35.7)
3	12. If you can't cook for yourself, someone will*	3.93 ± 1.04	7 (2.0)	31 (8.9)	68 (19.4)	117 (33.4)	127 (36.3)
4	10. Someone will take care of you****	3.9 ± 1.01	5 (1.4)	31 (8.9)	76 (21.7)	121 (34.6)	117 (33.4)
5	7. You have someone to spend time with***	3.89 ± 0.90	2 (0.6)	23 (6.6)	85 (24.3)	142 (40.6)	98 (28.0)
6	9. Someone you can trust to talk to about your own issues or problems**	3.84 ± 0.96	4 (1.1)	28 (8.0)	87 (24.9)	132 (37.7)	99 (28.3)
7	15. When you are not well, someone will take care of the daily chores for you*	3.84 ± 1.00	6 (1.7)	29 (8.3)	86 (24.6)	124 (35.4)	105 (30.0)
8	20. You love some people and feel needed****	3.81 ± 0.94	3 (0.9)	29 (8.3)	88 (25.1)	140 (40.0)	90 (25.7)
9	2. If you are confined to bed, there are people who can help you*	3.75 ± 0.94	5 (1.4)	31 (8.9)	88 (25.1)	148 (42.3)	78 (22.3)
10	11. Someone to get together and relax with***	3.75 ± 0.9	3 (0.9)	35 (10.0)	103 (29.4)	115 (32.9)	94 (26.9)
11	4. Someone to give you good advice or counsel in times of hardship and distress**	3.73 ± 0.90	2 (0.6)	29 (8.3)	102 (29.1)	144 (41.1)	73 (20.9)

Continued

12	14. Have someone to do something with you so that you can let go of what's on your mind***	3.64 ± 0.92	7 (2.0)	24 (6.9)	121 (34.6)	133 (38)	65 (18.6)
13	18. Have someone to do something happy with***	3.58 ± 0.9	4 (1.1)	30 (8.6)	139 (39.7)	114 (32.6)	63 (18)
14	3. When you need to talk, you can count on someone to listen**	3.51 ± 0.93	7 (2.0)	37 (10.6)	127 (36.3)	128 (36.6)	51 (14.6)
15	19. Someone understands your problem**	3.5 ± 0.97	7 (2.0)	48 (13.7)	110 (31.4)	132 (37.7)	53 (15.1)
16	16. Someone to share your deepest fears and worries**	3.49 ± 1.07	13 (3.7)	50 (14.3)	108 (30.9)	109 (31.1)	70 (20)
17	13. here are people whose advice you really crave**	3.48 ± 0.96	6 (1.7)	44 (12.6)	134 (38.3)	109 (31.1)	57 (16.3)
18	8. You were given some information to make you understand the situation**	3.45 ± 1.00	11 (3.1)	49 (14.0)	115 (32.9)	123 (35.1)	52 (14.9)
19	17. Ask someone for advice on how to deal with a personal problem**	3.39 ± 0.95	6 (1.7)	52 (14.9)	138 (39.4)	107 (30.6)	47 (13.4)

*Actual support, **Emotional information support, ***Elastic support, ****Emotional support.

The higher the level of social support. The results showed that the three items with the highest average score were "someone will take you to the doctor" (4.1 ± 0.96), "someone who shows you love and care for you" (3.99 ± 0.97), and "If you can't cook for yourself, someone will" (3.93 ± 1.04). The items with the lowest average score were "Can ask some people for advice on how to deal with personal problems" (3.39 ± 0.95), "someone gives you some information to make you understand the situation at the time" (3.45 ± 1.00), and "Some people's advice is what you really want" (3.48 ± 0.96), all of which belong to the emotional information support dimension. On the whole, the average score of each item in the supporting dimension of emotional information is relatively low.

Correlation between self-disclosure and social support in patients with breast cancer

Pearson correlation analysis was conducted on self-disclosure and social support in breast cancer patients, and the results showed that self-disclosure was positively correlated with social support ($r = 0.433$, $p < 0.01$), and self-disclosure was positively correlated with emotional information support, practical support, elastic support and emotional support ($r = 0.331 - 0.453$, $p < 0.01$). Details for Table 5.

Table 5. Correlation analysis between self-disclosure and fear of cancer recurrence in patients with breast cancer.

Items	Social support	Emotional information support	Actual support	Elastic support	Emotional support
Self-disclosure	0.433**	0.453**	0.331**	0.401**	0.366**

*p > 0.5, **p > 0.01.

3.3. Status of Self-Disclosure in Patients with Breast Cancer

In this study, the self-disclosure level score of breast cancer patients was (38.75 ± 9.18) points, indicating that the self-disclosure level was at a moderate level, which was consistent with the results of Zhong Qi [19], indicating that most breast cancer patients suffered from complications such as breast loss, chest wall malformation and menopause caused by treatment during their illness. To resort to silence, solitude, avoidance, and other negative coping mechanisms to hide their true feelings about cancer, which may be related to our national character; we are not skilled at expressing ourselves and often conceal our inner emotions. It may also be related to the fact that patients believe that their cancer has increased the economic burden on the family and increased the economic pressure on other family members, and they are afraid that excessive expression will interfere with the normal life of other family members, so they tend to maintain moderate self-preservation and do not excessively reveal their true feelings. From the top three items with the highest score and the bottom three items with the lowest score, it can be seen that patients tend to seek to talk when they are depressed, but they are often reluctant to describe the specific events that cause pain in detail, and they are not willing to reveal their true thoughts, which may be related to patients' fear that the disease and negative emotions will cause pressure on each other and they are not willing to be regarded as weak. Therefore, in addition to paying attention to the physical symptoms of patients in the process of communication with patients, medical personnel also need to observe the psychological status of patients, encourage patients to appropriately reveal their emotions to the people around them, emotional expression and catharsis, improve the level of self-disclosure, reduce psychological pressure.

Status of social support in patients with breast cancer

In this study, the total score of social support in breast cancer patients was (70.57 ± 14.04), which was similar to the total score of social support in breast cancer patients by Yufeng Ma [20] and Hailing Zhang [21] (68.53 ± 12.81 and 61.73 ± 14.32). However, the total score of social support in female cancer patients of childbearing age was higher than that of Cao Zhidan [22] (57.58 ± 9.74). The reason may be that the patients included in this study were all younger than 44 years old, and there was a lack of data on middle-aged and elderly patients with breast cancer. In addition to breast cancer, the included cancer patients also included ovarian cancer, cervical cancer, endometrial cancer and other cancers. Therefore, the results of social support are different from those of this study.

As can be seen from Table 4, the score of emotional information support dimension of patients in this study is the highest, but the average score of items in this dimension is the lowest, which may be because after the diagnosis of breast cancer, on the one hand, patients have an urgent need to know about breast cancer knowledge, and the medical literacy of the three parties is inconsistent. On the other hand, restricted by Chinese traditional Confucianism, it emphasizes the inward adjustment of emotions in order to maintain the harmonious development

of social relations. As a result, the information received by patients after cancer is insufficient and their emotional needs cannot be met, thus the average score of items in this dimension is the lowest. In this study, patients had the highest mean score in terms of actual support dimensions, which may be related to the long-term nature of breast cancer treatment. Due to the long course of treatment, patients often rely on the living care and financial assistance provided by family and friends, so the actual level of perceived support is high. As a potential external resource, social support affects the prognosis of the disease. However, the scores of social support in various dimensions of this study need to be improved, which reflects that many needs of patients are still not fully met. Therefore, nursing staff should find the problem in time when nursing breast cancer patients, and actively take measures to solve it, can provide popular science knowledge to meet the information needs of patients, relieve patients' tension and anxiety, and encourage patients to communicate and interact with others, and actively express their own ideas and feelings. In this way, patients can feel more care and support from relatives and friends, so as to enhance the overall level of social support and promote the recovery of patients.

Correlation between self-disclosure and social support in patients with breast cancer

In this study, there was a significant positive correlation between self-disclosure and social support in breast cancer patients ($r = 0.433$, p < 0.01), that is, the higher the level of self-disclosure in breast cancer patients, the higher the level of social support, which was consistent with the research results of Xu Huiwen *et al.* [11]. When people with cancer choose to share their feelings, experiences, and concerns, it not only helps relieve their inner stress, it also may gain understanding and sympathy from those around them, thereby inspiring more targeted support, both emotional and practical, from relatives, family, and medical staff. First, self-disclosure helps build trust and open lines of communication, enabling patients to express their needs and expectations. For example, when patients express their concerns about the side effects of treatment, medical staff can adjust treatment plans or provide mitigation strategies in time. Second, through self-disclosure, patients can inspire supportive forces in their social networks. Through self-disclosure, breast cancer patients can inform others of their concerns, which can promote the establishment of intimate relationships, gain more friends, and contribute to the formation and development of interpersonal relationships, thus improving their level of social support. Therefore, medical staff should actively encourage patients to strengthen communication with their primary caregivers and dare to reveal their true thoughts and feelings in order to obtain more social support. At the same time, the primary caregiver, while providing life and spiritual support, also needs to constantly encourage the patient to overcome psychological stress so that they perceive a higher level of social support. By establishing good communication and interaction with patients, primary caregivers can help patients better understand their emotional state and push them to be more

courageous in the face of life's challenges.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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