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Research on Chinese Couples' Dyadic Coping Experiences Following Liver Cancer Surgery: A Qualitative Study

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Research Article

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Abstract

Background

The conceptualization of illness management is shifting from an individual focus to a dyadic perspective. Existing dyadic coping research has largely examined conditions such as cancer and stroke and has been dominated by quantitative designs. Dyadic coping has not yet been systematically incorporated into studies of patients undergoing surgery for liver cancer.

Objective

To explore couples' dyadic coping experiences after liver cancer surgery and to inform the development of postoperative intervention programs grounded in dyadic illness management theory.

Methods

A phenomenological qualitative design was used. Semi-structured interviews were conducted, and data were analyzed using Colaizzi's seven-step method.

Results

Three themes were identified: dyadic coping dilemmas; dyadic coping experiences; and dyadic coping needs.

Conclusion

After liver cancer surgery, patients experience substantial physical and psychological challenges, and many couples lack effective dyadic coping strategies.

Introduction

Liver cancer is the fourth leading cause of cancer-related mortality worldwide [1]. According to relevant predictions[2], 1.4 million people diagnosed and 1.3 million people could die from liver cancer in 2040 (56.4% more than in 2020). Radical surgical resection remains the preferred treatment for primary liver cancer and a key determinant of long-term survival [3].

Evidence [4] suggests that symptom burden is substantial among patients after liver cancer surgery. According to relevant researches[5-6] , patients' needs may remain unmet under severe symptom distress, contributing to negative illness experiences that can impair daily functioning and interpersonal relationships.

Dyadic coping in the context of illness refers to partners' mutual participation and support in managing stress, emphasizing shared problem-solving and collaborative emotional regulation [7]. Prior studies[8-10] indicate that dyadic coping can more effectively promote physical and psychological wellbeing in both patients with cancer and their spouses. However, research has primarily focused on other cancer populations and stroke, and has largely relied on quantitative methods. To date, dyadic coping has not been adequately examined among patients undergoing surgery for hepatocellular carcinoma.

To address this gap, the present qualitative study used in-depth interviews to explore postoperative dyadic coping experiences among patients with hepatocellular carcinoma and their spouses, identify unmet needs, and provide evidence to guide targeted nursing interventions and the development of dyadic intervention protocols for postoperative hepatocellular carcinoma care.

Materials & Methods

Research design

A qualitative phenomenological design was used to describe and interpret couples' dyadic coping experiences and needs following liver cancer surgery.

Sample and recruitment

Using purposive sampling, postoperative patients with hepatocellular carcinoma and their spouses were recruited from the Department of Hepatobiliary Surgery at a tertiary Grade A comprehensive hospital in Nanjing, China, between March 2024 and April 2025. No eligible participants declined to participate. Inclusion criteria: (1) age ≥18 years; (2) pathologically confirmed primary liver cancer and hepatectomy performed; (3) Child–Pugh class A or B liver function; (4) spouse able to live independently and participate in treatment, rehabilitation, and caregiving; and (5) both patient and spouse were conscious, provided informed consent, and participated voluntarily. Exclusion criteria: (1) patient or spouse with cerebrovascular disease or psychiatric disorders, or severe heart, liver, kidney, or other organ disease; (2) patient with malignancies other than hepatocellular carcinoma; and (3) patient or spouse with significant mobility limitations, hearing or speech impairment, or inability to cooperate with the study procedures. Recruitment continued until data saturation was reached. Thirteen patient–spouse dyads were enrolled. Participant characteristics are shown in Table 1.

Data collection

An initial interview guide was developed based on the study aims and a review of relevant literature[11-14], and was refined after pilot interviews. The final guide included the following questions:

What experiences or difficulties left a strong impression on you during recovery after liver cancer surgery?

How were these difficulties addressed?

How did your partner respond verbally or behaviorally to your postoperative reactions and changes?

How did you feel about your partner's responses?

Did your daily interactions change because of the illness? If so, how?

How did you and your partner face and manage the changes brought by surgery?

What impact did this experience have on both of you?

Do you think there are better coping strategies? If so, what might they be?

What support did you and your partner hope to receive after surgery?

Using a phenomenological approach, in-depth face-to-face semi-structured interviews were conducted in the ward or a private room within the hepatobiliary surgery unit. Before each interview, the researcher explained the purpose, procedures, and significance of the study. Written informed consent was obtained, and interviews were audio-recorded with participants' permission. Field notes captured tone, affect, facial expressions, and body language. Clarifying probes were used as needed, and leading questions were avoided. Each interview lasted approximately 30 minutes, with additional interviews conducted if clarification was required. Data collection ended when thematic saturation was achieved.

Data analysis

Audio recordings were transcribed verbatim within 24 hours and returned to participants for member checking. Transcripts were imported into NVivo 12.0. Data were analyzed using Colaizzi's seven-step method[15]: (1) reading all transcripts repeatedly to gain an overall understanding; (2) extracting significant statements related to the phenomenon; (3) formulating meanings; (4) organizing meanings into theme clusters; (5) developing exhaustive descriptions of each theme; (6) identifying the fundamental structure of the phenomenon; and (7) returning the findings to participants for validation.

Ethical considerations

This study adhered to the Declaration of Helsinki[16]. Approval was granted by the Ethics Committee of Nanjing Drum Tower Hospital of Nanjing University Medical School (ethics No. 2024-057-02). All participants received verbal and written information and provided written informed consent.

Results

A total of 13 patient–spouse dyads participated in the study. The demographic characteristics of the dyads are presented in Table 1.

Table 1 Characteristics of the dyads

Patient ID	Age	Gender	Education Level	Disease Stage	Years Married	Household Income	Spouse ID	Age	Education Level
A	57	Male	College	□	35	10,000	A1	53	High School
B	74	Male	High School	□	50	8000	B1	74	Elementary School
C	76	Female	Junior High School	□	56	5000	C1	78	Junior High School
D	68	Female	College	□	46	15,000	D1	71	College
E	83	Male	Junior High School	□	60	5000	E1	77	Elementary School
F	71	Female	Junior High School	□	48	3500	F1	72	Junior High School
G	45	Male	Undergraduate	III	20	25,000	G1	46	Undergraduate
H	74	Female	High School	□	52	7000	H1	77	High School
I	79	Male	High School	□	57	4000	I1	75	Junior High School
J	55	Male	High School	□	32	20000	J1	54	High School
K	61	Male	Vocational School	□	41	20000	K1	61	Vocational School
L	66	Male	Junior High School	□	43	8000	L1	63	Junior High School
M	59	Female	High School	□	40	15000	M1	60	Junior High School

Theme 1: Dyadic coping dilemmas

1. Severe postoperative physical and psychological burden

Patients described postoperative wound pain, fatigue, sleep disturbance, and gastrointestinal discomfort. Symptom relief was reported with analgesia, intravenous therapy, and early mobilization. One participant noted, “The wound hurt after the anesthesia wore off.” Another said, “The pain kept me awake at night, but it improved after pain medication.” Regarding bloating, one patient reported: “My stomach felt distended; the staff suggested getting out of bed and walking.”

Patients also described fear of recurrence and concerns about financial burden. One said, “I’m afraid it will come back. At my age—over fifty—recurrence would be hard to deal with.” Another emphasized economic stress: “We’re rural people—no stable jobs and no pension. When you’re healthy, cooking and eating is enough, but when you’re sick, you’d sell everything to get treatment.” Hospitalization and functional decline also altered social roles: “He can’t do heavy labor anymore.”

2. Limited spousal caregiving capacity

Some spouses reported limited caregiving skills, which reduced the quality of support and contributed to conflict. One spouse stated, “I never did housework growing up, so I don’t know how to handle many things.” A patient commented, “He says I’m clumsy and careless.”

3. Ineffective communication

Although communication is essential during postoperative caregiving, some couples struggled to communicate effectively, intensifying stress. One participant said, “Sometimes he’s dissatisfied with what I do, but he never says anything.” Another noted, “He says I don’t care about him, but we can’t communicate.”

4. Insufficient social support

After liver cancer surgery, patients often require continuous accompaniment. As primary caregivers, spouses assumed substantial responsibilities, while reporting limited support. One spouse said, “Whenever we come to the hospital, it’s just the two of us.” Another explained, “We’re from out of town—help from afar can’t solve immediate problems. Our child visits after work but is too exhausted to provide care.”

Theme 2: Dyadic interaction experiences

1. Positive coping experiences

Some couples adopted proactive coping strategies. Listening to one’s partner was described as emotionally comforting: “She listens to me, but I actually prefer listening to her talk—it feels like hearing a story.” Another patient framed illness management as a shared effort: “We’ve been through several serious illnesses. We do our best with treatment, and we keep a good mindset.” Some spouses actively monitored emotions and responded supportively: “She comforts me. I feel very happy.”

2. Negative coping experiences

Other couples described negative coping patterns that strained the relationship and impeded recovery. One participant reflected, “When you get sick, the pressure builds… friction starts. It was minor before, but now it’s worse.” Communication avoidance was also described: “I avoid him because he speaks too harshly.” Some patients appeared to develop avoidance or inferiority feelings: “I don’t want to talk about my troubles… Since getting sick, he seems a bit inferior.”

Theme 3: Dyadic coping needs

1. External needs

Most couples wanted more disease-related knowledge and clearer expectations about prognosis and recovery. One spouse said, “I still can’t figure out why his liver failed—maybe it’s genetic.” Another noted, “I haven’t studied medical knowledge; I just follow the doctor’s instructions.” Couples also requested improved access to information and support resources, including insurance guidance: “We have out-of-area insurance—why is reimbursement so low here? We don’t understand these policies.”

2. Internal needs

Couples also sought greater emotional understanding and validation from each other. Patients perceived that a lack of understanding reduced caregiving motivation, while spouses felt that misunderstanding weakened mutual reliance and hindered joint illness management. Some patients expressed a desire for greater dependence on their spouses for daily tasks, whereas spouses described tension around autonomy and control: “I pay close attention to details and take meticulous care of him, but he says I’m too controlling.” Another participant expressed isolation: “Before, my parents helped me… now there’s no one to talk to; I have to face it alone.”

Discussion

This study suggests that recovery after liver cancer surgery is characterized by substantial symptom burden and psychological distress, alongside marked dyadic challenges, which was in line with the findings of a previous study[17]. Patients desired both instrumental support and emotional empathy from spouses, whereas spouses—under caregiving pressure—sought recognition, tolerance, and practical guidance. Misaligned expectations and limited communication skills contributed to conflict and reduced caregiving effectiveness.

Consistent with prior research[18] , positive dyadic coping may strengthen resilience and support recovery, whereas negative emotional contagion and conflict may worsen illness experiences. Dyadic-focused interventions should therefore address not only symptom management but also emotional regulation, communication skills, role negotiation, and linkage to social resources. For example, communication skills training (e.g., role play and scenario-based practice) may help couples develop active listening, clear emotional expression, and constructive feedback, thereby reducing defensive interactions.

Current postoperative care for liver cancer often prioritizes the patient alone. Our findings support expanding care to include spouses, systematically assessing psychological needs in both partners, encouraging patients to express needs, and facilitating access to professional guidance and peer support.

Couples require disease knowledge, social resources, and mutual understanding. Educational content may be delivered through WeChat or other digital platforms. Social support may be strengthened through patient-support groups and consultation pathways for cross-region insurance reimbursement. Psychological counseling should be available to both partners to support dyadic illness management and reduce distress.

Limitations

Participants were recruited from a single setting in Jiangsu Province, China, which may limit transferability to other regions and healthcare contexts.

Conclusion

Couples coping with hepatocellular carcinoma surgery encounter significant dyadic challenges, and many needs remain unmet. Postoperative programs should strengthen dyadic coping by integrating communication support, emotional management, role adjustment, and social support linkage to promote recovery and quality of life.

Declarations

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Ethics declarations

his study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Nanjing Drum Tower Hospital of Nanjing University Medical School (ethics No. 2024-057-02).

Informed consent was obtained from all dyads included in the study.

The authors declare no competing interests.

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