

# Enhancing Health Outcomes in Hospitalized Patients with Cancer: A Systematic Review of Supportive Care Interventions

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## INTRODUCTION

- Cancer treatment causes significant distress and complications that affect quality of life and treatment effectiveness. Timely supportive care is essential for symptom management, complication prevention, and end-of-life care<sup>1</sup>.
- Effective supportive care alleviates physical, emotional, and social and must be comprehensive with cancer treatment.
- In supportive care, outpatient interventions focus on symptom assessment, while terminal care includes hospice and end-of-life care<sup>2</sup>. However, there is limited research on supportive care in hospital settings, where intensive interventions can greatly benefit patients.

## OBJECTIVE

This systematic review aims to evaluate the effectiveness of supportive care interventions for hospitalized cancer patients, focusing on key outcomes such as quality of life, and healthcare resource utilization.

## METHODS

- Database: PubMed, Scopus, and Web of Science
- Year: January 1, 2000, to May 31, 2023.
- We included studies that reported on the effects of supportive care interventions on patient-reported outcomes (PROs) such as quality of life and healthcare resource utilization in hospitalized cancer patients.
- A total of 50 studies were analyzed and summarized.

## RESULTS

**Table 1. Target supportive care needs of interventions**

Target supportive care needs	Descriptions	N(%) <sup>a</sup>
Physical needs	Needs for relief of physical symptoms and functions	44(88.0)
	Examples of intervention: physical rehabilitation/physiotherapy, biofeedback, complementary and alternative medicine, pain management education, etc	
Psychological/emotional needs	Needs for reducing psychological or emotional distress from illnesses and their recovery process	15(30.0)
	Examples of intervention: psychological counseling, psychotherapy, positive behavioral management	
Family-related needs	Needs related to family and/or informal caregivers during the illness and treatment	8(16.0)
Cognitive needs	Needs for improving cognitive dysfunction related to illness	2(4.0)
Information needs	Needs related to health-related information and information-seeking behavior	1(2.0)
Social reintegration needs	Needs related to patients' successful return to life	1(2.0)
Spiritual needs	Needs related to the meaning and existence of life such as dignity	1(2.0)

Most interventions were single need centered, with a focus on physical and psychological/emotional needs. In 44 of the 50 papers, the intervention was supportive care targeting physical needs, with a rate of 88%. These included physical rehabilitation, complementary and alternative medicine, and pain management education. There were a total of 15 interventions targeting psychological/emotional needs. These included psychological counseling, psychotherapy, and positive behavioral management. (Table 1)

**Table 2. Delivery methods of interventions**

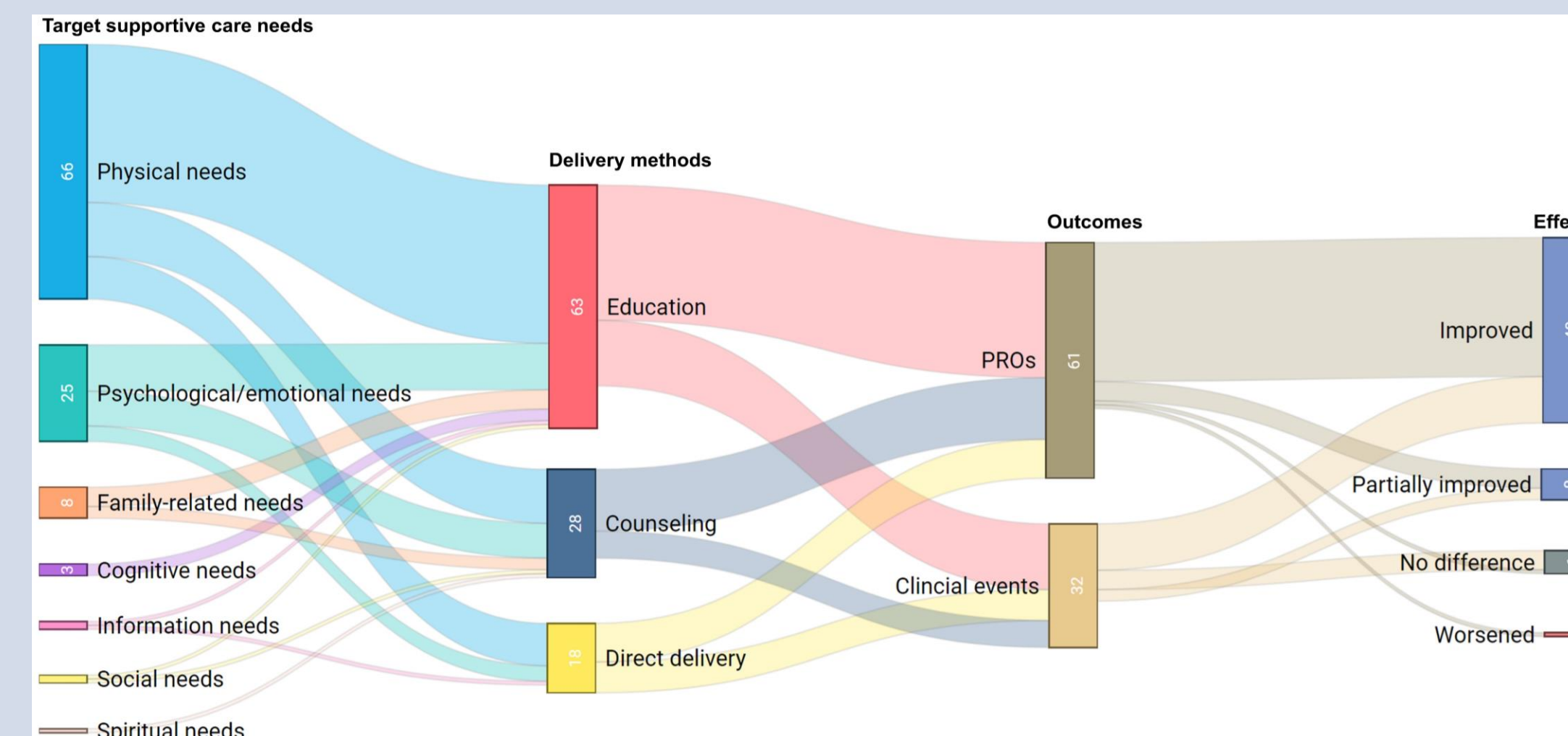
Category	N(%) <sup>a</sup>	Subcategory	Examples	N(%) <sup>a</sup>
Education	40(80.0)	individual	Personalized rehabilitation program, disease education, summarized drug education booklet, pain management education and booklet	32(80.0)
		group	Watching video about symptom management, group exercise	3(7.5)
		combination	Patient and family education, combined individual and group disease education	5(12.5)
Counseling	18(36.0)	individual	individual counseling	14(77.8)
		group	Structured family counseling	1(5.6)
		combination	Patient and family counseling	3(16.7)
Direct delivery	13(26.0)	individual	Acupuncture, fan therapy, beauty treatment, manual lymphatic drainage	13(100.0)
		group	Not applicable	0(0.0)
		combination	Not applicable	0(0.0)

Forty (80.0%) interventions were delivered to patients through educational methods. Most interventions were delivered to individuals and included rehabilitation programs, disease education, and pain management. Eighteen (36.0%) studies used a counseling approach. Fourteen counseled individuals, and one study counseled both patients and their families. Thirteen (26.0%) interventions were provided directly to patients. These included acupuncture, fan therapy, and beauty treatment. (Table 2)

**Table 3. Themes of patient-reported outcomes and clinical event outcomes**

Outcomes	Categories	Specific items	N(%) <sup>a</sup>
Patients-reported outcomes (N=42)	Overall quality of life	Overall quality of life	26 (36.6)
		Physical outcomes	16 (22.5)
	Mental health outcomes	Symptoms	4 (5.6)
		Functions	15 (21.1)
		Depression and anxiety	1 (1.4)
		Body image	2 (2.8)
	Caregiver-related outcomes	Psychological response	1 (1.4)
		Self-efficacy	3 (4.2)
	Social outcomes	Caregiver	1 (1.4)
		Social support	1 (1.4)
Spiritual outcomes	Dignity	1 (1.4)	
	Hope	1 (1.4)	
Clinical event (N=19)	The length of stay		14 (50.0)
	Complications		10 (35.7)
	Re-admission		1 (3.5)
	Hospital costs		1 (3.5)
	Admission intensive care unit		1 (3.5)

Forty-two interventions assessed PROs, focusing primarily on quality of life, physical outcomes, and mental health outcomes. Overall quality of life was measured in 26 (36.6%) of the studies, symptoms in 16 (22.5%), and anxiety and depression in 15 (21.1%). Nineteen interventions assessed clinical events. The length of stay was the most common outcomes (50.0%), followed by complications (35.7%), readmission (3.5%), hospital costs (3.5%), and admission intensive care unit (3.5%). (Table 3)



**Figure 1. Synthetic analysis for target needs, delivery methods, outcomes, and effect on supportive care interventions**

The physical and psychological/emotional needs were delivered primarily through education. Interventions delivered in a counseling primarily assessed PROs. Intervention studies mostly improved PROs. Of the 42 papers that measured PROs, 28 reported improved outcomes and 6 reported partially improved. Clinical events were also mostly improved. Of the 19 studies that measured clinical events, 13 studies (81%) reported improved outcomes. (Figure 1)

## CONCLUSIONS

- Supportive care interventions for hospitalized patients with cancer vary widely.
- Most intervention studies have reported beneficial effects of supportive care interventions.
- There is evidence that supportive care that targets different needs for hospitalized patients with cancer is associated with beneficial effects.

## REFERENCES

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