



Understanding Self-Management in Home-Based Rehabilitation for Cancer Patients: A Conceptual Analysis

Megawati Megawati

Universitas Muhammadiyah Semarang, Semarang, Central Java 50273, Indonesia
megawati.imran@yahoo.com

Abstract. Self-management is a fundamental concept in behavioral interventions and the cultivation of healthy behaviors, representing a critical skill with lifelong implications. This study aims to explore and clarify the concept of self-management in home-based rehabilitation for cancer patients. Through concept analysis, we seek to provide nurses with a theoretical framework to assist cancer patients in developing self-management strategies, thereby enhancing their ability to manage symptoms during home-based rehabilitation. Following Walker and Avant's framework (2011), this analysis defines self-management as a dynamic process involving recognizing one's needs, effectively using resources, problem-solving, and active engagement. Antecedents of self-management include factors such as self-efficacy, disease knowledge, and social support. Improving proficiency in symptom self-management among cancer patients offers potential for enhanced health outcomes, improved quality of life, and reduced healthcare costs. Although the Strategy and Effectiveness of Symptom Self-Management scale is widely recognized as suitable for measuring self-management globally, its applicability to Chinese cancer patients remains unverified, warranting further research. In light of this analysis, it is essential for nurses to encourage active patient participation in developing home-based rehabilitation plans and strengthen their ability to manage symptoms during rehabilitation. These efforts have the potential to improve health outcomes and reduce healthcare costs for cancer patients.

Keywords: Self-Management, Concept Analysis, Cancer Patients' Rehabilitation, Home-Based Rehabilitation.

1. Introduction

Self-management stands as a pivotal concept in behavioral interventions and the promotion of healthy behaviors, offering individuals valuable skills applicable across their lifespan [1]. Initially introduced by Clark et al. in discussions on chronic disease rehabilitation, the term "self-management" has since gained widespread usage, particularly within chronic disease management contexts [2]. However, the understanding of self-management remains complex and multifaceted, with varied definitions emerging over the past four decades, as highlighted in a comprehensive literature review by Miller et al., which identified 21

different definitions across 226 articles, underscoring the intricacies of this phenomenon [3]

The global prevalence of cancer continues to rise, presenting a significant burden. In Ireland alone, approximately 20,362 new cancer cases were diagnosed in 2013, while in China, Chen et al. reported a staggering 4,292,000 new cases in 2015, with cancer-related deaths comprising 22.3% of total mortality [4]. Despite advancements in medical interventions improving survival rates, cancer patients often grapple with post-treatment symptoms that impact their quality of life. Consequently, there is a pressing need to prioritize initiatives aimed at enhancing the well-being and quality of life of cancer survivors. Although healthcare professionals are tasked with providing care and support, symptom management frequently falls within the purview of patients themselves [5].

Recognizing the importance of self-management in the cancer survivorship context, initiatives such as the National Cancer Survivorship Initiative emphasize its role in symptom mitigation for short- or long-term conditions. Research indicates that patients actively managing their response to diagnosis often experience more positive outcomes, such as improved health-related quality of life for prostate cancer patients and enhanced self-efficacy among those with breast cancer [6]. However, compared to chronic disease literature, research on self-management in cancer survivors remains limited. Thus, undertaking a concept analysis of self-management specifically for cancer patients is crucial for gaining a comprehensive understanding of its significance.

Through a review of the literature, four key attributes of self-management have been identified. The primary objective of establishing self-management strategies for cancer patients undergoing home-based rehabilitation is to elucidate and refine the concept within this specific context. By providing a theoretical framework, this analysis aims to empower nurses in assisting cancer patients in developing effective self-management strategies, thereby enhancing their ability to manage symptoms during home-based rehabilitation.

2. Method

The framework is extensively utilized for analyzing nursing-related concepts. It comprises several stages: choosing a concept, defining the aims or objectives of analysis, identifying the defining characteristics, establishing a model and its opposite scenario, recognizing factors that precede or follow the concept, and specifying measurable indicators.

3. Results and Discussion

3.1 Concept Analysis

The concept analysis conducted in this study adhered to the widely recognized framework developed by Walker and Avant. This framework, frequently utilized in nursing-related

concept analysis, encompasses a series of systematic steps. These steps include: initially selecting the concept of interest, clearly defining the aims or objectives guiding the analysis, identifying the defining attributes inherent to the concept, constructing a conceptual model along with a contrasting scenario to further elucidate its boundaries, discerning both antecedents and consequences associated with the concept, and finally, establishing empirical referents to facilitate practical application and measurement.

3.2 Attribute Definition

Through an extensive review of literature, four key attributes of self-management have been discerned: awareness of one's needs, effective utilization of resources, problem-solving abilities, and active engagement. The awareness of one's needs stands out as the primary defining characteristic of self-management. This aspect underscores the importance of individuals recognizing their own requirements within the context of their health conditions and challenges. According to Schulman-Green et al., the initial step in conceptualizing self-management involves individuals identifying their specific needs, with "learning about condition and health needs" highlighted as the foundational stage for patients managing long-term illnesses. Moreover, patient involvement in self-management is heavily influenced by their comprehension of risks and their perception of personal needs [7]. Another study emphasizes the significance of cancer survivors' capacity to identify bodily responses and adapt behaviors to mitigate the impact of the disease [8]. Additionally, Landers underscores the critical role of symptom perception as the foremost element in patients' experiences, emphasizing the subsequent need for evaluation and response to symptoms through behavior modification to achieve an optimal quality of life [9].

Many researchers advocate for including resource utilization as a crucial aspect of self-management. For example, Kralik et al. assert that "resources and disease knowledge are fundamental components of self-management, highlighting that utilizing resources involves identifying, understanding, and effectively leveraging available resources to achieve individual well-being". It is worth noting that cancer survivors frequently face challenges in accessing necessary medical supportive care due to limitations in healthcare resources and centralized care [10]. Consequently, patients are increasingly assuming the responsibility for managing their health independently. The rapid expansion of the Internet has introduced eHealth as a new medical paradigm, which has gained popularity in recent years. Bright et al. define eHealth as "a resource aimed at promoting health and well-being by providing online support from healthcare professionals via the Internet". This advancement significantly enhances the accessibility and relevance of medical resources. Additionally, strategies, encouragement, and guidance from healthcare professionals serve as credible resources for patients. Jansen et al. argue that "patients who effectively utilize various resources, particularly those provided by healthcare practitioners, tend to feel more empowered and satisfied with their quality of life" [11].

Initially, the inclusion of problem-solving as a third defining attribute posed a challenge; however, through the process of concept analysis, its relevance became apparent. According

to Lorig and Holman, problem solving is integral to self-management programs, as these programs are inherently problem-based [12]. The problem-solving process includes identifying issues, generating solutions, implementing them, and evaluating outcomes. Patients' problem-solving skills, developed through active participation and following a plan, depend on their knowledge, healthcare support, and social network [13]. Furthermore, Kidd emphasizes that self-management hinges on patients' sense of control or self-efficacy, as they may not receive all solutions to their issues but rather basic disease-related information from healthcare professionals or others. Additionally, Schulman-Green et al. argue that proficiency in problem-solving is a crucial factor that enables patients to excel in symptom management, effectively turning them into "experts" in symptom management [14].

The fourth attribute, active participation, revolves around motivating individuals to initiate involvement in behavior change. This aspect hinges on an individual's personal commitment to altering their behavior and assuming responsibility for their own care. Active participation manifests through the patient's willingness to engage in self-management activities such as exercise, attending healthcare appointments, maintaining a balanced diet, and so forth. Resource utilization plays a crucial role in enabling individuals to devise an appropriate care plan, while active participation in both adopting and adhering to this plan is essential for ensuring the success of self-management efforts [15]. For example, "programs like cognitive behavioral interventions and psychoeducational sessions led by nurses can significantly enhance patients' self-management post-cancer treatment". It's underscored that patients' care plans should not only be short-term and specific but also realistic. According to Kralik et al., active participation encompasses activities such as balancing, pacing, planning, and prioritizing tasks [16].

3.3 Case Models

John, a 63-year-old man, underwent radical prostatectomy surgery three months ago to treat prostate cancer. Presently, he grapples with urinary incontinence. Despite concerns about attending an event celebrating his new grandson, he faces the challenge of frequent urination and urine leakage. Having been informed by nurses about the common occurrence of urinary incontinence following such surgery, John accepts the situation and endeavors to manage the symptoms. He seeks information from both local library resources and the internet, as suggested by nurses. Additionally, he engages in online consultations with a specialist urinary nurse to discuss his concerns and make informed decisions. John adopts strategies such as dietary adjustments, fluid restriction, and the use of adult diapers to address the issue. He learns from nurses about the effectiveness of Kegel exercises in managing urinary incontinence and plans to incorporate them into his routine. Setting a specific one-week plan for exercise implementation, he promptly takes action. Furthermore, he diligently attends scheduled medical appointments for ongoing disease surveillance. This case exemplifies the application of four key aspects of self-management: "perception of one's needs, resource utilization, problem-solving, and active participation".

3.4 Contrary Cases

Since his discharge from the hospital following ileal conduit surgery for bladder cancer one month ago, Alex, a 66-year-old man, has been experiencing a fever. Observations of the stoma bag reveal external dirtiness and internal accumulation of sticky mucus, causing blockage at the stoma outlet. Additionally, Alex appears malnourished, indicating a lack of awareness of his needs. Although an enterostomal nurse has provided guidance on appliance changes and assured him of the safety of water and soap for stoma care, Alex disregards this information. He fails to engage with educational materials such as instructional videos or seek assistance from nurse specialists online, highlighting a lack of resource utilization. Feeling overwhelmed by the task of stoma care, he neglects to change the appliance or bathe for a month, indicating an inability to problem-solve effectively. Furthermore, he declines participation in nurse-provided programs, social activities, and timely appointments, demonstrating a reluctance to actively engage in his care. This case starkly contrasts with the defining attributes of self-management, emphasizing a notable absence of self-care behaviors. Therefore, it represents an antithesis to the concept of self-management.

3.5 Antecedents and consequences

The primary factors preceding self-management in cancer survivors include self-efficacy, disease understanding, and social support. Among these, self-efficacy stands out as the foremost determinant. According to Miller et al., who analyzed 226 articles on self-management, self-efficacy consistently emerges as a pivotal factor influencing self-management practices. Furthermore, Prior and Bond illustrate how individual attributes such as ability, motivation, ambition, and access to resources can impact decision-making and personal conduct.

Therefore, self-efficacy serves as a crucial catalyst driving patients to actively address the symptoms and treatment-related side effects they experience. The second identified precursor is disease knowledge. Prior research has highlighted the importance of disease knowledge in enhancing the quality of life and promoting wellness among cancer patients, underscoring its role as a foundational element in self-management [17]. This perspective is further echoed by Berger et al., who stress the necessity of providing disease-related information in a manner that is easily comprehensible for cancer patients. The third antecedent to self-management is social support, primarily provided by healthcare professionals and family members [18]. Social support is integral to the success of cancer survivors' self-management efforts, as it not only bolsters self-efficacy but also serves as a motivating factor for individuals to actively participate in self-management practices

3.6 Antecedents and Consequences

The results of self-management can bring benefits to both individuals and society, with potential impacts that can be positive or negative. Ryan and Sawin suggest that the effectiveness of self-management relies on its significant influence on cancer survivors,

especially in terms of enhancing health status and quality of life; otherwise, self-management efforts may be ineffective or even detrimental [19]. Moreover, extensive research examining potential outcomes for cancer survivors involved in successful self-management indicates that enhanced health outcomes, such as regained physical function, and improved quality of life, including symptom alleviation, are key indicators of program efficacy. For instance, a study by Faithfull, Cockle, and Khoo observed that prostate cancer patients who practiced self-management after hospital discharge following prostatectomy surgery reported fewer urinary tract symptoms, as well as lower levels of emotional depression and social isolation, compared to non-participants [20].

Shneerson et al. highlight that cancer survivors maintaining autonomy, freedom, and dignity through effective self-management approach end-of-life stages. Additionally, reduced healthcare costs, indicated by fewer comorbidities and provider visits, are widely used in literature to gauge the success of self-management programs [1]. As a result, self-management is acknowledged for leading to improved health outcomes, enhanced quality of life, and reduced healthcare costs.

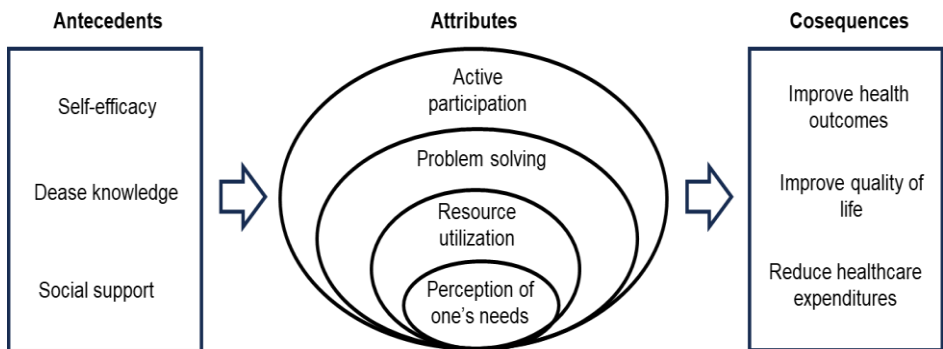


Fig 1. Self-management concept analysis

Antecedence

Self-efficacy, disease comprehension, and social support are the key factors preceding self-management in cancer survivors. Among these, self-efficacy stands out as the primary and crucial element for successful self-management.

Consequence

The outcomes of self-management can yield both individual and societal advantages, with potential effects that may be positive or negative. Ryan and Sawin assert that the effectiveness of self-management hinges on whether it leads to meaningful improvements in outcomes such as health status and quality of life for cancer survivors. Without such

meaningful improvements, self-management may be considered ineffective and possibly even harmful to them [19].

3.7 Empirical References

Self-management can be evaluated using various tools such as the health education impact questionnaire, symptom self-efficacy questionnaire, and disease outcome measures like symptom intensity and quality of life assessments. Validated scales are plentiful, especially for chronic illnesses like diabetes and arthritis. For instance, the COPD Self-Management Scale (51 items) has been validated for assessing COPD patients' self-management, while the Perceived Diabetes Self-Management Scale (8 items) is reliable for measuring diabetes self-efficacy. Although accessibility to self-management scales remains limited, availability for cancer patients has been increasing in recent years, with several measurement tools identified for this purpose [21]. A revised version of the 17-item Lewis Cancer Self-Efficacy Scale, with an internal correlation coefficient of 0.97, is utilized to measure self-efficacy in breast and prostate cancer patients. Furthermore, Liang et al. have recently established the Symptom-Management Self-Efficacy Scale Breast Cancer with a Cronbach's alpha coefficient of 0.96, affirming its validity and reliability in assessing self-management among breast cancer patients [10].

4. Conclusion and Suggestions

Self-management, aiming to prevent or delay negative outcomes through self-directed methods, is a complex and evolving process. This study examines self-management in cancer patients' recovery, using Walker and Avant's framework. It involves recognizing personal needs, resourceful utilization, problem-solving, and active involvement. Contrasting cases reveal differences in successful versus ineffective self-management. Factors like self-efficacy, disease understanding, and social support influence self-management. Improving symptom self-management in cancer patients' home-based rehabilitation shows promise in enhancing health outcomes, quality of life, and reducing healthcare expenses. Nurses are urged to empower patients in developing self-management strategies. Although the SESSM scale is widely used globally, its applicability in measuring self-management among Chinese cancer patients requires further exploration in future research.

References

1. Eldridge BL. Benefits and Techniques of Oncology Massage Learn how massage therapy for people with cancer works. *Verywell Health* 2022:1–10. [verywellhealth.com/massage-for-cancer-2249314?prin](https://www.verywellhealth.com/massage-for-cancer-2249314?prin).
2. Clark NM, Becker MH, Janz NK, Anderson L, Lorig K, Rakowski W. Self-Management of Chronic Disease by Older Adults.

- [Http://DxDoiOrg/101177/089826439100300101](http://DxDoiOrg/101177/089826439100300101) 1991; 3:3–27.
<https://doi.org/10.1177/089826439100300101>.
3. Miller WR, Lasiter S, Bartlett Ellis R, Buelow JM. Chronic Disease Self-Management: A Hybrid Concept Analysis. *Nurs Outlook* 2015;63:154. <https://doi.org/10.1016/J.OUTLOOK.2014.07.005>.
 4. Liu JC, Ridge JA. What is Cancer? *Abernathy's Surgical Secrets: Seventh Edition* 2018:307–10. <https://doi.org/10.1016/B978-0-323-47873-1.00067-X>.
 5. Nurmalisa BE. Manajemen Nyeri pada Pasien Kanker. *Lentora Nursing Journal* 2020;1:20–6.
 6. Wahyuningsih IS. Nyeri Pada Pasien Kanker Yang Menjalani Kemoterapi. *Unissula Nursing Conference & National Conference* 2018;1:133–7.
 7. Schulman-Green D, Jaser SS, Park C, Whittemore R. A Metasynthesis of Factors Affecting Self-Management of Chronic Illness. *J Adv Nurs* 2016;72:1469. <https://doi.org/10.1111/JAN.12902>.
 8. Demark-Wahnefried W, Jones LW. Promoting a Healthy Lifestyle among Cancer Survivors. *Hematol Oncol Clin North Am* 2008;22:319. <https://doi.org/10.1016/J.HOC.2008.01.012>.
 9. Bender MS, Janson SL, Franck LS, Lee KA. Theory of symptom management. *Middle Range Theory for Nursing, Fourth Edition* 2018:147–77. <https://doi.org/10.1891/9780826159922.0008>.
 10. Lorig K R, Holman H R. Self Management Education: History, Definition, Outcomes and Mechanisms. *Annals of Behavioral Medicine* 2003;26:1–7.
 11. Howard A, Brant JM. Pharmacologic Management of Cancer Pain. *Seminars in Oncology Nursing* 2019;35:235–40. <https://doi.org/10.1016/j.soncn.2019.04.004>.
 12. Lorig KR, Holman HR. Self-management education: history, definition, outcomes, and mechanisms. *Ann Behav Med* 2003;26:1–7. https://doi.org/10.1207/S15324796ABM2601_01.
 13. Kidd L, Booth J, Lawrence M, Rowat A. Implementing Supported Self-Management in Community-Based Stroke Care: A Secondary Analysis of Nurses' Perspectives. *J Clin Med* 2020;9. <https://doi.org/10.3390/JCM9040985>.
 14. John Hopkins Medicine. Acupuncture. *Johns Hopkins Medicine* 2020:1–5. <https://www.hopkinsmedicine.org/health/wellness-and-prevention/acupuncture>.
 15. Selviani N. The Concept of Acute Pain in Mastectomy Patients. *Repository Denpasar* 2014.
 16. Kralik D, Koch T, Price K, Howard N. Chronic illness self-management: taking action to create order. *J Clin Nurs* 2004;13:259–67. <https://doi.org/10.1046/J.1365-2702.2003.00826.X>.
 17. McCorkle R, Ercolano E, Lazenby M, Schulman-Green D, Schilling LS, Lorig K, et al. Self-Management: Enabling and empowering patients living with cancer as a chronic illness. *CA Cancer J Clin* 2011;61:50. <https://doi.org/10.3322/CAAC.20093>.
 18. Berger O, Grønberg BH, Loge JH, Kaasa S, Sand K. Cancer patients' knowledge about their disease and treatment before, during and after treatment: a prospective,

- longitudinal study. *BMC Cancer* 2018;18. <https://doi.org/10.1186/S12885-018-4164-5>.
19. Ryan P, Sawin KJ. The Individual and Family Self-management Theory: Background and Perspectives on Context, Process, and Outcomes. *Nurs Outlook* 2009;57:217. <https://doi.org/10.1016/J.OUTLOOK.2008.10.004>.
 20. Faithfull S, Cockle-Hearne J, Khoo V. Self-management after prostate cancer treatment: evaluating the feasibility of providing a cognitive and behavioural programme for lower urinary tract symptoms. *BJU Int* 2011;107:783–90. <https://doi.org/10.1111/J.1464-410X.2010.09588.X>.
 21. Zhang C, Wang W, Li J, Cai X, Zhang H, Wang H, et al. Development and validation of a COPD self-management scale. *Respir Care* 2013;58:1931–6. <https://doi.org/10.4187/RESPCARE.02269>.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

