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ASSESSING QUALITY OF LIFE AFTER ONCOLOGIC SURGERY: PATIENT PERSPECTIVES

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ABSTRACT
Health-related quality of life (HR-QoL) is a significant health outcome of interest particularly in patients with cancer undergoing surgical procedures. In this paper, both quantitative and qualitative methods will be discussed in terms of their application to the measurement of QoL as well as the use of such formal assessment tools as EORTC QLQ-C30 and informal semi-structured interviews. Two major difficulties in assessing QoL changes over time are its inherently qualitative and unstable elements, and psychometric problems of assessment tools, as well as potential biases in follow-up studies. QoL is enhanced based on psychological; Counseling and mindfulness-based approaches and rehabilitation that entails functional-based therapy and diet/ activity/sleep/relationship basis. Future research could focus on QoL as an outcome measure in specific diseases or populations, explore ways to apply patient-reported outcome technology to tailor dynamic and person-centered assessment methodologies, and examine the effects of designing tools that allow patients to receive instant feedback on their QoL to their clinicians' practice and patients' self-management behaviors. Getting the patient's voice right is key in assessing the effectiveness of cancer surgery, as well as supporting care.

Keywords: Health-related quality of life, Subjective outcome measures, Cancer resection, Evaluation tools, Patients' position, Oncologic surgeries

INTRODUCTION
The usefulness of health-related quality of life (QOL) as an endpoint that adds value to the assessment of the efficacy of cancer treatments beyond survival and disease control has emerged over the past decades. This is due to the understanding that to enhance longevity on a survival basis, the QOL during the enhanced longevity should not be compromised. Of all surgical procedures, oncologic surgeries have potential sequelae, which may affect important QOL aspects. This is because as the focus of the cancer treatment is being moved to patient-centered models, there is importance placed in patients' view for measuring QOL after major cancer operations. The next group review focuses on patient-reported QOL measures and details of major oncologic surgical procedures in literature today (1). The surgery to be discussed includes cancer with high incidence globally or cancer that has high global mortality due to surgery. In breast cancer, surgery will be discussed about mastectomy,

and reconstructive surgeries because they impair body image and sexuality. Such colorectal surgeries as low anterior resections, abdominal-perineal resections, and permanent ostomy cause changes in gastrointestinal function, patients' quality of life, and psycho-social issues. The recipient evaluated radical cystectomies and neobladder constructions for invasive bladder cancer also significantly altered urinary, sexual, and social activity (2).

Another area to look into equally relevant as surgical operations on lung cancer is the quality of life following lung cancer resections due to pulmonary complications such as pain, fatigue, breathlessness, and reduced activity tolerance may persist despite surgery of curative intent. Gaining a patient's perceptions of his/her QOL post-operatively at these sorts of surgeries will distinctly illuminate what features are common and which are different among these kinds of surgeries (3). This is also helpful in identifying which patient population segments could take advantage of optimizing the entire cancer care process by bettering recovery processes, educating patients, post-treatment planning, and support. While reviewing the literature on the assessment of QOL using the patient-reported data after major cancer surgeries, both general and disease-specific measures have been employed. Self-complete questionnaires like Short Form (36) Health Survey and EuroQol Five Dimension questionnaires allow comparisons between distinct illnesses. However, tools for the evaluation of QOL in cancer patients have been specially developed and those tools target the symptoms and functions that directly relate to the present cancer and its treatment, for instance, the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire. They have their advantages and disadvantages with each type of instrument (4-5).

No matter which approach is applied, data reported by patients can voice the true-to-life experiences of the survivors. They describe the bodily, affective, interpersonal, erotic/religious, and cardinal fights that quantitative measures do not. One can sense what impact the surgery has on everyday QOL and how difficulties might interfere with the best possible rehabilitation through patients' own words. Patient-centered data collection also enables a longitudinal study of changes in QOL and support requirements over time, from the period shortly after surgery through to survivorship. In light of the above findings, this review will be based on and organized by the QOL domains most affected across these oncologic surgeries (6-7). There are so many factors that cause dramatic and significant impacts on physical and functional health after major operations. PPSP, limited activity, fatigue, muscle weakness, GI/urinary dysfunction, ostomy, changes in body image, and reduced tolerance to physical activities decrease physical aspects of QOL. However, these surgeries influence the health of survivors in other ways, through psychological effects such as anxiety, depression, grief, distress about change in physical appearance or physical function, and coping difficulties. These psychological consequences shall be discussed in the review under consideration using the data received from the patients (8-9).

The quality of social interactions after cancer surgery also deserves consideration when concerns, such as ostomies, incontinence, or impotence lead to seclusion. To optimize their capabilities, many patients complain about difficulties in returning to professional activity and active traveling, as well as such aftereffects as further degradation of a person's emotional state and exclusion from life involvement. Loss of libido and sexual dysfunction following pelvic, bladder, rectal, and breast surgery also leads to diminished self-esteem and marital stresses. Exploration of knowledge of the impacts by patients will be done across these dimensions of QOL, and how the supportive care services could be better tailored to respond (10). Finally, specific types of floors in current QOL studies that prevent developing a more comprehensive view of patients' experiences will be described. Where quantitative information is lacking or insufficient, patients can only report qualitative effects on QOL that smaller, less invasive surveys would register. A limitation of studying sampling data is that the tests have a low representation of minorities, the socioeconomically disadvantaged, and elderly people. Some other methodologic limitations are problems with timing/duration of assessment/s and high drop-off rates. Chances to build up patient-centered research methodology as a concrete approach will thus be discussed (11-12).

Defining Quality of Life

QoL is defined as a global, subjective, and dynamic concept reflecting an individual's physical, psychological, social, and spiritual health. Conceptual maps propose that QoL refers to perceived satisfaction with life activities impacted by disease and treatment. While cancer survival increases, it has shifted focus to patient-perceived QoL soon after the cancer treatments. The areas chosen relate to seven aspects of QoL that are critical to the cancer survivors; physical health and symptoms, psychological/spiritual, and social well-being (13). Health in the physical sense is highly dependent on the extent of surgery and the body's state after the procedure. The variables that influence the subjective components are self-esteem and coping ability on an individual related to his quality of life. On the social aspect, both MAINTENANCE OF ROLES and INDEPENDENCE are instrumental to well-being. There is, therefore, the element of meaning-making in suffering spiritually. The assessment of an overall QoL involves the measurement of self-rated patient status across several dimensions, the assessment of which demands the use of specific tools. Applying and integrating patient perspectives using qualitative research and patient-feel at-hand experience can greatly enhance survivorship assessment. From a patient's point of view, patient values and priorities are easier to identify when looking at areas of need and targets for intervention for a patient's rehabilitation and reconstruction of purpose post-cancer treatment (14).

Patient Perspectives on Quality of Life Post-Surgery

Psychological and Emotional Outcomes

Chances are that one's life changes often and creates stress and most of the time our psychological response happens when we are stressed; this brings up anxiety and depression. Anxiety is usually described as worry, qualms, and other unrest feelings while depression is explained in terms of the lack of interest, despair, and hopelessness of the feelings. All varieties of them can vary in severity. Few people would not be affected in their ability to manage relationships, work commitments, and have fun if they were to develop anxiety or depression. This reveals the fact that there are several ways through which people can try to manage their anxiety and depression. Problem-solving, support, exercising, relaxing, and routine are the action coping measures that fall under the adaptive coping scale (15). Maladaptive coping is denial, avoidance behavior, substance abuse, and self-harm. Coping that is flexible and healthy rather than unhealthy or inflexible is associated with improved emotional outcomes during and after stress reactions (figure 1). Coping is a process that enhances resilience since people make quicker psychological recovery at higher levels. Several aspects that healthcare providers are in a position to help: Promoting the practice of healthy ways of dealing with stress. To a large extent, people learn how to deal with anxiety and depression constructively when they receive adequate support (16).

Physical Health and Functional Outcomes

The formula for successful aging depends on how one can aggressively control and treat pain and maintain physical functioning for optimum quality of life, health, and physical independence. Poor mobility hinders the patient's independence, while less pain affects the patient's independence in performing daily tasks and rehabilitation. A Multidisciplinary, patient-centered approach is critical for achieving the best results. Although pain can be managed by non-pharmacologic methods, i.e. NSAIDs, opioids, and adjuvant medications, these have side effects associated with them (17). Pain relief modalities that are not related to drug administration include physiotherapy psychological measures nerve blocks and complementary approaches to management to enhance function with minimal side effects. The choice of a multimodal regime consisting of pharmacological and non-pharmacological methods enables smaller dosages and better outcomes. Regular monitoring of patient's pain levels, side effects, and improvement in function determine modification on the dosage of medication and therapies for the greatest long-term outcome. Optimum use of extremities can be accomplished with canes, walkers, or braces and physical/occupational therapy (18). A major reason involves setting goals and workloads that can be achieved within the shortest time and avoiding overworking to prevent worsening of pain and slow recovery. Handrails and such, mobility aids help

the elderly to be more independent and make fewer accidents possible. That is why referral for strength training, balance exercise, gait retraining, and lifestyle change is enabling self-management. The patient and numerous factors are addressed for the best outcomes of comfortable and functional alleviation of pain (19).

Social and Relational Aspects

Growing old can thus change the roles and relationships within the family besides limiting social interaction for an elderly person. Several changes of roles occur in families as parents age; the adult children are forced to assume the dully of caring for their aging parents. This is especially pressurizing to all the parties involved but is also rich with the potential for enhanced closeness and relevancy. At the same time, older people experience radical social shifts – retirement, widowhood, or restricted mobility that lead to social exclusion. More structured support is needed – through relatives, friends, religious organizations, senior and nursing homes volunteer services, or from-home attendant services. Understanding social relationships prevents loneliness and supports the quality of life. Family relationships and social engagement both within and beyond the family are covered in a holistic model for advancing healthy aging (19).

Financial and Economic Considerations

Cancer is expensive; it takes into consideration the financial and economic burden a patient incurs. In the process of tumor therapy, ordinary chemotherapy, radiation therapy, surgery, and drugs can be expensive and reach tens or even hundreds of thousands of dollars within the insurance system (20). Not only does this leave cancer patient and their family at increased risk of debt and bankruptcy, but it means they will be unable to afford the basics such as housing and food. Being treated for cancer is time-consuming and there are side effects that could keep you from working and promotions. Because of their cancer, patients may have to take long-term sick leave and still lose pay by working minimum hours. They may also be discriminated for employment and/or for promotions due to cancer-related performance problems on the job, or due to cancer relapse or ongoing treatment concerns by the employer. Financial precaution measures and policies that support cancer patients at the workplace to reduce the above financial and employment effects (20).

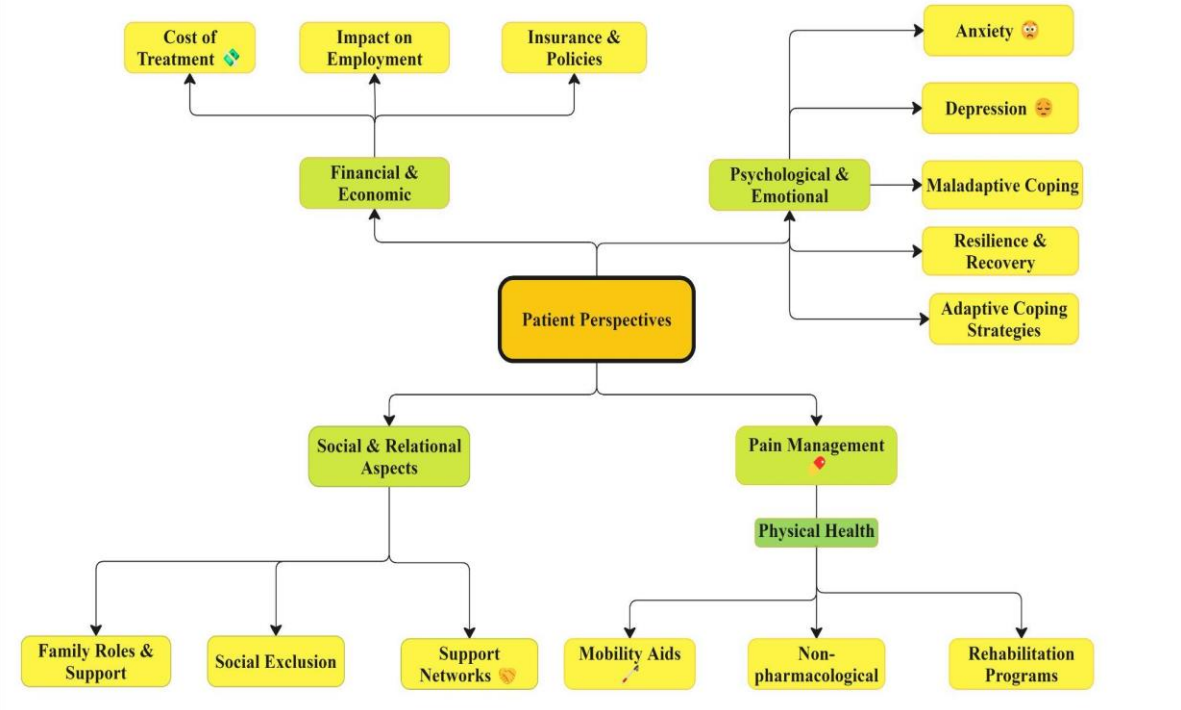

Figure 1: Patient Perspectives on Quality of Life Post-Surgery

Quality of Life Assessment Tools

Standardized Measurement Instrument

A widely used instrument for the assessment of health-related quality of life is the EORTC QLQ-C30, the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core-30, originally designed for use with cancer patients. It consists of five working scales, three symptom scales, one generic health status scale, and six single items. Short Form 36 (SF36) is another global PRO that describes what the patients perceive their general health is and it has several health dimensions (18). Besides the SF-36, the other kinds of PROs are also standardized measures that aim to provide the patients with insight into their health, functioning, symptoms, etc. These tools provide quality-of-life measure estimates for subjective quality-of-life concepts that inform the direction of health interventions and aid clinical decision-making on patient care. It has become possible to assess the quality of life as an important outcome in clinical research and practice due to the availability of rigorously developed and validated instruments (18).

Qualitative Assessment Methods

Quantitative approaches, of course, have an important applicability in evaluating quality of life. Semi-structured interviews and focus groups enable the elaboration of the participants' experiences, practices, and perceptions of, or attitudes to the concept of well-being. These help in developing a clear appreciation of the fine details of factors that define the quality of life with various health conditions. Its use is particularly relevant in the process of understanding qualitative data thematic analysis (11). It allows to examine and descriptive and inferential approaches of statistics and other numerical tools to characterize and highlight important patterns and themes in the context of quality of life in the data collected. The use of the integration of quantitative and qualitative methods in assessment is viewed as an addition to the evaluation of factors contributing to the quality of life of people. They preserve the qualitative experience determining individuals' attitudes to health and illness. An integrated approach allows for getting diverse valuable data to inform healthcare policies and practices (19).

Table 2: Quality of Life Assessment Tools

Assessment Type	Tool/Method	Description
Standardized Measurement Instruments	EORTC QLQ-C30	A widely used tool for cancer patients; includes 5 functioning scales, 3 symptom scales, and 6 single items.
	SF-36	Global Patient-Reported Outcome (PRO) with 8 health dimensions to assess general health perceptions.
	Other PROs	Standardized measures providing insight into patient health, functioning, and symptoms.
	Purpose	These tools help measure subjective QoL concepts to inform health interventions and clinical decisions.
Qualitative Assessment Methods	Semi-Structured Interviews	Explore patient experiences, practices, and perceptions through guided but flexible conversations.
	Focus Groups	Group discussions to gather insights into shared experiences and perceptions of well-being.
	Thematic Analysis	Analyzes qualitative data to identify patterns and themes in patient experiences related to QoL.

Integrated Approach	Mixed Methods	Combines quantitative and qualitative data, offering a comprehensive understanding of QoL factors.
	Purpose	Provides diverse insights to inform healthcare policies and practices, integrating subjective experiences.

Challenges in Assessing Quality of Life

Measuring quality of life presents some basic difficulties. First, quality of life is a very complex concept and individual and therefore it is probable to observe the differences between patients. It is very well possible that two patients presenting similar symptoms of the same disease will have radiantly different feelings toward their health and functioning. Widely capturing such variations, however, is possible by paying attention to individual factors and needs. However, present tools employ questions based on adopted models that do not consider the uniqueness of the patient. Second, further psychometric issues of quality-of-life instruments have been described in terms of reliability, validity, and repeatability (22). Floor and/or ceiling effects are common in frequently applied measures because they do not capture change when the child's functioning is at the lower or upper limits. Third, quality of life measurement when done for research purposes or as a clinical tool must be followed up repeatedly. Large attrition rates over time skew the analyzed results and thus the observed trends. Another type of bias results from study samples is that healthier patients are more likely to complete follow-up while the sick ones are lost. What the existing data yields at that point is a picture of the patient experience that is distorted. For this, researchers have to factor in this differential attrition and this brings new assumptions and errors with it, based on statistical corrections made (23). Quality of life is elusive because it is subjective, varies from patient to patient, is not easily reflected by the available assessment modalities, and because there are methodological issues inherent to the longitudinal assessment and dealing with missing data. Great care and abundant methods are needed to adequately capture patient experiences. Further development and culture household validation of measurement instruments is recommended (figure 2).

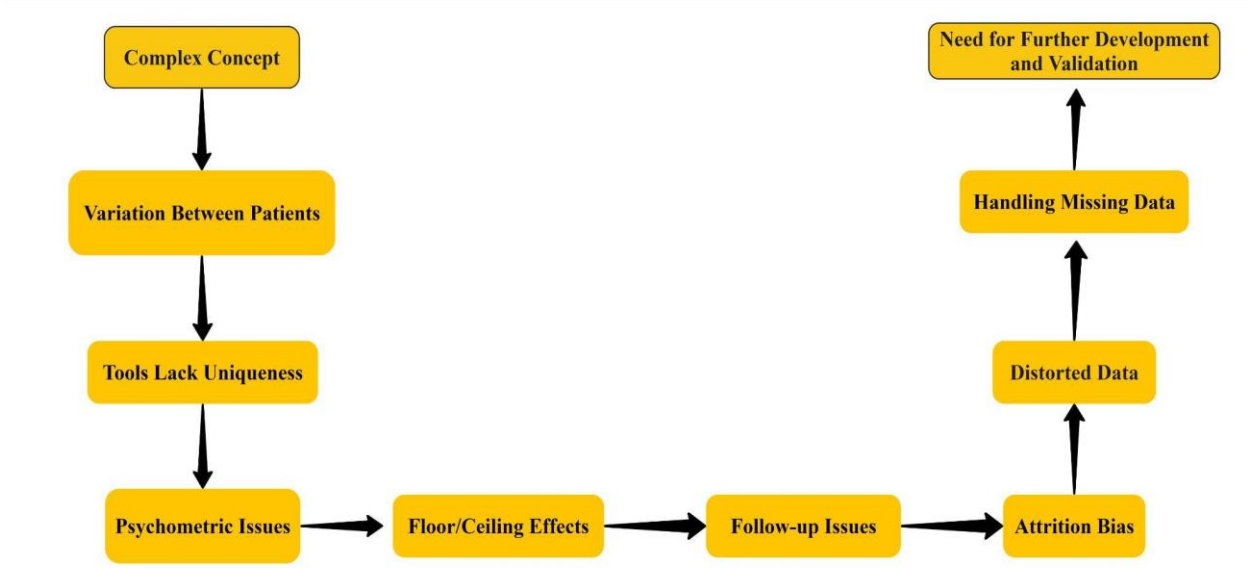

Figure 2: Challenges in Assessing Quality of Life

Strategies for Improving Quality of Life

Psychological Interventions

One's quality of life is determined by effort and the first step in enhancing the quality of one's life is usually enhancement of mental and emotional health. The two potentially successful approaches keep

even company with counseling/support groups and mindfulness/stress reduction approaches. Therapy, therefore, enables one to discuss challenges and get directions, information, and guidance. This can clear the person for better thinking models and ways for dealing with the problems that they face (24). Support groups are used to ensure that people who experience these challenges come together to give support, understanding, and solutions to the problems. Support groups and counseling are no different and offer a degree of accountability, fellowship, and appropriate role modeling to promote greater quality of life. Many resources are easily attainable and inexpensive such as Internet therapy, local community therapy, AA meetings, church, etc. It probably takes a few to get one that fits. Stress reduction and mindfulness are the processes that are associated with the utilization of techniques to quiet the mind and the body (25). These include; breathing techniques, progressive muscle relaxation, mindfulness practice, practicing Yoga, appreciating art, and nature, engaging in prayer, journaling, and any other exercise that for the most part engages the five basic senses. Research shows that engaging in these activities in this method, for as little as 10 minutes every day, can decrease stress, enhance mood, aid in managing anxiety/depression, decrease pain sensation, and enhance sleep and self-consciousness. There is a plethora of apps and websites where people can learn mindfulness / reducing stress activities. The strategy is thus to have one or two practices and create a way of ensuring that they are done daily. The application of these psychological strategies boils down to tenacity, dedication, and the ability to identify what will suit the individual. They've helped a lot of people manage the challenges and made their lives better. It's necessary to start small and build layers of mental/emotional support so that there is space for other parts of life to grow, as well (24).

Rehabilitation and Physical Therapy

Both of these services are invaluable for increasing the quality of life of patients with injuries or disabilities, as well as those with ongoing health issues. Creating an individualized treatment plan for each client focusing on mobility and strength, flexibility, functional abilities, and patient goals can improve the patient's quality of life for the patient to be fully independent again, reduce their pain and fatigue, boost one's self-esteem to enable the patient work and enjoy other activities in life, relationships, and leisure. Examples of procedures include; aerobic and strength exercises to increase cardio-metabolic fitness, muscle strength, and physical balance. Among the exercises of such nature, stretching as well as the activities of range of motion are exercises that help maintain the integrity of the joints, as well as prevent contractures (20). According to the type of mobility that is enhancing ability, suitable mobility aid devices like walkers, braces, or wheelchair adjustments can be assigned. The usual forms of the treatment include such types of massages as classic massage and joint mobilization that help to relax muscles, lessen edema, and decrease pain. Other forms of OT are available to assist individuals perform/utilizing adaptive strategies in activities of daily living as well as modifying home/work/school settings. Speech therapy aims at managing or treating communication and swallowing disorders that have a direct influence on the life of the user (21).

Nutrition and Lifestyle Modifications

With the nature of contemporary life, it is obvious that enhancing the quality of life involves evaluating the current systematic habits and adopting some changes. The areas that need focusing are specifically catering, exercise, sleep, stress, and social relationships. Reducing processed food, focusing on nutrient density, and eating fruits, vegetables, whole grains, lean proteins, and healthy fats is the overall framework for health (table 1). Other ways to be better for your well-being could be reducing processed foods, saturated fats, salt, and added sugars. Regular, even low-intensity - such as walking several times per week physical activity is very effective for both one's body and mind. Good sleep is necessary for you to do your average adult job well, between 7 to 9 hours. Utilizing relaxation mechanisms like meditation, practicing yoga and deep breathing, or simply journaling helps us to reduce stress and prevent it from becoming harmful. This means that social relationships and a sense of purpose believe in mental health (22).

These were in addition to fundamental changes in the pace of everyday life, and patients with chronic diseases or different kinds of pain might need additional adjustments. There are inflammation-fighting

diets that encourage the consumption of colorful vegetables, beans, nuts and seeds, healthy oils, and seasonal fruits and spices that may help with joint issues or autoimmunity. Patients skip such triggers to alleviate digestive diseases or headaches. Simple non-jarring exercises such as stretching and underwater exercise, or tai-chi may be more easily endured by patients. Priorities are sustainability and gradual attitude and behavior modification based on self-care and self-empathy (22).

Table 1: Strategies for Improving Quality of Life

Category	Subcategory	Activities	Description
Psychological Interventions	Counseling / Support Groups	Therapy, Support Groups, Online Therapy	Emotional support
	Mindfulness / Stress Reduction	Meditation, Yoga, Journaling, Breathing Techniques, Art	Stress management
	Emotional Health	Meditation, Mindfulness, Relaxation	Mind-Body Balance
	Accountability / Role Models	Group therapy, AA Meetings, Church	Community support
	Online Resources	Mindfulness Apps, Websites	Digital support
	Daily Practices	10 minutes daily stress-reduction practices	Consistency
	Building Resilience	Gradual mental health layers	Personal growth
	Techniques	Progressive Muscle Relaxation, Nature Appreciation	Relaxation techniques
Rehabilitation & Physical Therapy	Exercise Therapy	Aerobic, Strength, Stretching, Mobility Aids	Physical fitness
	Occupational Therapy	Daily Living Adaptations	Functional improvement
	Mobility Devices	Walkers, Braces, Wheelchairs	Mobility aids
	Massage & Joint Mobilization	Muscle relaxation, Pain reduction	Pain management
	Speech Therapy	Communication, Swallowing assistance	Speech therapy
	Individualized Treatment Plan	Mobility, Strength, Functional Goals	Personalized therapy
Nutrition & Lifestyle	Diet Modifications	Nutrient-dense foods, Reducing processed foods, Inflammation diet	Healthier eating
	Anti-inflammatory Foods	Colorful vegetables, Healthy oils, Beans, Nuts, Seeds	Inflammation control
	Exercise	Walking, Stretching, Tai-Chi, Water Exercises	Physical activity
	Sleep Hygiene	7-9 hours sleep, Relaxation Techniques	Sleep optimization
	Stress Management	Meditation, Yoga, Journaling, Breathing	Stress reduction
	Social Relationships	Supportive connections, Purpose	Social wellbeing
	Chronic Illness Adjustments	Special diets, Low-impact exercises	Condition management
	Lifestyle Sustainability	Gradual changes, Self-care, Self-empathy	Sustainable habits

Future Research Directions

There are several areas that if explored further will enhance the knowledge base of QoL measurement in the clinical practice domain. An important area that has not been scrutinized in the current literature is to determine particular patient groups or diseases in which QoL may be less frequently measured, or in which supplementing with QoL may provide more value than augmenting other outcomes (16). There might be some chronic diseases, any forms of cancer, or specific age populations that would perhaps require more frequent evaluation to interfere with their quality of life, but perhaps have not been investigated adequately as to the practicability and effectiveness of these instruments. Furthermore, changes in approaches to quality-of-life assessment may enhance patient management and outcomes. This might entail creating improved, less clinically oriented, more palatable instruments or tools of outcome assessment that patients could complete without feeling overwhelmed given their conditions. It may also involve the establishment of other approaches to the assessment of QoL other than the usual forms of paper and electronic questionnaires like using the wearables, the patient's diary, or daily check-in. Future studies should determine how these new methodologies offer different or incremental value to traditional metrics (20).

Last, important considerations designed to guide the incorporation of patient QoL data into comprehensive clinical decisions are quite finite. Future implementation research is necessary to examine the effect of offering 'live' QoL feedback to clinicians on treatment regimens on differing elements such as symptoms, functioning, emotional well-being, and social well-being. Further, the interventions that are designed to facilitate patients to engage as active participants in decisions regarding their QoL data may be beneficial for health. In conclusion, the expansion of this topic proves that further research and publication of findings related to the mediating role of self-care in the relationship between disease characteristics and quality of life would be useful as areas for future exploration include areas of the literature that may not be covered, advances in method of measurement and the incorporation of the patient voice in enhancing quality of care (23).

CONCLUSION

Because of this, this systematic review is important because it gives an outstanding insight into the astounding influence that oncologic surgery has on the lives of their patients not only in somatic but also psychological and social aspects. Even though surgery as a treatment aims to cure, or at least, remove primary cancer, the implications barely border on its excision. During the recovery, chronic pain, restricted movement, anxiety and depression, social isolation and relationship breakdowns are often the result. The interruption of this quality of life disruption relates to why it is imperative to have clinicians employ standardized assessment techniques that aim to capture the self-reported patient experience after the major cancer interventions. Giving attention only to the clinical results distorts the whole picture of post-surgical living. Qualitative tools are incorporated into usual care to (i) assess unmet needs and (ii) promote individualized care management. From the information derived above, practitioners can connect individuals to specific rehabilitation therapy, mental health, home caregivers, counseling, and community support systems. In addition, subsequent studies of these survivors who attempt to investigate the quality of life over time will lend further knowledge to the associated quality of health and well-being across this later period. Epic longitudinal studies that examined these various patient populations over time could prove highly informative, specifically in terms of equity. It will also help in the future progress of patient-centered care models to create more elaborative tools for the assessment of surgery that can capture the kind of impacts mentioned above. Lastly, enhancing quality survival by focusing on satisfying all the physical, mental, and social health needs before and after critical cancer surgery shall result in better-improved recovery, empowered patients, and improved satisfaction with the kind of care provided to them. A systems approach involving optimization of patients' quality of life is different from Length of Life but involves quality of life.

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