



Patients perception of early rehabilitation after surgery following a Mastectomy: experience from the Anesthesiology Unit of the Douala General Hospital

Perception des patientes sur la rééducation précoce après une mastectomie : expérience du service d'Anesthésiologie de l'Hôpital Général de Douala

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Original Article

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ABSTRACT

Background: Early rehabilitation following mastectomy is critical for preventing complications and improving quality of life. However, patient perception and engagement can be influenced by various factors, particularly in resource-limited settings. This study aimed to assess patients' perceptions of early post-mastectomy rehabilitation at the Douala General Hospital.

Methods: A cross-sectional descriptive study was conducted over twenty-two months, enrolling 50 female patients post-mastectomy via convenience sampling. A structured questionnaire assessed socio-demographics, perceptions, knowledge, barriers, and information sources. Data were analyzed using descriptive and inferential statistics (Chi-square test).

Results: Most participants (88%) held a positive perception of early rehabilitation. However, specific knowledge was limited; while 72% understood its role in improving mobility, only 34% were aware of its importance in preventing lymphedema. Knowledge was significantly associated with education level ($p < 0.05$). The primary barriers were post-operative pain (68%), fear of suture dehiscence (54%), and insufficient information from healthcare providers (46%). Physicians and nurses were the main information sources, but the education provided was often perceived as inadequate.

Conclusion: A significant gap exists between patients' positive attitudes towards rehabilitation and their detailed knowledge, which hinders implementation. Post-operative pain, fear, and inadequate patient education are major barriers. Structured, multimodal educational programs are urgently needed to empower patients, manage expectations, and improve adherence to rehabilitation protocols in this setting.

RESUME

Contexte : La rééducation précoce après une mastectomie est essentielle pour prévenir les complications et améliorer la qualité de vie. Cette étude visait à évaluer la perception des patientes sur la rééducation post-mastectomie précoce à l'Hôpital Général de Douala.

Méthodes : Une étude descriptive transversale a été menée sur vingt-deux mois, incluant 50 patientes après une mastectomie par échantillonnage de convenance. Un questionnaire structuré a évalué les données sociodémographiques, les perceptions, les connaissances, les obstacles et les sources d'information. Les données ont été analysées par des statistiques descriptives et inférentielles (test du Chi-carré).

Résultats : La plupart des participantes (88 %) avaient une perception positive de la rééducation précoce. Cependant, les connaissances spécifiques étaient limitées ; si 72 % comprenaient son rôle dans l'amélioration de la mobilité, seules 34 % connaissaient son importance dans la prévention du lymphœdème. La connaissance était significativement associée au niveau d'éducation ($p < 0.05$). Les principaux obstacles étaient la douleur postopératoire (68 %), la peur de la désunion des sutures (54 %) et le manque d'information (46 %). Médecins et infirmières étaient les principales sources d'information, mais l'éducation fournie était jugée inadéquate.

Conclusion : Il existe un fossé important entre l'attitude positive des patientes et leurs connaissances détaillées. Des programmes éducatifs structurés et multimodaux sont nécessaires pour autonomiser les patientes et améliorer l'adhésion aux protocoles de rééducation.

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Introduction

Breast cancer is the most prevalent cancer among women globally, and mastectomy remains a cornerstone of its surgical management [1]. While life-saving, this procedure is associated with significant physical and psychological sequelae, including post-operative pain, decreased shoulder range of motion, lymphedema, and altered body image [2, 3]. Early and structured post-operative rehabilitation has been established as a crucial component of comprehensive cancer care, aiming to mitigate these adverse effects, accelerate functional recovery, and enhance the overall quality of life for survivors [4, 9].

International guidelines, such as those from the European Society of Surgical Oncology (ESSO), advocate for the initiation of rehabilitation exercises within the first few days post-surgery [5]. The benefits are well-documented and include prevention of joint stiffness, reduction of pain and swelling, decreased risk of developing chronic lymphedema, and improved psychological well-being [1, 4, 10]. Despite this evidence, the implementation of and adherence to these protocols vary widely, especially in low- and middle-income countries (LMICs) where healthcare systems face numerous constraints [6, 11].

In Cameroon, as in many parts of sub-Saharan Africa, the focus of cancer care has traditionally been on treatment and survival, with less emphasis on survivorship and rehabilitative care [6, 12]. Patients' perceptions, beliefs, and knowledge play a pivotal role in their engagement with any therapeutic intervention. A positive perception can drive adherence, whereas fear, misinformation, or a lack of understanding can create significant barriers [7, 13]. To date, there is a paucity of data regarding how patients who undergo mastectomy in Cameroon perceive early rehabilitation. Understanding their perspective is the first step toward developing culturally appropriate and effective patient-centered rehabilitation programs. This study, therefore, sought to investigate the perceptions of patients on early rehabilitation after mastectomy at the Anesthesiology Unit of the Douala General Hospital, a major tertiary referral center in Cameroon.

Methodology

A cross-sectional descriptive study was conducted between January 2024 and October 2025 at the Anesthesiology and Gynaecological Units of the Douala General Hospital in Douala, Cameroon. This facility is a key public hospital providing specialized surgical and oncological care in the region.

The study population comprised all female patients who had undergone a unilateral or bilateral mastectomy for breast cancer during the study period. Inclusion criteria were: age 18 years or older, having undergone mastectomy within the study

period, being clinically stable (hemodynamically and neurologically), and able to communicate. Patients with severe cognitive impairment or those who underwent immediate complex breast reconstruction that contraindicated early movement were excluded. A convenience sampling technique was used to recruit 50 consecutive eligible patients who provided informed consent.

Data were collected using a pre-tested, structured questionnaire administered by the principal investigator. The questionnaire was developed based on existing literature [2, 7] and expert review, and was available in both English and French. It consisted of four sections: (1) Socio-demographic and clinical data (age, education level, type of surgery); (2) Perception of early rehabilitation (using Likert-scale and yes/no questions); (3) Knowledge of specific benefits and risks of rehabilitation; and (4) Perceived barriers and sources of information.

Data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS) version 25.0. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the variables. To explore relationships between categorical variables, the Chi-square test or Fisher's exact test was used where appropriate. Specifically, we investigated the association between patients' education level and their knowledge of key rehabilitation benefits. A p-value of less than 0.05 was considered statistically significant. Data are presented in tables and narrative form.

Ethical approval was obtained from the Institutional Board of the Douala General Hospital and the Faculty of Medicine and Biomedical Sciences, University of Yaoundé I. Written informed consent was obtained from each participant after a thorough explanation of the study's purpose and procedures. Confidentiality and anonymity were maintained throughout the study by using coded identifiers.

Results

A total of 50 patients participated in the study. The mean age of the participants was 52.4 ± 9.8 years (range: 31-70 years). The majority of patients had completed secondary education (48%). Radical mastectomy was the most common surgical procedure, performed in 62% of cases (Table 1).

Regarding past medical history, hypertension was the most common comorbidity, present in 15 (30%) of patients, followed by type 2 diabetes in 9 (18%). Two patients (4%) were HIV positive on antiretroviral therapy. Most had undergone both radiotherapy and chemotherapy. All patients received general anesthesia. For post-operative pain management, a serratus anterior plane block was performed in 19 (38%) of cases, supplementing a multimodal

analgesic regimen. The most frequently reported post-operative complication was surgical site pain, noted by 34 participants (68%) after 48 hours. Other complications were less common, with hematoma in 3 (6%) and early signs of surgical site infection in 2 (4%).

Table 1: Socio-demographic and Clinical Characteristics of Participants

Characteristics	Category	Frequency (n)	Percentage (%)
Age Group (years)	< 40	8	16
	40 - 59	29	58
	≥ 60	13	26
Education Level	No formal/ Primary	15	30
	Secondary	24	48
	Tertiary	11	22
Type of Mastectomy	Simple Mastectomy	12	24
	Radical Mastectomy	31	62
	Associated procedures	7	14

The overall perception of early rehabilitation was overwhelmingly positive, with 44 patients (88%) agreeing that it was important. However, specific knowledge was varied. While a majority (72%) understood its role in improving arm mobility, awareness of its crucial role in lymphedema prevention was low (34%). A chi-square test revealed a significant association between education level and knowledge of lymphedema prevention ($\chi^2=6.12$, $p=0.047$), with patients having tertiary education demonstrating higher awareness (Table 2).

Table 2: General Perception and Specific Knowledge of Early Rehabilitation

Parameters	Frequency (n)	Percentage (%)
General Perception		
Rehabilitation is important for recovery	44	88
Rehabilitation helps return to normal activities faster	46	92
Specific Knowledge of Benefits		
Improves arm and shoulder mobility	36	72
Prevents lymphedema	17	34
Helps manage post-operative pain	14	28
Uncertain about correct exercise technique	40	80

Post-operative pain was the most significant barrier to rehabilitation, cited by 68% of patients. This was followed by fear of damaging the surgical site (54%) and receiving insufficient information from healthcare

staff (46%). Fatigue and emotional distress were also noted as considerable obstacles (Table 3).

Table 3: Perceived Barriers to Early Rehabilitation

Barriers	Frequency (n)	Percentage (%)
Post-operative pain	34	68
Fear of suture dehiscence or injury	27	54
Insufficient information/unclear instructions	23	46
Fatigue	15	30
Emotional distress (anxiety, depression)	11	22
Concerns about cost of physiotherapy	9	18

Physicians (78%) and nurses (70%) were the primary sources of information regarding post-operative care. However, the information was predominantly verbal, with only 20% of patients reporting they received a pamphlet or written guide. A small number of patients (12%) relied on advice from other patients (Table 4).

Table 4: Sources of Information on Post-Operative Rehabilitation

Source of Information	Frequency (n)	Percentage (%)
Physicians (Surgeons/ Anesthesiologists)	39	78
Nurses	35	70
Received a pamphlet/written material	10	20
Other patients	6	12
No information received	3	6

Discussion

This study provides valuable insight into patients' perceptions of early post-mastectomy rehabilitation in a major Cameroonian hospital. The principal finding is a striking dichotomy: while patients hold a highly positive attitude towards the concept of early rehabilitation, their specific knowledge is shallow, and they face significant, tangible barriers to its practice. This disconnect between positive perception and informed action is a critical point for intervention and reflects challenges common in many healthcare systems [7, 13].

The positive general perception (88%) aligns with findings from other African settings, including a study in Nigeria where patients were receptive to post-operative physiotherapy [2]. This suggests an inherent understanding of the value of proactive recovery. However, our study reveals that this positive attitude does not translate into informed practice. The limited knowledge regarding lymphedema prevention (34%) is particularly concerning, as lymphedema is a chronic, debilitating complication for which early intervention is paramount [1, 10, 14]. Our finding that higher education was significantly

associated with better knowledge highlights a health literacy gap. Patients with lower educational attainment may require more targeted and simplified educational strategies to grasp complex concepts like lymphedema prevention [15].

The barriers identified pain, fear, and lack of information—are consistent with international literature [7, 8, 16]. Post-operative pain (68%) as the leading barrier underscores the critical role of the anesthesiology and pain management team. Effective analgesia is a prerequisite for successful rehabilitation [17]. The use of regional techniques like the serratus anterior plane block in only 38% of our patients, despite its proven efficacy in reducing pain and opioid consumption post-mastectomy, suggests an area for improving and standardizing pain management protocols [18]. Fear of injury (54%) is often a direct consequence of insufficient patient education [7]. Without clear guidance on safe movement limits, patients are likely to adopt fear-avoidance behaviors, leading to immobility and complications like frozen shoulder, which rehabilitation aims to prevent [8].

The finding that nearly half of the patients (46%) felt they received inadequate information, despite citing doctors and nurses as their primary sources, points to a systemic issue in health communication. Verbal instructions, often delivered in a stressful post-operative environment, are frequently insufficient and poorly retained [7, 15]. As argued by multiple studies, effective patient education must be structured, multimodal (verbal, written, and demonstrative), and reinforced over time [7, 13]. The lack of standardized educational materials, such as pamphlets, in our study setting is a clear and actionable deficiency. Reliance on informal advice from other patients (12%), while a source of psychosocial support, can also propagate misinformation and non-evidence-based practices [3].

These challenges are magnified in resource-limited settings like Cameroon [6, 11]. Overburdened healthcare workers may lack the time for comprehensive patient counseling, and the cost of producing high-quality educational materials can be a barrier. However, simple, low-cost interventions, such as standardized, illustrated pamphlets in local languages and group demonstration sessions led by a nurse or physiotherapist, could yield significant improvements. Empowering patients through education is not a luxury but a necessity for optimizing surgical outcomes and ensuring the long-term well-being of breast cancer survivors [4, 12].

Study Limitations

This study has several limitations. Its cross-sectional design does not allow for an assessment of how perceptions change over time or their impact on long-term outcomes. The use of a convenience sample from a single urban tertiary hospital may limit

the generalizability of the findings to rural or other healthcare settings in Cameroon [6]. Furthermore, the data were collected via self-reporting, which may be subject to recall and social desirability bias. Finally, the study focused on patient perceptions shortly after surgery and did not correlate these perceptions with actual adherence rates or long-term functional outcomes, which are important areas for future research.

Conclusion

Patients undergoing mastectomy at the Douala General Hospital are willing and receptive to early rehabilitation, but their engagement is hampered by a critical lack of specific knowledge, significant post-operative pain, and fear rooted in inadequate patient education. The current approach to patient instruction is insufficient to empower patients to participate confidently in their recovery. To bridge this gap, we recommend the implementation of a standardized, structured patient education program. This program should be initiated pre-operatively and reinforced post-operatively, involving a multidisciplinary team (surgeons, anesthesiologists, nurses, and physiotherapists). It should include clear, simple written and visual materials (in local languages) that explain the “what, why, and how” of each exercise, address common fears, and provide guidance on pain management. By addressing these identified barriers, healthcare providers can translate patients’ positive perceptions into active participation, ultimately improving functional outcomes and quality of life for breast cancer survivors in Cameroon.

Conflict of Interest: The authors declare that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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