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Video-Based Educational Training for Community Health Center Nurses in Post-Mastectomy Patient Care: A Community Service Program

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ABSTRACT

Post-mastectomy breast cancer has complex physical, psychological, and social impacts, including pain, risk of lymphedema, body image issues, and decreased self-acceptance. Education is typically delivered verbally without the use of audiovisual support. This results in a lack of understanding of post-operative care by patients. This community service activity aims to enhance nurses' knowledge and self-efficacy in delivering video-based post-mastectomy patient care education, ultimately improving patient satisfaction. The activity design included training, mentoring, and a six-month video-based post-mastectomy patient care education intervention for nurses at community health centers. The participants were five nurses and five breast cancer post-mastectomy. The stages included preparation, training, field implementation, and evaluation. The instruments used included a nurse knowledge questionnaire, a self-efficacy scale (with a pre-post difference test), and a patient satisfaction scale. Analysis was conducted qualitatively (thematic analysis). Results showed a significant increase in nurses' knowledge and self-efficacy after training ($p < 0.05$). Communication skills and delivery of educational materials improved, supported by field supervision. Patients reported high satisfaction (>80%), particularly regarding the clarity of information and understanding of lymphedema prevention and arm mobilization. Video-based educational training and mentoring significantly improve nurses' knowledge and self-efficacy, while achieving high satisfaction among post-mastectomy breast cancer patients, indicating its effectiveness in meeting educational needs and supporting recovery. The program recommends strengthening interactive video content, providing short and full versions of educational materials, and ensuring continuous nurse training.

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INTRODUCTION

Breast cancer is a disease with profound physical, psychological, and social impacts on women. One standard medical procedure is mastectomy, the partial or complete removal of breast tissue, which often results in body changes, pain, risk of lymphedema, and challenges with body image (Murugappan, A., & Khanna, 2023; Weingarden et al., 2022). These consequences highlight the importance of post-operative self-acceptance and holistic care (Faria et al., 2021). In primary care settings, such as community health centers, nurses play a central role in educating and supporting patients who have undergone a mastectomy. Effective education can aid physical recovery, prevent complications, increase self-efficacy in self-care activities, and improve overall quality of life.

In Bandung City, particularly at the Kujangsari Community Health Center, post-mastectomy education remains suboptimal. Educational content is often delivered verbally without multimedia support, mentoring sessions are infrequent, and nurses lack specialized training in video-based education. Patients report limited understanding of wound care, early recognition of complications, and rehabilitation exercises due to the absence of structured and easily accessible information. Despite evidence on the effectiveness of audiovisual media in health education, there is a lack of localized research on video-based education for post-mastectomy patients in community health settings.

Health education theories, such as Cognitive Behavioral Therapy (CBT), suggest that visual and interactive media enhance self-efficacy, knowledge retention, and behavioral change (Børøsund et al., 2023; Elkefi et al., 2023; Obrero-Gaitán et al., 2022). Video-based education, therefore, aligns with these principles by combining verbal instruction with modeling and reinforcement, which are critical for patient learning in stressful post-surgical contexts.

Studies have shown that visual and audiovisual media significantly enhance knowledge and retention compared to traditional lectures or leaflets (Morgado et al., 2024). In Indonesia, video education has proven effective in breast self-examination, early detection, and chemotherapy education. A study by Deshpande et al. (2023) found that videos were more effective than leaflets in increasing adolescent girls' knowledge about breast self-examination (Anagha J Deshpande, Archis Bhandarkar, William V Bobo, Mohamad Bydon, Shehzad Niazi, 2023).

Research demonstrates that pre-operative videos can reduce anxiety and improve satisfaction with surgical preparation (Zhang et al., 2023). For mastectomy patients, rehabilitation-focused education—including mobilization, lymphedema prevention, and emotional support improves recovery outcomes (Tranchita et al., 2022). However, post-mastectomy video education in primary care settings remains underexplored.

Few studies focus on the role of nurses as trained educators using video interventions in community health centers. There is also limited evidence on the effectiveness of combined approaches that integrate nurse training, patient mentoring, and video-based materials tailored to local contexts.

Based on the identified gaps, this community service project aims to enhance nurses' knowledge and self-efficacy in providing video-based mastectomy care education, as well as improve the satisfaction of post-mastectomy breast cancer patients receiving education at the Kujangsari Community Health Center in Bandung.

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METHOD

Location, Time, and Participants

The activity consisted of video-based training and mentoring for post-mastectomy patient care educational interventions, targeting nurses at community health centers. Implementation time: approximately 6 months, located at the Kujangsari Community Health Center, Bandung City. Participants were five community health center nurses in charge of the cancer-specific palliative care program. They were female, aged 30-45, married, and permanent employees/civil servants with a nursing education and more than 5 years of work experience. The other participants were five breast cancer patients who had undergone mastectomies, female, aged 45-55, married, homemakers, with a high school education, had JKN PBI health insurance, were cooperative, and willing to participate.

Tools and Materials

The tools used include a laptop, an Infocus, and a microphone to deliver the material. Educational media and tools include five post-mastectomy patient care modules, including Module 1: Patient Adaptation to the Impact of Mastectomy, Module 2: Post-Mastectomy Physical Care, Module 3: How to Overcome the Impact of Negative Post-Mastectomy Thoughts, Module 4: How to Manage the Impact of Negative Post-Mastectomy Emotions, and Module 5: Post-Mastectomy Psychological Support. A video-based post-mastectomy patient care education guide and five post-mastectomy patient care education videos covering: Video 1. Patient adaptation to the effects of mastectomy, Video 2. Post-mastectomy physical care, Video 3. How to overcome the impact of negative thoughts after mastectomy, Video 4. How to manage the impact of negative emotions after mastectomy, and Video 5. Post-mastectomy psychological support (Mustikaningsih et al., 2023, 2025).

Activity PAR Approach

Methods for implementing the training and mentoring program for community health center nurses carried out at Kujangsari Community Health Center, Bandung City, follow the basic principles of learning based on the PAR (Planning, Action, Observation, and Reflection) approach as follows:

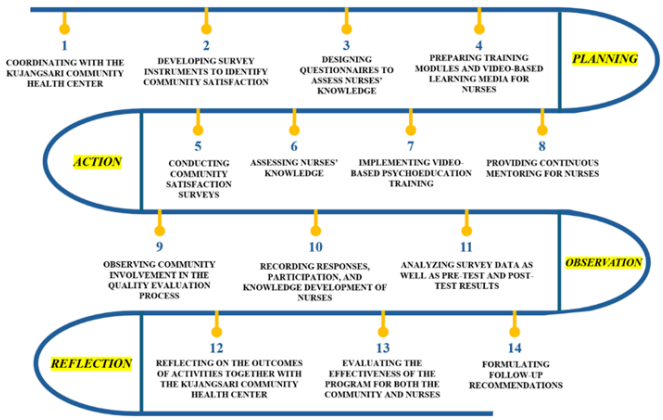

FIGURE 1. Stages of Activity PAR ApproachThe planning phase (month 1) includes: identifying key issues related to post-mastectomy patient care education provided by community health center nurses; holding discussions regarding practical, efficient, structured, and systematic forms and media for education; and

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agreeing that video-based education is the most appropriate and relevant form and media for post-mastectomy patient care education.

The action phase (months 2-3) includes: Training community health center nurses on video-based post-mastectomy patient care education, conducted over two days on May 23, 2025, and June 4, 2025; and mentoring nurses in providing video-based post-mastectomy patient care education to post-mastectomy breast cancer patients in the Kujangsari Community Health Center area of Bandung City for one month.

The observation phase (months 4-5) involves collecting post-intervention data on video-based post-mastectomy patient care education, assessing the level of knowledge and self-efficacy among nurses, and evaluating the satisfaction of post-mastectomy breast cancer patients who received the education.

The reflection phase (month 6) includes: summarizing the results of the community service activities, namely training and mentoring on video-based post-mastectomy patient care education, and providing recommendations for follow-up.

Instruments and Measurements

The instrument used in this activity is a knowledge questionnaire consisting of 15 statements that have been tested for content validity using a knowledge questionnaire tested by expert judgment, namely oncology surgeons, clinical psychologists, and palliative nurses, and construct validity tests using Pearson product-moment correlation tests with r results between 0,528 and 0,666 and reliability tests of 0,826. The validity of educational media, as assessed by video experts, namely audiovisual experts and lecturers in Visual Communication Design at the University of Aisyiyah Bandung. The results of the video feasibility test with media experts were 86,7%, the video was tested on several nurses and patients, with the results being suitable for use.

The nurse self-efficacy scale questionnaire uses the general self-efficacy (GSE) scale, 10 question items adopted from Teo & Kam., (2014), the questionnaire has been standardized in the Indonesian version by Novrianto et al, (2019), which includes dimensions of difficulty level (magnitude), strength, and breadth of behavior (generality) (Novrianto et al., 2019).

The patient satisfaction questionnaire in receiving video-based educational services uses CSQ-8, adopted from Larsen (1979), 8 question items and four answer choices, translating the questionnaire from English to Indonesian, with modifications, and the results of the modification have been tested with an acceptable reliability coefficient (α = 0,80) (Matsubara et al., 2013). Meanwhile, Closed-ended interview guidelines for women with breast cancer after mastectomy also use those from Larsen (1979) which consist of 3 questions as follows: (1) “How do you feel after receiving video-based education?”; (2) Information Sources: “How do you respond to the information provided by oncologists, nurses, psychologists, and mastectomy survivors?”; (3) Presentations: “What do you think about video-based educational presentations/appearances?”

Data Collection

Data collection was conducted after obtaining permission from the community health center, explaining and approving the community service activity (informed consent) to participants, explaining the activity's purpose and objectives, and ensuring the confidentiality of participant data. Next, a

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knowledge and efficacy questionnaire was distributed to community health center nurses (pre-test), and a satisfaction questionnaire on educational services was distributed to post-mastectomy breast cancer patients.

The video-based post-mastectomy patient care education intervention was conducted through training and mentoring for five nurses, who provided education, and five patients, who received education. The final assessment (post-test) was conducted after the training and mentoring were completed. The knowledge and efficacy questionnaire was distributed to community health center nurses (post-test), and a satisfaction questionnaire regarding educational services was administered to post-mastectomy breast cancer patients.

Data Analysis

Univariate analysis utilized frequency distributions to examine participant characteristics. Normality testing was performed using the Shapiro-Wilk test with a significance value ($p < 0.05$), indicating that the data were normally distributed. Bivariate analysis used the paired samples test. An exploratory, descriptive, qualitative analysis was employed, utilizing thematic analysis.

RESULTS AND DISCUSSION

Kujangsari Community Health Center is one of the first-level health facilities under the auspices of the Bandung City Health Office, located precisely in Kujangsari village, Bandung Kidul district, Bandung City. The working area of Kujangsari Community Health Center does not cover the entire administrative area of Bandung Kidul District, as the district has three first-level health service facilities: Pasawahan Community Health Center, Mengger Community Health Center, and Kujangsari Community Health Center. This community health center covers two sub-districts: Kujangsari Village and Batununggal Village. The breast cancer non-communicable disease program at Kujangsari Community Health Center has been running since 2014. The activities implemented at Kujangsari Community Health Center include the Early Detection of Breast Cancer (CBE) method, which encompasses education, breast examination, care, and treatment.

This community service activity is a form of video-based training and educational support in post-mastectomy patient care, utilizing the PAR approach, for nurses at the Kujangsari Community Health Center in Bandung, West Java. This activity was conducted by lecturers and students from Aisyiyah University in Bandung. The PAR approach was chosen because it emphasizes the active involvement of all parties, including the community, health workers, and the team, in the program's planning, implementation, and evaluation. This approach enables participatory, collaborative, and sustainable interactions that address real needs in the field. Community service activities were implemented in several PAR cycles, including planning, action, observation, and reflection.

Planning

The Head of the Community Health Center and the nurse in charge of the program were consulted to discuss the planning of community service activities, including location, schedule, infrastructure, facilities, participation, and accommodations. The problems faced by the five nurses at the Kujangsari Community Health Center regarding post-mastectomy patient care education included a lack of understanding about post-mastectomy patient care, unstructured and unsystematic forms of education, a shortage of post-mastectomy patient care education materials, and limited resources. The role of

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nurses as educators is significant to help address public health efforts because palliative care, especially cancer patient care, contributes to resolving patient problems, namely, reducing psychological distress experienced by women with breast cancer after mastectomy. In an effort to address the physical and psychological problems of post-mastectomy breast cancer patients in the community health center's work area, structured and systematic education in the form of video media is needed. Video-based post-mastectomy patient care education is easy to understand, effective, and efficient, allowing it to overcome the limited resources at the Kujangsari Community Health Center. This video-based education program contains five topics: patient adaptation strategies related to the impact of mastectomy, post-mastectomy physical care, how to overcome the impact of negative thoughts after mastectomy, how to manage negative emotions after mastectomy, and how to seek psychological support after mastectomy. Community health center nurses play a crucial role in this education. Patients who receive video education can watch the videos themselves without the assistance of nurses, thus addressing their physical and psychological problems, thereby reducing post-mastectomy psychological distress. The presence of community health center nurses must be maintained, and their skills must be continuously improved. Community health center nurses play a crucial role in the palliative care program for cancer patients. The success of post-mastectomy education for women with breast cancer depends on community health center nurses, who are the backbone of the program. Without nurses' in-depth understanding of education, the psychological distress experienced by patients will not be reduced. However, community health center nurses face obstacles in implementing education, including those related to human resources (nurses' skills and knowledge), logistics (availability of educational tools and media), and socialization of targeted programs. The Kujangsari Community Health Center in Bandung has only five nurses with limited expertise; educational funding is inadequate, and educational infrastructure and support facilities are inaccessible.

According to interviews with several women with breast cancer who have undergone mastectomies, patients reported feeling stressed, anxious, sad, worried, and unsure about who to turn to for help with both physical and psychological issues.

Based on the analysis of the problems above, it was agreed that the most appropriate, practical, efficient, structured, and systematic form of education is video-based post-mastectomy patient care education, which includes five videos, namely Video 1. Patient adaptation to the effects of mastectomy, Video 2. Post-mastectomy physical care, Video 3. How to overcome the impact of negative thoughts after mastectomy, Video 4. How to manage the impact of negative emotions after mastectomy, and Video 5. Post-mastectomy psychological support.

FIGURE 2. Mapping needs and challenges related to post mastectomy patient care education for community health center nurses. (Planning) Source: Personal Documentation

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Action

On Friday, May 23, 2025, a video-based post-mastectomy patient care education training was held for nurses at the Kujangsari Community Health Center in Bandung City. The training used a PAR approach with Dewi Mustikaningsih, S.Kep., Ners., M.Kep., and Maya Sukmayanti, S.ST., M.Kes. (Lecturer at the Faculty of Health Sciences, Aisyiyah University, Bandung). The training began with an opening by the Kujangsari Community Health Center in Bandung City, followed by a nurse pre-test. It continued with material provided through modules, guides, and videos on post-mastectomy patient care. Educational media and tools include five post-mastectomy patient care modules, including Module 1: Patient Adaptation to the Impact of Mastectomy, Module 2: Post-Mastectomy Physical Care, Module 3: How to Overcome the Impact of Negative Post-Mastectomy Thoughts, Module 4: How to Manage the Impact of Negative Post-Mastectomy Emotions, and Module 5: Post-Mastectomy Psychological Support. A video-based post-mastectomy patient care education guide and five post-mastectomy patient care education videos covering: Video 1. Patient adaptation to the effects of mastectomy, Video 2. Post-mastectomy physical care, Video 3. How to overcome the impact of negative thoughts after mastectomy, Video 4. How to manage the impact of negative emotions after mastectomy, and Video 5. Post-mastectomy psychological support.

Meanwhile, nurse assistance in providing video-based education to women with breast cancer after mastectomy will be carried out on June 4, 2025, and independently for one month. This video-based training and educational assistance for post-mastectomy patient care is an intervention.

FIGURE 3. Training on How to Provide Education Through Videos for Community Health Center Nurses (Action)
Source: Personal Documentation

Observation

Participant Characteristics

The characteristics of nurses in the Kujangsari Community Health Center Work Area, Bandung City, are described as follows:

TABLE 1. Frequency Distribution of Characteristics of Nurses at Kujangsari Community Health Center, Bandung City, n=5

Gender	n	%
Gender:		
Man	0	0
Woman	5	100

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Gender	n	%
Age:		
30-45 Years	5	100
46-55 Years	0	0
Marital status:		
Not married yet	0	0
Marry	5	100
Education:		
D3 Nursing	2	40
Nurses	3	60
Employment Status:		
Permanent team member	5	100
Contract	0	0
Years of service:		
Less than 5 years	0	0
More than 5 years	5	100

Table 1. This indicates that all five nurses were women of productive age, married, and permanent nurses, namely civil servants, with a work period of more than five years. The majority had a nursing education.

The characteristics of post-mastectomy breast cancer patients in the Kujangsari Community Health Center work area of Bandung City are described as follows:

TABLE 2. Frequency Distribution of Characteristics of Nurses at Kujangsari Community Health Center, Bandung City, n=5

Gender	n	%
Gender:		
Man	0	0
Woman	5	100
Age:		
30-45 Years	0	0
46-55 Years	5	100
Marital status:		
Not married yet	5	100
Marry	0	0
Education:		
Elementary School	0	0
Junior High School	2	40
Senior High School	3	60
Work:		
Housewife	5	100
Self-employed	0	0
Private employees	0	0
Health Insurance Status:		
Non-PBI JKN	0	0
JKN PBI	5	100

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Table 2 shows that all five patients were female, married, homemakers, and had JKN PBI health insurance; most were in the early elderly category and had a high school education.

Differences in Nurses' Knowledge and Self-Efficacy Before and After Video-Based Educational Training and Mentoring Interventions for Community Health Center Nurses

TABLE 3. Differences in Nurses' Knowledge and Efficacy Before and After Video-Based Educational Training and Mentoring Intervention for Community Health Center Nurses (n=5)

Variables	n	Mean	SD	95%-CI	P-value
Knowledge	5	-21,4	5,85	-28,6	0,01
Self-Efficacy	5	-12	4,47	-17,5	0,04

Table 3. Shows the differences before and after video-based educational training and mentoring, that nurses' knowledge significantly increased with a p-value = 0,01 (p <0,05) and nurses' self-efficacy also significantly increased with a p-value = 0,04 (p <0,05).

Satisfaction of Women with Breast Cancer After Mastectomy After Being Given Video-Based Education

TABLE 4. Satisfaction of Women with Breast Cancer After Mastectomy After Being Given Video-Based Education (n=5)

Factors	Patient's Response			
Quality of the Materials	Poor	Fair	Good (n=4, 80%)	Excellent (n=1, 20%)
Kind of Information	No, definitely	No, not really	Yes, generally (n=1, 20%)	Yes, definitely (n=4, 80%)
Met need	None of my needs have been met	Only a few of my needs have been met	Most of my needs have been met	Almost all my needs have been met (n=5, 100%)
Recommend to a friend	No, definitely	No, I do not think so	Yes, I think so (n=1, 20%)	Yes, Definitely (n=4, 80%)
Amount of help	Quite Dissatisfied	Mildly Dissatisfied	Mostly Satisfied (n=4, 80%)	Very Satisfied (n=1, 20%)

Table 4. Satisfaction of women with post-mastectomy breast cancer after being given video-based education shows that the quality of the materials, kind of information, met need, recommend to a friend, and amount of help are >80%, which means that the video-based post-mastectomy patient care video meets the patient's needs.

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TABLE 5. Thematic Analysis of Opinions of Women with Breast Cancer Post-Mastectomy

Theme	Sub Theme
How do you feel after receiving video-based education?	Beneficial: Patients found the video-based education helpful because it increased their knowledge and awareness of post-mastectomy adaptation and reduced pain, fatigue, anxiety, anger, and body image concerns, thus reducing distress. Patients found the intervention materials helpful and would recommend them to others. Motivating: Patients feel motivated to use the materials because they are engaging and relevant. They are also motivated to use the methods explained by doctors, nurses, psychologists, and survivor testimonials in the materials.
Information Sources: How do you respond to the information provided by oncologists, nurses, psychologists, and mastectomy survivors?	Patients felt that the explanations from oncologists, nurses, and psychologists in the video-based education stimulated their feelings of being able to adapt to physical impacts, such as pain, fatigue, and that this is normal, and experiencing psychological effects, such as anxiety, worry, anger, fear, and body image, and that this is also normal. Oncologist: The oncologist's advice was very constructive and easy to understand. Patients reported that the information about adapting to physical effects such as pain, swelling, and stiffness in the surgical area and how to manage them was beneficial. Nurses: The nurses' advice was also constructive and easy to understand. Patients stated that the information about physical exercise helped reduce pain and stiffness at the surgical site. The psychologist's advice was also accommodating and easy to understand. Patients reported that information on breathing exercises helped reduce anxiety, worry, fear, and anger. Furthermore, information on self-talk or self-compassion techniques to reduce feelings of low self-esteem and isolation was also invaluable. Survivors: The true stories of mastectomy survivors in the video-based education touched their hearts because the women who had undergone mastectomies remained enthusiastic about continuing and undergoing medical and treatment processes. They were also touched by the fact that mastectomy survivors were still able to live their daily lives without feeling inferior and isolated. Therefore, they suggested that survivor profiles be added to the materials.
Presentations: What do you think about video-based educational presentations/appearances?	Clarity: The language and images used make the information more accessible and more enjoyable to understand. Appeal: The use of audio and visuals makes video-based education more engaging and effective. Patients found the video format easy to understand and enjoyable.

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FIGURE 4. Observation of video-based educational practices by nurses to patients (Observation)
Source: Personal Documentation

Reflection

The nurses' average knowledge scores increased from pre-intervention to post-intervention, with a significant effect, resulting in an average increase of 35%. Nurses' self-efficacy in providing education also increased significantly; they reported greater confidence in addressing patient questions and were able to explain lymphedema prevention and arm mobilization. Patient satisfaction with the education sessions was high, with more than 80% of patients reporting they were delighted, particularly regarding the clarity of the material and the nurses' ability to answer questions. Nurses' educational skills, particularly simulation and communication, were assessed as improved post-intervention through supervised observation. Interviews with nurses revealed positive experiences and challenges: limited educational time at the Community Health Center, many patients with low educational backgrounds, and the need for educational materials accessible to patients at home (simple print media or audio materials). Recommendations for sustainability include updating educational videos and modules, regular retraining, and support from Puskesmas management to ensure the availability of facilities.

FIGURE 5. Reflection with participant (Reflection)
Source: Personal Documentation

DISCUSSION

The results of this community service program impacted knowledge and self-efficacy, educational skills, physical aspects, psychosocial impact, patient satisfaction, barriers and factors influencing implementation, and sustainability and recommendations. These findings align with recent evidence that evidence-based educational and rehabilitation interventions improve physical and psychosocial outcomes in post-mastectomy patients, thereby strengthening the competency of educators (Xu et al.,

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2024).

The results that nurses experienced, including increased knowledge and self-efficacy, align with meta-analysis research indicating that health education for breast cancer patients improves self-efficacy, reduces negative emotions (Mustikaningsih et al., 2024), and enhances quality of life (Busabong et al., 2025). However, most literature focuses on patient education rather than training nurses as educators. This program builds on existing literature by demonstrating that nurse training and educational videos can enhance their capacity as educators. Improving nurses' knowledge and self-efficacy is crucial because self-efficacy is strongly linked to the quality of education provided and the ability to support patients psychosocially. Education that improves patient self-efficacy aligns with meta-analyses and modern interventional studies, which demonstrate that educational programs enhance patients' confidence in managing their condition, reduce negative emotions, and improve quality of life (Wang et al., 2024). These results demonstrate that training nurses as educators expands the evidence on how building healthcare workers' capacity can enhance the impact of education on patients. Practical implications, or upskilling nurses (communication techniques, multimedia materials, practice simulations), enhance technical knowledge and professional confidence, ultimately impacting communication quality and patient compliance.

Educational skills related to mobilization, arm exercises, and lymphedema prevention have improved. This supports the finding that post-mastectomy exercise interventions (physical exercises) effectively improve shoulder function, mobility, and accelerate physical recovery (Devi & Loganayaki, 2025). Adapting educational video content and simulations helped accelerate nurses' understanding of these physical practices. The finding that nurses improved their ability to teach mobilization, arm exercises, and lymphedema prevention is consistent with evidence that post-mastectomy exercise interventions improve shoulder function, range of motion, and accelerate physical recovery. This educational training and mentoring program, which combines video materials, demonstrations, and practical simulations, likely accelerated the learning curve because the visualization of movements and opportunities for practice made instructions easier for patients to understand and imitate. Systematic evidence also demonstrates the benefits of structured exercise for post-operative mobility (Xu et al., 2024). Nurses providing video education to patients should still follow concise clinical guidelines that include progressive guidance, such as physical exercise techniques, namely early post-operative exercises, light mobilization, and strengthening exercises, as well as lymphedema prevention modules that are easily adapted to various patient ability levels.

Patients highly valued the psychosocial component of the video, consistent with study findings that pre-operative education significantly improved patients' psychological well-being and quality of recovery (İlgin et al., 2024). Patient satisfaction was high, indicating that the multimedia education model and direct interaction met patients' needs for clear information and empathy.

The psychosocial components of the educational videos, including modules on body image, anxiety management, and psychological support, were highly appreciated by patients in this program. This is consistent with RCT studies showing that pre-operative education can improve the psychological well-being and quality of recovery in mastectomy patients. High patient satisfaction indicates that multimedia and live interaction (questions and answers, demonstrations) meet the need for clear, structured, and empathetic information, a crucial factor in patient experience and adherence to rehabilitation exercises (İlgin et al., 2024). Satisfaction score results, as a consideration of repeated measurements of anxiety, depression, and quality of life, are used to monitor medium-term effects.

Several barriers were identified, including limited technical resources, varying patient backgrounds, and limited available time. This finding is similar to the results of the post-mastectomy QoL study, which

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suggests that interventions must account for cultural factors, access to technology, and heterogeneity in patient education (Harerimana & Mchunu, 2025). Nurses also reported the need for alternative materials (audio/simplified) to allow patients who are uncomfortable with video to receive education. This finding is consistent with studies that emphasize the importance of considering variations in technology access, cultural context, and patient literacy when designing educational interventions. Nurses also suggested alternative materials (audio versions or simplified printed formats) as a pragmatic solution supported by evidence regarding the inclusiveness of health education interventions (Harerimana & Mchunu, 2025).

In addition to ongoing support and retraining, the literature suggests integrating such interventions into community health centers or primary healthcare protocols to make them a routine part of post-mastectomy care. Studies suggest that educational programs, physical therapy, and psychological interventions should be regularly incorporated into breast cancer rehabilitation (Harerimana & Mchunu, 2025). To be sustainable, several things are needed, such as: (1) allocation of basic facilities (player/video devices), (2) periodic retraining modules for nurses, (3) written SOPs containing post-operative education, and (4) outcome monitoring (shoulder function, quality of life index, and satisfaction).

Recommendations from this program include: strengthening educational video content, namely the material needs to be developed more interactively with the addition of animations, patient testimonials, and step-by-step guides so that it is easier to understand and remember; providing a short version (short video) for patients with limited time and a long version (full module) for nursing assistance; ongoing training for nurses, namely the training program should not be a one-time event, but continuous through workshops, webinars, or e-learning, and accompanied by a competency evaluation module so that nurses' skills can be continuously measured and improved; integration of field assistance with digital monitoring, namely using simple applications or online groups to monitor patient progress and support nurses when facing technical obstacles or special cases, monitoring reports should include physical aspects (mobilization, arm exercises, lymphedema prevention) and psychosocial (emotional support, therapeutic communication); strengthening the psychosocial approach, namely in addition to physical aspects, it is necessary to facilitate group counseling sessions or family-based psychoeducation to increase emotional support for patients, involve community leaders or cancer survivor communities to strengthen patient self-efficacy; time management and adaptation to patient conditions, namely educational materials should be made modular so that they can be adjusted to health conditions and available time, a personalized approach needs to be applied, for example providing different educational packages for post-mastectomy patients with mild, moderate, or severe conditions; anticipating technical constraints, namely ensuring adequate supporting infrastructure (visual aids, video media, internet network), preparing alternative educational methods (leaflets, posters, or written manuals) as a backup if technical constraints occur; and future development, namely conducting further research to assess the long-term effectiveness of this program on the quality of life of post-mastectomy patients, designing a program replication model so that it can be implemented in other health centers by adjusting to local needs.

CONCLUSION

The findings indicate that video-based educational training and mentoring effectively improve nurses' knowledge ($p = 0,01$) and self-efficacy ($p = 0,04$), showing statistically significant outcomes. Furthermore, the high satisfaction rate among women with post-mastectomy breast cancer (>80%) in quality of materials, relevance of information, fulfillment of needs, willingness to recommend, and perceived helpfulness.

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Demonstrates that video-based patient care education effectively meets patients' needs and provides meaningful support throughout their recovery journey.

Video-based post-mastectomy education has proven beneficial, motivating, clear, and engaging for patients. The material presented by oncologists, nurses, psychologists, and survivor testimonials provides easy-to-understand information, increases knowledge and awareness, and helps patients adapt to the physical and psychological effects of mastectomy. This education not only reduces pain, fatigue, anxiety, anger, and body image issues but also fosters self-confidence, motivation, and

Enthusiasm for undergoing treatment. With the addition of real stories from survivors, the educational videos are even more touching, inspiring, and recommended for broader use.

LIMITATIONS OF ACTIVITIES

The implementation of this program still has several limitations that need to be addressed for future development. First, limitations in resources, including human resources, time, and facilities, prevent the full realization of educational video content, patient testimonials, and step-by-step guides. Second, limitations in digital access and infrastructure, especially for patients with inadequate devices or internet connectivity, have prevented the widespread implementation of online application-based monitoring. Third, the continuity of nurse training remains challenging due to budget constraints and the limited availability of healthcare personnel, who must divide their focus between daily clinical services. Fourth, field assistance activities with a psychosocial approach are still not fully integrated because they require cross-sector collaboration, including the involvement of families, communities, and community leaders, who may not always be consistently present. Fifth, patient time constraints and varying health conditions have prevented the delivery of modular education from being tailored to the individual needs of all patients. Finally, this program has not been able to provide long-term evidence of its effectiveness, as comprehensive follow-up research on the program's impact on patients' quality of life after mastectomy has not been conducted.

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