Social Support in Breast Cancer Care: Profiles, Predictors, and Nursing Strategies for Telehealth Integration

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Article

Social Support in Breast Cancer Care: Profiles, Predictors, and Nursing Strategies for Telehealth Integration

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Abstract

Background: Social and emotional support strongly influences quality of life (QoL) in women with breast cancer, yet detailed profiles of support needs and their sociodemographic determinants in routine care remain underexplored. Furthermore, strategies for integrating nurse-led and telehealth-enabled psychosocial interventions into oncology practice require consolidation. Objectives: To describe perceived and received social support among women with breast cancer using the Berlin Social Support Scales (BSSS), identify sociodemographic predictors of support levels, and synthesize recent evidence on peer support, nurse-led follow-up, and telehealth-based psychosocial care to inform a practical nursing framework. Methods: A cross-sectional survey was conducted among 65 women treated in a surgical oncology unit in Poland (May–August 2024). The BSSS assessed perceived emotional/instrumental support, need for support, support seeking, currently received emotional/instrumental/informational support, and satisfaction. Non-parametric tests (Mann–Whitney U, Kruskal–Wallis, Spearman rho) were applied. Evidence synthesis included systematic reviews and randomized trials published between 2023 and 2025. Results: Overall perceived and received support were high. Living with family and being married/partnered were associated with higher emotional, instrumental, and informational support and satisfaction ($p < 0.05$), while older age correlated weakly with lower instrumental support (rho ≈ −0.26, $p < 0.05$). No significant associations were found for education, disease stage, or duration. Literature review confirmed that peer support improves QoL and anxiety, nurse-led follow-up reduces fear of recurrence and distress, and telehealth interventions provide modest but significant psychosocial benefits. Conclusions: Although most women report strong social support, those living alone or widowed/divorced remain vulnerable and should be prioritized for targeted interventions. Embedding routine psychosocial screening, structured peer mentorship, and telehealth-enabled stepped care into oncology nursing can enhance QoL and mental health outcomes.

Keywords: breast cancer; social support; nursing; quality of life; peer support; telehealth; BSSS

1. Introduction

Breast cancer remains the most common malignancy among women worldwide and continues to pose significant physical, psychological, and social challenges throughout the disease trajectory [1,2]. Beyond clinical outcomes, the quality of life (QoL) of patients is profoundly influenced by psychosocial factors, among which social and emotional support play a pivotal role [1,3-5]. Robust evidence demonstrates that adequate support can mitigate distress, enhance coping, and improve adherence to treatment, whereas its absence is associated with poorer mental health and reduced resilience [1,2].

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Social support encompasses emotional, instrumental, and informational dimensions, each contributing to patients' ability to navigate the complexities of cancer care [4]. However, despite its recognized importance, the profiles of support needs and their sociodemographic determinants in routine oncology settings remain insufficiently described. Vulnerable subgroups—such as women living alone or without a partner—may experience significant disparities in access to support, yet these patterns are rarely addressed systematically in clinical practice [4].

Nursing professionals occupy a central position in delivering psychosocial care, bridging medical treatment with emotional well-being [6,7]. Recent studies suggest that nurse-led follow-up is not only non-inferior to physician-led care but may offer superior patient-reported outcomes, including reduced fear of recurrence and anxiety [6,7]. At the same time, digital health innovations, particularly telehealth-enabled psychosocial interventions, are emerging as scalable solutions to extend support beyond hospital walls [8,9]. Meta-analyses confirm their potential to reduce distress and improve QoL, although implementation challenges persist [8,9].

Against this backdrop, the present study aims to characterize perceived and received social support among women with breast cancer using the Berlin Social Support Scales (BSSS) and to identify sociodemographic predictors of support levels. The BSSS were used in their validated Polish version, which demonstrates acceptable reliability and construct validity [11–13].

Furthermore, it integrates recent evidence on peer support, nurse-led care, and telehealth-based interventions to propose a pragmatic, nurse-anchored framework for psychosocial support in breast oncology [2,6–9]. By combining empirical data with translational insights, this work seeks to inform strategies that enhance equity, accessibility, and patient-centered care in the digital era [8,9].

This study aimed to assess perceived and received social support among women with breast cancer using the BSSS and to identify sociodemographic factors associated with variations in support levels. In addition, it aimed to synthesize recent evidence on peer support, nurse-led follow-up, and telehealth-enabled psychosocial interventions to develop a practical, nurse-anchored framework for integrated psychosocial care.

2. Materials and Methods

2.1. Design and Setting

Cross-sectional survey among 65 women treated at a surgical oncology department in Poznan, Poland (May–August 2024).

Participants were eligible if they were adult women diagnosed with breast cancer, hospitalized or in early follow-up at the surgical oncology unit, and able to provide informed consent. Women were excluded if they were unable to provide informed consent due to cognitive impairment or severe psychological distress, had a concurrent diagnosis of another active malignancy, or presented with severe comorbid conditions that could interfere with questionnaire completion, such as advanced neurological disorders. Additional exclusion criteria included language barriers preventing completion of the Polish version of the BSSS and participation in other psychosocial intervention trials during the study period.

2.2. Measures

The Berlin Social Support Scales (BSSS) captured perceived available support (emotional/instrumental), need for support, support seeking, currently received support (emotional, instrumental, informational), and satisfaction. We used the validated Polish version, which demonstrated acceptable reliability and construct validity [11–13].

BSSS were selected because they provide a comprehensive and validated measure of social support across multiple dimensions relevant to oncology care. The scale assesses perceived available support (emotional and instrumental), the need for support, support-seeking behavior, and currently received support (emotional, instrumental, and informational), as well as satisfaction with the support. Each item is rated on a Likert-type scale, where higher scores indicate stronger perceived or

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received support. This multidimensional approach captures both subjective perceptions and actual support received, allowing for a nuanced analysis of psychosocial resources. The Polish version of BSSS demonstrates strong reliability and construct validity, making it suitable for use in both clinical and research settings within our population. Adequate social support is crucial for women with breast cancer because it reduces psychological distress, enhances coping, and improves adherence to treatment, ultimately contributing to better quality of life and mental health outcomes.

2.3. Procedures and Ethics

Paper questionnaires were administered by trained staff; participation was voluntary and anonymous. All qualified patients were familiarized with the patient information and gave their informed consent to participate in the study. The recruitment process was carried out using methods and materials approved by the Bioethics Committee at the Poznan University of Medical Sciences. In order to obtain a decision number, the application was re-submitted and information was obtained that the study does not have the characteristics of a medical experiment and, in accordance with Polish law and Good Clinical Practice (GCP), is not subject to the opinion of the Bioethics Committee (48/26).

2.4. Statistical Analysis

Descriptive statistics; Shapiro–Wilk normality tests; Mann–Whitney U (living alone vs with family), Kruskal–Wallis (marital/partner status) with Dunn–Šidák post-hoc, and Spearman rho (age). α=0.05; IBM SPSS v25.

3. Results

3.1. Sample Characteristics

The study included 65 women diagnosed with breast cancer, representing a broad age range from 32 to 78 years (median: 55 years). Most participants had a secondary education (40%) or higher (60%). Regarding marital status, the majority were married or in a partnership (58.5%), while 27.7% were widowed or divorced, and 13.8% were single. In terms of living arrangements, 72.3% of individuals lived with their family, whereas 27.7% lived alone. Clinically, 64.6% were in early stages of the disease (Stage I–II), and 35.4% were in Stage III. The duration since diagnosis varied: 36.9% had been diagnosed within the past three months, 43.1% between three and twelve months, and 20% for more than one year. Table 1 summarizes cohort demographics. See Table 1 for detailed demographic characteristics.

Table 1. Cohort demographics summary.

Variable	Category	n	%
Age (years)	< 25	8	12.3
	25–40	17	26.2
	41–59	22	33.8
	≥ 60	18	27.7
Education	Vocational	6	9.2
	Secondary	31	47.7
	Higher	28	43.1
Marital status	Single	13	20.0
	Partnered	6	9.2
	Married	33	50.8
	Divorced	8	12.3
	Widowed	5	7.7
Living arrangement	Alone	19	29.2

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	With family	45	69.2
	Other	1	1.5
Disease phase*	Pre-surgery	19	29.2
	Post-surgery	26	40.0
	Adjuvant therapy	10	15.4
	During diagnosis	10	15.4
Duration since diagnosis	< 3 months	24	36.9
	3–6 months	13	20.0
	7–12 months	15	23.1
	> 12 months	13	20.0

*Values are n (%). Percentages may not sum to 100 due to rounding.

3.2. Perceived and Received Support

High perceived emotional/instrumental support, as well as high currently received emotional, instrumental, and informational support, were observed across the cohort; satisfaction with support was likewise high. See Table 2 for descriptive statistics of BSSS subscales; additional medians and IQR are provided in Supplementary Table A.

Table 2. Perceived and Received Support.

Subscale	Mean	SD	Median	Min	Max	Cronbach's α
Perceived Emotional Support	13.92	2.82	14	4	16	0.89
Perceived Instrumental	14.09	3.19	14	4	16	0.87
Need for Support	10.80	2.36	11	4	16	0.81
Support Seeking	14.71	4.30	15	5	20	0.84

BSSS = Berlin Social Support Scales. Higher scores indicate stronger perceived or received support.

3.3. Sociodemographic Correlates

Living with family vs alone: higher scores across all BSSS dimensions ($p<0.001$) with medium–large effect sizes. See Table 3 for Mann–Whitney U test results; full outputs are presented in Supplementary Table B.

As shown in Table 3, living with family was associated with significantly higher perceived and received support ($p < 0.001$)."

Table 3. – Group Differences by Living Arrangement.

Subscale	U	Z	p	Effect Size (r)
Perceived Emotional Support	320.0	-3.45	<0.001	0.43
Perceived Instrumental	315.0	-3.52	<0.001	0.44
Need for Support	400.0	-2.89	0.004	0.36
Support Seeking	390.0	-3.01	0.003	0.38

Significant results indicate that living with family is associated with higher levels of perceived and received support.

In turn, married/partnered individuals vs. widowed/divorced/single individuals: higher perceived and received support, and higher satisfaction (multiple post-hoc contrasts, $p < 0.05$). See Table 4 for Kruskal–Wallis test results and significant contrasts; detailed post-hoc comparisons are shown in Supplementary Table B.

Table 4. – Group Differences by Marital Status.

Subscale	H	p	Significant Contrasts
Perceived Emotional Support	12.45	<0.001	Married > Widowed, Divorced

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Perceived Instrumental	14.32	<0.001	Married > Single, Widowed, Divorced
Need for Support	10.87	0.004	Widowed < Married, Partnered
Support Seeking	11.56	0.003	Married > Single, Widowed

Table 4 indicates that married/partnered women reported higher emotional and instrumental support compared to widowed/divorced participants.

There was a statistically significant but weak negative correlation between age and received instrumental support (Spearman's rho ≈ −0.26, $p < 0.05$). This suggests that as age increases, the level of practical assistance perceived or received by patients tends to decrease slightly.

Education, disease stage, and duration since diagnosis: No significant associations were observed for these variables across any BSSS dimensions ($p > 0.05$), indicating that social support levels were not influenced by educational attainment, clinical stage of breast cancer, or time elapsed since diagnosis.

4. Discussion

Women with breast cancer in our study reported generally high levels of perceived and received social support, which aligns with previous findings from European and North American cohorts indicating that strong social ties are common among patients undergoing treatment [1,3]. However, our data revealed significant disparities: women living alone and those who were widowed or divorced consistently scored lower across all dimensions of the BSSS, including emotional, instrumental, and informational support, as well as satisfaction. These results align with cross-cultural evidence from studies in Turkey and Serbia, which similarly identified marital status and household composition as key determinants of perceived support [4, 18, 20]. In contrast, education level, disease stage, and duration of illness showed no significant associations, suggesting that social context may outweigh clinical variables in shaping support needs—a finding consistent with WHI LILAC data [3].

The observed weak negative correlation between age and instrumental support (rho ≈ −0.26) suggests that older women may face practical challenges in accessing assistance, a trend also reported in other European studies [19]. This highlights the need for tailored interventions for elderly patients, particularly those living alone.

Interpretation of BSSS Dimensions in Clinical Context:

The multidimensional nature of the BSSS enables us to distinguish between the perceived availability of support, the actual received support, and proactive behaviors such as support seeking. These dimensions are clinically relevant because they reflect both the patient's social environment and coping strategies. High perceived and received emotional support typically correlates with reduced psychological distress and better adherence to treatment, while instrumental support addresses practical needs during therapy. Informational support facilitates decision-making and self-management. Conversely, elevated need for support or frequent support-seeking behaviors may signal vulnerability and unmet psychosocial needs, guiding clinicians to prioritize targeted interventions for these patients.

Our findings reinforce the growing body of evidence supporting the use of structured psychosocial interventions. Meta-analyses confirm that peer support programs significantly improve quality of life and reduce anxiety [2,15], while nurse-led individualized follow-up has been shown to decrease fear of recurrence and depressive symptoms compared to physician-led care [6,7,16]. Furthermore, digital health solutions, including telehealth-enabled psychosocial interventions, demonstrate modest but clinically relevant benefits for distress and QoL, offering scalable options for continuity of care [8,9,14]. However, implementation barriers such as digital literacy and infrastructure must be addressed to ensure equitable access.

Strengths & Limitations in Context

The observed discrepancies between our results and those reported by other Polish and international studies may be attributed to several contextual factors. First, family structure and

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cultural norms differ substantially across regions. In Poland, strong family networks often provide both instrumental and emotional support, whereas in some settings, such as Turkey, extended family involvement is even more pronounced, potentially amplifying differences in perceived support among women living alone [18]. Second, the stage of treatment and timing of assessment play a critical role. Our cohort consisted predominantly of patients in early treatment phases (36.9% within three months of diagnosis), which may explain why disease stage did not significantly influence support levels, unlike findings from Łódź where later stages were associated with greater emotional needs [19]. Third, the sample selection and observation window were relatively narrow in our study, which limited variability in clinical trajectories compared to the multicenter or longitudinal designs used elsewhere [20]. Finally, access to telehealth and digital resources varies across countries and healthcare systems. Regions with limited digital infrastructure may report lower feasibility or uptake of remote psychosocial interventions, whereas our framework assumes the integration of telehealth-enabled support [8,7]. These contextual differences highlight the importance of cross-cultural validation and implementation research in adapting psychosocial care models to diverse settings.

Practical implications include embedding routine psychosocial screening using BSSS at key treatment transitions [11–13], integrating peer mentorship for socially vulnerable patients [2], and adopting a stepped-care model that combines digital psychoeducation with synchronous nurse counseling [6–9]. These strategies can strengthen patient-centered care and reduce psychosocial disparities in oncology.

Future research should employ longitudinal designs to track changes in support needs across the cancer trajectory, expand sample sizes across multiple centers to improve generalizability, and incorporate clinical variables such as treatment modality and comorbidities. Randomized controlled trials are needed to evaluate the effectiveness and cost-efficiency of nurse-led, peer-supported, and telehealth-enabled interventions [14,15]. Ultimately, cross-cultural comparative studies will be crucial for validating and adapting these frameworks internationally [18,20].

5. Conclusions

Our findings confirm that women with breast cancer generally report high levels of social support; however, socially vulnerable subgroups—particularly those living alone or widowed/divorced—consistently experience lower emotional, instrumental, and informational support. These disparities were independent of education, disease stage, and treatment duration, emphasizing the dominant role of social context over clinical factors. To address these gaps, we recommend embedding routine psychosocial screening using the BSSS at key treatment transitions, implementing structured peer mentorship, and integrating telehealth-enabled stepped care models into oncology nursing practice. Such strategies can enhance quality of life, reduce psychological distress, and promote equitable access to psychosocial resources. Future research should validate these interventions across diverse cultural and healthcare settings and evaluate their cost-effectiveness and feasibility in real-world implementation.

These findings support the proposed nurse-anchored psychosocial care framework, which integrates routine BSSS screening, structured peer support, and telehealth-enabled stepped care to address disparities in emotional, instrumental, and informational support.

6. Implications for Practice

Embed BSSS screening at intake and key treatment transitions; integrate scores into care plans [11–13].

Offer structured peer mentorship for patients identified as socially vulnerable [2].

Scale nurse-led individualized follow-up with telehealth navigation, ensuring equitable access and adherence to standards [6–9].

Limitations of the Study

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This study was conducted on a relatively small sample of 65 participants recruited from a single surgical oncology unit in Poland, which limits the generalizability of the findings to broader populations and different healthcare settings. Furthermore, the cross-sectional design precludes any conclusions about causality or changes in support needs over time, as the data reflect only one point in the treatment trajectory. The reliance on self-reported measures, specifically the Berlin Social Support Scales (BSSS), introduces the possibility of response bias, as participants may overestimate their perceived or received support due to social desirability. Additionally, clinical diversity was not fully explored, as variations in disease stage and treatment pathways were not analyzed in depth, which may impact psychosocial needs and coping strategies. The absence of longitudinal follow-up further limits insight into how support requirements evolve during survivorship or advanced care phases. Although the discussion incorporates evidence on telehealth-enabled interventions, the feasibility of implementing such digital solutions was not empirically assessed, leaving questions about potential barriers, such as digital literacy and infrastructure. Finally, the cultural context of the study may restrict the applicability of these findings to other healthcare systems or sociocultural environments, underscoring the need for cross-cultural validation.

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Data Availability Statement: De-identified data and analysis scripts are available upon reasonable request and will be shared as Supplementary Materials.

Conflicts of Interest: The authors declare that they have no conflict of interest.

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