

Psycho-Oncological Care Provision in Highly Distressed Breast Cancer Patients

Psychoonkologische Versorgung bei stark psychisch belasteten Patientinnen mit Mammakarzinom



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ABSTRACT

Objective To evaluate the proportion of breast cancer (BC) patients with distress or psychological comorbidity as well as offer and use of psychological support in subgroups of BC patients with different extents of distress.

Methods 456 patients with BC were evaluated at baseline (t1) and until 5 years after diagnosis (t4) at the BRENDA certified BC centers. Logistic regression was used to analyze if patients with distress at t1 received offers and actual psychological support more often than patients without distress at t1. Regression analyses were used to examine if acute, emerging or chronic disease was associated with higher rates of offer and use of psychotherapy as well as intake of psychotropic drugs.

Results In 45% of BC patients psychological affection was detected at t4. The majority of patients with moderate or severe distress at t1 (77%) received the offer for psychological service, while 71% of those received the offer for support at t4. Patients, who were psychologically affected at t1, have not been offered psychological services more often than those without, but they significantly more often used services if offered. Especially patients with acute comorbidity received significantly more often an offer for psychotherapy compared to unimpaired patients, while those patients with emerging or chronic disease did not. 14% of BC patients took psychopharmaceuticals. This mainly concerns patients with chronic comorbidity.

Conclusion Psychological services were offered to and used by a fair amount of BC patients. All subgroups of BC patients should be addressed, in order to improve the comprehensive supply with psychological services.

ZUSAMMENFASSUNG

Ziel Ziel der Studie war es, der Anteil psychisch belasteter Brustkrebspatientinnen bzw. Brustkrebspatientinnen mit psychischer Komorbidität auszuwerten und das Angebot und den Einsatz psychischer Unterstützungsmaßnahmen für Untergruppen von Brustkrebspatientinnen mit unterschiedlicher psychischer Belastung zu beurteilen.

Methoden Die Daten von 456 Brustkrebspatientinnen wurden bei Studienbeginn (t1) und bis zu 5 Jahre nach ihrer Diagnose (t4) an BRENDA-zertifizierten Brustkrebszentren ausgewertet. Um herauszufinden, ob Patientinnen, die zum Zeitpunkt t1 unter einer starken psychischen Belastung litten, mehr Unterstützungsangebote und mehr psychische Betreuung erhielten als Patientinnen, die zum Studienbeginn (t1) nicht so stark belastet waren, wurden logistische Regressionsanalysen durchgeführt. Es wurden auch Regressionsanalysen durchgeführt, um zu prüfen, ob neu auftretende oder chronische akute Erkrankungen mit einem größeren Angebot und einem umfassenderen Einsatz von Psychotherapie sowie der Einnahme psychotroper Medikamente verbunden waren.

Ergebnisse Eine psychische Belastungsstörung wurde bei 45% der Brustkrebspatientinnen zum Zeitpunkt t4 fest-

gestellt. Den meisten Patientinnen mit moderater oder starker psychischer Belastung am Zeitpunkt t1 (77%) wurde eine psychologische Unterstützung angeboten, und 71% von ihnen erhielten ein Unterstützungsangebot zum Zeitpunkt t4. Patientinnen, die zum Zeitpunkt t1 eine psychische Belastung aufwiesen, bekamen kein Mehrangebot an psychologischen Dienstleistungen verglichen mit unbelasteten Patientinnen, aber psychisch belastete Patientinnen nahmen die angebotenen Dienstleistungen signifikant häufiger in Anspruch. Besonders Patientinnen mit akuter Komorbidität wurde eine Psychotherapie signifikant häufiger angeboten verglichen mit unbelasteten Patientinnen, während dies nicht auf Patientinnen mit neu auftretender oder chronischer Erkrankung zutraf. 14% der Brustkrebspatientinnen erhielten Psychopharmaka. Dies trifft hauptsächlich auf Patientinnen mit chronischer Komorbidität zu.

Schlussfolgerung Vielen der Brustkrebspatientinnen wurde eine psychologische Unterstützung oder Betreuung angeboten, und viele dieser Patientinnen haben das Angebot in Anspruch genommen. Es sollten alle Untergruppen von Brustkrebspatientinnen angesprochen werden, um damit eine umfassende psychologische Versorgung zu gewährleisten.

Background

Up to 40% of all cancer patients present with psychological conditions such as depression or anxiety and require treatment [1,2]. Prevalence might be even higher due to underreporting. The improvement of detection rates as well as the provision of comprehensive psychosocial support has been defined as an integral part in the German National Cancer Plan [3].

Breast cancer (BC) is the most common cancer in women worldwide and affects women of all ages. Even though mortality rates are comparably low, BC and its treatment can cause relevant physical and psychological morbidity. Thus, psychosocial support is one important part in a multidisciplinary rehabilitation treatment of BC patients. It has been previously shown that patients receiving a combination of physical and psycho-educational training had benefits regarding functional capacity and quality of life [4]. Psychological service providers must differentiate between different needs of patients which can vary according to age, comorbidities or disease stage [5]. There are several publications concerning predictors for distress in BC patients [6–8]. Syrowatka et al. previously described predictors of distress in patients with BC in a review of 42 studies. There were several breast cancer-specific and treatment-related factors, but also modifiable risk factors identified. But the authors also state that there are several limitations such as inter-study heterogeneity, the non-specific nature of distress, publication bias to name just a few of them [7].

It remains a clinical challenge to identify BC subgroups which have increased need for psychological support. This might lead to an unequal distribution or inadequate provision for these patients.

We therefore wanted to know how often highly distressed BC patients receive an offer for professional psychological support/

treatment and to which extent it is used. What happens to patients with acute psychological comorbidity? Moreover, we investigated the proportion of patients consuming psychopharmaceuticals. Our assumptions were that patients with distress at the time of diagnosis and those with psychological comorbidity receive psychosocial support more often. We also assumed that patients with psychological comorbidity took medication more frequently.

Methods

Study design

The BRENDA (Breast Cancer Care under Evidence-based Guidelines) II study is a prospective multi-center cohort study including patients with primary BC in Germany.

Recruitment of patients happened between January 2009 and February 2012. Measurements were performed before surgery (t1), one month (t2), 8 months (t3) and 5 years (t4) thereafter. We examined the proportion of BC survivors who were aware about, had received an offer for psychological services or received various types of psychosocial services. Exclusion criteria for this study were metastatic, recurrent or bilateral disease at t1.

Instruments

Parameters indicating mental health were ascertained at diagnosis, before surgery (t1), and until 5 years after surgery (t4). Psychological comorbidity according to ICD-10 was assessed using the Patient Health Questionnaire (PHQ) at t1 to t3 [9]. The PHQ-D includes diagnostic modules on depressivity (PHQ-9), anxiety (GAD-7), somatic symptom severity (PHQ-15), panic disorder,

binge-eating disorder/bulimia nervosa, alcohol abuse, and stress. At t4, distress was evaluated by the use of the PHQ-9.

Based on the PHQ, we were able to dichotomize in non-existing versus existing psychological comorbidities. If no psychiatric comorbidity was given at any time point, patients were grouped as “healthy”. Patients who indicated psychiatric comorbidity at baseline or t1/2 but not at the end of the follow-up were defined as “acute”, while those without comorbidity at baseline but throughout the course of time were defined as “emerging”. Those patients with comorbidity at baseline and at the end of the follow-up were defined as “chronic”.

At t4, psychological distress was evaluated by the short form of the PHQ (PHQ-9) and categorized into mild, moderate and severe distress.

We asked patients what kind of psychosocial services they were aware of, had been offered and received.

At baseline (t1) and 5 years later (t4), we asked about the intake of psychopharmaceuticals and recorded the single substances consumed by each patient.

Statistical analysis

We used logistic regressions in order to analyze whether patients, who were highly distressed at t1, received the offer and actual psychological services more often than those without psychological impairment. To do this, we combined psychological support of all supply sectors. Outcome parameters were offer and use of psychological services and patients with different levels of distress were compared with each other.

In order to analyze the offer and use of psychological services for patients with psychological comorbidity during the course of treatment, we also performed logistic regressions. The course of the psychological disease (acute, emerging or chronic disease) was used as independent variable. Moreover, we evaluated comorbidity as predictor for the intake of psychopharmaceuticals using logistic regression.

Adjustments have been performed for age, education, household income, migration background and disease risk group.

Statistical analyses were performed using STATA 15 (StataCorp 2017, College Station, TX: StataCorp LP).

Results

Basis data

We included 456 BC patients with primary disease in this study. We described frequencies, percentages and means of the sample with respect to predicting factors such as age, education, income, migrant background, and disease stage and breast cancer-specific treatments (► **Table 1**).

Distress at t1 and t4

We describe distress levels at t1 and t4 dividing into none, mild, moderate, moderately severe, severe and unknown. In further analysis we combined patients with moderate, moderately severe and severe distress.

At t1 we found that 54% of patients had no distress, 29% mentioned mild distress and 11% had moderate to severe distress.

► **Table 1** Descriptive data of primary BC patients included in the study.

| | | n = 456 | |
|---------------------------------|-------------------|---------|-----|
| | | n | % |
| Age (years) | < 40 | 8 | 2% |
| | 40–49 | 50 | 11% |
| | 50–59 | 131 | 29% |
| | 60–69 | 123 | 27% |
| | 70–79 | 115 | 25% |
| | 80+ | 19 | 4% |
| | unknown | 10 | 2% |
| Education (years) | < 10 | 195 | 43% |
| | ≥ 10 | 256 | 56% |
| | unknown | 5 | 1% |
| Current income (€/person/month) | < 500 | 18 | 4% |
| | 500 to 999 | 87 | 19% |
| | 1000 to 1499 | 102 | 22% |
| | > 1500 | 186 | 41% |
| | unknown | 63 | 14% |
| Immigrant | no | 387 | 85% |
| | yes | 64 | 14% |
| | unknown | 5 | 1% |
| Locally advanced disease | no | 209 | 46% |
| | yes | 247 | 54% |
| Surgical treatment | breast conserving | 392 | 86% |
| | mastectomy | 64 | 14% |
| Radiotherapy | no | 40 | 9% |
| | yes | 416 | 91% |
| Chemotherapy | no | 247 | 54% |
| | yes | 209 | 46% |
| Endocrine therapy | no | 84 | 18% |
| | yes | 372 | 82% |

About 55% of the BC survivors indicated no increased distress levels at t4 while 27% were mildly affected and 18% were moderately or severely affected (► **Table 2**).

Offer and use of psychological services

We further analyzed the amount of patients receiving an offer for psychological services or actually receiving psychological support at t1 and t4 according to their distress levels.

In 62% of all patients without psychological burden at t1, support has been offered and 46% of those patients accepted the offer in the course of time. Nevertheless, 77% patients were heavily affected at the time of diagnosis and 74% of them received psychological support. At t4, 67% of patients without distress received an offer and 48% used services, while 52% of patients with mild and 79% of patients with moderate and severe distress accepted services (► **Table 3**).

► **Table 2** Share of psychologically distressed patients at BC diagnosis (t1) and 5 years after (t4).

| Distress | t1 | | t4 | |
|-------------------|-----|-----|-----|-----|
| | n | % | n | % |
| None | 248 | 54% | 249 | 55% |
| Mild | 133 | 29% | 124 | 27% |
| Moderate | 43 | 9% | 57 | 13% |
| Moderately severe | 9 | 2% | 19 | 4% |
| Severe | 1 | 0% | 6 | 1% |
| Unknown | 22 | 5% | 1 | 0% |

Comparing patients with mild or moderate/severe distress at t1 to those without distress, no evidence for differences were seen regarding the offer of psycho-oncological support (mild vs. none: OR 1.6; $p = 0.06$; moderate/severe vs. none: OR 1.8; $p = 0.11$). Yet, patients with elevated psychological distress used them significantly more often (mild vs. none: OR 2.0; $p < 0.01$; moderate/severe vs. none: OR 2.4; $p = 0.01$) (► **Table 4**).

In 36% of all patients any psychological comorbidity was detected (12% acute, 16% emerging and 8% chronic comorbidity).

Patients with acute psychological comorbidity received the offer of support (OR 2.5; $p = 0.02$) significantly more often than those patients with emerging (OR 1.3; $p = 0.46$) or chronic comorbidity (OR 1.6; $p = 0.35$). All three groups used psychotherapy to a higher amount than those without comorbidity (acute: OR 3.2, $p = 0.01$; emerging: OR 2.2, $p = 0.06$; chronic: OR 12.2, $p < 0.001$) (► **Table 5a**).

Psychopharmaceutical intake

Five years after diagnosis, 14% of the BC patients took psychotropic drugs. Patients with psychological comorbidities received medication significantly more often compared to those without comorbidity (acute: OR 3.8, $p = 0.002$; emerging: OR 4.4, $p < 0.001$; chronic: OR 15.4, $p < 0.001$). Especially those patients with chronic psychological disease used medication (► **Table 5b**).

Discussion

Clinical implications

BC can cause severe morbidity. It is already known that a relevant percentage of BC patients is psychologically affected by the diagnosis and treatment. This fact might lead to economic and social impairments. Former analyses showed that 22% of young disease-free BC survivors showed reduced working times 1 year after diagnosis, due to fatigue and psychological problems [10].

We found 45% patients to be psychologically affected 5 years after BC diagnosis of which 18% showed moderate and severe impairment. These findings are in line with the literature. A systemic review including 38 trials showed that 20–50% of BC patients suffered from anxiety and 10–30% of BC patients had depressions. It is an unfortunate fact that BC survivors also have an up to 60% increased risk for suicide [11].

► **Table 3** The share of BC patients that received the offer or used any form of psychological services (psycho-oncologist in hospital or psychologist in rehabilitation clinic (individual consultation or group session) or psychologist in cancer counselling center or psychotherapist in private practice).

| | Distress | Any form of psychological service | | | |
|----|---------------------------------------|-----------------------------------|-----|-----|-----|
| | | Offer | | Use | |
| | | n | % | n | % |
| t1 | none | 154 | 62% | 114 | 46% |
| | mild | 98 | 74% | 86 | 65% |
| | moderate, moderately severe or severe | 41 | 77% | 39 | 74% |
| t4 | none | 167 | 67% | 119 | 48% |
| | mild | 84 | 68% | 65 | 52% |
| | moderate, moderately severe or severe | 58 | 71% | 65 | 79% |

► **Table 4** Patients with distress at t1 did not more often receive the offer for psychological services during the treatment than those without symptoms. Though, those patients used services more often. OR = Odds Ratio. The regression analysis was adjusted for age, education, income, migration status, and risk group.

| Distress at t1 | Any form of psychological service | | | |
|--------------------|-----------------------------------|---------|-----|---------|
| | Offer | | Use | |
| | OR | P value | OR | P value |
| None | Ref | | | |
| Mild | 1.6 | 0.06 | 2.0 | < 0.01 |
| Moderate to severe | 1.8 | 0.11 | 2.4 | 0.01 |

Thus, the prevention of psychological distress but also the assessment of requirements in psychological care are of central interest. Further analysis of the BRENDA found that financial issue and role functioning problems matter [12]. When asked at t4, 6% of patients mentioned financial problems, while health issues and the situation with the partner or the family were mentioned in 55% and 18%, respectively. The offer or the use of social services was not higher in patients with financial problems [13]. Since distress is often higher in patients with lower income and differs by age, we adjusted for these variables (age, income, education) in our regression analysis.

When analyzing the offer for psychological services for BC patients at diagnosis, we found that 77% of moderately or severely affected patients have been addressed. This fact led to 74% of those patients actually receiving psychological service. One would expect higher rates for the offer of psychological services at t1 for all distress groups but especially for those with severe impairment.

► **Table 5** Offer and use of psychotherapy and intake of psychotropic drugs stratified by psychiatric comorbidity. OR = Odds Ratio. The regression analysis was adjusted for age, education, income, migration status, and risk group. **a** Patients with acute psychiatric comorbidity more often received the offer for psychotherapy compared to those without comorbidity. Patients with acute, emerging and chronic psychiatric comorbidity used psychotherapy more often than those without comorbidity. **b** Patients with psychiatric comorbidity take psychotropic drugs more often than those without comorbidity.

| Psychological comorbidity | a Psychotherapy | | | | b Intake of psychotropic drugs | |
|---------------------------|-----------------|---------|------|---------|--------------------------------|---------|
| | Offer | | Use | | | |
| | OR | P value | OR | P value | OR | P value |
| None | Reference | | | | Reference | |
| Acute | 2.5 | 0.02 | 3.2 | 0.01 | 3.8 | 0.002 |
| Emerging | 1.3 | 0.46 | 2.2 | 0.06 | 4.4 | < 0.001 |
| Chronic | 1.6 | 0.35 | 12.2 | < 0.001 | 15.4 | < 0.001 |

At t4, even more of those affected patients received and used the offer for services. When compared to the literature, it seems that rates for psychological support vary widely. Trevino et al. showed that only 24.6% of BC patients stage 0–III with anxiety received psychological counseling during adjuvant treatment in New York [14]. Another German survey determined a provision of psycho-oncological care in 86.8% of all cases [15].

Patients with already existing acute psychological comorbidity at t1 received the offer for psychotherapy significantly more often compared to patients with emerging or chronic disease. The reason for this observation might be the apparent psychological strain when questioning patients during primary treatment, while the need of patients with chronic or emerging comorbidity are not sufficiently recorded. An analysis performed by Mehnert et al. showed that 46% of BC survivors with psychological comorbidity felt insufficiently informed about support possibilities [16].

Nevertheless, all patients in this analysis finally received psychotherapy more often than those patients without comorbidity. Probably affected patients with chronic and emerging comorbidity are already supported by psychotherapists or actively tried to find support themselves.

14% of all patients took psychopharmaceuticals. A wide variety of substances was used. When compared to patients without comorbidity, especially those with chronic disease took medication significantly more often. A literature review performed by Callari et al. revealed that there is little evidence whether individual substances are superior to others. This might also be based on challenges in study setups. But it is known that the intake of psychopharmaceuticals can have relevant impact or side effects on patients' well-being due to weight gain, fatigue or digestion problems.

Study limitations

Since only BC patients with primary disease were involved in the study, one cannot compare comment on the psychological burden of those patients developing recurrent or metastatic disease in a short time. Furthermore, by the time of data collection patients received primary surgery before the initiation of adjuvant therapy. One should take into consideration that the neoadjuvant

treatment is nowadays of great importance and might also have relevant impact of the psychological burden.

Conclusion

A relevant share of BC patients shows psychological burden 5 years after primary diagnosis of the disease. Especially those women with acute psychological comorbidity during BC treatment received offers for professional support.

Even though our analysis showed that the offer and use of psychological services in German breast cancer centers is quite high, there still is a need to create a more extensive range of psychological services, in order to reach all patients.

Conflict of Interest

Tanja Schläiß received speakers' fees from Pfizer, Roche, AstraZeneca, Novartis, Celgene. Achim Wöckel received fees from Amgen, AstraZeneca, Aurikamed, Celgene, Eisai, Lilly, Novartis, Pfizer, Roche, Tesaro, Sirtex, MSD, Genomic Health, Pierre Fabre, Clovis, Organon, Seagen, Exact Sciences, Gilead, Daiichi Sankyo.

References

- [1] Graf J, Stengel A. Psychological Burden and Psycho-Oncological Interventions for Patients With Hepatobiliary Cancers-A Systematic Review. *Front Psychol* 2021; 12: 662777. doi:10.3389/fpsyg.2021.662777
- [2] Gopalan MR, Karunakaran V, Prabhakaran A et al. Prevalence of psychiatric morbidity among cancer patients – hospital-based, cross-sectional survey. *Indian J Psychiatry* 2016; 58: 275–280. doi:10.4103/0019-5545.191995
- [3] Bundesgesundheitsministerium. Ziel 9 – Psychoonkologische Versorgung. 2021. Online (Stand: 27.03.2023): <https://www.bundesgesundheitsministerium.de/themen/praevention/nationaler-krebsplan/was-haben-wir-bisher-erreicht/ziel-9.html>
- [4] Leclerc AF, Foidart-Dessalle M, Tomasella M et al. Multidisciplinary rehabilitation program after breast cancer: benefits on physical function, anthropometry and quality of life. *Eur J Phys Rehabil Med* 2017; 53: 633–642. doi:10.23736/S1973-9087.17.04551-8

- [5] Jonsson U, Bertilsson G, Allard P et al. Psychological Treatment of Depression in People Aged 65 Years and Over: A Systematic Review of Efficacy, Safety, and Cost-Effectiveness. *PloS One* 2016; 11: e0160859. doi:10.1371/journal.pone.0160859
- [6] Erim Y, Beckmann M, Hoffmann O et al. Prädiktoren psychischer Belastungen bei Brustkrebspatientinnen – Worauf sollten Ärzte und Pflegekräfte in der onkologischen Praxis achten? *Geburtshilfe Frauenheilkd* 2011; 71: 285–291. doi:10.1055/s-0030-1270940
- [7] Syrowatka A, Motulsky A, Kurteva S et al. Predictors of distress in female breast cancer survivors: a systematic review. *Breast Cancer Res Treat* 2017; 165: 229–245. doi:10.1007/s10549-017-4290-9
- [8] Tsaras K, Papathanasiou IV, Mitsi D et al. Assessment of Depression and Anxiety in Breast Cancer Patients: Prevalence and Associated Factors. *Asian Pac J Cancer Prev* 2018; 19: 1661–1669. doi:10.22034/APJCP.2018.19.6.1661
- [9] Löwe B, Spitzer RL, Zipfel S, Herzog W. PHQ-D Gesundheitsfragebogen für Patienten. Karlsruhe: Pfizer GmbH; 2002
- [10] Schmidt ME, Scherer S, Wiskemann J et al. Return to work after breast cancer: The role of treatment-related side effects and potential impact on quality of life. *Eur J Cancer Care (Engl)* 2019; 28: e13051. doi:10.1111/ecc.13051
- [11] Carreira H, Williams R, Muller M et al. Associations Between Breast Cancer Survivorship and Adverse Mental Health Outcomes: A Systematic Review. *J Natl Cancer Inst* 2018; 110: 1311–1327. doi:10.1093/jnci/djy177
- [12] Dayan D, Leinert E, Singer S et al. Association of social service counseling in breast cancer patients with financial problems, role functioning and employment-results from the prospective multicenter BRENDA II study. *Arch Gynecol Obstet* 2023; 307: 541–547. doi:10.1007/s00404-022-06604-2. Epub 2022 May 23
- [13] Singer S, Janni W, Kuhn T et al. Awareness, offer, and use of psychosocial services by breast cancer survivors in Germany: a prospective multicentre study. *Arch Gynecol Obstet* 2023; 307: 945–956. doi:10.1007/s00404-022-06665-3. Epub 2022 Jul 15
- [14] Trevino KM, Iyengar N, Li Q et al. Receipt of psychological counseling and integrative medicine services among breast cancer survivors with anxiety. *Breast Cancer Res Treat* 2020; 184: 301–310. doi:10.1007/s10549-020-05859-0
- [15] Ernstmann N, Enders A, Halbach S et al. Psycho-oncology care in breast cancer centres: a nationwide survey. *BMJ Support Palliat Care* 2020; 10: e36. doi:10.1136/bmjspcare-2018-001704
- [16] Mehnert A, Koch U. Psychological comorbidity and health-related quality of life and its association with awareness, utilization, and need for psychosocial support in a cancer register-based sample of long-term breast cancer survivors. *J Psychosom Res* 2008; 64: 383–391. doi:10.1016/j.jpsychores.2007.12.005