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Diversity of interpretations of the concept "patient-centered care for breast cancer patients"; a scoping review of current literature

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Abstract

Rationale, aims and objectives: Patient-centered care is considered a vital component of good quality care for breast cancer patients. Nevertheless, the implementation of this valuable concept in clinical practice appears to be difficult. The goal of this study is to bridge the gap between theoretical elaboration of "patient-centered care" and clinical practice. To that purpose, a scoping analysis was performed of the application of the term "patient-centered care in breast cancer treatment" in present-day literature.

Method: For data-extraction, a literature search was performed extracting references that were published in 2018 and included the terms "patient-centered care" and "breast cancer". The articles were systematically traced for answers to the following three questions: "What is patient-centered care?", "Why perform patient-centered care?", and "How to realize patient-centered care?". For the content analysis, these answers were coded and assembled into meaningful clusters until separate themes arose which concur with various interpretations of the term "patient-centered care".

Results: A total of 60 publications were retained for analysis. Traced answers to the three questions "what", "why", and "how" varied considerably in recent literature concerning breast cancer treatment. Despite the inconsistent use of the term "patient-centered care," we did not find any critical consideration about the nature of the concept, regardless of the applied interpretation. Interventions that are supposed to contribute to the heterogeneous concept of patient-centered care as such, seem to be judged desirable, virtually without empirical justification.

Conclusions: We propose, contrary to previous efforts to define "patient-centered care" more accurately, to embrace the heterogeneity of the concept and apply "patient-centered care" as an umbrella-term for all healthcare that intends to contribute to *the acknowledgement of the person in the patient*. For the justification of measures to realize patient-centered care for breast cancer patients, instead of a mere contribution to the abstract concept, we insist on the demonstration of desirable real-world effects.

KEYWORDS
breast cancer treatment, patient-centered care, real-world application, scoping review

1 | INTRODUCTION

Patient centered care (PCC) is a very influential concept in the medical care for breast cancer patients. With regard to the development of patient-centered outcome measures, this field is leading. [1,2] "Patient-centered-care" is a term first introduced by Michael Balint in 1969,[3] to emphasize the importance of the individual context of a patient for the treatment of a disease.[4] It was the increasing unease with the impersonal elaboration of "evidence-based medicine" (EBM),[5] that turned out to be a powerful stimulus for a growing interest in PCC. From the early 20th century onwards, the concept of PCC has substantially influenced medical practice.[6] In 2001, the American Institute of Medicine even designated PCC as one of the six specific aims to improve the quality of care in the 21st century.[7]

Breast cancer treatment has multiple features that contribute to the more than average importance of PCC for this specific patient group. First, and probably most importantly, because a diversity of locoregional and systemic treatment options exists, breast cancer treatment is characterized by preference sensitive decision-making. Additionally, the treatment of breast cancer consists of different phases in treatment, each phase requiring different communication styles.[8] Finally, breast cancer occurs among patients from a wide variety of ages, social classes and cultural groups. Patients' need for an active role in the treatment process is associated with demographic factors and sociocultural background.[9] Although the importance of PCC in breast cancer care is thus clear, the use and application of the term PCC in practice seems to remain indistinct.

In the early 20th century, policy makers, insurance companies and patient representatives started to actively promote the application of PCC in modern medical practice in breast cancer care. Quality of care indicators were developed in order to measure and drive the delivery of PCC.[10] In 2010, the Patient-Centered Outcome Research Institute (PCORI) was funded for the development of methodological research standards for the improvement of patient-centered outcomes.[11] This development was most present in the field of breast cancer care.[1,2] In the Netherlands, patient-centeredness is part of quality assessment reports for breast cancer care every year[12] and in 2018, a revision of "The National Guideline for Breast Cancer Treatment" was published in order to enable PCC*,.[12]

Notwithstanding the emphasis on the importance of PCC for breast cancer care and the efforts to implement PCC, like the PCORI and the implementation of patient-centered outcome measures in the evaluation of care, medical practice appears to be refractory.[13,14] National health quality reports of AHRQ show limited implementation of PCC in practice.[14] Besides, in the yearly quality of care reports in the Netherlands for breast cancer patients, there is no report until 2019, on PCC items.[15] It has been proposed that it is the lack of a sufficient scientific base for PCC,[14] and especially a lack of clarity about the concept,[16,17] which hampers its practical effectuation. The difficult and laborious implementation of PCC for this patient-group is said to result from a gap between theoretical conceptualization and practical elaboration. The indistinctness about what PCC in the care for breast cancer patients means exactly, might frustrate the possibilities PCC holds for medical practice. In order to take a cautious step towards bridging this gap between theory and practice, we deduced actual applied conceptions of PCC for breast cancer patients out of current literature. By doing so we aim to clarify the concept of PCC and provide more insight into the applicability in practice.

2 | METHODS

To further delineate a practically applicable concept of "PCC for breast cancer patients", the methodology of a scoping review was applied.[18,19] Scoping reviews are used to map existing literature in a given field, in order to illustrate key concepts'.[20] Our scoping review follows the methodology developed by the members of the Joanna Briggs Institute.[19] This process requires a number of clearly described consecutive steps which will be described in this section.

2.1 | Research question

The goal of our research is to answer the question: "What is the interpretation of the concept 'patient-centered care' based on its application in current literature on breast cancer?". In order to answer this research question systematically and as objectively as possible, we analysed current literature on breast cancer care for the answers to three sub-questions, which are: "What is patient-centered care?", "Why perform patient-centered care?", and "How to realize patient-centered care?".

2.2 | Search strategy

Our multi-database systematic literature search strategy included the methodology described by Bramer et al.[21,22] Five electronic databases were searched on 6 December 2018. We searched for references that included both the terms "patient-centered care" and "breast cancer" or commonly used synonyms for these terms (The details of our search strategy are shown in Appendix A). The search was limited to publications in English.

2.3 | Eligibility criteria

Original articles, review articles, comments, theoretical and conceptual articles were included. After removal of duplications,[12] 530 publications remained. In order to prevent missing any applicable meaning of the studied concept, we decided not to exclude any article on the basis of substantive criteria but to restrict the inclusion of articles on the basis of their date of publication. All articles that were published during the year preceding the search date (i.e., published in 2018) were analysed. Articles that were published earlier were excluded. This strategy ensured the deduction of a broad spectrum of current conceptions of "PCC for breast cancer patients". For a further

substantiation of this article selection strategy, see "Limitations of the study". For the article selection scheme, see Figure 1.

2.4 | Data extraction

The selected articles were imported into NVivo.[23]

In the first step IE and EP both analysed the same 20 articles independently. The country of origin and the faculty or department of the lead author were registered. The purpose of the study was highlighted and related to the conception of PCC in that specific article. IE and EP independently coded within the full texts, explicit and implicit answers to the following questions: "What is patient-centered care?", "Why perform patient-centered care?" and "How to realize patient-centered care?". The entire content of the articles was read and used for data extraction in order to answer these questions. These answers were arranged within different categories, according to the different phases in BC-treatment these were mentioned in.

In the second step IE and EP discussed their findings in these first 20 articles. They challenged each other's perspectives and extracted the first immature themes during this discussion. To prevent tunnel vision and objectively broaden the perspective on the term PCC the authors discussed their findings thoroughly and disagreements were discussed with the third author (MS) until agreement was reached between all authors.

In the third step IE analysed all remaining 40 articles. EP independently analysed 10 out of these 40 remaining articles. She analysed new articles until no further codes arose for three articles in a row. This thorough independent analysis was followed by another joint discussion of all 40 remaining articles. For an overview of the extracted fields, see Box 1.

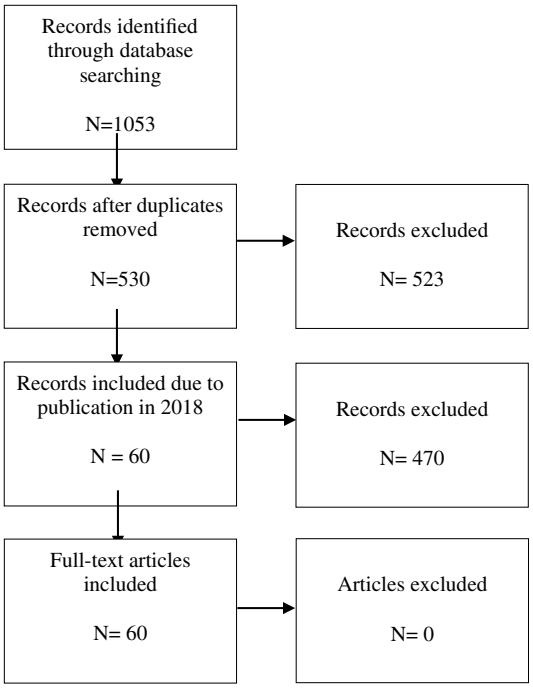

FIGURE 1 Article selection scheme for the scoping review

2.5 | Scoping analysis

This scoping review includes a descriptive analysis of features of the studied literature and a content analysis of the key elements of "PCC for breast cancer patients". This was performed following the methodology of content analysis described by Mayring: "The material is worked through and categories are deduced tentatively working step by step. Within a feedback loop those categories are revised, eventually reduced to main categories and checked with respect to their

FIGURE 2 "Word cloud" of the phrases applied as synonyms for 'patient-centered care' in the studied publications. The size of the phrases in this cloud correlates with their frequency of appearance in the source texts (for the creation of this figure, the free tag cloud generator 'www.woordwolk.nl' was used)

TABLE 1 Overview of the included articles and their extracted data and phrases. The articles are arranged according to the phase of breast cancer treatment

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Tevis et al. Breast Surgical Oncology USA[44]	Review of the development and validation of available PROs in breast surgical oncology and reconstruction, their impact in improving patient-physician communication and treatment outcome and potential for impacting reimbursement.	Focus on patient experience and outcomes (i.e., *VBHC*)S	Improve clinical outcomes Improve symptom management Improve resource utilization Improve patient engagement	Systematically incorporate patient input into the measures (PROs) Assess psychosocial, sexual and physical well-being domains *in PROs* Involve patients in the development of PROs
Hilton et al. Medical Oncology Canada[65]	Assess the feasibility of a larger definitive trial to identify an optimal chemotherapy regimen.	Reasons for poor accrual *for this medical trial (from patients' perspective)*	–	Elucidate patient perceptions about *the design and informed consent process of this medical trial*
Das et al. Laboratory for Financial Engineering USA[34]	Examine the potential of a unique breast cancer clinical trial to serve as a model of reengineering drug development to be more efficient and patient-centered.	Get the right drug to the right patient	Achieve a higher probability of *trial* efficacy	*Use* biomarkers to characterize cancers with a high degree of specificity Investigating quality of life issues among patients Patient advocates connect with patients and stay close to them
Greene et al. Health Care Systems Research Network USA[66]	Describe the genesis of a set of principles to guide how research teams should work with patients and their relevance to patient-engaged research.	Patients are involved in the research team in a meaningful and intentional way A study team with mutual goals and shared values *Reflects* real-world needs	Study results reflect real-world perspective outside academia *Enhanced* adoption of study results into practice	Effectively integrate patients on a research team Approach collaboration with openness, curiosity, curiosity and humility Sustain *patient* engagement Build equitable partnerships Materials are written in plain language
BC-screening and previvors				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Brédart et al. Department of Supportive Care and Psycho-Oncology France[29]	Assess the psychosocial needs of women at a high genetic risk of breast cancer and explore the association with sociodemographic factors, in order to highlight possible unmet care needs.	Address the psychosocial needs in a clinical setting	–	*Use of* specific questionnaires to address psychological and social difficulties Monitor psychosocial needs over a longer period of time Health care specialist should be trained to identify and respond to their psychosocial needs Adjust cancer care as necessary
DuBenske et al. School of Medicine and Public Health USA[33]	Identify the key elements of breast cancer screening shared decision-making and synthesize these key elements for utilization by clinicians.	Shared decision-making Personal breast cancer risk factors	–	Joint communication between the patient and clinician and trust building Solicit patient preferences Empower women Consider multiple cultural perspectives Decision aid intervention Personalized risk estimates incorporated within communication interventions

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Dong et al. Institute for Health, Health Care Policy and Aging USA[67]	Examine U.S. Chinese older women and the association between their cancer screening behaviours with traditional Chinese medicine use across sociodemographic characteristics.	Culturally appropriate care	Improve the delivery of health care for U.S. Chinese women Increase cancer screening rates *for* U.S. Chinese women Improve health knowledge Improve health status	Understand and address low cancer screening rates among Chinese women Address barriers that contribute to low cancer screening rates Culturally appropriate health workshops Health professionals exercise cultural awareness
Schrager et al. Department of Family Medicine and Community Health USA[30]	A call for development and validation of patient-oriented shared decision-making tools that support risk assessment, values clarification, and communication.	Shared decision-making Weigh patient values in the decision	Improve patient's knowledge regarding options Reduce the conflict surrounding their decisions	Standardize the way shared decision-making is provided Easy-to-use individualized shared decision-making tools Train primary care providers in shared decision-making
Falk School of Social Work USA[68]	Compare programs aimed at improving mammogram screening rates for women who exhibit poorer screening behaviour while profiling potential patient navigation interventions to improve patient-centered breast cancer care.	Identify women at a pivotal stage to educate and connect them to services Whole-person cancer care Patient navigation interventions	Reduce health disparities	Navigate psychosocial barriers to cancer care Interventions *that* consider cultural variation *Health* education Direct interpersonal supporting relationships
Gallardo-Castro et al. Unidad de Investigación en Enfermedades Cronico-Degenerativas Mexico[69]	Illustrate the potential use of Google Trends and Google Awards (two tools to assess demand-based infodemiology indicators) to achieve the patient-centered care model.	–	–	Infodemiology Assessing patients' perceived needs and peoples perceptions on specific health-care systems
Han et al. Department of Pharmacy Practice USA[53]	Examine the effect of shared decision-making on women's adherence to breast cancer screening and estimate the prevalence and adherence rate of screening.	–	Patient-centered care is one of the six *(quality)* dimensions of healthcare performance Improve screening adherence	Shared decision-making, informed dimension Shared decision-making, joint dimension Having the patient feel as an equal communication partner
Dean et al. Department of communication USA[50]	Examine how health care providers may assist previvors in the management of their uncertainty regarding hereditary breast and ovarian cancer during health care encounters.	*Recognize that* each patient may value information, contributions to decision-making, and supportive communication differently. Caring for previvors	Manage uncertainties Improve patient satisfaction	Provide information Being a partner for decision-making Provide supportive communication Refer for social support networks Health care providers must engage with previvors
Treatment as a whole				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**

(Continues)

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Angarita et al. General Surgery Canada[70]	*Interpret* the existing qualitative evidence on patient-reported factors influencing older women's decisions to accept or decline breast cancer treatment.	Understand the treatment decision-making process	Enhance treatment adherence More likely to decline treatment Improve outcomes Improve patient satisfaction	Address the complex and heterogeneous factors that influence (older) woman's treatment decisions Individualize the discussion with patients
Mora-Pinzon et al. School of Medicine and Public Health USA[43]	Describe how health literacy is related to perceived coordination of care reported by breast cancer patients.	–	Better healthcare utilization *(for patients with lower levels of health literacy)* Better healthcare outcome *Reduce* racial disparities in health outcomes Decrease in healthcare costs	Use of a care-coordinator for patients with lower levels of health literacy
Bergin et al. Centre for Behavioural Research Australia[41]	Examine how rural and urban patients experience choice of cancer treatment provider after a diagnosis of breast cancer.	Patient's wishes, experiences and priorities are given a central role in the delivery of care	Supporting patient autonomy Timely, appropriate treatment by higher quality specialist services Better healthcare outcome *Improve* perceptions of choice for particular populations (rural *vs* urban patients)	Offer evidence-based information about outcomes that matter to patients Facilitate patient preferences Targeted assistance for disadvantaged populations Research into patients understanding and experience of the cancer care pathways in both urban and rural areas
Vijn et al. Scientific Center for Quality of Healthcare The Netherlands[49]	Combine patient education and medical education by co-creating a patient-centered and interprofessional training program, wherein patients, students and care professionals learn together to improve patient-centeredness of care.	Learn about the patients' perspective Coproduction of healthcare	Being the core ethical imperative Improve patients' knowledge Better health outcomes Improve health service use and cost	Train care professionals in communication and relations with patients Patient education in disease knowledge, health literacy and self-care Patients, students and care professionals learn from each other Shared decision-making
McElroy et al. Department of Family and Community Medicine USA[35]	Evaluate how breast cancer diagnoses were shared with patients.	Shared decision-making *The contrary of* practice based on expert opinion Optimal care for women diagnosed with breast cancer	Positively impact patient outcomes Provide optimal care	Shared decision-making Patient outcome research guides future practice Ask patients about their preferences Develop a therapeutic doctor-patient relationship A more comprehensive understanding of the match between patient preferences and provider practices Information exchange
Tao et al. Cancer Registry USA[71]	Assess factors associated with age-specific mortality differences.	Comprehensive care	Better survival outcome	-
Seroussi et al. eHealth and Biomedical Applications France[52]	The description of "clinical decision support systems" to support the management of breast cancer patients.	–	Make the best decision for a new patient	Use of a software decision support system

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Mansfield et al. Health Behaviour Research Collaborative Australia[72]	Compare breast and colorectal cancer patients' need for help with self-management in order to identify effective self-management support strategies.	Best practice symptom management	Improving outcomes	Provision of individually tailored self-management support interventions Provide comprehensive self-management advice
Hammarberg et al. School of Public Health and Preventive Medicine Australia[27]	Explore the health care experiences of women diagnosed with gestational breast cancer to inform and improve clinical care of women in this predicament.	"Care that is respectful of and responsive to individual patient preferences needs and values and that ensures that patient values guide all clinical decisions"	Positively influence patients' quality of life Enhance participants' satisfaction with care	Good doctor-patient communication Shared treatment decision-making Involving women in treatment decisions Respect patients' autonomy Offer treatment alternatives Attune to the woman's needs Comprehensive care Health professionals being compassionate
Primary treatment (surgery)				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Dunham et al. Medical Education USA[51]	Develop a composite quality measure to profile individual surgeon performance for breast-conserving surgery.	"Nothing about me without me" *More than* morbidity and mortality What matters to patients	Improve quality of care Guide for destination of care	Better inform patients: offer a single 'composite' score that is understandable to patients Allow patients to express their preferences and values Include the input from patients in the development of quality measures
Berlin et al. Section of Plastic Surgery USA[73]	Identify sociodemographic, clinical and procedural characteristics associated with not completing postoperative surveys.	Understanding of the impact of surgical procedures	Improvements in health-related quality of life *Address* racial and ethnic disparities in access to *breast reconstruction*	Assess the impact of surgical procedures Use validated PRO instruments in research Perform rigorous non-response bias analysis
Durand et al. Institute for Health Policy and Clinical Practice USA[42]	Understand how best to support women of lower SES in making decisions about early stage breast cancer treatments and to reduce disparities in decision quality across socioeconomic strata.	Make treatment decisions based *on complete or informed* preferences	Reduce decision regret Improve the quality of health care Reduce disparities across socioeconomic strata Receive a surgery aligned with *patient* values and preferences	Promote shared decision-making Encounter patient decision aids Design decision aids for individuals of low socioeconomic status
Platt et al. Division of Plastic Surgery Canada[74]	–	Understand the outcome of surgical treatments from patients' perspective	Superior psychosocial and sexual well-being Justify resource utilization	Utilization of patient-reported outcome measures Capture many of the nuances of *the outcome of* breast surgery (physical and psychosocial and sexual well-being measures)
Storm-Dickerson et al.	Assess multiple factors concurrently impacting patient choice in surgical decision-	Patient choice and quality of life as	–	Understand what drives *patient* choice

(Continues)

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Compass Oncology Breast Specialist USA[75]	making regarding breast cancer treatment options.	uniquely assessed by the individual		Providers *are* cognizant of other drivers of choice Providers consider patient values Empower patients to understand the choices
Pittman et al. Department of Plastic Surgery USA[76]	Introduction of a novel muscle-sparing technique for prosthetic-based breast reconstruction.	–	Improved patient satisfaction	*Use of* objective measures of patient satisfaction and postoperative pain
Landercasper. Department of Medical Research USA[77]	An invited commentary on Dunham et al.	Quality programs reflect patient preferences and values Aid patients in determining destination of care	Improve outcomes	Patients *are* represented during *quality* program development Improve quality measurement programs *that* reflect patient preferences and values *Inform* patients how well surgeons perform
Murphy et al. Department of SurgeryUSA[78]	Define the reliability of frozen section pathologic analysis of the primary tumour during operation in order to perform sentinel lymph node surgery in a selective way.	–	–	–
Jajeda et al. Department of Breast Surgery USA[79]	Evaluate the oncologic and cosmetic outcomes of nipple-sparing mastectomy in a patient population with poor prognostic features and assess conversion to acceptable criteria for nipple-sparing mastectomy after neoadjuvant chemotherapy.	–	Afford a more desirable cosmetic outcome	Expanding criteria for nipple-sparing mastectomy *(remove barriers)*
Um et al. Division of Breast Surgery Korea[80]	Estimate the accuracy of predicting residual tumour after neoadjuvant systemic treatment for residual microcalcifications and enhancing lesion on MRI.	–	–	–
Bakr et al. Department of Anaesthesia, ICU and Pain Management Egypt[81]	Explore the efficacy of 1 μg/kg dexmedetomidine added to an ultrasound-modified pectoral block on postoperative pain and stress response in patients undergoing modified radical mastectomy.	–	–	–
Adjuvant (systemic) treatment				
Author	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Ben-Arye et al. Integrative Oncology Program Israel[82]	Examine the impact of a complementary medicine program on QoL-related concerns among *breast cancer* patients scheduled for chemotherapy.	Integrative approach Individually tailored to each patient's concerns	Improve emotional concerns	*Offer a* complementary/integrative medicine program Tailor complementary treatment according to the patient's leading concerns and preferences

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Lambert et al. School of Nursing Canada[48]	Explore breast cancer survivors' experiences and perspectives of persisting with endocrine therapy and identify psychological and healthcare system factors that influence persistence of endocrine therapy.	Acknowledge the values and beliefs held by breast cancer survivors *Realize that* personal, social and structural factors influence *treatment adherence*	Improve adherence to endocrine therapy Increase quality of life Increase quantity of life	Address patient-reported factors influencing treatment persistence in real world settings Focus on the broader social and structural context Develop universal and practical intervention strategies for optimizing persistence
Ribeiro et al. Department of Social Pharmacy Brazil[32]	Describe the process of implementation and systematization of a comprehensive medication management service, from the perspective of *women with breast cancer and their pharmacists*.	Integral and comprehensive care Respect *patients'* habits and beliefs Find the balance between understanding the technical aspects of medications and their meaning for patients	Better shared decision-making Better patient outcomes	Learning to be a different, reflective, pharmacist Train clinical skills such as clinical decision-making and communication Assume direct patient care responsibilities Establish a trusting relationship with the patient Include patients into the *patient-centered care development* panel
Berger et al. College of Nursing USA[40]	Determine how patients diagnosed with breath cancer preferred to make decisions with providers about cancer treatment, examine the patient's recall of her role when the decision was made and determine how preferred and actual roles as well as congruence between them relate to quality of life.	Patients perform an active role in decision making Provider's warmth and friendliness is *less* important than their preferred role	A self-evident right More satisfied with their treatment choice A higher physical and social/family well being	Encourage an active role in shared decision-making Providers need to increase every patient's participation Improve patient-provider interaction Integrate patient-reported symptom outcomes into routine oncology practice
Bickell et al. Department of Population Health Science and Policy USA[25]	Identify key organizational approaches associated with underuse of breast cancer care.	"A commitment to work for and with patients" (AHRQ 2010) "To make the system easy for patients to get what they need" (AHRQ 2010)	*Prevent* underuse of adjuvant therapies *Reduce* racial disparities in mortality	Hospital organizational factors: track patients to follow-up, information sharing and fostering a patient-centered culture Flexibility and creativity of clinical staff Invest a lot of time to see patients and get on a personal level with *patients*
Goto et al. Graduate School of Business Administration Japan[83]	Evaluate economic value for 6-month depot *medication* compared with 3-month depot *medication* in pre-menopausal breast cancer patients from a societal perspective.	–	–	Evaluate the intangible costs *of therapy*, which represent the monetary value of the patients' burden
Gingras et al. Department of Haematology and Oncology Canada[84]	Identify putative predictive biomarkers in HER-2-positive breast cancer patients and discuss the hitherto failure to address the needs of patients (i.e., *the probable interest of* women with favourable prognostic features in shorter courses of treatment).	*Personalized Medicine*	De-escalation of chemotherapy Constraining health-care costs	Identify predictive biomarkers to tailor treatment Broader and earlier sharing of the data generated by clinical trials

(Continues)

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Louison et al. Department of Psychology USA[31]	Investigate the effects of a patient-centered, holistic approach on treatment adherence and associations among treatment adherence and several patient characteristics.	Putting patients first Non-pharmacological, holistic, approach Emphasizing the patient experience Individualized, compassionate care	Decrease reduced chemotherapy Improving breast cancer patient's prognosis Improved pain, fatigue, nausea and recovery speed Improve health-related quality of life	Allow patients to actively participate in the decision-making process of treatment Encourage patients to participate in chair yoga, Reiki, and nutritional counselling An online symptom monitoring program to ensure a prompt response *to signals* Create compassionate provider-patient relationships
Robertson-Jones et al. School of Nursing USA[28]	Explore patient centeredness of care during the clinical visit of women undergoing breast cancer chemotherapy and compare by race.	The ability of clinicians to engage in strong interpersonal care Provided care is concordant with the patient's values, needs, and preferences	Promote adherence to prescribed therapies Lessen racial disparity	A supportive clinician-patient relationship Racially sensitive standardization of communication
Herrmann et al. Priority Research Centre for Health Behaviour Australia[37]	A qualitative exploration in breast cancer patients of the understanding of their treatment choice and the strategies used to facilitate their decision.	Patient-centered decision-making Patients have the final say regarding their treatment decisions	Increase patients' understanding of their treatment options Improve patients' satisfaction with their care Improve overall quality of life Reduce costs to the healthcare system	Understand how patients make difficult treatment decisions Involve patients in treatment decisions, to the extent they desire Emphasize that patients have a treatment choice Development and implementation of appropriate decision support
Reis et al. Program in Adult and Child Health Brazil[85]	Assess the influence of combined training on pain, fatigue, maximal oxygen uptake, body mass index, flexibility and strength in patients with breast cancer.	–	–	–
Kyrochristos et al. Centre for Biosystems and Genome Network Medicine Greece[36]	A review that discusses reliable breast cancer genome analysis data and focuses on the validation of *some genomic tests* as predictive biomarkers, as well as the valid discovery of novel oncotargets within patient-centric genomic trials.	Targeted and personalized treatment	Improved oncological outcomes	Use of prognostic and predictive biomarkers to guide personalized systemic therapy
Advanced breast cancer				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Tometich et al. Department of Psychology USA[47]	Examine expectations, goals and priorities for physical and psychological symptom treatment in metastatic breast cancer patients.	An approach that incorporates patient's needs, values and preferences Shared decision-making	Improve quality of services Improve health outcomes Improve patient satisfaction Reduce health care costs	Ask patients about their expectations, goals and treatment priorities Empowerment to actively participate in symptom management Tailor symptom management strategies to individual patient priorities Measure clinically meaningful symptom improvement
Sanchez et al. Multidisciplinary Breast Center Italy[38]	–	*Personalized Medicine*	*Reduce* variability between breast cancer centers Pursue breast conservation	Locally advanced breast cancer treatment in multidisciplinary breast centers
Wakeam et al. Division of Thoracic Surgery Canada[86]	Review the literature on chest wall resection for recurrent breast cancer and evaluate overall survival and quality-of-life outcomes.	–	–	Address patient-centered outcomes (rigorous evaluation of health-related quality-of-life) *Perform* studies addressing these patient-centered outcomes
Lam et al. Centre for Psycho-Oncology Research and Training China[46]	Examine patient satisfaction with care over the first year following the diagnosis of advanced breast cancer and test if unmet health care needs, physical distress, and psychological distress predicted patient satisfaction.	Address patients' information and psychosocial needs as much as physical needs *Achieve* high level of patient satisfaction	Higher patient satisfaction Greater adherence to prescribed medical care	Meet patients' needs for disease and treatment-related information Provide much psychosocial support during consultations *Achieve* continuity of care
Nathoo et al. Department of Radiation Oncology Canada[87]	Explore the prevalence of psychosocial, physical and/or practical distress among locally advanced breast cancer patients along their treatment journey.	Taking a more proactive approach in assisting patients' concerns and preventing psychological distress during or after active treatment	Encourage supportive care referrals A better patient experience	Comprehensive assessments incorporating all three domains of distress Taking a proactive approach in assisting patients' concerns and preventing psychological distress
Mosher et al. Department of Psychology USA[88]	Identify factors underlying perceptions of symptom importance among metastatic breast cancer patients.	Take into account patients' needs, values and preferences	Improve disease outcomes Improve patient satisfaction Improve health care quality Optimize patient engagement in health care Reducing health care costs	Make shared treatment decisions Clinicians should take into account perceptions of symptom importance Assess the meaning of symptoms from the patient's perspective Determine the *importance of symptom priority ranking* in socioeconomic and ethnic groups Understand the factors driving judgements of symptom importance at difference phases of the disease trajectory
Survivors				

(Continues)

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Ashing et al. Department of Population Sciences USA[60]	Examine demographic characteristics and patient-centered outcomes (i.e. health-related quality of life and quality care satisfaction) among African-American and Latinas young breast cancer survivors to inform precision psychosocial oncology care.	–	Reduce health disparities *(ethnic minorities)* Improve health-related quality of life Enhance patients' treatment adherence	Address their *(ethnic minority groups)* unique medical and survivorship needs Development and delivery of targeted, precision psychosocial care Patient-centered provider communication
Yanez et al. Department of Medical Social Sciences USA[61]	Investigate the feasibility and preliminary efficacy of a Smartphone application aimed at improving health-related quality of life and cancer-specific distress among Hispanic breast cancer survivors.	–	Improve health-related quality of life outcomes Enhance access to supportive care for Hispanic women diagnosed with breast cancer *Improve* adherence to follow-up and anti-cancer medications	Use of linguistically and culturally tailored supportive oncology eHealth interventions Increasing cancer knowledge, self-efficacy in communication, and self-management skills Embedding patient-reported outcomes into clinical care
Jeffs et al. Faculty of Nursing and Midwifery UK[89]	Identify the effect of lymphedema treatment on excess arm volume or patient-centered outcomes in women developing arm lymphedema following breast cancer treatment.	–	–	*Add* subjective outcome measures *(meaningful to patients)* to objective outcome measures *(meaningful to practitioners)* Inclusion of *patients* in designing studies Identify priority patient reported outcome measures
Matsen et al. Department of Surgery USA[54]	Better understand decision role preferences in women diagnosed with breast cancer at a young age for return of results of genome sequencing in research and clinical settings.	Shared decision-making *Acknowledge the variability of* decision making preferences	Improve care delivery in as yet undefined ways	Incorporate discussion of decision role preferences Recognize that decision role preference is dynamic Helping patients to achieve their preferred role
Ogrodnik et al. Department of Surgery USA[90]	Explore patterns in delayed breast reconstruction, identify barriers to follow through and determine the adequacy in providing information.	Determine choice by patient preferences as well as by their clinical features	Enhancing patient satisfaction Improve care	Improved documentation of clinical decision making by including checklists in patient charts Enhance shared decision-making; educate women about their options A greater understanding of barriers that may be experienced in obtaining a reconstruction Tailor discussions to particular patient needs Adjust quality metric for patient choice

TABLE 1 (Continued)

Research				
Author, faculty, country, reference number	**Study purpose**	**What is patient-centered care?**	**Why patient-centered care?**	**How to realize patient-centered care?**
Ashing et al. Department of Population Sciences USA[91]	Explore fear of cancer recurrence predictors and fear of cancer recurrence associations with health-related quality of life among Asian-American breast cancer survivors.	Whole-person care	Lower their fear of cancer recurrence Improve their survivorship outcomes Improve health-related quality of life	*Address* fear of cancer recurrence Screen clinical level of fear of cancer recurrence (i.e., a distress thermometer and problem list) Provide tailored and culturally sensitive survivorship care (physician training) More research attention to better understand the impact of cancer and its treatments
Fu et al. College of Nursing USA[92]	Appraise the accuracy, sensitivity and specificity to detect lymphedema status using machine learning algorithms based on real-time system report.	*Address* the symptoms that patients are experiencing Patient-specific	–	Real-time symptom report Easy to use symptom report system *(empowerment)* *Use of* biomarkers
Davis et al. Department of Nursing USA[39]	Describe and understand the patient-centered supportive care factors that were used by African American breast cancer survivors.	*Realize that* survivorship encompasses the whole person Understand supportive factors as seen through the lens of breast cancer survivors	Improve quality of life Improve the efficacy of cancer care and survivor cancer care plans	Develop culturally appropriate interventions Medical team members understand what is important from the standpoint of the survivor
Bao et al. Integrative Medicine Service USA[45]	Evaluate breast cancer survivor's preferences for acupuncture as compared with medication use and identified factors predictive of this preference.	Align patient beliefs and preferences Give a *treatment* choice	Improve patient satisfaction Improve outcome Give *patients* a sense of control Address health disparities	Enquiring about patients' beliefs and preferences Decrease structural barriers (for acupuncture) Specific outreach and education (for non-white and less educated populations) to make acupuncture an equitable pain management option
Chiu et al. Department of Surgical Oncology Canada[93]	A review of current approaches to arm lymphedema, posttreatment cosmesis, and reducing posttreatment pain.	Understand the impact of breast cancer treatment	More satisfied with treatment decision Provide optimal support to patients	*Favour* patients taking an active role in their treatment decision Patient education Using validated psychometric patient-reported outcome measures in research Physicians understand the impact of treatment

reliability". [24] For the content analysis, the goals of the studies and the coded answers to the "what?", "why?" and "how?" of PCC were attributed to different themes. A theme represents a distinctive interpretation of the term "PCC for breast cancer patient". These themes were defined in an iterative process. In the first step, IE, and EP collaboratively arranged the extracted codes of the first 20 articles into themes. In the next step, IE and EP independently arranged the codes of the remaining articles into themes in a similar process. Most articles addressed more than one interpretation of PCC. These various interpretations were admitted to our content analysis in an identical way. New codes emerged during this phase, resulting in an expansion of the coding tree. In a final step, in discussion with MS, the themes of this branched coding tree were assembled into meaningful clusters that cohered with the various applied dimensions of PCC. Any discrepancy or disagreement on content or interpretation between the three authors was resolved by discussion.

3 | RESULTS

In Table 1 an overview is given of all 60 included articles and their extracted data and phrases. This table represents a literal representation of the phrases extracted. For the purpose of readability, some words or phrases were added. These additions are represented in italics. In cases where no phrase answering our research question could be found, the mark '-' was used.

3.1 | Descriptive analysis

The majority ($n = 43$) of the 60 studies on PCC and breast cancer treatment were conducted in North America. Only a few studies on PCC for breast cancer patients originated in Europe ($n = 6$). In the included publications, PCC was explored in a wide variety of medical contexts for breast cancer. Both PCC during treatment of breast cancer patients ($n = 32$), in advanced breast cancer ($n = 6$), in survivors ($n = 10$) and PCC in the context of breast cancer research ($n = 4$) and screening of healthy women ($n = 8$) were investigated in these recent studies. PCC was studied in the context of breast cancer patients from a wide variety of socioeconomic, educational or ethnic backgrounds.

3.2 | Content analysis

"Goals of the studies on patient-centered care for breast cancer patients".

The formulated goals of the included studies are listed in Table 1. Although there is a considerable diversity in these goals, they all align with a contribution to the development of PCC through a limited set of types of goals. These types of goals are depicted in Box 2.

Most of the studies ($n = 39$) were aimed at the development of strategies to trace the perspective of either the individual patient ($n = 28$) or of specific patient-groups ($n = 11$). In the latter case, this unravelling of perspective is aimed at the prevention of undertreatment of vulnerable groups (low literacy patients, lower SES patients, older patients or patients from ethnic minorities). Other frequently described goals in these studies about PCC for breast cancer patients dealt with "shared decision making" (SDM) ($n = 9$) or with medical techniques that tailor and optimize medical treatment ($n = 9$). Three studies failed to define their goal.

"What is patient-centered care?"

Although all these studies were aimed at developing 'PCC for breast cancer patients', the answer to the question what PCC essentially means, was not obvious in most of the texts. In 2 out of 60 included publications, PCC was explicitly defined: (a) "*Patient-centeredness reflects a commitment to work for and with patients, to make the system easy for patients to get what they need*"[24,25] and (b) "*Care that is respectful of and responsive to individual patient preferences, needs and values and that ensures that patient values guide all clinical decisions*".[26,27] In 43 out of the other 58 publications that were analysed, one or more implicit meanings of "PCC for breast cancer patients" could be extracted. Some of these implicit meanings were difficult to distinguish from answers to the "How?"-question. In 15 of the included studies, it was not possible to detect an explicit or implicit definition of the term. The extracted interpretations of the concept "patient-centered care" are represented in Table 1 and their thematic ordering in Box 3.

The identified interpretations point to a variable application of PCC in the context of breast cancer. For example one variable application is "from the patients' perspective"†"[28] In some articles interpreting PCC as such, patients' *needs* were accentuated‡"[29] In other articles of this group, patients' *values* were predominantly at stake§"[30] Another interpretation of PCC refers to an adjusted role for the healthcare professional, sometimes comprising compassion¶"[31] at other times pointing to a respectful attitude**"[32] Involving patients in clinical decision-making††"[33] appeared to be a synonym for PCC in 12 out of 60 selected publications, although SDM can also be valued as a means to reach PCC. Finally, in 6 out of 60 studies, PCC meant "optimization of disease treatment" from a physical point of view‡‡"[34]

"Why patient-centered care?"

Multiple goals of PCC are mentioned in these articles. These goals are listed in Table 1. Their thematic grouping is presented in Box 4.

PCC can be meant to improve care from the perspective of the patient§§"[35] in various ways: more quality of life¶¶"[29] a better disease outcome***[36] or a higher patient appreciation of received care†††"[37] Optimization of disease treatment in itself has also been designated as a goal of PCC‡‡‡"[38] This aim leads to enhanced realization of a medical plan without consideration of the individual patient's needs. This optimization therefore affirms the perspective of the doctor more than the perspective of the patient.

PCC can be initiated in order to improve the efficacy of care by reduction of healthcare costs, assuming that better informed patients exhibit more treatment adherence or forgo therapy.§§§"[39]

1. Leading author
2. Country of origin
3. Faculty or department
4. Phase of treatment
5. Study purpose
6. 'What is patient-centered care?'
7. 'Why performing patient-centered care?'
8. 'How to realize patient-centered care?'

BOX 1 Extraction fields

- Unraveling the perspective of the patient
  - Individual patient
  - Specific patient-groups (minorities)
- Development of 'shared decision-making'
- Optimize disease treatment

BOX 2 Type of goals of the studies about patient-centered care in breast cancer patients

From the Patients' perspective
- Address patient needs. More than the disease
- Address patient values. Customize treatment decision

Adjusted role for healthcare professional
- Compassionate
- Respectful

Shared decision-making
Optimization of disease treatment

BOX 3 What is patient-centered care?

Improve care (the patient's perspective)
- Improve quality of life
- Improve disease outcome
- Improve quality of delivery of care

Optimized disease treatment (the doctor's perspective)
Improve efficacy of care
Moral considerations
- Respect for the autonomy of the patient
- Justice: distribution of care
- Justice: minorities

BOX 4 Why patient-centered care?

Apart from these practical goals, PCC is also motivated by moral arguments such as rights¶¶¶,,[40] autonomy****,[41] and justice. Justice here means the reduction of health disparities either by eliminating the difference between healthcare institutes††††,[38] or by defending the rights of vulnerable groups: patients from lower social-economic classes‡‡‡‡,[42], low literacy patients§§§§,[43] and patients from ethnic minorities¶¶¶¶,,[28]

In 13 articles, an answer to the "Why?"-question could not be found.

"How to realize patient-centered care?"

A wide variety of ways to achieve PCC is proposed in the studied articles. These are reproduced in Table 1. Their thematic overview is shown in Box 5. These various ways of achieving PCC are associated with its diverse definitions.

A substantial number of measures meant to realize PCC focus on the broadening of the healthcare provider's attention, from pure disease treatment to care for the whole person, referred to as "from the patient's perspective". These measures either concentrate on the perspective of the individual patient or, when the prevention of undertreatment of minorities is at stake, on the perspective of sociocultural groups. Some of the studies about patients' perspective, investigated ways to detect and satisfy the physical and psychosocial *needs* of patients. This is attempted by the use of questionnaires*****,,[44] organizational changes†††††,,[45] a cultural change‡‡‡‡‡,[27] or the development of supportive skills of the healthcare professional in either a specific way§§§§§,[31] or in general¶¶¶¶¶,,[46] Also, the assertiveness of the patient can be addressed in order to broaden healthcare from pure disease treatment to "whole-person care"******,,[47] Other studies concentrate on patient *values*. In those cases the unravelling of the individual or sociocultural context was aimed at by either the use of questionnaires††††††,,[48]

From the Patients' perspective: individual or sociocultural groups
- Address patient needs. More than the disease
  - Questionnaires
  - Organizational changes
  - Cultural change
  - Training of healthcare provider
  - Empowerment of patients
- Address patient values. Customize treatment decision
  - Questionnaires
  - Organizational changes
  - Cultural change
  - Training of healthcare provider
  - Empowerment of patients.

Shared decision-making
- Information and decision-tools
- Training of healthcare provider
- Empowerment of patients

Optimization of disease treatment

BOX 5 How to realize patient-centered care?

organizational changes‡‡‡‡‡‡,,[25] a cultural change§§§§§§,,[49] targeted training of the healthcare provider¶¶¶¶¶¶,[28] or, more generally, by a plea for more commitment of the healthcare provider*******,,[50] Finally, patients themselves can be taught to take charge in drawing the health provider's attention to their values†††††††,,[49]

Another group of measures intended to realize PCC focuses on shared decision-making. In some of these studies, SDM is pursued by the development of information tools‡‡‡‡‡‡‡,[51] or decision aids§§§§§§§,,[52] Other studies focus on decision-supporting skills of the healthcare professional, either specific¶¶¶¶¶¶¶,[50] or in general********,,[53] In again some other studies, the role of the patient is highlighted††††††††,,[27] Some authors advocate forcing an active role for patients‡‡‡‡‡‡‡‡,,[40] while others advise respect for the decision-role preference of the patient, without directing this§§§§§§§§,,[54]

Also, various techniques that tailor diagnostic or medical interventions for individual patients on the basis of physical parameters have been launched for the achievement of PCC¶¶¶¶¶¶¶¶,,[36]

Some publications did not propose any measure for the promotion of PCC.

4 | DISCUSSION

Our content analysis of 60 publications about "patient-centered care for breast cancer patients" confirms the persistent existence of a variable interpretation of this concept. Apparently, this variability has not been taken away, in spite of multiple attempts to define patient-centered care more uniformly.[55] Extracted answers to the question "What is patient-centered care?" show a considerable variation in use of the term, which is illustrated in Figure 2. Also, the answers to "Why patient-centered care?" vary considerably. Proposed ways to realize patient-centered care for breast cancer patients vary even more, ranging from organizational changes, that leave the healthcare professional more or less untouched, to adaptation of the healthcare provider. Besides training the healthcare provider, some authors state that patients should be challenged to assertiveness in order to reach PCC.

Other authors, on the contrary, plea for leaving patients in their preferred patient-role. The use of various medical technologies, such as biomarkers, is postulated to contribute to PCC too. All these various interventions and changes were claimed to be successful in contributing to the realization of PCC in the context of breast cancer treatment, thus putting into question whether the term PCC is used to refer to one and the same concept in all cases.

Although our analysis of literature concerning patient-centered care for breast cancer patients demonstrates that the phrase 'patient-centered care' denotes a wide variety of activities, none of the studied texts rendered any critical consideration about PCC. The positive phrase 'patient-centered care' apparently does not call for a critical note, in the context of breast cancer treatment at least. As a result, all interventions that are believed to contribute to PCC for breast cancer patients as such, regardless of its interpretation, are considered to be desirable. This hypothesis is supported by the fact that items in Box 2 ("Goals of the included studies") are equal to the items in Box 5 ("How to realize PCC?"). In other words, the goal of the included studies was to demonstrate the realization of 'PCC' in whichever way it was defined, but not to demonstrate any desirable real-world result of PCC. For example, some authors state that PCC leads to more treatment adherence. These authors then demonstrate (or hypothesize) a contribution to PCC by psychosocial support, followed by the conclusion that psychosocial support leads to more treatment adherence without directly demonstrating a correlation between psychosocial support and treatment adherence.[46,56,57] Patient-centered care appears to be a promising black box that, like a magic tool, will produce a range of desirable results. The answer to the question whether an intervention leads to desirable results however, should depend on its concrete "real world effects", not on its contribution to this abstract term PCC.

The persistent wide diversity in the use of "patient-centered care" in recent literature concerning breast cancer patients shows that this phrase has evolved into an "umbrella term", being a "term that covers a broad category of activities rather than a single specific item".[58] Therefore, it is improbable that a single unified definition of PCC will emerge in future, although this is assumed to be necessary for its implementation.[55] In our opinion, at least in the context of breast cancer treatment, it is more appropriate to achieve an argumentative limitation of the categories that are covered by the term patient-centered care. For this purpose, the origin of scientific interest in PCC should be recalled, being a response to the *impersonal* elaboration of EBM.[5] As a result, the application of the term 'patient-centered care' should be confined to healthcare that (intends to) contribute to the acknowledgement of *the person in the patient*.

For breast cancer treatment, most conceptualizations of patient-centered care in our results suit this proposed argumentative limitation of PCC. However, in 6 out of 60 studied publications, PCC is interpreted as tailoring breast cancer treatment to physical characteristics of either the tumour or the patient. In these interpretations, patients' values are not taken into consideration. Therefore, in our opinion, these techniques do not constitute PCC but "Personalized Medicine"[59] instead. Moreover, in 16 of 60 included articles, an improvement of efficacy of healthcare and in another 5, optimization of breast cancer treatment from the doctor's perspective were (among others) advanced as reasons for PCC. We consider these as inappropriate reasons to support PCC. Not because we reject efficiency or optimizing disease treatment, but because these goals do not contribute to the acknowledgment of the person in the patient.

EBM -being a response to haphazard and variable practice- illuminates a range of important aspects of good care, namely: scientific accountability and universal validity. These qualities entail that some other aspects of good care, those related to uniqueness and coincidence, are neglected. PCC, being a response to the impersonal elaboration of EBM, highlights a complementary range of aspects of good care, namely: addressing the unique personal values and characteristics of an individual patient. Universal validity and quantitative accountability therefore cannot be strong characteristics of PCC. For breast cancer patients, we nevertheless observe that significant effort is being invested in the elaboration of generalized applicable and quantifiable measures in order to realize PCC. In 41 out of 60 included articles, one or more concrete interventions suitable for quantification (such as improving quality measurement programs) were studied, while in 26 of these studies, one or more basic measures (such as health professionals exercising cultural awareness) were studied. For the implementation of PCC in clinical breast cancer practice, the preference for concrete and quantifiable products, such as decision aids or questionnaires (e.g., Patient Reported Outcome Measures), above a basic revision of the medical consultation is even more pronounced.[64]

The culture of demanding quantifiable and generalizable measures, matching with the idea of EBM, is transposed out of its context to implement patient-centered care for breast cancer patients. The uncomfortable vagueness of the concept PCC seems to be mended with supposedly unambiguous implementation tools. Contrary to this approach, we propose, at least in the context of breast cancer treatment, to embrace the heterogeneity of the concept of patient-centered care whilst keeping in mind that this represents all care that (intends to) contribute to the acknowledgement of *the person in the patient*. This conception of patient-centered care enables both easy-to-quantify concrete interventions, such as the use of questionnaires, and difficult-to-quantify fundamental interventions, such as changing the attitude of health providers, to be eligible for the realization of patient-centered care. This will create the conditions for this important concept to become completely effective in its full width.

4.1 | Limitations of the study

Some limitations of our review must be mentioned. Firstly, inclusion into our study was restricted to publications from a single year (2018), which at the time of performing this study was the most current cut-off. Therefore, some key studies dealing with PCC for breast cancer patients that were published beyond this period may not have been considered. We nevertheless preferred to limit inclusion on the basis of a clearly defined recent timeslot above limiting on substantive grounds in order to be able to perform an inclusive review, from the

viewpoint of potential conceptions. To overcome this limitation, we performed the same search in the years of 2019 and 2020 in a later stage and we performed a concise analysis. In the literature published in 2019 and 2020, PCC is described as patient and public involvement,[60] addressing patient values and preferences[61,62] and holistic and compassionate care.[63,64] Explanations given on why to perform PCC include improving experiences and outcomes,[61] improving care in general[65] and facilitating a better quality of care.[63] The question of how to perform PCC is described more or less the same as in the literature of 2018; optimizing treatment pathways,[64] shared decision making[61] and focusing on patient participation.[60] The same variety of patient-groups as in the literature of 2018 are explored. These results add to our conclusion that PCC is a heterogeneous concept. Furthermore, in 2019 and 2020, the improper interpretation of PCC as a "black box" that can be used to optimize breast cancer treatment, occurred persistently.

Secondly, our review about patient-centered care is limited to breast cancer patients. As we argued in the introductory paragraph, PCC is of the utmost importance especially for this patient group. In the field of breast cancer treatment, research and development of PCC is leading. We therefore have good reasons to presume that our content-analysis of PCC, although performed for breast cancer patients exclusively, yielded conceptions that are relevant for patient-centered care in general. The publication of Moser et al.[60] describes the same role for PCC in the field of colon carcinoma care as for breast cancer treatment.

Finally, it might have been better if both IE and EP had read all 60 articles. Our procedure carries some risk of missing relevant themes. However, EP stopped analysing articles when no new codes emerged for three articles in a row, which makes it unlikely that additional themes were missed. Moreover, the result of our research is the demonstration of a variable interpretation of the phrase "patient-centered care". Should any theme have been missed, this would not undermine our statement that PCC is a heterogeneous concept.

5 | CONCLUSIONS

Based on the studied texts about "patient-centered care for breast cancer patients" published in 2018, we observe that, in spite of multiple efforts to reach the contrary, patient-centered care remains a heterogeneous concept in the context of breast cancer treatment. Contrary to previous efforts, in breast cancer literature at least, to define 'patient-centered care' more precisely, we propose to embrace the heterogeneity of this concept and use "patient-centered care" as an umbrella term for all healthcare that (intends to) contribute to the acknowledgement of *the person in the patient*. Furthermore, we propose to reject the use of this phrase for healthcare that does not contribute to the acknowledgment of patients' values, such as "Personalized Medicine" or interventions that aim to promote the efficiency of healthcare.

In the studied literature, we did not find any critical consideration of 'patient-centered care' for the group of breast cancer patients, regardless of its applied interpretation. All interventions that are supposed to contribute to this abstract concept as such, seem to be judged as acceptable. In our opinion, this argument is inadequate. The phrase "patient-centered care" then figures as a promising black box that, like a magic tool, will produce a range of desirable results. Interventions should, on the contrary, be justified by their real-world effects and not be taken for granted because they can be files under the positive term "PCC".

Finally, in the context of breast cancer care, we observe a preference for concrete interventions to stimulate PCC. As we think that PCC should comprise all healthcare that (intends to) contribute to the acknowledgement of the person in the patient, all measures, concrete and fundamental, that realize such an acknowledgment in real-world effects should constitute 'patient-centered care'.

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CONFLICT OF INTEREST

All three authors declare that they have no conflict of interest.

AUTHOR CONTRIBUTIONS

All authors contributed to the study conception and design. Elise Pel and Ingeborg Engelberts performed the data analysis under supervision of -, and in discussion with Maartje Schermer. The first draft of the manuscript was written by Ingeborg Engelberts. Elise Pel took the lead in writing the revisions. All authors commented on previous versions of the manuscript and critically revised the work. All authors read and approved the final manuscript.

ETHICS STATEMENT

This study was fully based on literature. Therefore, no ethical committee approval or study database registration was necessary or obtained. Obtaining informed consent does not apply.

ENDNOTES

* 'In many situations, the following sentences: "Discuss this with your patient" and "These are moments that the physician has to ask his patient: 'What is important for you?" have been added to the text'.

† e.g., "Provided care is concordant with the patient's values, needs and preferences"

‡ e.g., "Address the psychosocial needs in a clinical setting"

§ e.g., "Weigh patient values in the decision"

¶ e.g., "Individualized, compassionate care"

** e.g., "Respect patients' habits and beliefs"

†† e.g., "Shared Decision-Making"

‡‡ e.g., "Get the right drug to the right patient"

§§ e.g., "Provide optimal care"

¶¶ e.g., "Positively influence patients' quality of life"

*** e.g., "Improved oncological outcomes"

††† e.g., "Improve patients' satisfaction with their care"

‡‡‡ e.g., "Pursue breast conservation"

§§§ e.g., "Improve the efficacy of care and survivor cancer care plans"

¶¶¶ e.g., "A self-evident right"

**** e.g., "Supporting patient autonomy"

†††† e.g., "Reduce variability between breast cancer centers"

‡‡‡‡ e.g., "Reduce disparities across socioeconomic strata"

§§§§ e.g., "Better healthcare utilization for patients with lower levels of health literacy"

¶¶¶¶ e.g., "Lessen racial disparity"

***** e.g., "Assess psychosocial, sexual and physical well-being in PROs"

††††† e.g., "Decrease structural barriers, to make acupuncture an equitable pain management option for survivors"

‡‡‡‡‡ e.g., "Comprehensive care"

§§§§§ e.g., "Encourage patients to participate in chair yoga, Reiki, and nutritional counselling"

¶¶¶¶¶ e.g., "Provide much psychosocial support during consultations"

****** e.g., "Empowerment to actively participate in symptom management"

†††††† e.g., "Address patient-reported factors influencing treatment persistence"

‡‡‡‡‡‡ e.g., "Hospital organizational factors: track patients to follow-up, information sharing and fostering a patient-centered culture"

§§§§§§ e.g., "Patients, students and care professionals learn from each other"

¶¶¶¶¶¶ e.g., "Racially sensitive standardization of communication"

******* e.g., "Health care providers must engage with previvors"

††††††† e.g., "Patient education in disease knowledge, health literacy and self-care"

‡‡‡‡‡‡‡ e.g., "Offer a single 'composite' score that is understandable to patients"

§§§§§§§ e.g., "Use of a software decision support system"

¶¶¶¶¶¶¶ e.g., "Provide information"

******** e.g., "Having the patient feel as an equal communication partner"

†††††††† e.g., "Involving women in treatment decisions"

‡‡‡‡‡‡‡‡ e.g., "Providers need to increase every patient's participation"

§§§§§§§§ e.g., "Helping patients to achieve their preferred role"

¶¶¶¶¶¶¶¶ e.g., "Use of prognostic and predictive biomarkers to guide personalized systemic therapy"

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available within the article (please see the appendix).

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APPENDIX A.

Search strategies

The systematic literature search was performed on 6 December 2018, in five separate databases. The search strategy was tailored to the concerning database.

embase.com

("breast tumour"/exp/mj OR 'breast reconstruction'/exp/mj OR mastectomy/exp/mj OR (((breast OR mamma*) NEAR/3 (tumo* OR carcinoma* OR neoplas* OR cancer* OR reconstruct*)) OR mastectom*):ti) AND (([patient* OR client*] NEXT/1 cent*)):ab,ti NOT ([Conference Abstract]/lim OR [Letter]/lim OR [Note]/lim OR [Editorial]/lim) AND [english]/lim.

Medline Ovid

(exp * Breast Neoplasms/ OR exp * Mammaplasty/ OR exp * Mastectomy/ OR (((breast OR mamma*) ADJ3 (tumo* OR carcinoma* OR neoplas* OR cancer* OR reconstruct*)) OR mastectom*).ti.) AND (Patient-Centered Care/ OR ([patient* OR client*] ADJ cent*).ab,ti.) NOT (letter* OR news OR comment* OR editorial* OR congres* OR abstract* OR book* OR chapter* OR dissertation abstract*).pt. AND english.la.

Web of science

(TI = (((breast OR mamma*) NEAR/3 (tumo* OR carcinoma* OR neoplas* OR cancer* OR reconstruct*)) OR mastectom*)) AND TS = ("patient* cent*" OR "client* cent*") AND DT = (article) AND la = (english)

PsycINFO Ovid

(exp * Breast Neoplasms/ OR exp * Mastectomy/ OR (((breast OR mamma*) ADJ3 (tumo* OR carcinoma* OR neoplas* OR cancer* OR reconstruct*)) OR mastectom*).ti.) AND (Patient-Centered Care/ OR ([patient* OR client*] ADJ cent*).ab,ti.) NOT (letter* OR news OR comment* OR editorial* OR congres* OR abstract* OR book* OR chapter* OR dissertation abstract*).pt. AND english.la.

CINAHL (EBSCOhost)

(MM Breast Neoplasms+ OR MM Breast Reconstruction + OR MM Mastectomy+ OR TI(((breast OR mamma*) N2 (tumo* OR carcinoma* OR neoplas* OR cancer* OR reconstruct*)) OR mastectom*)) AND (MH Patient Centered Care OR TI ([patient* OR client*] N1 cent*) OR AB ([patient* OR client*] N1 cent*)) AND LA(English)