

Use of the International Classification of Functioning, Disability, and Health in Women with Breast Cancer: Literature Review

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Utilização da Classificação Internacional de Funcionalidade, Incapacidade e Saúde em Mulheres com Câncer de Mama: Revisão da Literatura

Utilización de la Clasificación Internacional de Funcionalidad, Incapacidad y Salud en Mujeres con Cáncer de Mama: Revisión de la Literatura

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Abstract

Introduction: Treatment for breast cancer may have negative consequences in women functioning. Functional-oriented therapeutic designs can aid in decision-making that addresses the real needs of women with breast cancer. **Objective:** To outline the use of the International Classification of Functioning, Disability, and Health (ICF) as an outcome measure of functional in women with breast cancer. **Method:** A literature review. The search was performed in SciELO, LILACS and MEDLINE databases. The research protocol aimed at meeting Prisma Recommendations. **Results:** Nine articles were retrieved. There was a predominance of quantitative study designs with application or validation of ICF core sets. Linking rules were present in four studies and one study used only the ICF conceptual model. The number of studies found was small, in the context of the high incidence of breast cancer and the chronicity of the effects of the health condition itself and the treatment. **Conclusion:** The recovered studies were categorical when affirming that the use of the ICF is essential for the cancer care services offered to women with breast cancer.

Key words: Breast Neoplasms; International Classification of Functioning, Disability and Health; Review.

Resumo

Introdução: O tratamento para o câncer de mama pode apresentar consequências negativas para a funcionalidade das mulheres. Projetos terapêuticos conduzidos à funcionalidade podem auxiliar na tomada de decisão orientada às necessidades reais de mulheres com câncer de mama. **Objetivo:** Traçar o panorama de utilização da Classificação Internacional de Funcionalidade, Incapacidade e Saúde (CIF) como medida de desfecho da funcionalidade em mulheres com câncer de mama. **Método:** Revisão de literatura. A busca foi realizada nas bases de dados SciELO, LILACS e MEDLINE. A elaboração do protocolo de pesquisa visou a atender às orientações das recomendações Prisma. **Resultados:** Foram recuperados nove artigos. Houve um predomínio de utilização de desenhos de estudo quantitativos com aplicação ou validação de listas resumidas da CIF. A metodologia de ligação de instrumentos esteve presente em quatro estudos. Um estudo utilizou apenas o modelo conceitual da CIF. No âmbito da alta incidência do câncer de mama e da cronicidade dos efeitos da própria condição de saúde e do tratamento, o número de estudos encontrados foi pequeno. **Conclusão:** Foram recuperados nove estudos sobre a CIF no contexto do câncer de mama. Em todos os estudos, os autores afirmaram que a CIF é uma ferramenta fundamental para o planejamento do cuidado oncológico.

Palavras-chave: Neoplasias da Mama; Classificação Internacional de Funcionalidade, Incapacidade e Saúde; Revisão.

Resumen

Introducción: El tratamiento para el cáncer de mama puede presentar consecuencias negativas para la funcionalidad de las mujeres. Los proyectos terapéuticos orientados a la funcionalidad pueden ayudar a tomar decisiones orientadas a las necesidades reales de las mujeres con cáncer de mama. **Objetivo:** Trazar el panorama de utilización de la Clasificación Internacional del Funcionamiento, de la Discapacidad y de la Salud (CIF) como medida de desenlace de la funcionalidad en mujeres con cáncer de mama. **Método:** Revisión de literatura. La búsqueda se realizó en las bases de datos SciELO, LILACS y MEDLINE. La elaboración del protocolo de investigación pretendió atender las orientaciones de las recomendaciones Prisma. **Resultados:** Se recuperaron nueve artículos. Hubo un predomínio de utilización de dibujos de estudio cuantitativos con aplicación o validación de listas resumidas de la CIF. La metodología de enlace de instrumentos estuvo presente en cuatro estudios. Un estudio utilizó sólo el modelo conceptual de la Clasificación Internacional de Funcionalidad. En el ámbito de la alta incidencia del cáncer de mama y de la cronicidad de los efectos de la propia condición de salud y del tratamiento, el número de estudios encontrados fue pequeño. **Conclusión:** Los estudios recuperados fueron categóricos al afirmar que el uso del modelo biopsicosocial de la CIF es fundamental para la planificación del cuidado oncológico ofrecido a mujeres con cáncer de mama.

Palabras clave: Neoplasias de la Mama; Clasificación Internacional del Funcionamiento, de la Discapacidad y de la Salud; Revisión.

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INTRODUCTION

The analysis of the indicators of mortality, incidence and survival are essential for the reduction of inequalities of the access to oncologic treatment¹. Estimates indicate that about 1.7 million women were diagnosed with breast cancer in 2008, with 522 thousand deaths related². The evidences show that nearly half of the cases occurs in low medium income regions. In Brazil, the characteristic of the supply of oncology services has not warranted universal access to prevention programs, either primary, secondary and tertiary³. Thus, a huge populational contingent of Brazilians who depend exclusively of the National Health System (SUS) for oncology services are left unattended by the health services⁴.

Breast cancer is the second type of cancer more common and more frequent in the female population, it is the first cause of death by cancer in women. For 2018 and 2019 respectively, approximately 60 thousand cases were estimated, representing 29.5% of all cancer cases in women in the country. Therefore, breast cancer represents a risk of 56.33 cases for each 100 thousand women⁵.

There has been a great progress of the knowledge about indicators of mortality and incidence of breast cancer in women, but this does not happen when functioning is concerned, despite the negative consequences of breast cancer in this matter. There is a consensus in the literature that the physical, emotional, social and psychological repercussions can be confronted during the treatment and after its conclusion⁶. Pain, peri-scar adherence, infection, skin necrosis, seroma, reduction of the range of movement of the shoulder, axillary web syndrome, motor nerve (winged scapula) and/or sensitive (paresthesia of intercostobrachial) damage, muscle weakness, sensorial alteration, lymphedema and chemotherapy-induced peripheral neuropathy are some of the possible manifestations of the body functions and structures.

Associated to the treatment with radiotherapy, it is possible that alterations of the sensitivity, fatigue and respiratory system occur. Hormone-therapy may cause liquids retention, heat waves, arthralgia, pruritus, vaginal drying and deep venous thrombosis⁷⁻¹⁵. The great variety of treatment-related repercussions may impact the other components of functioning, affecting the domains of activities and participation¹⁶. Furthermore, the negative implications of barriers to access early treatment are possibly determinant as well for the reduction of the functioning in women with breast cancer.

There is a tendency of the global agenda to incorporate the outcomes that exceed the traditional indicators of survival and mortality. The outcome of functioning is currently considered the third indicator of health¹⁷.

Oriented towards the domains of the biopsychosocial model (health status, functions of the body, structure of the body, activities, participation, environmental factors and personal factors), the indicator of functioning may collaborate for the construction of therapeutic projects driven to the actual necessities of the users¹⁸. The International Classification of Functioning (ICF) is a reference tool to guide the biopsychosocial model^{19,20}. Its structure allows to: 1) improve the utilization of homogeneous language in health; 2) help to construct therapeutic projects driven to the actual necessities of the users; 3) structure and strengthen the insertion of indicators of functioning in Health Information Systems²¹⁻²³. Considering the potentialities of ICF to guide the oncologic care, the current study has the objective to devise the scenario to utilize the classification as measure of outcome of functionality for women with breast cancer.

METHOD

It is a literature review. The elaboration of the clinical trial aimed to meet the guidelines of PRISMA Recommendations²⁴. The strategy of search was elaborated through the use of indexed standard terms and other free terms pertinent to the theme interconnected by connectors. It were consulted the databases LILACS, SciELO and MEDLINE. There was no restriction of the publication date. Studies in English, Portuguese and Spanish were included, In addition to the searches in databases, manual searches and review of reference lists of the studies selected were carried out to identify other publications. PICO Strategy²⁴ was used for population: women with breast cancer; Intervention/exposure: therapies as surgery, radiotherapy, endocrine therapy, neoadjuvant, adjuvant and palliative chemotherapy, palliative care, rehabilitation etc.; Comparison: any alternative to therapy options; and Outcome: measures of functionality that used ICF directly or indirectly.

The strategy utilized for MEDLINE base was: (((Breast Neoplasms) OR ((breast[Title/Abstract] OR mammary*[Title/Abstract]) AND (neoplasm*[Title/Abstract] OR cancer*[Title/Abstract] OR carcinoma*[Title/Abstract] OR tumor*[Title/Abstract] OR tumor*[Title/Abstract] OR onco*[Title/Abstract]))) AND functioning[Title]) AND international classification of functioning[Title/Abstract])).

The inclusion criteria were: confirmed studies about women with breast cancer, original studies, studies that had used ICF (directly or indirectly). Exclusion criteria were: non-primary breast cancer, studies which had only abstracts, other types of publications: lectures, opinion etc. The references were exported to a reference manager (Mendeley).

Two independent reviewers (VA & TS) were responsible for initial evaluation and selection of titles and abstracts. Disagreements in reviewing the complete texts and abstracts of the articles, which matched the eligibility criteria were revised and resolved by a third reviewer (LC). It were extracted the following information from the publications: details of the publication (author, institution, year of publication), theme of the research (basic scenario), population, intervention/comparison, methodology of the ICF utilized (*checklist, core set, WHODAS* etc).

RESULTS

Eleven studies were recovered in the search of the databases; nine met the inclusion criteria (Figure 1). The majority were observational cross-sectional design studies. It were also encountered Delphi studies, two studies were identified as review, one, systematic review and one, literature review. It was included a qualitative focal group study (Table 1).

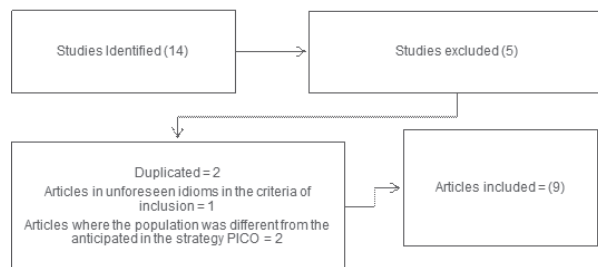


Figure 1. Flowchart of the review

In its majority, the sample consisted of women with breast cancer. It was also possible to analyze samples elaborated by experts. The study of systematic review included only randomized clinical trials with valid design to be added to protocol. It was observed the predominance of five studies that used quantitative study designs with application or validation of *core sets*. The methodologies of linking the instruments, perceptions or reports from users with ICF categories were present in four of the nine studies (44%). One study utilized only the conceptual model of ICF (11%).

DISCUSSION

The present study had the objective to design the perspective of utilization of ICF in breast cancer as a measure of outcome of the functioning. The perspectives adopted in the study evidence that several forms of utilization of the language of the model and of the ICF

classification system are possible. Amongst the Brazilian publications about the theme, Carvalho et al.²⁸ identified and discussed specific instruments for breast cancer already validated for Brazil and devised an analogy with the comprehensive *core set* for breast cancer. The same authors carried out a cross-sectional observational study in women with breast cancer in a reference hospital in Rio de Janeiro. The study utilized only the ICF conceptual model with the application of a generic instrument of evaluation of the disability of the upper limb *Shoulder and Hand Questionnaire* (DASH), a questionnaire of social support and the *World Health Organization Quality of Life* (WHOQOL) to describe the phenomenon of functionality²⁹. The discussion about the differentiation of the concept of Health-Related Quality of Life (HRQOL) addressed by WHOQOL and the concept of functionality approached by ICF is appropriate in the present context.

Though referenced to human experiences, these are distinguished phenomena. HRQOL has been widely consolidated in the healthcare literature as an important measure of outcome in the oncologic care. It is aimed at the subjective experience of individuals in relation to well-being, level at which the individuals enjoy the possibilities of their lives and the perception of satisfaction with life. The functioning, on its turn, is defined as a human experience in relation to health conditions, functions and structures of the body, activities and participation and interaction of these domains with contextual factors (personal and environmental factors)²⁰. The methodologies of linking the instruments, contents of the individuals' speeches and perception of the experts to the ICF categories stand out in the studies included. Denominated *Linking Rules*³³, it has been a method widely utilized since the publication of the first proposal of linking of health information to ICF alphanumeric system³⁴. The methodology offers the possibility of knowing which domains of the psychosocial model are present in the instruments of evaluation of outcome. In addition, brings to the health professionals, managers and researchers the capacity of actually elucidate which specific domains of functioning are present in the protocols of evaluation. And in that manner, propose the complementation with other measures of outcome of the biopsychosocial model³⁵.

Four of the nine studies tested or validated the *core sets* (comprehensive and brief) for breast cancer. Since 2004, the World Health Organization endeavors to construct and disseminate these tools to facilitate the clinical utilization of ICF³⁶. In a systematic review study about the *core sets* and its application, oncology is not listed amongst those which had great number of publications about the theme, Neurology is the area that stands out³⁷. To facilitate the practice, ICF-based tools must be matched to the

Table 1. Characteristics of the studies included in the revision

Author	Objectives	Design of the Study	Characterization of the sample	Use of ICF
Khan et al. ¹⁵	Verify the relevance and applicability of ICF core set for breast cancer	Cross-sectional	85 women with breast cancer	Comprehensive Core set
Glaessel et al. ²⁵	Verify the validity of the ICF core set content for breast cancer under the perspective of the physiotherapists	Consensus of experts	59 expert physiotherapists	Comprehensive Core set
Brockow et al. ²⁶	Identify and quantify the concepts contained in the measures of results of randomized clinical trials for interventions in breast cancer using ICF as a reference tool	Systematic Review	640 randomized clinical trials	Method of linking
Carvalho et al. ²⁷	Identify and discuss the instruments validated to Portuguese able to measure the codes of ICF core set for breast cancer	Review of the literature	15 instruments	Method of linking
Carvalho et al. ²⁸	Evaluate the functioning of women diagnosed with breast cancer according to ICF	Cross-sectional	105 women with breast cancer	Conceptual
Yang et al. ²⁹	Develop a self-completed questionnaire with the items of the short core set questionnaire for breast cancer (BCSQ-BC) and investigate the prevalence of specific dysfunctions throughout the course of cancer and treatments	Cross-sectional	96 women with breast cancer	Brief Core set
Cooney et al. ³⁰	Validate ICF core set for breast cancer from the perspective of women with cancer	Focal Group	34 women with breast cancer	Method of linking
Yang et al. ³¹	Construct a clinical instrument to evaluate the functioning of breast cancer survivals, utilizing ICF for functions of the body, activity and participation and environmental factors	Cross-sectional	158 women with breast cancer	Brief Core set
Letellier et al. ³²	Estimate the extension to which the content of EORTC QLQ-C30 and EORTC QLQ-BR23 go beyond the functioning and includes global sensation of well-being	Consensus of experts	34 experts	Method of linking

Caption: ICF = International Classification of Functioning, Disability and Health.

potential necessities of the users, without disqualifying the standards to collect the required information for health information and information systems³⁸.

The structure, supply and access to oncologic services vary between countries because of the health systems and social security legislation, although there is an ample consensus about the main objectives³⁹. The objective of rescuing/optimizing the functioning, unquestionably, is one of the main goals. The scope of this work was not to reflect about the reasons for reduced use of ICF for rehabilitation in oncology, though substantially necessary, despite being a finding quite relevant and only nine studies that use the ICF model in the publications about women with breast cancer have been found.

The use of only three databases for the search is a limitation of the present work, which defines it

as a non-systematic review. Nonetheless, the other recommendations Prisma that aimed a double evaluation pairwise both of the abstracts and extraction of results were followed, potentially increasing the internal validation of the findings. The conclusions of the studies included in the review reach the common sense that the role of ICF as measure of outcome of the functioning is indispensable for the evaluation, treatment and effectiveness of the conducts adopted in the care offered to the women with breast cancer.

The low utilization of ICF in oncology may be related to unfamiliarity, impression of high complexity of the tool, professional disinterest, low involvement in management, further to low macro-institutional initiative. Another factor that can add to these aspects, is the difficulty of application of ICF⁴⁰ the codes system.

The utilization of the ICF code system is closely related to the construction and strengthening of the health information systems⁴¹ and to the complementary use with ICD (International Classification of Diseases)⁴². In the version of ICD-11 estimated for 2019, it will be incorporated a chapter about functioning⁴³. It appears there is no future possibility of not using the classification. Strategies of incorporation of the model of orientation of functioning and language of ICF, without the immediate incorporation of the codes, may be one way to consolidate the change of paradigm of the biomedical model to the biopsychosocial model.

CONCLUSION

The scientific activity about ICF in breast cancer was mapped in the present study and a reduced number of scientific evidences were recovered. Nine studies addressed the theme of using ICF as a measure of outcome of the functionality in the setting of the oncologic care for women with breast cancer. The studies varied in relation to the methodologic design, form of application of ICF further to the characteristics of the sample. However, all the studies were categorical when they affirmed in their conclusions that the biopsychosocial model is essential for the planning of the oncologic care offered to women with breast cancer.

CONTRIBUTIONS

Luciana Castaneda participated of the conception and planning of the study, analysis and interpretation of data and wording of the manuscript. Valkiria de Araujo dos Santos participated of the analysis and interpretation of the data and wording of the manuscript. Thamiris Seippel participated of the analysis and interpretation of the data. All the authors approved the final version of the article.

DECLARATION OF CONFLICT OF INTERESTS

There are no conflict of interests to declare.

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