INPLASY PROTOCOL

To cite: Qin et al. Status Quo of Stigma and Correlated Psychological Factors Among Breast Cancer Patients in China: A Meta-analysis. Inplasy protocol 202340012. doi: 10.37766/inplasy2023.4.0012

Received: 05 April 2023

Published: 05 April 2023

Corresponding author:
Zhuzhu Qin

qizhuyibao@163.com

Author Affiliation:
Department of Nursing, Fujian University of Traditional Chinese Medicine, Fuzhou, Fujian, China.

Support: **No external funding.**

Review Stage at time of this submission: **Completed but not published.**

Conflicts of interest:
None declared.

Status Quo of Stigma and Correlated Psychological Factors Among Breast Cancer Patients in China: A Meta-analysis

Qin, ZZ[1]; Zheng, XT[2]; Zou, XL[3]; Chen, DF[4]; Huang, SM[5]; Huang BC[6]; Zhan, CJ[7].

Review question / Objective: **This meta-analysis aimed to evaluate the level of stigma and the associated psychological factors among Chinese breast cancer patients.**
Condition being studied: **According to the latest global cancer burden statistics provided by the International Agency for Research on Cancer (IARC) of the World Health Organization in 2020, breast cancer accounts for approximately 30% of the most common malignancies diagnosed in women worldwide.Breast cancer is a significant health concern for women in China. The estimated population diagnosed with breast cancer has been rising, with the estimated 2.5 million cases over the next decade. Despite the positive impact of advanced surgical treatment options, breast cancer patients often face additional challenges, such as breast deficiency, scarring, limb dysfunction, and altered body image. These physical changes can lead to psychological issues, such as a strong sense of shame and avoidance of reality, among breast cancer survivors. Therefore, it is important for medical professionals to consider not only the physical aspects of breast cancer treatment but also the psychological well-being of patients**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 April 2023 and was last updated on 05 April 2023 (registration number INPLASY202340012).

INTRODUCTION

Review question / Objective: **This meta-analysis aimed to evaluate the level of stigma and the associated psychological factors among Chinese breast cancer patients.**

Rationale: **Breast cancer is a significant health concern for women in China. The estimated population diagnosed with**

breast cancer has been rising, with the estimated 2.5 million cases over the next decade. However, the current research on the occurrence of stigma and psychological factors in Chinese breast cancer patients is gradually increasing, and the quality of the literature is quite different. Therefore, we aimed to comprehensively understand the overall status of breast cancer patients in China through meta-analysis.

Condition being studied: According to the latest global cancer burden statistics provided by the International Agency for Research on Cancer (IARC) of the World Health Organization in 2020, breast cancer accounts for approximately 30% of the most common malignancies diagnosed in women worldwide.Breast cancer is a significant health concern for women in China. The estimated population diagnosed with breast cancer has been rising, with the estimated 2.5 million cases over the next decade. Despite the positive impact of advanced surgical treatment options, breast cancer patients often face additional challenges, such as breast deficiency, scarring, limb dysfunction, and altered body image. These physical changes can lead to psychological issues, such as a strong sense of shame and avoidance of reality, among breast cancer survivors. Therefore, it is important for medical professionals to consider not only the physical aspects of breast cancer treatment but also the psychological well-being of patients.

METHODS

Search strategy: Searches were executed in seven electronic databases: Pubmed, Embase, CINAHL, Web of Science, China Journal Full Text Database (CNKI), Wanfang, and VIP, with a publication date up to 2022. The search terms utilized were "Breast Neoplasms," "Breast Carcinoma*," "Breast Tumor*," "Breast Cancer," "Social Stigma," "Stigma," "Social Impact Scale," "cancer Impact Scale," and "cancer stigma scale." A comprehensive search was conducted utilizing a combination of subject terms and free words, and the search strategy was tailored to the specific characteristics of each database.

Participant or population: Breast Cancer Patients in China.

Intervention: This was an observational study without relevant interventions.

Comparator: This was an observational study without relevant interventions.

Study designs to be included: The study design was: an observational study (cohort study, case-control study, cross-sectional study).

Eligibility criteria: The inclusion criteria for this study were as follows: (1) study design: an observational study (cohort study, case-control study, cross-sectional study); (2) a study population comprised of breast cancer patients; (3) the study investigated stigma or related factors among breast cancer patients in China; (4) the stigma assessment scale utilized was the Social Impact Scale (SIS); (5) the outcome measures included the level of stigma ($\bar{x}$±s) or at least one psychological variable related to stigma was reported with the corresponding correlation coefficient (r value).The exclusion criteria were (1) full text was not available; (2) duplicate publications were identified; (3) data were not extractable ;(4) conference proceedings and review articles.

Information sources: Pubmed, Embase, CINAHL, Web of Science, China Journal Full Text Database (CNKI), Wanfang, and VIP.

Main outcome(s): The level of stigma ($\bar{x}$±s) or at least one psychological variable related to stigma was reported with the corresponding correlation coefficient (r value).

Quality assessment / Risk of bias analysis: The assessment of potential bias in the studies included in this analysis was performed independently by two trained researchers and cross-checked to ensure

reliability. To evaluate the methodological quality of the cross-sectional studies, we utilized the 11-items checklist that is recommended by the Agency for Health Care Research and Quality (AHRQ), which is a widely recognized tool for assessing the quality of health research. Each item in the checklist was scored as "Yes", "No", or "Unclear", with a score of 1 point awarded for "Yes" responses and 0 points for "No" or "Unclear" responses. The resulting scores were then used to classify the studies into three categories of quality: low-quality research, with scores of 0-3; medium-quality research, with scores of 4-7; and high-quality research, with scores of 8-11.

Strategy of data synthesis: The meta-analysis was performed using Stata 16.0 Stigma scale scores were integrated, and I2 was used to measure the statistical heterogeneity among the trials in each analysis. A fixed-effect model was adopted for the analysis when P> 0.1 and I2 <50%, indicating less heterogeneity between studies; a random-effects model was preferred for analysis when P≤0.1 and I2≥50%. Before meta-analysis, the correlation coefficient r values for all outcome variables were converted to Fisher's Z values and standard error using formulas (1), (2), and (3). The summary Fisher's Z value was subsequently calculated. Finally, the summary r value was derived from the formula ④. The summary r value was then used to evaluate the correlation between psychological variables and stigma comprehensively. The strength of the correlation was determined based on the range of the absolute value of summary r. Values of $0.0<r<0.2$ very weak, $0.2<r<0.4$ weak, $0.4<r<0.6$ moderate, $0.6<r<0.8$ strong, and $0.8<r<1.0$ very strong.The specific conversion formula is as follows:(1)Fisher's $Z=0.5\times\ln(1+r/1-r)$; (2)$vz=1/(n-3)$;(3)$SE=\sqrt{vc}$;(4)summary $r=e2z-1/e2z+1$(vz is the variance of Z; Z is the summary Fisher's Z value).

Subgroup analysis: subgroup analysis was conducted based on geographic location, age, marriage, monthly income, place of residence, etc.

Sensitivity analysis: No sensitivity analysis

Country(ies) involved: China.

Keywords: Breast cancer; Stigma; Meta-analysis; Psychology.

Contributions of each author:

Author 1 - Zhuzhu Qin - Conceptualization, Methodology, Software, Search database, Data extract, Writing - Original Draft.
Email: qizhuyibao@163.com
Author 2 - Xutong Zheng - Conceptualization, Methodology, Search database, Writing – review & editing.
Email: mmdzxt@outlook.com
Author 3 - Xiaoling Zou - Methodology, Search database, Data extract, Validation.
Email: 360480578@qq.com
Author 4 - Danfeng Chen - Methodology, Quality evaluation, Validation.
Email: chendada422@163.com
Author 5 - Simin Huang - Methodology, Quality evaluation.
Email: c2020025@fjtcm.edu.cn
Author 6 - Bichun Huang - Methodology, Quality evaluation.
Email: 1246275168@qq.com
Author 7 - Chenju Zhan - Conceptualization, Methodology, Resources, Project administration, Writing – review & editing.
Email: chenjuzhan@yeah.net