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The effect of multidisciplinary team on survival rates of women with breast cancer: a systematic review and meta-analysis

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Background: Breast cancer is quite frequent all around the world. This disease was responsible for an estimated 2.1 million malignancies in 2022, making it the seventh-highest cause of cancer deaths globally. A multidisciplinary team (MDT) care policy was developed in the United Kingdom (UK) in 1995 to enhance the quality of care for cancer patients. The purpose of this systematic review and meta-analysis study is to assess the effects of MDT on breast cancer survival rates.

Methods: This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020. Systematic search was conducted in several international databases including Google Scholar, PubMed, EBSCOhost, and Proquest from 2012 to 2022. The authors used RevMan 5.4 to do the meta-analysis of the pooled hazard ratio. Newcastle–Ottawa Scale to measure the risk of bias. Newcastle–Ottawa Scale evaluated participant selection, comparability, and reporting of results using eight subscale items. Egger's test funnel plot was used to assess the potential publication bias for this study.

Results: A total of 1187 studies were identified from research database. The authors found a total of six studies from six different countries (China, the UK, Taiwan, Australia, Africa, and France) included for this study. Based on the meta-analysis of the pooled hazard ratio of the included studies, the authors found that the overall effect size of the study was 0.80 (CI 95%: 0.73–0.88).

Conclusions: Breast cancer patients who participated in well-organized MDT discussions had a greater survival rate than those who did not.

Keywords: breast cancer, multidisciplinary team, survival rate, systematic review

Introduction

Breast cancer is quite frequent all around the world. It was responsible for an estimated 2.1 million malignancies in 2022, making it the seventh-highest cause of cancer deaths globally[1,2]. This disease affects one in every nine women in industrialized nations and one in every 20 in less developed countries with 2.3 million new cases diagnosed, surpassed lung cancer as the most prevalent cancer in the world in 2020[3]. About 45.4% of the 2.3 million breast cancer cases diagnosed in 2020 were in Asia[4].

HIGHLIGHTS

- To the best of our knowledge, no systematic review and meta-analysis study has yet been conducted to assess the effect of multidisciplinary team (MDT) on breast cancer survival rate.
- Breast cancer is quite frequent all around the world. It was responsible for an estimated 2.1 million malignancies in 2018, making it the seventh-highest cause of cancer deaths globally.
- MDT treatment can prevent 98.8% of all drug mistakes and enhance overall care quality.
- We included the pooled odds ratio to see the survival of breast cancer patients in the MDT and non-MDT groups.
- Funnel plot with slightly asymmetry.

Survival rates of breast cancer differ globally, with higher survival rates in developed compared to less developed countries[5,6]. For instance, the 5-year survival rate in developed countries such as the United States of America and the United Kingdom (UK) were 85–90% between the years 2017–2019[7]. In developing countries this rate ranged between 40–60%. The higher mortality of breast cancer in developing countries could be related to low awareness of screening needs, a lack of early detection programs, and a lack of diagnosis and treatment facilities[8–11].

A multidisciplinary team (MDT) care policy was developed in the UK in 1995 to enhance the quality of care for cancer patients.

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MDT comprises a variety of professions, including medical, nursing, and allied workers, as well as diagnostic experts, who work together to identify the best treatment plan for each patient[12–15]. Previous research indicates that MDT care can aid in clinical decision-making. MDT treatment can prevent 98.8% of all drug mistakes and enhance overall care quality[12,16]. After the introduction of multidisciplinary care in the UK, breast cancer mortality in the intervention region was 18% lower than in the nonintervention area[17].

Even though a few studies on the effects of MDT on the study about survival rate in breast cancer patients have been published, there is still a knowledge gap in this subject. There are relatively few data on the role of MDT in breast cancer survival[18]. To the best of our knowledge, no systematic review and meta-analysis study has yet been conducted to assess the effect of MDT on breast cancer survival rate. The purpose of this systematic review and meta-analysis study is to assess the effects of MDT on breast cancer survival rates.

Methods

This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 and AMSTAR 2 (Assessing the Methodological Quality of Systematic Review 2)[19–21]. The AMSTAR 2 scores for this study high-quality. Figure 1 shows the selection procedure for the studies.

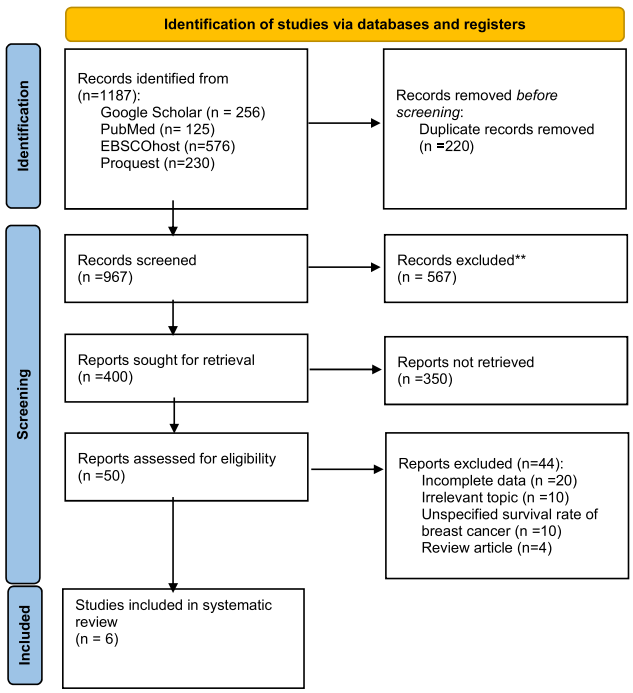

Figure 1. PRISMA 2020 Flow Diagram Showing the Different Phases Involved in Searching for Relevant Publication to Assess the Effect of MDT on Survival Rate of Women With Breast Cancer.

Search strategy

Systematic search was conducted in several international databases including Google Scholar, PubMed, EBSCOhost, and Proquest from 2012 to 2022. The search strategy was a combination of keywords based on medical subject headings (MeSH) and free texts including: 'Multidisciplinary team' or 'interprofessional team' or 'multiprofessional team' or 'interdisciplinary team') AND ('Breast Neoplasms'[MeSH] or 'breast cancer' or 'breast carcinoma' or 'breast tumor' or 'breast malignant' or 'breast neoplasm') AND ('Survival' [MeSH] or 'Survival analysis' or 'Survival Rate' or 'Kaplan-Meier' or 'Proportional Hazard Model' or 'Hazard Ratio' or 'Cox Model' or 'Cox Regression') AND ('Cohort' or 'Prospective' or 'Retrospective' or 'Follow-up' or 'Longitude'.

Eligibility criteria

The search strategy exported every result into Mendeley reference manager. The titles and abstracts of the research were used to examine the papers after duplicate studies were eliminated. We included observational retrospective or prospective cohort studies if they were: published in English and Indonesian language; estimated the survival rate in women with breast cancer; and investigated the role of a MDT in breast cancer treatment. We contacted the authors whenever additional information was required.

Studies that did not report survival rates or did not provide enough data, as well as those that reported survival rates after relapse, were excluded. Review articles, letters to the editor, and case report studies were also excluded from this study.

Study selection

The systematic search results were input into the reference management software, and after excluding duplicate articles, two reviewers (K.T. and J.N.H) independently reviewed the retrieved articles by title, abstract, and full text of records based on eligibility criteria. Disagreements between the two reviewers were settled by consensus and, if necessary, by a third party (S.K.).

Quality assessment

We used the Newcastle–Ottawa Scale to measure the risk of bias. Newcastle–Ottawa Scale evaluated participant selection, comparability, and reporting of results using eight subscale items. Cohort studies use up to nine points out of the total number of subscale questions. K.T. and J.N.H. made this critical judgment[22]. Discussions were made to settle disagreements. Without an agreement, the third reviewer (S.K.) viewpoint was included in the final decision in this study.

Data extraction

Three reviewers (K.T., J.N.H., and S.K.) extracted data independently using predefined sheets that included the following information: first author name, year of publication, study period, country, income of the country, sample size, definition of MDT, staging of breast cancer, study design, median follow-up time, mean

age with SD, and 1-, 2-, 3-, 5-, 10-, survival rates with proportions variable.

Statistical analysis

We used RevMan 5.4 to calculate the overall effect size of MDT on breast cancer survival rates. We chose a 95% CI, which indicated that survival rates of the MDT group would be statistically significant if the probability (P) was less than 0.05 (5%) and the CI did not cross the middle line (or 0 value). To create the data extraction sheet, we used Microsoft Excel 2013.

To measure between-study heterogeneity, we utilized the I^2 Index to calculate the fraction of total variance due to between-study variation, as well as the χ^2 test at the 10% significant level ($P < 0.1$). Given the study heterogeneity, we utilized the Der-Simonies and Laird random-effect models to compute the pooled hazard ratio of survival rates of MDT in women with breast cancers. We used Egger's test funnel plot to assess the potential publication bias for this study.

Ethical clearance

The authors of this article have not undertaken any human or animal studies. All studies carried out adhered to the ethical guidelines outlined in each case.

Results

Study characteristics

A total of 1187 studies were identified from the research database (Table 1). After removing the duplicate records, 967 records were screened, and 50 were assessed for eligibility. We found a total of six studies from six countries (China, the UK, Taiwan, Australia, Africa, and France) included for this study[12,16,17,23–25]. All the studies had a low risk of bias. The six included studies involved 87 057 women diagnosed with breast cancer from various demographics.

The definition of MDT

Brandao *et al.*[25] defined the MDT meetings were performed on a weekly basis and lasted 1 h, with the participation of at least one member from the surgery, oncology, pathology, and radiology departments and with trainees from these different specialties. Kesson *et al.* also defined an MDT team comprised of specialist breast cancer surgeons, pathologists, oncologists, radiologists, and specialist nurses, worked to evidence-based guidelines. Meeting of the MDT usually held weekly formal meetings to discuss results and agree on adjuvant treatment for individual patients, audited clinical activity and reported results at regular intervals, and lead clinicians from each team met regularly with the director of public health to discuss audit results throughout the area. The aim of the meeting is to minimize deviations from guidelines and variations in practice and improve the quality of care[12]. Other studies also defined MDT as the same meaning.

The effect of MDT in survival rate of breast cancer patients

Prior to the introduction of multidisciplinary treatment in 1995, breast cancer mortality was greater in the intervention region than in the nonintervention group (hazard ratio 1.11, 95% confidence range 1.00–1.20)[23]. After the intervention was implemented, mortality in the intervention region was much lower than in the nonintervention group (0.82, 0.74–0.91). The MDT treatment group had a considerably reduced recurrence rate than the non-MDT care group (HR, 0.84; 95% CI: 0.70–0.99, $P < 0.05$). The MDT care group had a substantially decreased relative risk of death than the non-MDT care group (HR, 0.89; 95% CI: 0.82–0.96)[24].

Noncompliance with MDT guidelines was associated with worse disease outcomes, regardless of whether the non-compliance was for adjuvant chemotherapy, radiation, endocrine treatment, or targeted therapy. Thus, efforts to promote compliance with MDT guidelines for breast cancer patients may aid in improving their outcomes[16].

According to one study, implementing an MDT after educating a few critical health providers resulted in a substantial reduction in mortality among patients with early breast cancer. After controlling for other prognostic variables, this advantage remained substantial. Well-organized MDT patients outlive the non-MDT group (log-rank test, $P = 0.013$), but disorganized MDT patients had the reverse effect (log-rank test, $P = 0.001$)[17,23]. Significantly more breast cancer patients who presented to an MDT got surgery alone, in combination with a systemic therapy, or in combination with all three treatment options ($P < 0.01$). Tsai *et al.* also found that after adjusting for demographic characteristics, charlson comorbidity index score, monthly salary, urbanization level, cancer stage, hospital ownership, treatment modality, and physician's service, the Cox proportional hazards model was used to analyze the relative risk of death between the MDT care and non-MDT groups, as well as between the recurrence and non-recurrence groups[17].

Disease-free survival in breast cancer patients with MDT

Brandao *et al.* found that the 3-year disease-free survival rate in the pre-MDT group was 41.7% (95% CI: 30.2–52.8) and 56.8% (95% CI: 45.3–66.8) in the post-MDT group. The proportion of patients with loco-regional relapses (with or without concurrent distant relapse) or death as the first disease-free survival event was higher in the pre-MDT group compared to the post-MDT group (29 vs. 18%; and 23 vs. 10%, respectively), but these differences were not statistically significant ($P = 0.07$)[25].

Stage, tumor subtype, and type of first-line chemotherapy treatment were substantially linked with overall survival in both the general population and patients with early breast cancer. Age above 70 years old was related with a higher probability of noncompliance than age under 50 years old (OR 1.68, 95% CI 1.21–2.17, $P < 0.001$)[17,23,24].

Meta-analysis of the included studies

The forest plot of included studies for meta-analysis of the effect of MDT on breast cancer survival analysis are presented in Figure 2. Based on the meta-analysis of the pooled hazard ratio of the included studies, we found that the overall effect size of the study was 0.80 (CI 95%: 0.73–0.88). The heterogeneity was 53%, which means that these studies had moderate heterogeneity between the included studies. The P-value of the study was significant ($P < 0.00001$).

The Egger's test funnel plot of the included study is presented in Figure 3. Based on the result, we concluded that there was a

Table 1

Summaries of the included studies

No	Author	Year of publication	Year of study	Country	Income country	Sample size	Definition of MDT	Staging of breast Cancer	Mean, age SD	Median of follow-Up (Months)	1 year OS	2 year OS	3-year OS	5-year OS	Research quality
1	Lu *et al.*[23]	2019	2006–2016	China	High developed country	16 354 patients	Surgeons, oncologists, radiologists, pathologists, and specialist nurses.	TNM (0,1,2,3,4), ER and HER status	50.2 ± 13.0	37.7	0.98	–	0.84	0.78	High
2	Kesson *et al.*[12]	2012	1990–2000	UK	High developed country	14 358 patients	Breast surgeons, pathologists, oncologists, radiologists, and specialist nurses comprised the team.	Invasive breast cancer with symptoms.	62.9 ± 14.9	120	–		–	0.77	High
3	Tsai *et al.*[17]	2020	2004–2014	Taiwan	High developed country.	18 532 patients	Breast surgeons, pathology, oncology, radiology, and nursing.	Stage 1, Stg 2, stg 3	51.17	10.9	–	Stage 1 (0.33), stg 2 (0.44), stg 3 (0.22)	–	–	High
4	Yang *et al.*[24]	2020	2013–2018	China	High developed country.	4501 patients	Breast surgeons, medical oncologists, pathologists, radiation oncologists, and breast cancer nurses.	TNM 0–II, TNM III	Not mentioned	32.75	–	–	–	TNM 0–II (3.19) TNM III (1.75).	High
5	Rogers *et al.*[16]	2017	2009–2012	Australia	High developed country.	657 patients	Oncologist, radiologist, surgeons, pathologist, physicians and nursing staff.	Stage 1,2,3,4, unstaged	59.0 ± 12.3	60	–	–	–	Stage 1 (0.35), stg 2 (0.3), stg 3 (0.15), stage 4 (0.2).	High
6	Brandao *et al.*[25]	2021	2015–2017	Africa	Low developed country.	205 patients	Oncologist, radiologist, surgeons, pathologist.	Stage 0–II, III, IV	48	37.8	–	–	Stage 0–II (0.28), stg III (0.54), stg IV (0.17)	–	High

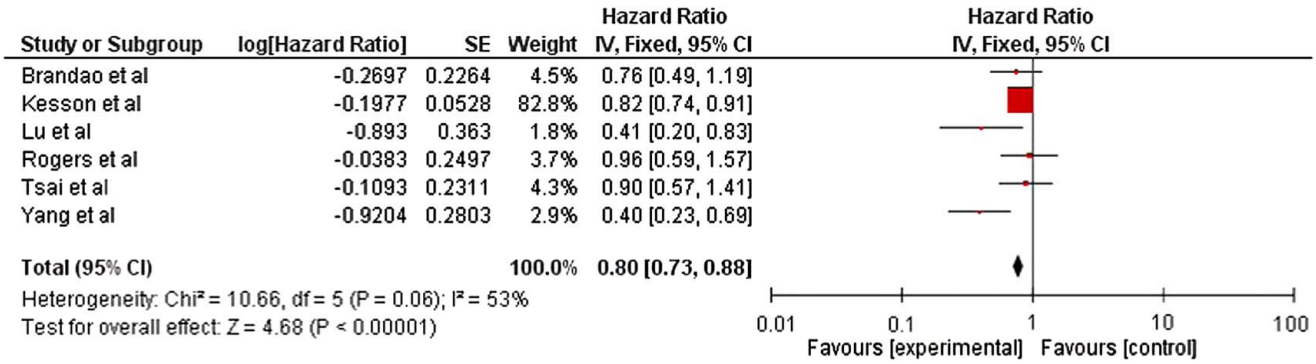

Figure 2. Forest plot of the included studies.

potential risk of bias for this meta-analysis study (asymmetry of the scatter plot in the triangle).

Risk of bias

Table 2 shows the quality assessment of the included retrospective cohort studies. Most retrospective cohort studies had sufficient cohort selection, comparability, and outcome evaluation.

Discussion

Compared to similar patients treated in neighboring areas over the same period, the introduction of teams offering multidisciplinary care for the treatment of breast cancer was related to 18% reduced breast cancer mortality at 5 years and 11% lower all-cause mortality at 5 years[26,27]. The implementation of this strategy was also linked to a decrease in the number of hospitals providing treatment for patients with breast cancer, a narrowing of the survival rate gap across hospitals, and a reallocation of breast cancer care away from the facilities with the worst survival rates[28]. Patients with breast cancer who received MDT treatment had a considerably lower death risk. Although multidisciplinary treatment should, on its face, be linked to more remarkable survival, there is still a shortage of data to support these results[29–31]. The underlying processes of MDT treatment, including team focus, improved structure and procedure, and increased team performance, were examined in a few studies, leading to superior survival rates and patient satisfaction outcomes[26,28].

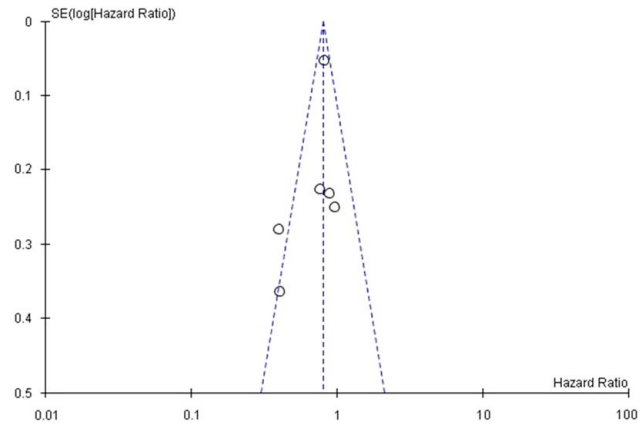

Figure 3. Funnel plot of the included studies.

There are other meta-analysis studies that investigated the role of MDT in other type of cancer. In a study by Peng *et al.*, it was observed that in patients with colorectal cancer, the MDT group had a higher rate of overall survival than the non-MDT group (HR = 0.81, 95% CI 0.69–0.94, $P = 0.005$)[32]. The MDT group was linked to a better overall survival in a subgroup analysis of stage IV colorectal cancer (HR = 0.73, 95% CI 0.59–0.90, $P = 0.004$). However, there was no discernible difference in postoperative mortality between the MDT and non-MDT groups (OR = 0.84, 95% CI 0.44–1.61, $P = 0.60$). Study by Shang *et al.*, also found that with moderate heterogeneity ($I^2 = 68\%$, $P = 0.01$), exposure groups of patients with head and neck cancer treated with MDT showed a higher survival rate (Hazard ratio = 0.84, 95% CI (0.76–0.92), $P = 0.0004$)[33]. Our meta-analysis study also discovered that the MDT group had a higher overall survival rate for patients with breast cancer.

The most crucial components of MDT care are team members, evidence-based recommendations, routine formal meetings, and individualized treatment plans. The MDT program sometimes struggled with issues such as an overwhelming caseload, low MDT meeting attendance, poor collaboration, a lack of leadership, job ambiguity, and a disregard for holistic requirements[34]. According to previous research, the majority of MDT are made up of pathologists (84%), radiologists (73%), radiation oncologists (90%), medical oncologists (95%), surgical oncologists (95%), and specialized nurses (49%). Most nations (82%) have MDT sessions once every week[35].

The impact of MDT care on patients with breast cancer varied among these trials. The many MDT settings, such as teamwork, performance, and leadership, might be the primary culprit[2,3]. Prior research emphasized the necessity for high-quality markers to gage the effectiveness of MDT. MDT care models and structures are effective based on research. Therefore, we suggest that MDT be incorporated into future strategies to lower the risk of breast cancer recurrence[36].

Multiple experts participate in MDT, allowing for the easy discussion of opposing viewpoints. A meeting can manage difficult choices and clear the path for progress. MDT give people a place to exchange information and responsibilities, enhance service delivery, foster better communication, and increase understanding of one another. Continually employing a diverse

Table 2
Quality assessment of the included studies

	Selection				Comparability	Outcome		
Author	Representative of the exposed cohort	Selection of the nonexposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study	Comparability of cohort on the basis of the design or analysis	Assessment of outcome	Was follow-up long enough for outcomes to occur	Adequacy of follow-up cohorts
Lu *et al.*[23]	1	1	1	1	1	1	1	1
Kesson *et al.*[12]	1	1	1	1	1	1	1	1
Tsai *et al.*[17]	1	1	1	1	1	1	1	1
Yang *et al.*[24]	1	1	1	1	1	1	1	1
Rogers *et al.*[16]	1	1	1	1	1	1	1	1
Brandao *et al.*[25]	1	1	1	1	1	1	1	1

approach to problem-solving lowers treatment decision isolation[37]. Research in the UK that looked at 370 MDT for chronic diseases concluded that these sessions had various methods and arrangements. They discovered that patients who lived in underprivileged regions had a lower likelihood of having the MDT's decisions implemented[37–39].

A systematic review identified factors associated with poor-quality decision-making in MDT, including time constraints, an excessive caseload, low MDT meeting attendance, poor teamwork, and a lack of leadership. Teamwork that is dysfunctional can be caused by poor communication within the team and role ambiguity (such as a poor definition or understanding of roles within the team)[40]. The effectiveness of decision-making in MDT meetings has been a specific area of attention for several studies. In a variety of tumor types, several studies have looked at how final treatment plans compared to MDT recommendations. Up to 15% of instances saw a discrepancy in the actual treatments. The main causes were a failure to take into account all of the patient's information, including comorbidities and treatment preferences. This could be brought on by a number of problems, such as failing to gather this data from patients prior to MDT discussions, not having enough time to prepare and/or present properly in meetings, or failing to include nurses' input in MDT discussions[41].

Breast cancer patients treated with MDT may not always have favorable outcomes. To optimize results, MDT should be well-organized and involve multiple disciplines, including surgeons, medical oncologists, imaging doctors, and pathology doctors. Detailed information should be delivered before the meeting, and the number of patients discussed should be limited. The discussion time per patient should be at least 20–30 min. Lu *et al.* demonstrated that breast cancer patients who were treated with disorganized MDT may even have worse survival outcomes compared to those who do not receive MDT at all. In the UK, a number of methods have been created and evaluated to rate the effectiveness of teamwork in cancer teams. They include a team self-assessment tool that enables anonymous team member self-assessment of teamwork over the entire pathway as well as independent observational tools to evaluate teamwork in MDT sessions. This latter tool is a part of the MDT-FIT (Feedback for Improving Teamworking) evidence-based team-improvement initiative, which was created on behalf of the UK National Cancer Action Team[41]. It is an assessment-and-feedback process that gives teams the space to reflect on how they are operating as a team and select actions for improvement. It is based on input and testing with over 100 MDTs. The review of 10 breast cancer teams within a big cancer network is currently in its final stages. Teams normally recommend six to eight areas for improvement, and the majority are put into practice within 6–9 months[40,41].

Breast cancer is a highly complex disease that is influenced by many variables such as staging, tumor characteristics, tumor size, vascular invasion, nodal involvement, and socioeconomics, all of which affect patient outcomes. According to previous research, individuals with breast cancer who had low levels of education and socioeconomic status in their neighborhoods fared 1.4–2.7 times worse overall than those with high levels of education, socioeconomic status, and neighborhood. According to another study, low socioeconomic level people had a considerably greater mortality risk than high socioeconomic level people (HR, 1.08; 95% CI: 1.05–1.11)[42]. According to earlier

research, the 5-year survival rate fell as breast cancer progressed (from 97.5 to 18.4%)[43–45]. Similarly, a prior study found that from stage I to stage IV, the 5-year survival rate was 98–23.4%. From the stage I through stage IV of breast cancer, there was a 61.61–5.11% 5-year survival rate[46]. In this systematic review and meta-analysis study, we were unable to assess the effects of these variables as not all of the included studies provided subgroup analysis of these variables on patient outcomes. Lu *et al.* and Kesson *et al.* did not mention the analysis of those variables with MDT approaches[12,20]. Yang *et al.* found that after adjusting for factors such as tumor size, histological grade, axillary lymph node status, lymphovascular invasion, estrogen receptor, progesteron receptor , and Ki-67 labeling index through multivariable analysis, subjects who did not included in the MDT approach had a higher risk of significantly recurrence (HR 1.50, 95% CI 1.03–2.18, $P < 0.033$)[21]. Tsai *et al.* found that after adjusting socioeconomic variables, cancer stage, and treatment modality, breast cancer patients who received MDT care had a significantly lower risk of recurrence and mortality[17]. Brandao *et al.* found that despite of the superiority of the MDT approach in the overall population, this method also showed survival benefits in the early stage of breast cancer, stage III, histological grade II–III, estrogen receptor positive, and HER2 negative subtype population. Although there was no survival benefits with the introduction of the MDT approach in patients with metastatic breast cancers[22]. According to Rogers *et al.*, after taking into account factors such as tumor stage, comorbidities, age, and treatment received, there was no significant difference in survival between breast cancer patients who were presented to an MDT before treatment and those who were not (HR 1.84, 95% CI 0.91–3.74, $P < 0.09$)[16].

Although MDT discussion has been suggested as the best approach to care for cancer patients and has gained widespread support, there is insufficient proof of their implementation in Low and Middle-Income Countries (LMIC). Almost all cancer patients and their relatives in LMIC suffer some monetary hardship during the phases of cancer diagnosis and treatment. Financial toxicity is the acronym for the negative impact that an excessive financial burden brought on by a cancer diagnosis has on the health of patients, their families, and society as a whole. In LMIC, like in Indonesia, the affordability of patients is an essential factor in receiving medical care[16,47]. MDT may be a valuable mechanism and a central theme in LMICs where discussions of financial situation, disease severity, and treatment costs can spark heated debate and controversy. Each participant will represent their area of expertise while discussing each patient's case based on clinical merit in this tumor board[47].

However, from a public health standpoint, this might provide problems with access and resources. There are intricate relationships between MDT presentation patterns and outcomes across tumor streams[12,35,42]. With all regards to improving cancer care, implementing MDT achieves better outcomes. This could be achieved by implementing the national policy of MDT for cancer care. Proactively discover healthcare innovations and use virtual MDT practices to improve patient outcomes. To improve skills and raise knowledge of MDT programs, consider making participation in at least one MDT meeting a benchmark for oncology trainee[47,48]. Therefore, to achieve optimal outcome in cancer care, the European Partnership for Action Against Cancer (EPAAC) identified MDT as a key element in cancer care[48].

The limitation of this study is that it only included six studies, which may not be representative of the general population of breast cancer patients. Further research is needed, especially in RCT models, to see the effect of MDT on the prognosis of patients with breast cancer. We cannot assess all the variables that influence the success of MDT in breast cancer patients in this systematic review and meta-analysis study.

Conclusions

We concluded that breast cancer patients who participated in well-organized MDT discussions had a greater survival rate than those who did not. This leads to the conclusion of MDT implementation should be encouraged in all countries moreover in LMIC.

Ethical approval

This research did not involve human subjects; therefore, it was exempt from ethical clearance.

Informed consent

Not applicable.

Sources of funding

This study received no funding.

Author contributions

This work was carried out in collaboration among all authors. E.A.P., D.R., and C.S. contributed to the conception of the review and interpreted the literatures based on the level of evidence and revised the manuscript. J.N.H., K.T., and S.K. participate in reviewing preparation of the manuscript. B.S. and D. S. participate in preparation and critical review of the manuscripts. In addition, all authors read and approved the manuscript.

Declaration of competing interest

None.

Registration of research studies

1. Name of the registry: Research Registry.
2. Unique Identifying number or registration ID: researchregistry8933.
3. Hyperlink to your specific registration (must be publicly accessible and will be checked): https://www.researchregistry.com/browse-the-registry#home/registrationdetails/6450bfdfe7a6cb00289ea30f/.

Guarantor

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Provenance and peer review

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