



# A quality evaluation of the clinical practice guidelines on breast cancer using the RIGHT checklist

Hanqiong Zhou<sup>1#</sup>, Haiyang Chen<sup>1#</sup>, Cheng Cheng<sup>2#</sup>, Xuan Wu<sup>1</sup>, Yanfang Ma<sup>3</sup>, Jing Han<sup>1</sup>, Ding Li<sup>4</sup>, Geok Hoon Lim<sup>5</sup>, Warren M. Rozen<sup>6</sup>, Naohiro Ishii<sup>7</sup>, Pankaj G. Roy<sup>8</sup>, Qiming Wang<sup>1</sup>

<sup>1</sup>Department of Internal Medicine, Henan Cancer Hospital Affiliated to Zhengzhou University, Zhengzhou, China; <sup>2</sup>Department of Hematology, Henan Cancer Hospital Affiliated to Zhengzhou University, Zhengzhou, China; <sup>3</sup>School of Chinese Medicine of Hong Kong Baptist University, Hong Kong, China; <sup>4</sup>Department of Pharmacy, Henan Cancer Hospital Affiliated to Zhengzhou University, Zhengzhou, China; <sup>5</sup>Breast Department, KK Women's and Children's Hospital, Singapore, Singapore; <sup>6</sup>Peninsula Clinical School, Central Clinical School, Monash University, Frankston, Victoria, Australia; <sup>7</sup>Department of Plastic and Reconstructive Surgery, International University of Health and Welfare Hospital, Nasushiobara, Japan; <sup>8</sup>Department of Breast Surgery, Oxford University Hospitals NHSFT, Oxford, UK

*Contributions:* (I) Conception and design: Q Wang, Y Ma, H Zhou; (II) Administrative support: C Cheng, D Li; (III) Provision of study materials or patients: H Zhou, J Han; (IV) Collection and assembly of data: X Wu, C Cheng, D Li; (V) Data analysis and interpretation: H Zhou, C Cheng; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

<sup>#</sup>These authors contributed equally to this work.

*Correspondence to:* Qiming Wang, MD, PhD. Department of Internal Medicine, Henan Cancer Hospital Affiliated to Zhengzhou University, 127 Dong Ming Road, Zhengzhou 450008, China. Email: qimingwang1006@126.com.

**Background:** Breast cancer is the most frequent type of cancer in women. The methodological quality of clinical practice guidelines (CPGs) on breast cancer has been shown to be heterogeneous. The aim of our study was to evaluate the quality of breast cancer CPGs published in years 2018-2020, using the Reporting Items for Practice Guidelines in Healthcare (RIGHT) checklist.

**Methods:** We searched Medline (via PubMed), Chinese National Knowledge Infrastructure (CNKI), Wanfang and Chinese Biomedical Literature (CBM) as well as websites of guideline organizations for CPGs on breast cancer published between 2018 and 2020. We used the RIGHT checklist to evaluate the reporting quality of the included guidelines by assessing whether the CPGs adhered to each item of the checklist and calculated the proportions of appropriately reported RIGHT checklist items. We also presented the adherence reporting rates for each guideline and the mean rates for each of the seven domains of the RIGHT checklist.

**Results:** A total of 45 guidelines were included. Eighteen (40.0%) guidelines had an overall reporting rate below 50% and only three (6.7%) reported more than 80% of the items. The domains "Basic information" and "Background" had the highest reporting rates (75.9% and 62.5%, respectively). The mean reporting rates of the domains "Evidence", "Recommendation", "Review and quality assurance", "Funding and declaration and management of interests" and "Other information" were 42.7%, 53.0%, 33.3%, 45.0%, and 44.4%, respectively.

**Conclusions:** The reporting quality varied among guidelines for breast cancer, showing the need for improvement in reporting the contents. Guideline developers should pay more attention to reporting the evidence, review and quality assurance, and funding and declaration and management of interests in future.

**Keywords:** Breast cancer; clinical practice guideline; Reporting Items for Practice Guidelines in Healthcare checklist (RIGHT checklist); reporting quality

Submitted Mar 16, 2021. Accepted for publication Jul 02, 2021.

doi: 10.21037/atm-21-2884

View this article at: <https://dx.doi.org/10.21037/atm-21-2884>

## Introduction

In 2020, about 19.2 million new cases of cancer and 10.0 million cancer-related deaths occurred worldwide. Breast cancer, accounting for approximately two million new cases annually and about 685,000 deaths every year, is the most frequent type of cancer in women (1). Older age, genetic predisposition, prolonged exposure to estrogens, Western-style diet, obesity and alcohol consumption are the main factors increasing the risk of breast cancer (2). During the past decades, promising new methods to decrease morbidity and mortality rates, such as molecular targeted therapy and immunotherapy have been developed (3). Despite so, the survival rate of breast cancer varies substantially across the world (4,5).

Clinical practice guidelines (CPGs) are statements including recommendations that aim to improve the prognosis of patients and harmonize the provision of effective health care. High-quality guidelines should deploy objective approaches for analyzing the evidence to underpin the recommendations and provide clear and comprehensive recommendations to reduce the gap between research and clinical practice. Several studies have shown that the use of guidelines in clinical practice can improve the quality of medical care, and ultimately, the outcomes of patients (6,7).

Previous evaluations of guidelines for breast cancer treatment have revealed that their methodological quality was heterogeneous (8,9). The adherence to guideline recommendations among clinicians was also unsatisfactory (10). In addition to the lack of awareness and unfamiliarity with guidelines (11), some clinicians also questioned the evidence that was used to make the recommendations (12). Therefore, promoting the quality of CPGs is critical to achieving a high quality of medical care.

As guidelines are usually updated periodically, continuous evaluation of guidelines to find the flaws in the recently developed guidelines can offer useful advice for guideline developers. In the past, most guideline evaluations have used the Appraisal of Guidelines, Research and Evaluation (AGREE) II, a recognized instrument for evaluating the quality of guidelines. However, as the assessment of the methodology and reporting were done together in the AGREE II instrument, it had only limited value in evaluating specifically the reporting quality. In 2016, the international Reporting Items for practice Guidelines in Healthcare (RIGHT) Working Group developed a reporting tool for practice guideline in health care, the RIGHT checklist, to assist developers in reporting guideline (13). To our knowledge, RIGHT checklist has

so far been used for the evaluation of CPGs on breast cancer treatment only (14). We therefore aimed to assess the reporting quality of CPGs published in the years 2018–2020, concerning all aspects of breast cancer care, including screening, treatment, supportive care and risk-reduction.

## Methods

### *Search strategy*

We systematically searched Medline (via PubMed), Chinese National Knowledge Infrastructure (CNKI), Chinese Biomedical Literature Database (CBM), and Wan Fang Database for CPGs on breast cancer. We also searched the websites of the following guideline associations, governmental and international health agencies, and oncological societies: the World Health Organization (WHO), National Comprehensive Cancer Network (NCCN), Guidelines International Network (GIN), Scottish Intercollegiate Guidelines Network (SIGN) and the National Institute for Health and Care Excellence (NICE), as well as of the European Society for Medical Oncology (ESMO), the American Society of Clinical Oncology (ASCO) and the Chinese Society of Clinical Oncology (CSCO). All databases were searched from January 1, 2018 to December 1, 2020, and the languages were restricted to Chinese and English. The search terms included Breast Neoplasms, breast neoplasm\*, breast cancer, Breast, Guideline, Practice Guideline, guideline\*, guidance\* and recommendation\*. The full search strategy for PubMed was shown in [Supplementary Appendix 1](#).

### *Inclusion and exclusion criteria*

We included CPGs and recommendations for breast cancer published in Chinese or English between 2018 and 2020. If multiple releases of the same CPG were available, we only included the latest version. The topic of the guidelines and recommendations was strictly limited to breast cancer; guidelines focusing on other cancers or disease that included recommendations related to breast cancer were excluded. Guidelines that were developed by the same organization and covered different aspects of the same topic clearly forming a series were combined and considered as one guideline.

### *RIGHT checklist*

We used the RIGHT checklist to evaluate the reporting

quality of the included guidelines. The checklist consists of 22 items, further divided into 35 sub-items. The items encompass the following domains: basic information (items 1 to 4), background (items 5 to 9), evidence (items 10 to 12), recommendations (items 13 to 15), review and quality assurance (items 16 and 17), funding and declaration and management of interests (items 18 and 19), and other information (items 20 to 22).

### *Screening and data collection*

The search results were imported into the Endnote library (version X9.1). Two investigators (Hanqiong Zhou, Xuan Wu) independently screened first the titles and abstracts of the records, and then the full texts of the potentially relevant guidelines to determine the eligibility for inclusion according to the pre-defined criteria. Disagreements were discussed and resolved together with another investigator (Qiming Wang).

The included CPGs were divided between two groups of two researchers (Hanqiong Zhou, Cheng Cheng, Xuan Wu, Jing Han). Both investigators from the group extracted the data from the included guidelines independently. The title, developer, country of publication, journal or website of publication, and publication year were extracted. For each CPG, each sub-item of the RIGHT checklist was evaluated as “reported”, “not reported” or “not applicable”. “Reported” refers to a complete or partial presentation of the relevant information, and “not reported” means that the information is totally missing. “Not applicable” was used if the item did not need to be evaluated. The extracted data were cross-checked within each group. Disagreements were settled by face-to-face discussion, and another researcher was consulted in case of any unsolved conflicts.

### *Statistical analysis*

We calculated the overall reporting rate of each guideline as the proportion of all sub-items that were rated as “reported”. We also present the reporting rates of each sub-item (i.e., the proportion of CPGs for which the sub-item was rated “reported”), and the mean reporting rates of items within each domain. We used a one-way analysis of variance (ANOVA) to test whether the overall mean reporting rate differed between guidelines published in the years 2018, 2019 and 2020. All analyses were performed using SPSS V.26.0.

## **Results**

### *Search results*

We identified 916 records from the literature databases and 29 records from guideline websites and other additional sources. Sixty-seven records were excluded as duplicates, and 878 records were considered to be potentially relevant. After screening the titles, abstracts and full-texts, a total of 45 guidelines were included (*Figure 1*). Seventeen guidelines developed by the Sir Ganga Ram Hospital group (India), three guidelines developed by Brazilian Ministry of Health and five guidelines developed by the Japanese Breast Cancer Society were combined and assessed as single guidelines, respectively.

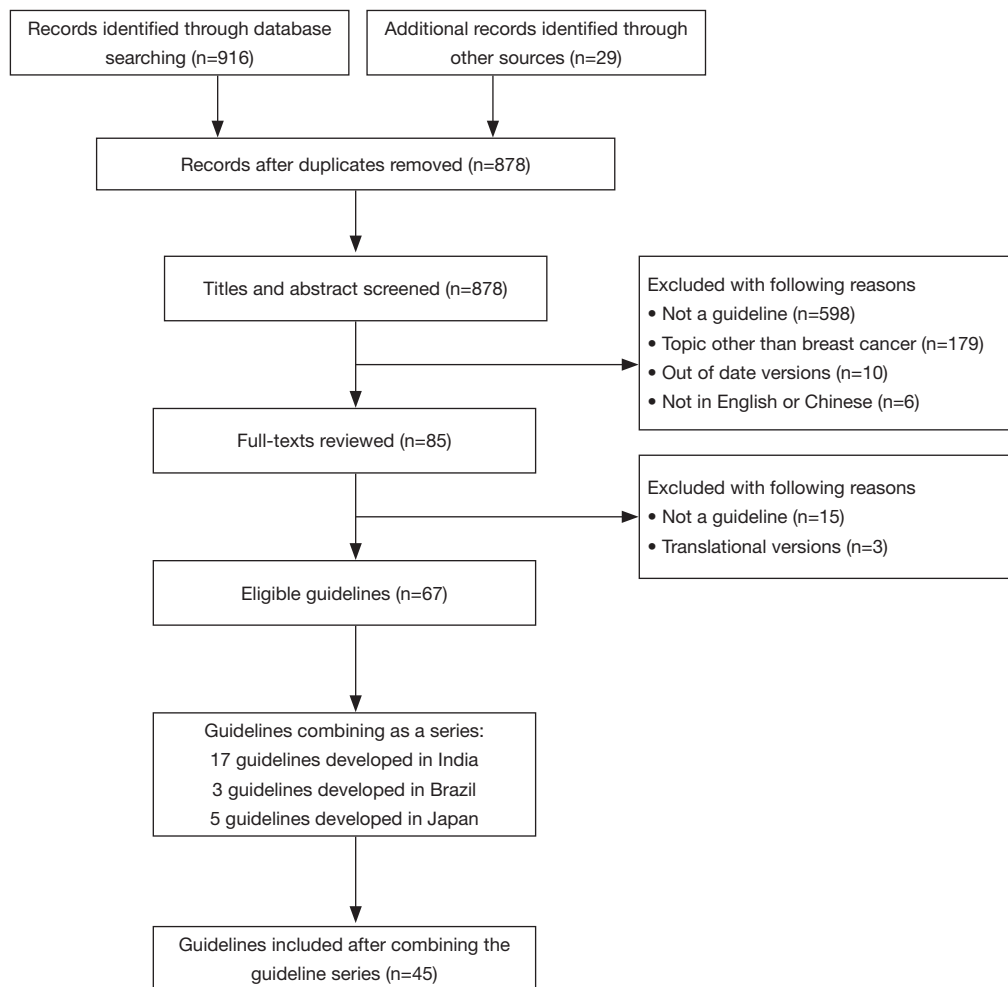
### *Basic characteristics of included guidelines*

Sixteen (35.6%) guidelines were developed in the United States and 14 (33.3%) in Europe (four by multinational European societies, four in Germany, three in Spain, and two in Italy, one in the United Kingdom). The remaining CPGs were from China (n=7, 15.6%), India (n=2, 4.4%), Brazil (n=2, 4.4%), Canada (n=1, 2.2%), Japan (n=1, 2.2%) and Malaysia (n=1, 2.2%); one guideline was developed by a multinational society from Asia (n=1, 2.2%). The majority of the guidelines were published in journals; five (11.1%) CPGs were only published on the website of the developer. Eighteen (40.0%) guidelines were published in 2020, nine (20.0%) in 2019, and 18 (40.0%) in 2018. (*Table 1*)

### *Reporting quality*

Eighteen (40.0%) guidelines had an overall reporting rate below 50%. Only three (6.7%) had a reporting rate higher than 80%. In the domains “Basic information” and “Background”, most of the guidelines had relatively high reporting rates. The mean reporting rates of these two domains over all guidelines were 75.9% and 62.5%, respectively. In the domains of “Evidence”, “Recommendation”, “Funding and declaration and management of interests” and “Other information”, the mean reporting rates were 42.7%, 53.0%, 45.0%, and 44.4%, respectively. The domain “Review and quality assurance” had clearly the lowest reporting rate (33.3%) (*Figure 2*).

The mean ( $\pm$  standard deviation) overall reporting rate of the guidelines was 54.9% $\pm$ 25.7%. Nine sub-items (1a, 1c, 3,



**Figure 1** Flow diagram of the selection process.

4, 7a, 7b, 13a, 19a and 20) were reported by more than 80% of the CPGs. Fifteen sub-items were reported by less than half of the guidelines: only less than 10% of the guidelines reported the sub-items 10b (outcome selection and sorting) and 18b (describing the role of funders in the different stages of guideline development) (*Figure 3*).

### *Subgroup analysis*

The mean ( $\pm$  standard deviation) overall reporting rates of the guidelines published in 2018, 2019 and 2020 were  $54.3\% \pm 17.1\%$ ,  $56.5\% \pm 21.3\%$ , and  $54.6\% \pm 16.5\%$ , respectively. The results of one-way ANOVA analysis showed no association between the reporting quality of guidelines and the year of publication ( $P=0.951$ ).

### **Discussion**

This is the first comprehensive evaluation of the reporting quality of guidelines that covering the full range of breast cancer care. And we finally assessed 45 guidelines in breast cancer using RIGHT checklist. The reporting quality of practice guidelines for breast cancer published in the years 2018 to 2020 tended to be low. Eighteen out of the 45 assessed guidelines complied with less than half of the items of the RIGHT checklist. We found only three guidelines that reported more than 80% of the items. Items related to the basic information of the guideline and the background section were however reported relatively well.

In the domain “Evidence”, the sub-item 10b, concerning outcome selection and sorting, was reported very rarely. One reason for this result may be that in most guidelines

**Table 1** Characteristics of the included guidelines

Title	Developer	Country/region of development	Journal/website of publication	Year of publication
5th ESO-ESMO international consensus guidelines for advanced breast cancer (ABC 5) (15)	ESO- ESMO	Europe	<i>Annals of Oncology</i>	2020
Adjuvant endocrine therapy in premenopausal patients with hormone receptor-positive early breast cancer: Evidence evaluation and GRADE recommendations by the Italian Association of Medical Oncology (AIOM) (16)	AIOM	Italy	<i>European Journal of Cancer</i>	2018
AGO Recommendations for the Diagnosis and Treatment of Patients with Early Breast Cancer: Update 2018 (17)	AGO	Germany	<i>Breast Care</i>	2018
AGO Recommendations for the Diagnosis and Treatment of Patients with Locally Advanced and Metastatic Breast Cancer: Update 2020 (18)	AGO	Germany	<i>Breast Care</i>	2020
Breast Cancer Management Guidelines During COVID-19 Pandemic (19)	Manoj Gowda S	India	<i>Indian Journal of Surgery</i>	2020
Breast cancer screening guideline for Chinese women (20)	CACA	China	<i>Cancer Biology &amp; Medicine</i>	2019
Breast Cancer Screening in Women at Higher-Than-Average Risk: Recommendations from the ACR (21)	ACR	United States	<i>Clinical Practice Management</i>	2018
Chinese guidelines for diagnosis and treatment of breast cancer 2018 (English version) (22)	National Health Commission of the People's Republic of China	China	<i>Chinese Journal of Cancer Research</i>	2019
Consensus Guidelines on Genetic Testing for Hereditary Breast Cancer from the American Society of Breast Surgeons (23)	American Society of Breast cancer	United States	<i>Annals of Surgical Oncology</i>	2019
ESMO Management and treatment adapted recommendations in the COVID-19 era: Breast Cancer (24)	ESMO	Europe	<i>ESMO Open Cancer Horizons</i>	2020
ESO-ESMO 4th International Consensus Guidelines for Breast Cancer in Young Women (BCY4) (25)	ESO- ESMO	Europe	<i>Annals of Surgical Oncology</i>	2020
GEICAM Guidelines for the Management of Patients with Breast Cancer During the COVID-19 Pandemic in Spain (26)	GEICAM Spanish Breast Cancer group	Spain	<i>Oncologist</i>	2020
Guidelines for clinical diagnosis and treatment of advanced breast cancer in China (2020 Edition) (27)	CACA-CBCS	China	<i>Chinese Journal of Oncology</i>	2020
Interdisciplinary Screening, Diagnosis, Therapy and Follow-up of Breast Cancer. Guideline of the DGGG and the DKG (S3-Level, AWMF Registry Number 032/045OL, December 2017)—Part 1 with Recommendations for the Screening, Diagnosis and Therapy of Breast Cancer (28)	DGGG and DKG	Germany	<i>Geburtshilfe und Frauenheilkunde</i>	2018
Interdisciplinary Screening, Diagnosis, Therapy and Follow-up of Breast Cancer. Guideline of the DGGG and the DKG (S3-Level, AWMF Registry Number 032/045OL, December 2017)—Part 2 with Recommendations for the Therapy of Primary, Recurrent and Advanced Breast Cancer (29)	DGGG and DKG	Germany	<i>Geburtshilfe und Frauenheilkunde</i>	2018
Neoadjuvant therapy for breast cancer treatment: an expert panel recommendation from the Brazilian Society of Breast Surgeons 2018 (30)	SBM	Brazil	<i>Breast Cancer Research and Treatment</i>	2018

Table 1 (continued)

Table 1 (continued)

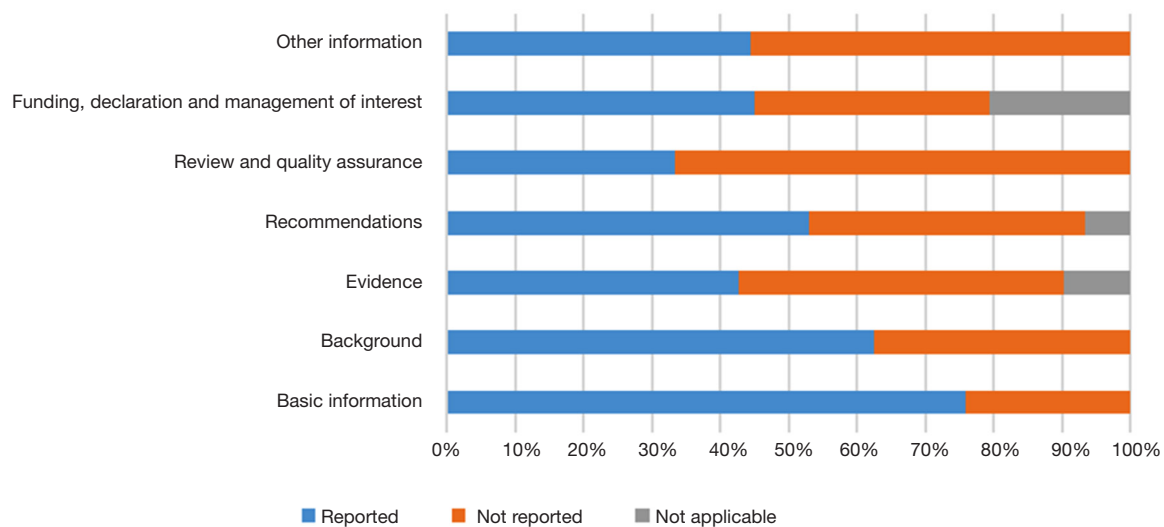
Title	Developer	Country/region of development	Journal/website of publication	Year of publication
Pan-Asian adapted ESMO Clinical Practice Guidelines for the management of patients with early breast cancer: a KSMO-ESMO initiative endorsed by CSCO, ISMPO, JSMO, MOS, SSO and TOS (2)	KSMO-ESMO	Asian	<i>Annals of Oncology</i>	2020
Recommendations for prioritization, treatment, and triage of breast cancer patients during the COVID-19 pandemic. the COVID-19 pandemic breast cancer consortium (31)	Jill R. Dietz	United States	<i>Breast Cancer Research and Treatment</i>	2020
Recommendations for triage, prioritization and treatment of breast cancer patients during the COVID-19 pandemic (32)	Giuseppe Curigliano	Italy	<i>The Breast</i>	2020
Recommendations on prevention and screening for breast cancer in Hong Kong (33)	CEWG	China	<i>Hong Kong Medical Journal</i>	2018
Recommendations on screening for breast cancer in women aged 40–74 years who are not at increased risk for breast cancer (34)	Canadian Task Force on Preventive Health Care	Canada	<i>Canadian Medical Association Journal</i>	2018
SEOM clinical guidelines in advanced and recurrent breast cancer (2018) (35)	SEOM	Spain	<i>Clinical Guides in Oncology</i>	2019
SEOM clinical guidelines in early-stage breast cancer (2018) (36)	SEOM	Spain	<i>Clinical Guides in Oncology</i>	2019
Practical consensus recommendation developed by India (37-53)	Sir Ganga Ram Hospital group	India	<i>South Asian Journal of Cancer</i>	2018
Guidelines for early detection developed by Brazil (54-56)	Brazilian Ministry of Health	Brazil	<i>Cad Saude Publica</i>	2018
Clinical practice guideline developed by Japan (57-61)	Japanese breast cancer society	Japan	<i>Breast Cancer</i>	2020
Adjuvant Endocrine Therapy for Women With Hormone Receptor–Positive Breast Cancer: ASCO Clinical Practice Guideline Focused Update (62)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2018
Integrative Therapies During and After Breast Cancer Treatment: ASCO Endorsement of the SIO Clinical Practice Guideline (63)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2018
Management of Hereditary Breast Cancer: American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology Guideline (64)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2020
Management of Male Breast Cancer: ASCO Guideline (65)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2020
Recommendations on Disease Management for Patients with Advanced Human Epidermal Growth Factor Receptor 2—Positive Breast Cancer and Brain Metastases: ASCO Clinical Practice Guideline Update (66)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2018
Role of Patient and Disease Factors in Adjuvant Systemic Therapy Decision Making for Early-Stage, Operable Breast Cancer: Update of the ASCO Endorsement of the Cancer Care Ontario Guideline (67)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2019

Table 1 (continued)

Table 1 (continued)

Title	Developer	Country/region of development	Journal/website of publication	Year of publication
Selection of Optimal Adjuvant Chemotherapy and Targeted Therapy for Early Breast Cancer: ASCO Guideline Update (68)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2021
Systemic Therapy for Patients with Advanced Human Epidermal Growth Factor Receptor 2—Positive Breast Cancer: ASCO Clinical Practice Guideline Update (69)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2018
Use of Biomarkers to Guide Decisions on Adjuvant Systemic Therapy for Women with Early-Stage Invasive Breast Cancer: ASCO Clinical Practice Guideline Update Integration of Results From TAILORx (70)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2019
Use of Endocrine Therapy for Breast Cancer Risk Reduction: ASCO Clinical Practice Guideline Update (71)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2019
Early breast cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment, and follow-up (72)	ESMO	Europe	<i>Annals of Oncology</i>	2019
NCCN guidelines version 6.2020 Breast Cancer (73)	NCCN	United States	<a href="https://education.nccn.org/">https://education.nccn.org/</a>	2020
NCCN guidelines version 1.2020 Breast Cancer Screening and Diagnosis (74)	NCCN	United States	<a href="https://education.nccn.org/">https://education.nccn.org/</a>	2020
Updated Breast Cancer Surveillance Recommendations for Female Survivors of Childhood, Adolescent, and Young Adult Cancer from the International Guideline Harmonization Group (75)	ASCO	United States	<i>Journal of Clinical Oncology</i>	2020
Guidelines and Standards for the Diagnosis and Treatment of Breast Cancer of Chinese Anti-Cancer Association (2019 Edition) (76)	CACA-CBCS	China	<i>China Oncology</i>	2019
Chinese Advanced Breast Cancer Consensus Guideline 2020 (CABC3) (77)	China Medical Women's Association Breast Center	China	<i>Oncology Progress</i>	2020
Guidelines of Chinese Society of Clinical Oncology (CSCO) of Breast Cancer (78)	CSCO	China	<a href="http://www.cSCO.org.cn/cn/index.aspx">http://www.cSCO.org.cn/cn/index.aspx</a>	2020
Early and locally advanced breast cancer: diagnosis and management (79)	NICE	United Kingdom	<a href="https://www.nice.org.uk/guidance">https://www.nice.org.uk/guidance</a>	2018
Management of Breast Cancer (80)	MaHTAS	Malaysia	<a href="https://g-i-n.net/library/new-international-guidelines-library">https://g-i-n.net/library/new-international-guidelines-library</a>	2019

ESO, European School of Oncology; ESMO, European Society for Medical Oncology; AIOM, Associazione Italiana di Oncologia Medica; AGO, German Gynecological Oncology Group; CACA, Chinese Anti-Cancer Association; ACR, American college of radiology; NHC, National Health Commission of the People's Republic of China; ASBrS, American Society of Breast Surgeons; CACA-CBCS, Chinese Anti-Cancer Association, Committee of Breast Cancer Society; DGGG, German Society for Gynecology and Obstetrics; DKG, German Cancer Society; SBM, Brazilian Society of Breast Surgeons; KSMO, Korean Society of Medical Oncology; CEWG, Cancer Expert Working Group on Cancer Prevention and Screening; SEOM, Spanish Society of Medical Oncology; ASCO, American Society of Clinical Oncology; NCCN, National Comprehensive Cancer Network; CSCO, Chinese Society of Clinical Oncology; NICE, National Institute for Health and Care Excellence; MaHTAS, Malaysian Health Technology Assessment Section.



**Figure 2** Mean reporting rates of the RIGHT checklist sub-items by domain. RIGHT, Reporting Items for Practice Guidelines in Healthcare.

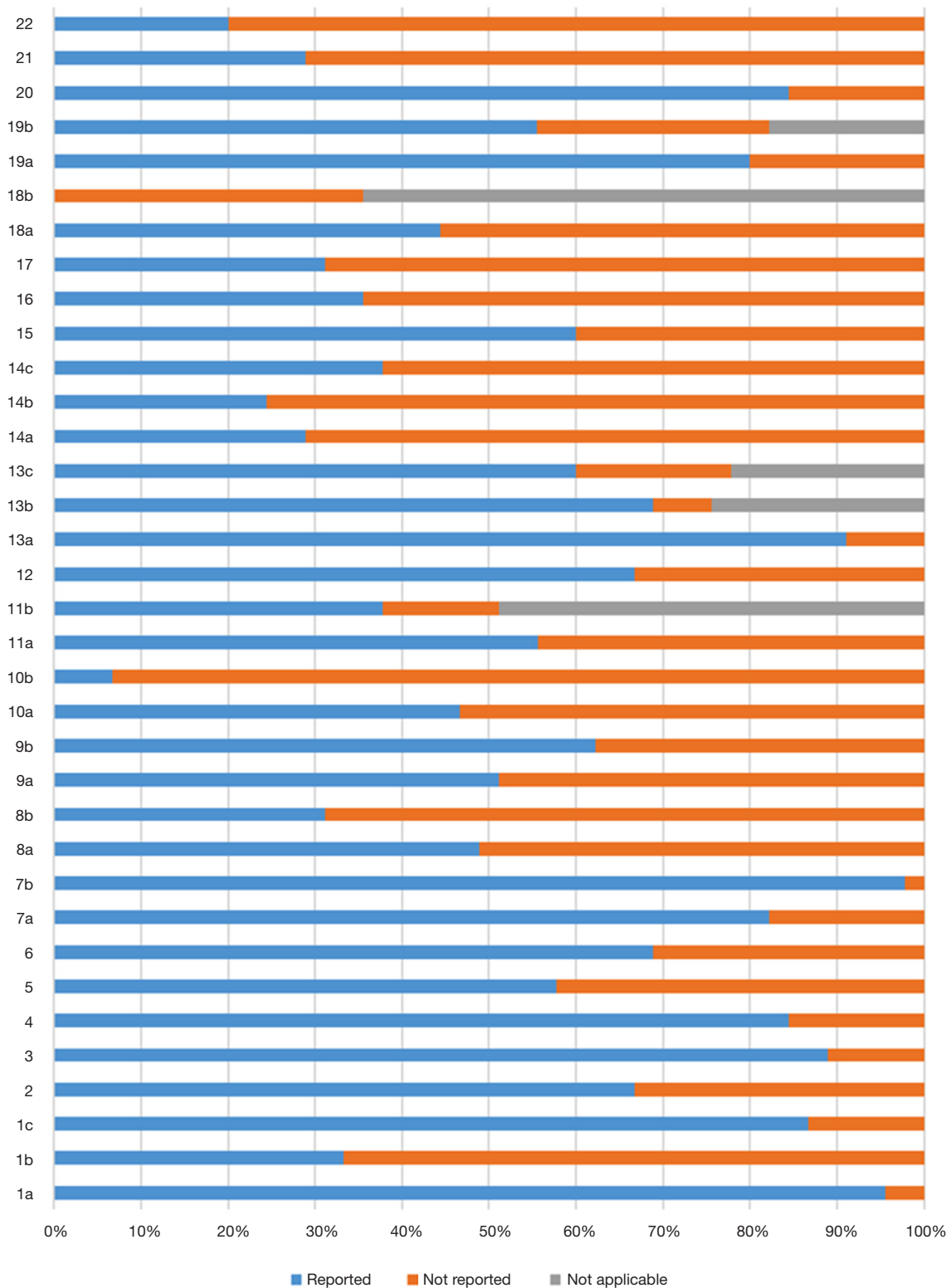
most attention was focused on the length of survival of the patients, and hence other important outcomes were neglected. However, other outcomes, such as adverse effects of anti-tumor drugs, also have a great impact on the quality of life. Anti-tumor treatment may result in a series of consequences, such as premature menopause and impaired fertility, which in turn can cause several medical and psychological problems (81,82). Therefore, young breast cancer patients in particular, may be at risk of overtreatment if the outcome selection focused mainly on the expected length of survival. In other words, depending on the choice of outcomes which were selected for making the recommendation, the benefits and harms of the recommendation may not be accurately depicted. Hence, the process of outcomes selection and sorting should be fully explained to the user in a transparent manner.

The two items of the domain “Review and quality assurance”, item 16 indicating whether the draft guideline underwent independent review and item 17 indicating whether the guideline was subjected to a quality assurance process, were both poorly reported. Similar findings have been reported in other topics (83,84). A possible reason is that different guideline developer organizations may have used different reporting standards and protocols during the development process. A previous study has observed that only about half of the items of RIGHT and AGREE checklists were completely overlapping, showing that the contents may be reported differently depending on the instrument the authors used for guidance (85). Additionally,

some of the guidelines we have included were developed for the management of patients with breast cancer during the COVID-19 pandemic. Therefore, given this emergent situation, guideline developers may have omitted the independent review and quality assurance because of time concerns (86). However, independent review and quality assurance are the gatekeeper of guideline development, and deficiencies in the review and assurance will inevitably impair the quality and reliability of the guidelines. Therefore, it is crucial that the process of the independent review—or a justification of why it was not performed—is clearly reported in the guideline.

In the domain “Recommendations”, the item 14, concerning the consideration of patients’ values and preferences, costs and resource implications, equity, feasibility and acceptability, was relatively poorly reported. There is no doubt that comprehensive and thoughtful guidelines will enable guideline users to understand and implement recommendations effectively. Although the advantages and disadvantages of different treatment options may seem similar, the outcomes are also strongly dependent on the patient’s values and personal situation, as well as the resources available. Breast cancer, as a life-threatening disease affecting women from all age groups worldwide, demonstrates how effective communication between the patients and clinicians is essential to find the best treatment strategy for each patient. This important aspect, should be considered when developing the guidelines (87,88). Therefore, to better develop the guidelines and improve





**Figure 3** Reporting compliance to each sub-item of the RIGHT checklist in the included guidelines. (The descriptions of each sub-item are shown in <http://www.right-statement.org/home/extensions>). RIGHT, Reporting Items for Practice Guidelines in Healthcare.

the prognosis of patients with breast cancer, guideline developers should also pay particular attention to patients' values and preferences, as well as the costs and resource implications when formulating the recommendations (89).

Even though AGREE II has been used in previous studies regarding quality evaluation of guidelines, it is widely accepted as the evaluation standard of the methodological quality of guidelines and may not be the optimal tool for evaluation of the reporting quality. The RIGHT checklist, designed to assist developer in reporting guidelines, provides users a clear and comprehensive description of procedures used to develop a guideline, and it became a powerful tool for reporting quality evaluation different from AGREE II. Although our study is not the first to evaluate the reporting quality of guidelines for breast cancer using the RIGHT instrument, it was to our knowledge the first to cover the full range of guidelines related to all aspects of breast cancer care: screening, treatment, supportive care and risk reduction. Furthermore, our findings could provide suggestions for guideline developer, also may promote the use of RIGHT checklist worldwide and improve the quality of future guidelines. However, our study has several important limitations. Firstly, even though the RIGHT checklist has clear explanations and examples that help the reviewers understand each sub-item of the checklist, inherent subjectivity during the evaluation of the reporting quality may still be present. Secondly, the language of our search was restricted to English or Chinese, hence our findings are not necessarily generalizable to guidelines published in other languages.

#### *Questions to be further discussed and considered*

##### **Question 1: What impact do you think the low reporting quality of clinical practice guidelines on breast cancer will have on clinicians and clinical practices?**

###### *Expert opinion: Dr. Naohiro Ishii*

The low reporting quality of clinical practice guidelines may have minimal impact on breast surgery specialists, since they have many opportunities to learn in attending conferences, workshops, and study meetings that focus on breast cancer. However, general surgeons who are not specialized in breast surgery often perform breast cancer medical treatment based mainly on the knowledge obtained by reading clinical practice guidelines. Therefore, the low reporting quality of clinical practice guidelines can decrease the quality of breast cancer medical treatment.

###### *Expert opinion: Dr. Warren M. Rozen*

Evidence-based clinical practice guidelines can improve a range of outcomes on a personal level and a public health level, by proving clinicians with optimal approaches that can include up to date research findings, modern techniques and technologies, and can evolve with new data as soon as it becomes available. A low reporting quality of such guidelines may lead to outdated practice on a clinician level, a low concordance of practice between practitioners and can delay changes in public health policy making that may guide the establishment of optimal programs. In a field as specific and rapidly evolving as breast cancer, this can lead to outdated oncologic approaches and poorer outcomes, poor reconstructive outcomes, and mis-direction of appropriate governmental support and focus.

###### *Expert opinion: Dr. Geok Hoon Lim*

CPGs of low reporting quality could result in a compromise of patients' care.

###### *Expert opinion: Dr. Pankaj G. Roy*

Low quality could perpetuate clinical practices that may not be patient focused and lack sufficient evidence, potentially resulting in adverse events and/or overtreatment.

##### **Question 2: What do you think are the most important aspects of developing high-quality clinical practice guidelines on breast cancer?**

###### *Expert opinion: Dr. Naohiro Ishii*

Clinical practice guidelines on breast cancer should be made by groups composed of a variety of medical workers who engage in breast cancer medical care. Additionally, group membership should be balanced between specific specialties.

###### *Expert opinion: Dr. Warren M. Rozen*

Clinical practice guidelines require a basis in evidence-based medicine and up-to-date evaluation of clinical practice, developed by an appropriately trained and representative group of authors. This necessitates a panel of experts, who are suitably skilled in evidence-based medicine, current clinical practice, are abreast of advances in the field, and are appropriately skilled in collating and interpreting this data. The support of institutional and/or regional representative bodies is needed, in order to disseminate guidelines that are developed and put them into clinical practice. Such guidelines in breast cancer must be multidisciplinary in nature, and must be flexible, to accommodate changing practice and evidence.

###### *Expert opinion: Dr. Geok Hoon Lim*

High quality CPGs should be developed based on robust research studies with the highest level of evidence, such

as data derived from systematic reviews/meta-analysis of randomized controlled trials. However, not all topics can be investigated using randomized controlled trials. In these instances, the CPGs would have to be developed based on the best available data. While it is useful to refer to guidelines for the care of breast cancer patients, it is also crucial not to blindly follow the guidelines, since the treatment of each patient should be individualized, based on various factors such as the patient's comorbidities, preferences and resource availabilities etc. These factors may not have been studied in the research studies leading to the formulation of the CPGs.

**Expert opinion: Dr. Pankaj G. Roy**

Clinical evidence to support the benefit to the patient and quality assurance

### **Question 3: How do you think conflicts of interest in the guidelines should be handled?**

**Expert opinion: Dr. Naohiro Ishii**

The guidelines should have been made under no conflicts of interest. If a member of the guideline committee has specific conflicts of interest related to a certain section, this member should not take charge of the respective section.

**Expert opinion: Dr. Warren M. Rozen**

Conflicts of interest should be declared by all guideline authors at the outset, and if not sufficient to warrant exclusion as an author, should be documented and published within the guidelines. The author group should appropriately represent all aspects of breast cancer care, with no clear group over represented, and ultimate decisions for the guidelines made as a consensus view. If there is an unclear outcome in terms of the inclusion of an author or an author's view on a particular point, an independent party can aid decision making and be included in the authorship group.

**Expert opinion: Dr. Geok Hoon Lim**

It is important that any conflicts of interest of the guideline developers in the development of CPGs should be declared. Ideally, in such cases, the development of CPGs should be undertaken by an independent experienced third party to avoid bias in the development of CPGs.

**Expert opinion: Dr. Pankaj G. Roy**

As long as there is clear evidence to demonstrate benefit to patient, COI is less of an issue if declared fairly and openly.

## **Conclusions**

The evaluation of the guidelines on breast cancer care using

the RIGHT checklist revealed that the reporting quality varied among the guidelines, and needs improvement in many aspects. The compliance of the reviewed guidelines to items related to the evidence, review and quality assurance and funding and declaration and management of interests was low. Guideline developers should pay more attention to the correct and transparent reporting of these topics to develop better guidelines in future.

## **Acknowledgments**

The authors appreciate the academic support from the AME Reporting Guideline Collaborative Group.

**Funding:** This work was supported by Henan Province Health and Youth Subject Leader Training Project ([2020]60); Leading Talent Cultivation Project of Henan Health Science and Technology Innovation Talents (YXKC2020009); ZHONGYUAN QIANREN JIHUA (ZYQR201912118); Henan International Joint Laboratory of drug resistance and reversal of targeted therapy for lung cancer ([2021]10); Henan Medical Key Laboratory of Refractory lung cancer ([2020]27); Henan Refractory Lung Cancer Drug Treatment Engineering Technology Research Center ([2020]4); the 51282 project Leading Talent of Henan Provincial Health Science and Technology Innovation Talents ([2016]32); Huilan Charity Funda project (HL-HS2020-129).

## **Footnote**

**Conflicts of Interest:** All authors have completed the ICMJE uniform disclosure form (available at <https://dx.doi.org/10.21037/atm-21-2884>). The authors have no conflicts of interest to declare.

**Ethical Statement:** The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

**Open Access Statement:** This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license).

See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

## References

- World Health Organization. World Cancer Report; Cancer research for cancer prevention; 2020. Available online: <https://www.who.int/publications/i>
- Park YH, Senkus-Konefka E, Im SA, et al. Pan-Asian adapted ESMO Clinical Practice Guidelines for the management of patients with early breast cancer: a KSMO-ESMO initiative endorsed by CSCO, ISMPO, JSMO, MOS, SSO and TOS. *Ann Oncol* 2020;31:451-69.
- Hashemzadeh N, Dolatkah M, Adibkia K, et al. Recent advances in breast cancer immunotherapy: The promising impact of nanomedicines. *Life Sci* 2021;271:119110.
- Sopik V. International variation in breast cancer incidence and mortality in young women. *Breast Cancer Res Treat* 2021;186:497-507.
- Ahmad A. Breast Cancer Statistics: Recent Trends. *Adv Exp Med Biol* 2019;1152:1-7.
- Vogsen M, Bille C, Jylling AMB, et al. Adherence to treatment guidelines and survival in older women with early-stage breast cancer in Denmark 2008-2012. *Acta Oncol* 2020;59:741-7.
- Ricci-Cabello I, Vázquez-Mejía A, Canelo-Aybar C, et al. Adherence to breast cancer guidelines is associated with better survival outcomes: a systematic review and meta-analysis of observational studies in EU countries. *BMC Health Serv Res* 2020;20:920.
- Lei X, Liu F, Luo S, et al. Evaluation of guidelines regarding surgical treatment of breast cancer using the AGREE Instrument: a systematic review. *BMJ Open* 2017;7:e014883.
- Hogveen SE, Han D, Trudeau-Tavara S, et al. Comparison of international breast cancer guidelines: are we globally consistent? cancer guideline AGREEMENT. *Curr Oncol* 2012;19:e184-90.
- Lambertini M, Di Maio M, Poggio F, et al. Knowledge, attitudes and practice of physicians towards fertility and pregnancy-related issues in youngBRCA-mutated breast cancer patients. *Reprod Biomed Online* 2019;38:835-44.
- Bhatt NR, Czarniecki SW, Borgmann H, et al. A Systematic Review of the Use of Social Media for Dissemination of Clinical Practice Guidelines. *Eur Urol Focus* 2020. [Epub ahead of print]. doi: 10.1016/j.euf.2020.10.008.
- Baron DM, Metnitz PGH, Rhodes A, et al. Clinical guidelines: How can we improve adherence and implementation? *Eur J Anaesthesiol* 2017;34:329-31.
- Chen Y, Yang K, Marušić A, et al. A Reporting Tool for Practice Guidelines in Health Care: The RIGHT Statement. *Ann Intern Med* 2017;166:128-32.
- Maes-Carballo M, Mignini L, Martín-Díaz M, et al. Quality and reporting of clinical guidelines for breast cancer treatment: A systematic review. *Breast* 2020;53:201-11.
- Cardoso F, Paluch-Shimon S, Senkus E, et al. 5th ESO-ESMO international consensus guidelines for advanced breast cancer (ABC 5). *Ann Oncol* 2020;31:1623-49.
- Gori S, Puglisi F, Cinquini M, et al. Adjuvant endocrine therapy in premenopausal patients with hormone receptor-positive early breast cancer: Evidence evaluation and GRADE recommendations by the Italian Association of Medical Oncology (AIOM). *Eur J Cancer* 2018;99:9-19.
- Liedtke C, Jackisch C, Thill M, et al. AGO Recommendations for the Diagnosis and Treatment of Patients with Early Breast Cancer: Update 2018. *Breast Care (Basel)* 2018;13:196-208.
- Ditsch N, Untch M, Kolberg-Liedtke C, et al. AGO Recommendations for the Diagnosis and Treatment of Patients with Locally Advanced and Metastatic Breast Cancer: Update 2020. *Breast Care (Basel)* 2020;15:294-309.
- Manoj Gowda S, Kabeer KK, Jafferbhoy S, et al. Breast Cancer Management Guidelines During COVID-19 Pandemic. *Indian J Surg* 2020. [Epub ahead of print]. doi: 10.1007/s12262-020-02466-7.
- Breast cancer screening guideline for Chinese women. *Cancer Biol Med* 2019;16:822-4.
- Monticciolo DL, Newell MS, Moy L, et al. Breast Cancer Screening in Women at Higher-Than-Average Risk: Recommendations From the ACR. *J Am Coll Radiol* 2018;15:408-14.
- National Health Commission Of The People's Republic Of C. Chinese guidelines for diagnosis and treatment of breast cancer 2018 (English version). *Chin J Cancer Res* 2019;31:259-77.
- Manahan ER, Kuerer HM, Sebastian M, et al. Consensus Guidelines on Genetic Testing for Hereditary Breast Cancer from the American Society of Breast Surgeons. *Ann Surg Oncol* 2019;26:3025-31.
- de Azambuja E, Trapani D, Loibl S, et al. ESMO Management and treatment adapted recommendations in the COVID-19 era: Breast Cancer. *ESMO Open* 2020;5:e000793.
- Paluch-Shimon S, Cardoso F, Partridge AH, et al. ESO-ESMO 4th International Consensus Guidelines for

- Breast Cancer in Young Women (BCY4). *Ann Oncol* 2020;31:674-96.
26. Martin M, Guerrero-Zotano A, Montero Á, et al. GEICAM Guidelines for the Management of Patients with Breast Cancer During the COVID-19 Pandemic in Spain. *Oncologist* 2020;25:e1339-45.
  27. Breast Cancer Expert Committee of National Cancer Quality Control Center; Breast Cancer Expert Committee of China Anti-Cancer Association; Cancer Drug Clinical Research Committee of China Anti-Cancer Association. Guidelines for clinical diagnosis and treatment of advanced breast cancer in China (2020 Edition). *Zhonghua Zhong Liu Za Zhi* 2020;42:781-97.
  28. Wöckel A, Festl J, Stüber T, et al. Interdisciplinary Screening, Diagnosis, Therapy and Follow-up of Breast Cancer. Guideline of the DGGG and the DKG (S3-Level, AWMF Registry Number 032/045OL, December 2017) - Part 1 with Recommendations for the Screening, Diagnosis and Therapy of Breast Cancer. *Geburtshilfe Frauenheilkd* 2018;78:927-48.
  29. Wöckel A, Festl J, Stüber T, et al. Interdisciplinary Screening, Diagnosis, Therapy and Follow-up of Breast Cancer. Guideline of the DGGG and the DKG (S3-Level, AWMF Registry Number 032/045OL, December 2017) - Part 2 with Recommendations for the Therapy of Primary, Recurrent and Advanced Breast Cancer. *Geburtshilfe Frauenheilkd* 2018;78:1056-88.
  30. Barbosa C Rocha F, Falcone AB, Buzaid AC, et al. Neoadjuvant therapy for breast cancer treatment: an expert panel recommendation from the Brazilian Society of Breast Surgeons 2018. *Breast Cancer Res Treat* 2018;172:265-72.
  31. Dietz JR, Moran MS, Isakoff SJ, et al. Recommendations for prioritization, treatment, and triage of breast cancer patients during the COVID-19 pandemic. the COVID-19 pandemic breast cancer consortium. *Breast Cancer Res Treat* 2020;181:487-97.
  32. Curigliano G, Cardoso MJ, Poortmans P, et al. Recommendations for triage, prioritization and treatment of breast cancer patients during the COVID-19 pandemic. *Breast* 2020;52:8-16.
  33. Lam TH, Wong KH, Chan KK, et al. Recommendations on prevention and screening for breast cancer in Hong Kong. *Hong Kong Med J* 2018;24:298-306.
  34. Klarenbach S, Sims-Jones N, Lewin G, et al. Recommendations on screening for breast cancer in women aged 40-74 years who are not at increased risk for breast cancer. *CMAJ* 2018;190:E1441-51.
  35. Chacón López-Muñoz JI, de la Cruz Merino L, Gavilá Gregori J, et al. SEOM clinical guidelines in advanced and recurrent breast cancer (2018). *Clin Transl Oncol* 2019;21:31-45.
  36. Ayala de la Peña F, Andrés R, Garcia-Sáenz JA, et al. SEOM clinical guidelines in early stage breast cancer (2018). *Clin Transl Oncol* 2019;21:18-30.
  37. Parikh PM, Wadhwa J, Minhas S, et al. Practical consensus recommendation on when to do BRCA testing. *South Asian J Cancer* 2018;7:106-9.
  38. Rajappa S, Bajpai J, Basade M, et al. Practical consensus recommendations regarding the use of hormonal therapy in metastatic breast cancer. *South Asian J Cancer* 2018;7:137-41.
  39. Kabra V, Aggarwal R, Vardhan S, et al. Practical consensus recommendations regarding the management of sentinel lymph node issues in early breast cancer. *South Asian J Cancer* 2018;7:132-6.
  40. Babu G, Goel A, Agarwal S, et al. Practical consensus recommendations regarding the management of hormone receptor positive early breast cancer in elderly women. *South Asian J Cancer* 2018;7:123-6.
  41. Basade M, Singhal M, Rath AK, et al. Practical consensus recommendations regarding the management of HER2 neu positive metastatic breast cancer. *South Asian J Cancer* 2018;7:146-50.
  42. Bahl A, Singh R, Wadhwa J, et al. Practical consensus recommendations regarding the management of HER2 neu positive early breast cancer. *South Asian J Cancer* 2018;7:102-5.
  43. Singh D, Saini G, Koul R, et al. Practical consensus recommendations regarding role of postmastectomy radiation therapy. *South Asian J Cancer* 2018;7:87-90.
  44. Somsekhar SP, Geeta K, Jain R, et al. Practical consensus recommendations regarding role of mastectomy in metastatic breast cancer. *South Asian J Cancer* 2018;7:79-82.
  45. Singhal M, Sahoo TP, Aggarwal S, et al. Practical consensus recommendations on ovarian suppression in early breast cancer (adjuvant). *South Asian J Cancer* 2018;7:151-5.
  46. Rangarao R, Smruti BK, Singh K, et al. Practical consensus recommendations on management of triple-negative metastatic breast cancer. *South Asian J Cancer* 2018;7:127-31.
  47. Aggarwal S, Vaid A, Ramesh A, et al. Practical consensus recommendations on management of HR + ve early breast cancer with specific reference to genomic profiling. *South Asian J Cancer* 2018;7:96-101.

48. Rohatgi N, Munshi A, Bajpai P, et al. Practical consensus recommendations on Her2 +ve breast cancer with solitary brain mets. *South Asian J Cancer* 2018;7:118-22.
49. Bajpai J, Majumdar A, Satwik R, et al. Practical consensus recommendations on fertility preservation in patients with breast cancer. *South Asian J Cancer* 2018;7:110-4.
50. Gupta S, Singh M, Vora A, et al. Practical consensus recommendations on duration of adjuvant hormonal therapy in breast cancer. *South Asian J Cancer* 2018;7:142-5.
51. Sarin R, Somsekhar SP, Kumar R, et al. Practical consensus recommendations for tumor margins and breast conservative surgery. *South Asian J Cancer* 2018;7:72-8.
52. Bhattacharyya GS, Walia M, Nandi M, et al. Practical consensus recommendations for neo-adjuvant chemotherapy in triple negative breast cancer. *South Asian J Cancer* 2018;7:156-8.
53. Sekhon JS, Naik N, Bansal P, et al. Practical consensus recommendations for gestational breast cancer. *South Asian J Cancer* 2018;7:115-7.
54. Migowski A, Stein AT, Ferreira CBT, et al. Guidelines for early detection of breast cancer in Brazil. I - Development methods. *Cad Saude Publica* 2018;34:e00116317.
55. Migowski A, Silva GAE, Dias MBK, et al. Guidelines for early detection of breast cancer in Brazil. II - New national recommendations, main evidence, and controversies. *Cad Saude Publica* 2018;34:e00074817.
56. Migowski A, Dias MBK, Nadanovsky P, et al. Guidelines for early detection of breast cancer in Brazil. III - Challenges for implementation. *Cad Saude Publica* 2018;34:e00046317.
57. Yamauchi C, Yoshimura M, Sekiguchi K, et al. The Japanese Breast Cancer Society Clinical Practice Guideline for radiation treatment of breast cancer, 2018 edition. *Breast Cancer* 2020;27:9-16.
58. Uematsu T, Nakashima K, Kikuchi M, et al. The Japanese Breast Cancer Society Clinical Practice Guidelines for Breast Cancer Screening and Diagnosis, 2018 Edition. *Breast Cancer* 2020;27:17-24.
59. Inokuchi M, Kutomi G, Kijima Y, et al. The Japanese Breast Cancer Society clinical practice guidelines for surgical treatment of breast cancer, 2018 edition. *Breast Cancer* 2020;27:4-8.
60. Shimoi T, Nagai SE, Yoshinami T, et al. The Japanese Breast Cancer Society Clinical Practice Guidelines for systemic treatment of breast cancer, 2018 edition. *Breast Cancer* 2020;27:322-31.
61. Iwata H, Saji S, Ikeda M, et al. The Japanese Breast Cancer Society Clinical Practice Guidelines, 2018 edition: the tool for shared decision making between doctor and patient. *Breast Cancer* 2020;27:1-3.
62. Burstein HJ, Lacchetti C, Anderson H, et al. Adjuvant Endocrine Therapy for Women With Hormone Receptor-Positive Breast Cancer: ASCO Clinical Practice Guideline Focused Update. *J Clin Oncol* 2019;37:423-38.
63. Lyman GH, Greenlee H, Bohlke K, et al. Integrative Therapies During and After Breast Cancer Treatment: ASCO Endorsement of the SIO Clinical Practice Guideline. *J Clin Oncol* 2018;36:2647-55.
64. Tung NM, Boughey JC, Pierce LJ, et al. Management of Hereditary Breast Cancer: American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology Guideline. *J Clin Oncol* 2020;38:2080-106.
65. Hassett MJ, Somerfield MR, Baker ER, et al. Management of Male Breast Cancer: ASCO Guideline. *J Clin Oncol* 2020;38:1849-63.
66. Ramakrishna N, Temin S, Chandarlapaty S, et al. Recommendations on Disease Management for Patients With Advanced Human Epidermal Growth Factor Receptor 2-Positive Breast Cancer and Brain Metastases: ASCO Clinical Practice Guideline Update. *J Clin Oncol* 2018;36:2804-7.
67. Henry NL, Somerfield MR, Abramson VG, et al. Role of Patient and Disease Factors in Adjuvant Systemic Therapy Decision Making for Early-Stage, Operable Breast Cancer: Update of the ASCO Endorsement of the Cancer Care Ontario Guideline. *J Clin Oncol* 2019;37:1965-77.
68. Denduluri N, Somerfield MR, Chavez-MacGregor M, et al. Selection of Optimal Adjuvant Chemotherapy and Targeted Therapy for Early Breast Cancer: ASCO Guideline Update. *J Clin Oncol* 2021;39:685-93.
69. Giordano SH, Temin S, Chandarlapaty S, et al. Systemic Therapy for Patients With Advanced Human Epidermal Growth Factor Receptor 2-Positive Breast Cancer: ASCO Clinical Practice Guideline Update. *J Clin Oncol* 2018;36:2736-40.
70. Andre F, Ismaila N, Henry NL, et al. Use of Biomarkers to Guide Decisions on Adjuvant Systemic Therapy for Women With Early-Stage Invasive Breast Cancer: ASCO Clinical Practice Guideline Update-Integration of Results From TAILORx. *J Clin Oncol* 2019;37:1956-64.
71. Visvanathan K, Fabian CJ, Bantug E, et al. Use of Endocrine Therapy for Breast Cancer Risk Reduction: ASCO Clinical Practice Guideline Update. *J Clin Oncol* 2019;37:3152-65.

72. Cardoso F, Kyriakides S, Ohno S, et al. Early breast cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol* 2019;30:1674.
73. National Comprehensive Cancer Network. NCCN guidelines version 6.2020 Breast Cancer; 2020. Available online: <https://education.nccn.org/>
74. National Comprehensive Cancer Network. NCCN guidelines version 1.2020 Breast Cancer Screening and Diagnosis; 2020. Available online: <https://education.nccn.org/>
75. Mulder RL, Hudson MM, Bhatia S, et al. Updated Breast Cancer Surveillance Recommendations for Female Survivors of Childhood, Adolescent, and Young Adult Cancer From the International Guideline Harmonization Group. *J Clin Oncol* 2020;38:4194-207.
76. Chinese Anti-Cancer Association, Committee of Breast Cancer Society. Guidelines and Standards for the Diagnosis and Treatment of Breast Cancer of Chinese Anti-Cancer Association (2019 Edition). *China Oncology* 2019;29:609-80.
77. China Medical Women's Association Breast Center. Chinese Advanced Breast Cancer Consensus Guideline 2020 (CABC3). *Oncol Prog* 2020;18:1945-64.
78. Chinese Society of Clinical Oncology. Guidelines of Chinese Society of Clinical Oncology (CSCO) of Breast Cancer; 2020. Available online: <http://www.cSCO.org.cn/index.aspx>
79. National Institute for Health and Care Excellence. Early and locally advanced breast cancer: diagnosis and management; 2018. Available online: <https://www.nice.org.uk/guidance>
80. Guidelines International Network. Management of Breast Cancer; 2019. Available online: <https://g-i-n.net/library/new-international-guidelines-library>
81. Ruddy KJ, Gelber SI, Tamimi RM, et al. Prospective study of fertility concerns and preservation strategies in young women with breast cancer. *J Clin Oncol* 2014;32:1151-6.
82. Ruggeri M, Pagan E, Bagnardi V, et al. Fertility concerns, preservation strategies and quality of life in young women with breast cancer: Baseline results from an ongoing prospective cohort study in selected European Centers. *Breast* 2019;47:85-92.
83. Wang X, Zhou Q, Chen Y, et al. Using RIGHT (Reporting Items for Practice Guidelines in Healthcare) to evaluate the reporting quality of WHO guidelines. *Health Res Policy Syst* 2020;18:75.
84. Wang Z, Zhang Y, Guo W, et al. Reporting specifications regarding epilepsy practice guidelines based on the RIGHT reporting checklist: an analysis. *BMJ Open* 2019;9:e029589.
85. Yao X, Ma J, Wang Q, et al. A Comparison of AGREE and RIGHT: which Clinical Practice Guideline Reporting Checklist Should Be Followed by Guideline Developers? *J Gen Intern Med* 2020;35:894-8.
86. Zhao S, Cao J, Shi Q, et al. A quality evaluation of guidelines on five different viruses causing public health emergencies of international concern. *Ann Transl Med* 2020;8:500.
87. Wieringa TH, Kunneman M, Rodriguez-Gutierrez R, et al. A systematic review of decision aids that facilitate elements of shared decision-making in chronic illnesses: a review protocol. *Syst Rev* 2017;6:155.
88. Baca-Dietz D, Wojnar DM, Espina CR. The shared decision-making model: Providers' and patients' knowledge and understanding in clinical practice. *J Am Assoc Nurse Pract* 2020;33:529-36.
89. Maes-Carballo M, Muñoz-Núñez I, Martín-Díaz M, et al. Shared decision making in breast cancer treatment guidelines: Development of a quality assessment tool and a systematic review. *Health Expect* 2020;23:1045-64.

**Cite this article as:** Zhou H, Chen H, Cheng C, Wu X, Ma Y, Han J, Li D, Lim GH, Rozen WM, Ishii N, Roy RG, Wang Q. A quality evaluation of clinical practical guidelines on breast cancer using the RIGHT checklist. *Ann Transl Med* 2021;9(14):1174. doi: 10.21037/atm-21-2884