



Brand Equity in Visual Inspection with Acetic Acid and Clinical Breast Examination: A Systematic Review

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ABSTRACT

VIA and CBE examinations are services for the early detection of cervical cancer and breast cancer. The achievements of VIA and CBE examinations in Indonesia in 2019 are still very far from the target set, namely only 12.2% of the total number of women aged 30-50 years old. The purpose of this study is to determine the relationship between brand equity, brand awareness, brand image, and brand trust on customer demand for VIA and CBE examinations. This research is a systematic review carried out according to the guidelines protocol of The Center for Review and Dissemination and the Joanna Briggs Institute Guideline and PRISMA checklist. The strategy for finding articles using the PICOS framework was carried out in September-October 2020. The data used included 10 national and international journal articles which were obtained through the database, namely Garuda, Scopus, Science Direct, Proquest, and Springerlink all journals. Articles search utilizing keywords and boolean operators (AND, OR, NOT, or AND NOT). The results show that of the 10 articles reviewed, 7 articles studied the VIA test method and 3 articles studied the CBE test method. The outcome in the form of the VIA and CBE test services utilization is influenced by brand equity which consists of brand awareness, brand image, and brand trust. The brand awareness and the brand trust of women towards the VIA and CBE tests are high as well as the brand image of the VIA and CBE tests that are good can increase customer demand for VIA and CBE examinations. It is hoped that health facilities will increase women's interest in utilizing VIA and CBE test services by carrying out effective promotion efforts.

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ABSTRAK

VIA and CBE examinations are services for the early detection of cervical cancer and breast cancer. The achievements of VIA and CBE examinations in Indonesia in 2019 are still very far from the target set, namely only 12.2% of the total number of women aged 30-50. This study aims to determine the relationship between brand equity, brand awareness, brand image, and brand trust on customer demand for VIA and CBE examinations. This research is a systematic review carried out according to the guidelines protocol of The Center for Review and Dissemination and the Joanna Briggs Institute Guideline and PRISMA checklist. The strategy for finding articles using the PICOS framework was carried out in September-October 2020. The data used included 10 national and international journal articles obtained through the database, namely Garuda, Scopus, Science Direct, Proquest, and SpringerLink all journals. Articles search utilizing keywords and boolean operators (AND, OR, NOT, or AND NOT). The results show that of the 10 articles reviewed, 7 studied the VIA test method and 3 studied the CBE test method. The outcome in the form of the VIA and CBE test services utilization is influenced by brand equity which consists of brand awareness, brand image, and brand trust. The brand awareness and trust of

women towards the VIA and CBE tests are high, and the brand image of the VIA and CBE tests that are good can increase customer demand for VIA and CBE examinations. It is hoped that health facilities will increase women's interest in utilizing VIA and CBE test services by carrying out effective promotion efforts.

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INTRODUCTION

Breast cancer and cervical cancer are the types of cancer with the highest incidence in the world (WHO, 2013). The highest cancer incidence rate for women is breast cancer at 42.1 per 100,000 population, followed by cervical cancer at 23.4 per 100,000 population. The cancer incidence in Indonesia is 136 per 100,000 population and ranks eighth in Southeast Asia and ranks 23rd in Asia. The highest incidence rate for males is lung cancer, which is 19 per 100,000 population with an average death of 10.9 per 100,000 population, followed by liver cancer of 12.4 per 100,000 population with an average death rate of 7.6 per 100,000 population. The highest incidence rate for women is breast cancer, which is 42.1 per 100,000 population with an average death rate of 17 per 100,000 population followed by cervical cancer at 23.4 per 100,000 population with an average death rate of 13.9 per 100,000 population (Ministry of Health, 2018).

Based on the Regulation of the Minister of Health Number 34 of 2015, Breast Cancer and Cervical Cancer Prevention, women of childbearing age or women aged 30-50 years old are expected to carry out a Clinical Breast Examination (CBE) and Visual Inspection with Acetic Acid (VIA) in health services that function to early detection of breast cancer and cervical cancer.

Based on data from Indonesia's Health Profile in 2017, VIA and CBE examination results were only 2.98%. Whereas in 2018 the VIA and CBE examination results were 7.34%. In 2019 it increased to 12.2% but it is still far from the target that has been set, considering that the Regulation of The Minister of Health No. 4 of 2019 states that all women of childbearing age (age 30-50 years old) are required to carry out early detection of breast cancer and cervical cancer through CBE and VIA examinations.

This systematic review aims to analyze the low demand for early detection of breast cancer and cervical cancer through CBE and VIA examinations in Indonesia. In this systematic review, several critical questions were raised: (1) Identifying customer demands for CBE and VIA examinations as early detection of breast cancer and cervical cancer, and (2) recommendations from a systematic review.

MATERIALS AND METHOD

Search Strategy

The literature search in this systematic review used databases with high and medium-quality criteria, namely Garuda, Scopus, Science Direct, Proquest, and Springerlink all journals. The search terms used in this research strategy were: 'Brand Awareness', 'Brand Image', 'Brand Trust', 'Brand Equity', 'Clinical Breast Examination', and 'Visual Inspection with Acetic Acid'. Terms are matched to terms in the Medical Subject Heading (MeSH) database. The database selection is because the journal publishers are accredited and often used

by other researchers to search for literature in their research. These considerations include population, intervention (predisposition and enablement), comparator, and outcome (PICO). Furthermore, the selection of studies is also reported in the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) flowchart. The search strategy identified 2344 studies. Removal of duplicates and titles and filtering of abstracts resulted in the deletion of 1711 studies. The search results that have been checked for duplication of 1,711 articles were excluded from the literature search selection and the remaining 441 articles. In the second phase of the study selection process, the researchers screened based on the identification of titles and abstracts adapted to the systematic review theme, 561 articles were excluded because they were not related to Brand Awareness, Brand Image, Brand Trust in Clinical Breast Examination and Visual Inspection with Acetic Acid and remaining 72 articles with complete literature text.

The third stage, namely the assessment for eligibility and suitability assessment of 72 articles will be assessed and seen whether they comply with the inclusion criteria set at the PICO and the research purposes. Complete text literature was excluded as many as 62 literature, with the following reasons: not original research (as many as 43 articles); full text not in English or Indonesian (5 articles) and not cross-sectional, case-control, mixed method and secondary data analyzed study (14 articles). So at the end of the selection, 10 articles were included in the study.

Inclusion And Exclusion Criteria

Inclusion and exclusion criteria were applied in this study to obtain relevant studies for further systematic review research. Inclusion and exclusion criteria were assessed according to PICO. The inclusion criteria for the population were studies that focused on women aged 15-59 years old, while the exclusion criteria focused on women under the age of 15 and over 59 years old. Furthermore, the intervention inclusion criteria consisted of the influence of brand equity, brand awareness, brand image, and brand trust on customer demand for visual inspection with acetic acid (VIA), while there were no exclusion criteria. The Joanna Briggs Institute (JBI) for a systematic review does not require a comparator. Meanwhile, the inclusion criteria for the results were examining the influence of brand equity, brand awareness, brand image, and brand trust, while there were no exclusion criteria. Regarding the publication year and language, the publication year was 2015–2020 and written in English, and there were no exclusion criteria.

Quality Assessment

The study quality of each article designated as a source of the systematic review was determined based on quality analysis using The JBI Critical Appraisal Tools for articles

with cross-sectional and case-control study designs. Each article is assessed using the Checklist for Analytical Cross-Sectional Studies and Checklist for Case-Control Studies forms (appendix 2). And articles with a mixed-method study design, are assessed using the Mixed Methods Appraisal Tool (MMAT).

There are 8 questions listed in the study quality assessment form using The JBI Critical Appraisal Tools, namely the Checklist for Analytical Cross-Sectional Studies and 10 questions in the Checklist form for Case-Control Studies. Each question in the form has 4 answer options, namely Yes, No, Unclear, and Not Applicable. Not Applicable is provided as an option and may be appropriate in rare cases. Whereas in the Mixed Methods Appraisal Tool (MMAT) form there are 5 questions. Each question in the form has 3 answer options, namely Yes, No, and Can't Tell. The Can't Tell answer is given if the article reports unclear information related to the criteria. The following table summarizes the results of the study quality assessment for articles with a cross-sectional study design.

Table 1. Study quality assessment on Reference Journals (n = 10)

No.	Authors and Year	Results	Category
1.	Abeje et. al., (2019)	87,5%	GOOD
2.	Aljohani et. al., (2017)	100%	GOOD
3.	Fauza et. al., (2019)	75%	GOOD
4.	Febriani (2016)	75%	GOOD
5.	Kholifah et. al., (2019)	75%	GOOD
6.	Martaningrum et. al., (2020)	87,5%	GOOD
7.	Qura et. al., (2019)	87,5%	GOOD
8.	Sayed et. al., (2019)	100%	GOOD
9.	Sunarta et. al., (2019)	80%	GOOD
10.	Wulan et. al., (2019)	75%	GOOD

Note. The results of the quality assessment are based on (1-13) checklist for analytical cross-sectional studies, (14-15) checklist for case-control studies from JBI Critical Appraisal, and (16) mixed methods appraisal tool. Category 74 – 100% = GOOD, 47 – 73% = MODERATE, 20 – 46% = POOR.

Data Extraction

Data extraction is used to separate which data is involved in the research, consisting of several indicators used in assessing research articles. These indicators include the year of publication (2015-2020). The research settings were grouped based on brand equity which consisted of brand awareness, brand image, and brand trust which influenced the VIA and CBE test services utilization. The included study designs were cross-sectional and case-control studies. This research was peer-reviewed by three people AFR, WC, MAR. The keywords in this systematic review were adapted to the Medical Subject Heading (MeSH). The keywords used for the search were 'Brand Awareness', 'Brand Image', 'Brand Trust', 'Brand Equity', 'Clinical Breast Examination', and 'Visual Inspection with Acetic Acid'.

RESULTS

PRISMA flowchart which summarizes the inclusion and exclusion criteria used as a basis for decision-making to retrieve the number of article data examined in a systematic review (Fig. 1). Researchers found 2,344 articles that

matched the keywords consisting of 847 articles from Garuda, 912 articles from Science Direct, 228 articles from Proquest, 268 articles from Scopus, 89 articles from Springer. The search results obtained are then checked for duplication. At the initial identification stage, 1,711 articles were excluded from the literature search selection and 441 articles remained. In the second phase of the study selection process, the researchers screened based on the identification of titles and abstracts adapted to the systematic review theme, 561 articles were excluded because they were not related to Brand Equity (Brand Awareness, Brand Image, Brand Trust) in Clinical Breast Examination and Visual Inspection with Acetic Acid and remaining 72 articles with complete literature text. The third stage, namely the assessment for eligibility and suitability assessment of 72 articles will be assessed and seen whether they comply with the inclusion criteria set at the PICO and the research purposes. Complete text literature was excluded as many as 62 literature, with the following reasons: not original research (as many as 43 articles); full text not in English or Indonesian (5 articles) and not a cross-sectional, case-control, mixed method and secondary data analyzed study (14 articles). So at the end of the selection, 10 articles were included in the study.

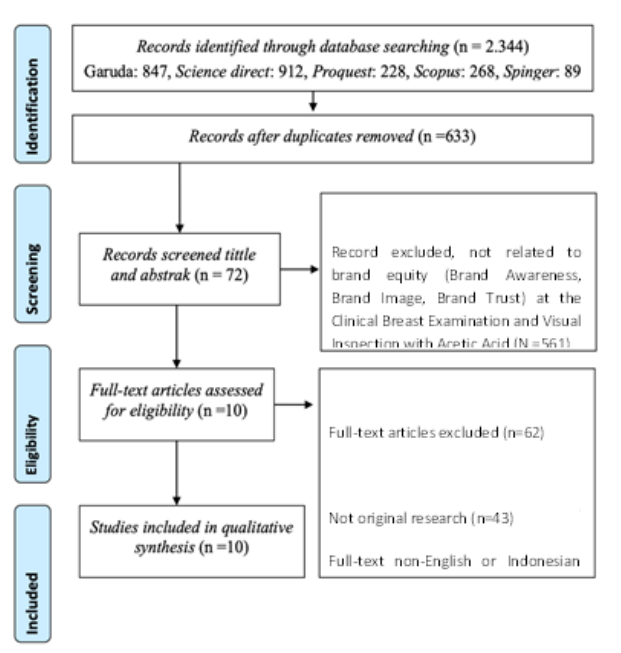


Figure 1 PRISMA Flowchart

STUDY CHARACTERISTICS

The characteristics of the included studies include study design, brand equity variables, and the country (location) of the study. The study design used in the majority of articles that examined VIA was cross-sectional, namely 6 articles (60%). The variables examined in the VIA articles were mostly brand image, namely 6 articles (60%), for brand awareness variables as many as 5 articles (50%), and for brand trust as many as 1 article (10%). Of the 7 selected articles, all research locations were conducted in Indonesia.

The study design used in articles that examined CBE was cross-sectional with 2 articles (20%) and mixed method with 1 article (10%). The variables examined in the articles about CBE were brand awareness of 3 articles (30%) and brand trust of 1 article (10%). Of the 3 articles included in the research

locations, they were conducted in various countries, including Kenya with 1 article (10%), Ethiopia with 1 article (10%), and Saudi Arabia with 1 article (10%). In Table 2, it can

be seen that 10 articles were analyzed based on brand equity variables (brand awareness, brand image, and brand trust) and customer demand (VIA and CBE tests).

Table 2. Summary of article review results

No	Authors and Year	Method		Results Summary				
		Design	Subject	Brand Equity			Customer Demand	
				Awareness	Image	Trust	VIA	CBE
1	Abeje et al. (2019)	Cross sectional study	633 woman aged 20-49 years old	61.8% of women have awareness about the early detection of breast cancer using the CBE method	Not researched	Not researched	Not researched	The percentage of CBE services utilization is 21% of the number of women who carry out breast cancer examinations. CBE test coverage is still low because around 66% of women do not receive information about breast cancer screening methods, so women's awareness about the CBE test is still low.
2	Aljohani et al. (2017)	Cross sectional study	124 women aged over 39 years	29% of women who do not carry out CBE have less awareness to use CBE services	Not researched	Not researched	Not researched	The percentage of CBE services utilization is 27.4%. Lack of awareness about the CBE method is a barrier for women not taking the CBE test
3	Fauza et al. (2019)	Cross sectional study	110 women of childbearing age	52.4% of women are aware to utilize VIA test services	Not researched	Not researched	The percentage of VIA test services utilization is 39.1%. Women's awareness about the VIA test can affect women's interest to utilize VIA test services (p-value = 0.041).	Not researched
4	Febriani (2016)	Cross sectional study	362 women of childbearing age	Not researched	51.9% of women still have a negative perception of VIA test services as an effort to early detect cervical cancer	Not researched	The percentage of VIA services utilization is 18.5%. The low coverage of VIA test services is caused by several factors, one of which is that most women still have negative perceptions about VIA test	Not researched
5	Kholifah et al. (2019)	Cross sectional study	200 women aged 30-50 years old	63.6% of women who take the VIA test have high awareness and a strong desire to use VIA services	54.6% of women who take the VIA test have a positive perception of the benefits obtained from the VIA test	56.2% of women who take the VIA test have high trust in health services	The percentage of VIA services utilization is 43.11%. Women's interest in utilizing VIA test services can be caused by several factors such as awareness about the VIA test, women's perceptions of the VIA test, and trust in VIA test services.	Not researched
6	Martaningrum et al. (2020)	Cross sectional study	200 women aged 30-50 years old	77.9% of women who do not take the VIA test have low awareness to take the VIA test	81.4% of women who do not take the VIA test have a negative perception of VIA test services	Not researched	The percentage of VIA test services utilization is 27.5%. Low interest of women in utilizing VIA test services are caused by women's awareness about VIA test which is still low and negative perceptions about VIA test services	Not researched

No	Authors and Year	Method		Results Summary				
		Design	Subject	Brand Equity			Customer Demand	
				Awareness	Image	Trust	VIA	CBE
7.	Qura et al. (2019)	Cross sectional analytical study	101 women aged 15-49 years old	Not researched	All women who have a negative perception of VIA test services do not take VIA tests to detect early cervical cancer.	Not researched	The percentage of VIA test services utilization is 29.7%. Women's interest in utilizing VIA test services can be influenced by women's perceptions of VIA test services (p-value = 0.005).	Not researched
8.	Sayed et al. (2019)	Mixed method study	442 women aged 15-49 years old	27% of women have a good awareness of CBE services	Not researched	Some women have a low level of trust in CBE services.	Not researched	The percentage of CBE services utilization is 10.8%. The low interest of women in utilizing the CBE test service is because most women still have less awareness about the CBE test and some women still have low trust in the CBE test service.
9.	Sunarta et al. (2019)	Case control study	150 women of childbearing age	82% of women who take the VIA test have high awareness to take the VIA test	78% of women who take the VIA test have a good perception of the benefits of the VIA test service	Not researched	The percentage of women who take the VIA test is 25%. The use of VIA test services is influenced by women's awareness of VIA tests (p-value = 0.001) and perceptions of VIA test services (p-value = 0.000).	Not researched
10.	Wulan et al. (2019)	Cross sectional analytical study	232 women of childbearing age	Some women still have low awareness of VIA services used to detect early cervical cancer.	59.05% of women still have poor perceptions about the benefits of VIA test services	Not researched	The percentage of VIA test services utilization is 33.6%. The factor that influences women's interest in utilizing VIA test services is the perception of the benefits of the VIA test (p-value = 0.041).	Not researched

CUSTOMER DEMAND FOR VIA EXAMINATION

Table 3 shows that customer demand for VIA test services is described as still quite low in several other studies. This can be seen from the percentage of women who take the VIA test less than 30%, namely in a study conducted by Martiningrum et. al (2020), Qura et. al (2019), and Sunarta et. al (2019) stated that the percentage of VIA test services utilization is 27.5%, 29.7%, and 25% respectively. Meanwhile, in research Wulan et. al (2019), Fauza et. al (2019), and Kholifah et. al (2019) stated that the percentage of VIA services utilization is 33.6%, 39.1%, and 43.11%, respectively, which meant that women's interest in utilizing VIA test services is sufficient. This is because women have high enough awareness to carry out early detection of cervical cancer with the VIA test method in health facilities.

Table 3.
Results of the VIA test services Utilization Analysis

No.	Authors	Results
1.	Fauza et. al. (2019)	The percentage of VIA test services utilization is 39.1%, which means that women's interest in utilizing VIA test services is still quite low.
2.	Febriani (2016)	It is found that the coverage of VIA test services is still very low with the percentage of VIA test services utilization being 18.5%.
3.	Kholifah et. al. (2019)	Women's interest in VIA examination is sufficient because women's awareness to carry out early detection of cervical cancer is quite high, the percentage of VIA examination coverage is 43.11%.
4.	Martaningrum et. al.(2020)	It is found that the coverage of VIA test services is still low, the percentage of women who take VIA tests is 27.5%.
5.	Qura et. al. (2019)	The percentage of VIA test services utilization in health facilities is still low at 29.7%.
6.	Sunarta et. al. (2019)	About 25% of women carry out VIA examinations at health facilities means that the coverage of VIA test services is still low.
7.	Wulan et. al. (2019)	33.6% of women ever take the VIA test in health facilities as an effort to detect early cervical cancer.

CUSTOMER DEMAND FOR CBE EXAMINATION

Based on Table 4. the results from several articles reviewed, it can be seen that women's interest in utilizing CBE test services at health facilities is still relatively low, as reported in the study by Abeje et. al (2019), Aljohani et. al (2017) and Sayed et. al (2019) which stated that the percentage of utilization of CBE services is 21%, 27.4%, and 10.8%, respectively. This shows that women's interest in utilizing CBE test services as an effort to detect early breast cancer is still low, which causes low coverage of CBE tests in health facilities.

Table 4.
Results of the CBE Test Services Utilization Analysis

No.	Authors	Results
1.	Abeje et. al.	The percentage of CBE services

	(2019)	utilization is 21% of the number of women carrying out breast cancer screening.
2.	Aljohani et. al.(2017)	27.4% of women in Saudi Arabia routinely take CBE tests in health facilities, coverage of CBE test services is still low because awareness about CBE tests is still pretty low.
3.	Sayed et. al. (2019)	The percentage of women who take the CBE test as an effort to detect early breast cancer is 10.8%, which means women's interest in the CBE test is still very low.

DISCUSSION CUSTOMER DEMAND FOR VIA TEST EXAMINATION

Customer demand for VIA test services can be interpreted as someone's desire or interest to access or get VIA test services to detect early cervical cancer in women. Based on the results of several studies that have been reviewed, it can be seen that women's interest in utilizing VIA test services is still quite low. This can be seen from the results of several studies that have been reviewed which show that the percentage of VIA test services utilization is less than 45% (Fauza et. al, 2019; Qura et. al, 2019; Sunarta et. al, 2019).

The low women's interest in utilizing VIA test services is influenced by several factors, including in terms of individual characteristics, namely low-income levels and lack of knowledge, in terms of the lack of support from family, friends, and health workers which can also affect women's interest in carrying out VIA tests. Apart from that, in terms of service providers or health facilities, such as service quality, it can also influence women's interest in utilizing VIA test services (Kholifah et. al, 2019).

VIA examination coverage is still far from the target set by the government, which is 100%. Even though the government requires all women of childbearing age in Indonesia to carry out early detection of cervical cancer, the fact is that VIA examination results are still very low. This is due to the absence of control from policymakers and the absence of strict sanctions for health service providers who do not meet the VIA examination coverage targets that have been set. Increasing women's awareness about the importance of VIA test services as an effort to detect early cervical cancer, perceptions about the benefits of VIA test services, and trust in VIA test services can increase interest in utilizing VIA test services in health facilities (Martiningrum et. al, 2020). In addition to increasing public awareness, policyholders such as the ministry and health office should monitor and evaluate the application of the policies that have been set.

CUSTOMER DEMAND FOR CBE TEST EXAMINATION

Women's interest in utilizing CBE test services at health facilities is still relatively low, this can be seen from the results of several studies that have been reviewed which show that the percentage of CBE test services utilization at health facilities is only less than 30% (Abeje et. Al, 2019; Aljohani et.Al, 2017; Sayed et.Al, 2019). The low number of women's interest in utilizing CBE test services at health facilities can be influenced by several factors, including socio-demographic factors, knowledge, environment, and factors from health facilities.

Socio-demographic factors such as education and income levels as well as knowledge factors can influence women's interest in utilizing CBE test services at health facilities. This is because women who have a higher level of education tend to have good knowledge about the early detection of breast cancer with the CBE method as a preventive measure. Because they have good knowledge, women tend to have high awareness and interest in going to health facilities to take advantage of CBE test services (Abeje et. al 2019; Antabe et. al, 2020). Low levels of income will affect women to access health services. The cost of health services which is considered expensive is one of the reasons women do not use the CBE test services as early detection of breast cancer (Barcelos et. al, 2018).

The CBE test services utilization can be influenced by the environment such as exposure to information, support from family, friends, and health workers, and the stigma circulating in the community. Ease of access to information plays a role in increasing knowledge about health because difficult access to information can lead to a lack of women's knowledge about the early detection of breast cancer so women tend not to utilize CBE test services. In addition, family support has a very important role in improving the health of family members so that it can increase women's interest in accessing health services (Dyanti et. al, 2016; Nurhayati et. al, 2019). In addition, women's awareness about CBE tests as an early detection effort and trust in CBE test services can also influence women's interest in utilizing CBE test services as an effort to prevent breast cancer. Therefore health facilities need to carry out effective promotions to increase women's brand awareness about CBE test services to detect early breast cancer (Sayed et. al, 2019).

CONCLUSION

Based on the results of a systematic review of 10 selected articles regarding brand equity (brand awareness, brand image, and brand trust) in the VIA and CBE examinations, it can be concluded as follows:

1. As many as four out of seven selected articles examining VIA outcomes stated that the percentage of VIA test services utilization in health facilities was still low and all selected articles examining CBE outcomes stated that the percentage of CBE test services utilization in health facilities was still low with a percentage of less than 30% which means that customer demand for VIA and CBE test services at health facilities is still low.
2. Brand equity which consists of brand awareness, brand image, and brand trust is an aspect of demand creation that can increase women's interest in utilizing VIA test services. A high level of brand awareness of the existence of the VIA test, and a good brand image can generate a good perception of VIA and a high level of brand trust in VIA test services can increase women's interest in utilizing VIA test services.

Articles that examine CBE outcomes stated that brand equity consisting of brand awareness and brand trust is an aspect of demand creation that can increase women's interest in utilizing CBE test services. High brand awareness of the existence of the CBE test can increase women's interest in utilizing CBE test services in health facilities. A high level of brand trust in CBE services can make women feel safer and more comfortable carrying out CBE in health facilities.

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