Research Article

A Systematic Review of the Impact of Sociocultural Factors on West African Breast Cancer Diagnosis and Management

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Abstract

Background: The ongoing global incidence and prevalence rates of breast cancer ensure that this remains a condition needing further research and awareness raising in relation to the individual cultures and contexts in which it is diagnosed'. Being able to inform practice-based decision making with co-constructed knowledge of the social and cultural context in which the illness is experienced, and clinical intervention sought. A process of systematic review to identified sociocultural factors that affect breast cancer management and integrated existing published evidence on how these factors influence treatment experiences of breast cancer in West Africa.

Methods: A systematic literature search of sociocultural factors identified as affecting breast cancer screening, diagnosis and treatment was carried out between September 2019 and January 2020. PubMed Central, CINAHL and discover databases were used for the search. The inclusion criteria incorporated studies on breast cancer patients aged 16years and above, conducted in West Africa and published as far back as 2015. The Critical Appraisal Skill Programme (CASP) for qualitative studies was used in assessing the quality of the included studies. Study selection and data extraction were conducted and validated by the researchers. A thematic synthesis was adopted in summarising the findings of this review.

Results: Seven studies were included in this review. Included studies reported on the impact of sociocultural factors such as cultural belief (7) and Religious beliefs (5). The results show an evident relationship between cultural and religious beliefs and practices in Africa; and breast cancer treatment-seeking behaviours. One of the potential mechanisms of understanding of the impact of sociocultural factors on breast cancer management is through myths and beliefs about the aetiology of the disease with spiritual explanations often favoured especially at the onset of the condition. As such, late presentations at advanced cancer stages and orthodox treatment refusal; were frequently reported in relation to religious beliefs and myths about breast cancer.

Conclusion: Cultural belief and religion play greater roles in the illness experience and treatment-seeking behaviour of breast cancer patients. To effectively manage breast cancer in West Africa, there is a need to integrate the impact of these identified sociocultural factors for an improved treatment outcome.

Registration: The protocol used for this systematic review was registered in PROSPERO with registration number CRD42020175602.

Background

Globally, breast cancer is the most common malignancy in women accounting for 15% of cancer-related deaths [1,2]. About 1.7 million incidence cases of breast cancer are reported annually across the world [3]. Historically, high-income countries accounted for higher incidence and prevalence rates of breast cancer but due to epidemiological transition in the global pattern of disease, the Low and Middle-income countries (LMICs) are now facing a progressive increase in breast cancer incidence and mortality, with two-thirds of new cancer diagnoses estimated to occur in developing countries by 2035 [1,4,5] . In 2012, there were 521, 907 deaths from breast cancer globally [1]. Although 38% of the recorded global deaths occurred in developed countries, the mortality-to-incidence

ratio for breast cancer is higher in LMICs than in high-income countries [1,6]. The majority of the reported mortality-to-incidence ratios in LMICs are up to 0.55 while high-income countries like North America are reported as 0.16 [6]. Most of the LMICs are in Africa, and in 2018, Africa recorded breast cancer incident rate of 24.5 per 100,000 persons [7]. The highest percentage of all new cases of breast cancer in Africa occurred in West Africa; with Nigeria alone accounting for 15%; hence the geographical focus of this review across West Africa [8].

There is a wealth of established evidence on incidence, prevalence, aetiology, risk factors, prevention, diagnosis, classification, staging, treatment and prognostic outcomes of breast cancer [9-16]. Globally, there has been significant improvement in breast cancer management and consequently breast cancer survival rates [17-23]. The survival rate for breast cancer patients improved from 74.0% in 2010 to 88.5% in 2015 [17]. Nevertheless, this improvement is not evenly distributed across the globe as West African countries have limited operational healthcare infrastructure systems in comparison to developed countries [24]. Whilst studies in these areas have contributed to improved knowledge and management of breast cancer, evidence on other crucial aspects of breast cancer management and contributing extraneous variables such as socio-cultural factors, of illness experience and impact of breast cancer treatment on outcomes is sparse. This gap is more pronounced in West Africa with limited evidence of experiences of breast cancer management.

Some studies have reported on the potential of sociocultural factors influencing breast cancer treatment [16,25]. To date, a limited number of high-quality studies have reported on this association and its impact on treatment, especially across the whole of Africa; no rigorous systematic reviews have been published specifically on West Africa [16]. This underpinned the theoretical justification for undertaking a systematic review of studies where the impact of sociocultural on breast cancer management has been assessed for patients in West Africa. The main aim of the review was to identify which sociocultural factors, if any, impact on breast cancer treatment and the extent to which this is an issue in the contextual setting.

Aims and Objectives
- To identify sociocultural factors that impact on processes and outcomes of assessment, diagnosis and management of breast cancer.
- To integrate existing evidence on how the identified socio-cultural factors, influence breast cancer screening, diagnosis, treatments and outcomes in West Africa.
- To determine which sociocultural factors are reported to play major roles on breast cancer screening, diagnosis, treatment in West Africa.

Methodology
Protocol and Registration
This systematic review protocol was registered on the International Prospective Register of Systematic Reviews (PROSPERO) database with registration number CRD42020175602. There were no deviations from the established protocol.

Search Strategy
We adopted PRISMA guidelines throughout the process of this review [26]. The search strategy was designed to specifically identify studies written in the English language, conducted in West Africa and published between January 2015 and December 2019. We searched PubMed central, Discover and CINAHL for articles investigating the relations between sociocultural

factors and breast cancer screening, diagnosis and treatment. MeSH terms used were breast cancer, breast neoplasm, breast carcinoma; sociocultural factors, spirituality, religion, fear, tradition, gender, culture, body image, faith, family support and social support; breast cancer diagnosis, breast cancer screening, breast cancer treatment, breast cancer management; West African, Ghana, Nigeria, Gambia, Benin, Guinea, Ivory Coast, Togo, Niger, Sierra Leone, Mali, Cape Verde, Senegal, Burkina Faso, Mauritania and Guinea-Bissau; these were added to text words as seen in figure 1 (full search strategy). The list of terms above were the keywords used for the search. We extended our search by examining the reference lists of articles selected from the electronic search for directly relevant studies and grey literature.

Search Terms and Strategy
Breast cancer* OR breast neoplasm* OR breast carcinoma*;
AND Sociocultural factors* OR Spirituality* OR Religion* OR Fear* OR Tradition* OR Gender* OR Culture*OR Body image* OR Faith* OR Family support* OR Social support
AND diagnosis* OR screening* OR treatment* OR management AND West African* OR Ghana* OR Nigeria* OR Gambia* OR Benin* OR Guinea* OR Ivory coast* OR Togo* OR Niger* OR Sierra leone* OR Mali* OR Cape Verde* OR Senegal* OR Burkina Faso* OR Mauritania* OR Guinea-Bissau

Figure 1: Search Terms and Strategy

Selection Criteria
In the selection of studies to be reviewed, inclusion and exclusion criteria were used to ensure that only relevant studies were selected for the review.

Studies that assessed the relation between aspects of breast cancer management (screening, diagnosis, treatment-seeking behaviour, choice of treatment among others) and at least one sociocultural factor was eligible for inclusion. We included studies conducted in West Africa; with breast cancer patients aged 16 years and above as participants; adopted the design of a qualitative, quantitative or mixed method approaches; and were published between 2015 and 2019.

Study Selection
The titles and abstracts of selected articles were retrieved and exported to EndNote library to remove duplicate retrievals. The inclusion and exclusion criteria were applied in the initial screening of titles and abstracts. Title and abstract screening were performed by two reviewers (VCO and PEA). The two reviewers independently assessed full texts of the studies retained after the first screening for eligibility. Data extraction was performed by VCO and independently validated by CH and JL. Any disagreement between reviewers on eligibility for final inclusion in the systematic review were resolved via academic debate and processes of formal consensus-building by active discussion between all reviewers.

Data Extraction
Data extraction was independently carried out by VCO and validated by CH. Information extracted included author, journal, year of publication, titles, study design, objectives, participants, sample size, setting/country, methods as well as relevant findings (on sociocultural factors in relation to screening, diagnosis and management of breast cancer), (see Table 1 for the data extraction details).

Table 1: Data Extraction Sheet

Authors, date & country and focus of study	Study design	Participants, recruitment and sampling methodology	Intervention/ Focus of study	Findings	Identified Socio-cultural factors	Critique
Aziato & Clegg-Lamptey (2015); Ghana. The study aimed at exploring and understanding of factors that influence the treatment decision of women diagnosed with breast cancer.	Exploratory descriptive qualitative design, using face to face interview.	12 breast cancer patients who have undergone single or bilateral mastectomy were recruited., a tertiary Hospital as well as from a breast cancer support group, all in Ghana.	Exploring factors that influence treatment decision of breast cancer women.	Breast lesion was identified purposely or accidentally; breast cancer treatment was influenced by the alternate source of treatment, Faith, family and social support; shock and sadness were emotional reactions to the diagnosis.	Faith, family support, alternative treatment, body image, fear of death, fear of mastectomy effect on intimacy with spouse and social support.	-Research objective was well stated. -Appropriate study design. -Got ethical approval. -Informed consent was obtained. -Overall: Good
Asobayire & Barley (2015); Northern Ghana. The study aimed at ascertaining how societal perception and attitude s influence women's awareness of breast cancer and its treatment.	A qualitative study using a focus group interview as well as a documentary analysis of current practice	10 female breast cancer patients comprising of six farmers, two traders and 2 teachers between the ages 25-56years were recruited for the study. Focus group discussion was done twice on separate days.	How societal perceptions and attitude could influence women's breast cancer awareness and treatment.	women's perception of and attitude towards breast and its treatment are influenced by a myriad of economic and sociocultural factors such as traditional belief and gender role; the found that certain myths about breast cancer are entrenched in traditional belief system.	Tradition, Gender role, Language, myths, alternative treatment, social stigma, Family support and social support	-Well-structured research aim. -Well detailed study design -Ethical approval obtained. -Consent form completed. -Overall: Good
Elewonibi & Belue (2017); Nigeria. The study aimed at describing culturally relevant factors that shape attitudes towards breast cancer and breast cancer screening	Qualitative method using an interview		Describe cultural factors that shapes attitudes of breast cancer patients' towards seeking medical care (screening).	The study identified religion as the most prominent sociocultural factor that shapes attitudes towards breast cancer and its screening. Other identified factors include family and traditional belief	Religion, family support and traditional belief	-Research aim well highlighted. -Suitable study design. - - -Overall:
Waife (2017); Ghana. The study aimed at ascertaining how specific sociocultural issues, influence Ghanaian women's appraisal of breast cancer symptoms, the meaning they ascribed to those symptoms, the significance of this experience on their timing and choice of healthcare utilisation, and	A qualitative design involving a face to face in-depth interview.	70 patients were recruited in the study.	Identify socio-cultural factors that influences the Ghanaian's women appraisal of breast cancer symptoms, meaning ascribed to those symptoms and their significance.	The study found four main influential factors that contributed to late presentation within the sample; these are patients' sociocultural backgrounds, specific manifestation of breast cancer signs, patients' emotional responses towards those signs and symptoms, and existing	Cultural beliefs and practice, religiosity, traditional medicine and influence of husbands (gender role).	-Well-structured research aim. -Well detailed study design -Ethical approval obtained. -Consent form completed. -Overall: Good

whether these factors are different in Ghana from those identified in Western countries				healthcare system. Cultural Factors		
Martei et al., (2018); Ghana. The aim of the study is to characterise sociocultural factors associated with delayed presentation	A qualitative study via in-depth interviews	31 breast cancer patients were recruited in this study.	To identify the socio-cultural factors that results to delayed presentation of breast cancer patients for health care.	Delay in treatment after breast cancer diagnosis was as a result of fear of mastectomy, role of church as a social support system, myths and misconception about breast cancer, financial burden of treatment and not seeing a painless lump as a breast malignancy	Fear, Religion, social stigma, myths, social support and tradition	-Well defined study objective. -Appropriate study design. -Enough sample size. -Obtained ethical approval -Obtained participants consent. -Overall: Good
Karikari, N. A (2018); Ghana. That study aim was to examine some sociocultural interpretations of breast cancer and the coping strategies adopted by patients in Cape Coast Teaching Hospital	A qualitative study design was adopted via in-depth interviews.	25 breast cancer patients in Cape Coast Teaching Hospital were recruited for the study.	Understand the coping strategy of breast cancer patients while exploring their socio-cultural interpretations of breast cancer.	The study revealed that the interpretations linked with the disease did not only determine the time patients reported to the hospital but also permeated their entire health seeking behaviours.	Spirituality, non-orthodox treatment and tradition	-Research objective well highlighted. -Enough sample size -Appropriate study design. -Ethical approval obtained. -participants consent was sought and gotten. Overall: Good
Asoogo & Duma, (2015); Ghana. The study aimed at describing the factors that contribute to the late presentation of Ghanaian women with breast cancer for health care at a tertiary hospital in Kumasi, Ghana.	A qualitative study involving an in-depth interview using a semi structured interview question guide.	30 breast cancer women that were presented with stage II and stage III were recruited in the study. The participants were between ages 25 - 67 years.	Factors contributing to late presentation of breast cancer patients for health care in Ghana.	Lack of knowledge about breast cancer; fear of cancer treatment and its outcomes; poverty; traditional and spiritual beliefs and treatments and caring for others were identified as factors contributing to late breast cancer presentation in the study area	Traditional belief, alternative treatment and spirituality	-Study objective clearly stated. -Appropriate Study design. -Enough sample size. -Ethical approval obtained -Informed consent obtained.

Quality Assessment

The quality of the selected studies was assessed by the investigators. For each study, two investigators (VCO and PEA) independently evaluated the risk of bias associated with exposure assessment, confounding, selection of participants and outcome assessment before reaching consensus opinion (see Table 2 for the scoring method). From these scores, we calculated the risk of bias score [27]. For studies that the two investigators' scores differed, the risk of bias scores was formally discussed; to reach a consensus on their final scores.

We used the Critical Appraisal Skill Programme (CASP) checklist for qualitative studies to evaluate the quality of selected research since all the studies that met the inclusion criteria in this systematic review were qualitative [28]. The CASP checklist comprises of 10 questions/items; each paper was scored on the checklist and the scores (maximum score of 4 for each item) were used in determining the quality of each study. We used ranges of total scores to produce a quality assessment chart based on a traffic light system of 'good (scores from 30-40)', 'adequate (scores from 20-30)', 'poor (scores below 20)' (see Table 2 for scores for each article). Our key quality criteria for eligible studies were based on the clarity of the research aim, appropriateness of the methodology (research design, recruitment strategy and data collection process), ethical considerations, data analysis process, a clear statement of findings and how valuable the research is. Based on the quality assessment exercise, all the seven identified studies subjected to quality assessment scored between 36 and 40 and were deemed of good quality for inclusion and therefore retained for review.

Table 2: Eligibility Table for selected qualitative articles using the Critical Appraisal Skills Programme (CASP, 2017)

Authors	Aziato & Clegg-Lamptey, (2015)	Asobayire & Barley, (2015)	Asoogo & Duma, (2015)	Elewonibi & Belue, (2019)	Karikari, (2018)	Martei et al., (2018)	Waife (2017)
Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Has the relationship between the researcher and participants been adequately considered?	Not included	Not included	Not included	Yes	Not included	Yes	Yes
Have ethical issues been taken into consideration?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is the research valuable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scores	36	36	36	40	36	40	40

Data Synthesis

This review adopted a thematic synthesis in integrating and summarising findings on the impact of sociocultural factors on breast cancer screening, diagnosis and management in West African [29]. The thematic synthesis is one of the qualitative evidence synthesis approaches used in aggregating, integrating and interpreting results of qualitative studies in a systematic review [30]. The thematic synthesis involved the use of the identified sociocultural factors in the establishment of formal subthemes and themes [29]. The identified sociocultural factors were used in the formation of sub-themes using related areas of constructs and finally the development of the analytical theme [29,30]. Themes were derived from combination of sub-themes with common characteristics; formed themes include religious belief, cultural belief, support, gender role, body Image, fear and language [29]. Textual description of results from the included studies based on themes was done. This approach was best suited for this data synthesis as all studies included in this systematic review used a qualitative design (see Table 3 for details of the thematic analytical process used for the data synthesis).

Table 3: Themes from sociocultural factors reported in the included studies

Themes	Sub-themes	Identified Sociocultural factors
Religious belief	Spirituality, Religion Faith	Spirituality [18, 21, 23]
		Role of church [22]
		Faith in God [19]
		Religion [20, 22]
Support	Family support Social support	Social stigma[22, 23]
		Social support [17–19]
Fear	Fear treatment, Fear of divorce Fear of death	Fear of mastectomy [12, 16]
		Fear of Chemotherapy [18]
		Fear of death [17, 22]
		Fear of being abandoned by the spouse[19]
Cultural belief	Tradition, Culture and Myth	Traditional belief [17, 18, 20–22]
		Belief in herbal treatment [17, 19, 21, 23]
		Cultural factors [23]
		Myths and misconceptions about breast cancer [22]
		Breast cancer as punishment from God[17, 23]
		Traditional health practitioners[17, 21]
		Cultural taboo for a woman to feel her breast [17]
Gender role	Femininity	Relationship with husband/partner [22]
		Women unable to make a sole decision without their spouse/partners [19, 23]
Body image	Self-esteem	Body shame [19]
	Shame	Intimacy with husbands/partners [19]

Results
Description of Study Selection

The initial literature search yielded 511 articles (PubMed Central 370, Discover 106 and CINAHL 35) from the three different databases used for this search. Relevant studies were not found from other sources such as grey literature. Duplicated articles (22) were removed and the remaining 489 articles were screened by applying the inclusion and exclusion criteria. Based on the year of publication, titles of identified studies, comprehensive reading of the abstracts, as well as study been carried out in West Africa, 482 studies were excluded. The full texts of the remaining 7 studies were assessed for eligibility and quality. All remaining seven studies were eligible and of good quality hence, included in the final review [17-23].
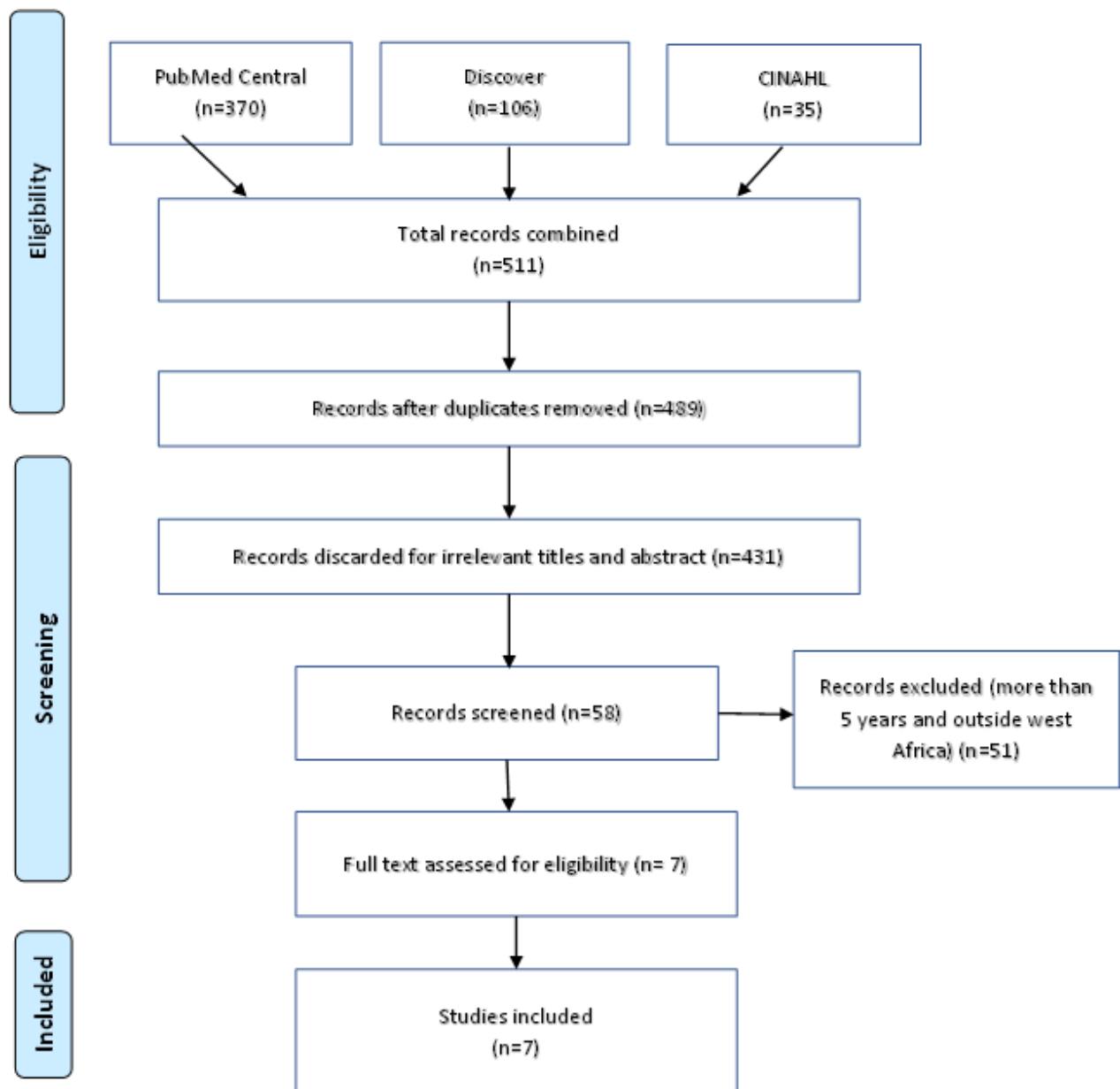
PRISMA 2009 Flow Diagram

Figure 2: PRISMA Flowchart of the review process

Characteristics of Included Studies

Table 4 summarises the characteristics of the seven studies included in this review. The included studies were all qualitative and published between 2015 and 2019. Majority of the included studies were conducted in Ghana (six), with one study from Nigeria. The total sample size in all the seven included studies was 178 participants. Most of the participants were breast cancer patients except for studies that has cohort groups of both breast cancer patients and non-patients (e.g. healthcare workers), as seen in the studies by Martei et al. and Karikari [21,22]. The age range of participants in the included studies was between 18-74 years. Although not all studies identified the stages of breast cancer of their participants, Asoogu et al. reported that their participants (30) were in Stage ll and lll of breast cancer, in relation to their diagnoses [18]. All patients in the study were undergo-

ing treatment at the time of the studies. The included studies were homogenous with regards to their research aims (exploring the impact of socio-cultural factors on breast cancer screening, diagnosis and management).

Table 4: Summary of included studies

Authors	Titles	Aims & Objectives	Method & Population	Intervention Or focus	Extracted results	Identified socio-cultural factors
Aziato & Clegg-Lamptey (2015)	Breast cancer diagnosis and factors influencing treatment decision in Ghana	To explore the reactions of women with breast cancer and identified factors influencing treatment decisions	An exploratory descriptive qualitative approach, using face to face interview with breast cancer patients 12 breast cancer patients were included in the study	Exploring factors that influence treatment decision of breast cancer women.	Patients decision were influenced by family, Friends, Doctors, Faith and Support	Faith, family support, alternative treatment, body image, fear of death, fear of mastectomy effect on intimacy with spouse and social support
Asobayire & Barley (2015)	Women's cultural perception and attitudes towards breast cancer. Northern Ghana	To ascertain how societal perception and attitudes influence women's awareness of breast cancer and its treatment.	A qualitative study using a focus group interview was conducted in Kassena-Nankana district, Ghana. Six participants were recruited for the study.	How societal perceptions and attitude could influence women's breast cancer awareness and treatment.	Women's perception of and attitude towards breast and its treatment are influenced by a myriad of economic and sociocultural factors such as traditional belief and gender role; the found that certain myths about breast cancer are entrenched in traditional belief system.	Tradition, Gender role (inequality), Language, myths, alternative treatment, social stigma, Family support and social support
Elewonibi & Belue (2019)	Influence of sociocultural factors on breast cancer screening behaviour in Lagos Nigeria	To describe culturally relevant factors that shape attitudes towards breast cancer and breast cancer screening	Qualitative method via semi structured interview	Describe cultural factors that shapes attitudes of breast cancer patients' towards seeking medical care (screening).	The study identified religion as the most prominent sociocultural factor that shapes attitudes towards breast cancer and its screening. Other identified factors include family and traditional belief	Religion, Family support traditional belief
Martei et al., (2018)	Fear of mastectomy associated with delayed breast cancer presentation among Ghanian women.	To characterise sociocultural factors associated with delayed presentation understanding of childhood overweight	A qualitative study via in-depth interviews. 31 participants were included in the study	To identify the socio-cultural factors that results to delayed presentation of breast cancer patients for health care.	Delay in treatment after breast cancer diagnosis was as a result of fear of mastectomy, role of church as a social support system, myths and misconception about breast cancer, financial burden of treatment and not seeing a painless lump as a breast malignancy	Fear, Religion, social stigma, myths, social support and tradition

Waife (2017)	Impact of socio-cultural factors on appraisal and help-seeking behaviour among Ghanaian women with breast cancer symptoms	To ascertain how specific sociocultural issues, influence Ghanaian women's appraisal of breast cancer symptoms, the meaning they ascribed to those symptoms, the significance of this experience on their timing and choice of healthcare utilisation, and whether these factors are different in Ghana from those identified in Western countries	A qualitative design involving purposive sampling was used to recruit 35 patients awaiting their first medical consultation at two healthcare facilities in Ghana, 27 members of the patients' social networks, and eight healthcare professionals. The interviews were face-to-face audio recorded, semi-structured, and participants completed a demographic questionnaire	Identify socio-cultural factors that influences the Ghanaian's women appraisal of breast cancer symptoms, meaning ascribed to those symptoms and their significance.	The study found four main influential factors that contributed to late presentation within the sample; these are patients' sociocultural backgrounds, specific manifestation of breast cancer signs, patients' emotional responses towards those signs and symptoms, and existing healthcare system.	Cultural beliefs and practices, religiosity. Traditional medicine, and influence of husbands (Gender role)
Asoogo & Duma, (2015)	Factors contributing to late breast cancer presentation for health care amongst women in Kumasi, Ghana	To describe the factors which contribute to the late presentation of Ghanaian women with breast cancer for health care at a tertiary hospital in Kumasi, Ghana	A qualitative study via a semi structured in-depth interviews in Kumasi Ghana with 30 participants	Factors contributing to breast cancer patients' late presentation	Lack of knowledge about breast cancer; fear of cancer treatment and its outcomes; poverty; traditional and spiritual beliefs and treatments and caring for others were identified as factors contributing to late breast cancer presentation in the study area	Traditional belief, alternative treatment, and spirituality
Karikari, N. A. (2018)	Exploring the socio-cultural interpretations of breast cancer and the coping strategies of patients at the cape coast teaching hospital, Ghana	To examine some sociocultural interpretations of breast cancer and the coping strategies adopted by patients in Cape Coast Teaching Hospital	A qualitative study via in-depth interviews involving 25 participants in Cape coast Ghana	Socio-cultural interpretations of breast cancer	The study revealed that the interpretations linked with the disease did not only determine the time patients reported to the hospital but also permeated their entire health-seeking, tradition behaviours.	Spirituality, non-orthodox treatment and

Sociocultural Factors Associated with a Breast Cancer Screening, Diagnosis and Management

The sociocultural factors identified in this review include tradition, religion, culture, Family support, social support, spirituality, Language, traditional medicine, fear, gender role/influence of husbands and body shame. Using a narrative approach, we synthesized the reported factors into themes based on their similarities: religious belief, support, fear, cultural belief, body image and gender role. The themes were formed by identifying the socio-cultural factors with a similar pattern of meaning and ideas that came up repeatedly.

Cultural Beliefs

Tradition, culture, myths and misconceptions made up this theme 'Cultural belief'. All the seven included studies for this systematic review reported this theme [17-23]. Furthermore, six out of the seven included studies that reported traditional belief were conducted in Ghana while one study was carried out in Nigeria [17-19,21-23]. The impact of social culture on breast cancer early detection/screening is evident in the women's refusal to self-examine their breasts due to cultural taboos surrounding touching parts of your own body [17,19]. Again, some female patients refuse to go for screening to avoid a male physician examining their breast; this can be seen in a participants comment in Asobayire's study,

'I cannot allow another man to touch my breast … I would be accused of being adulterous if found in such a compromising position … I do not want to be divorced, which will bring disgrace upon my family' [17].

This cultural belief of only their husbands allowed to touch their breast affects culturally or societally imposed rates of access to breast cancer examination/screening. Furthermore, the perception of breast cancer being linked to an evil spirit and a curse on a families were reported as reasons why patients do not actively refer themselves to the hospital for treatment interventions [21,23]. In a comment from a participant in Wiafe study,

"breast disease is a disease that evil spirits too can associate with, so if you get it you just have to be quiet about it and be searching for some treatment spiritually" [23].

When spiritual help from deity through the traditional healers fails to provide a remedy, it is concluded that the woman might have been cursed and people start to avoid the sufferers; this also results in women hiding their symptoms instead of going for treatment [17,21,23]. These aspects of culture impacts on the screening, diagnosis and treatment-seeking behaviours of breast cancer patients in Ghana and Nigeria.

Religious Beliefs

Religious beliefs as one of the established themes was the second most reported socio-cultural factor that impacts on breast cancer screening, diagnosis and treatment in this study. This theme is comprised of the following sociocultural factors: religion, spirituality and faith. Six out of the seven included studies in this systematic review reported the theme of religious beliefs [18-23]. Two studies reported religion [20,22] and were carried out in Nigeria and Ghana respectively. Three studies [18,21,23] reported spirituality and were carried out in Ghana while one study reported faith and was also carried out in Ghana [19]. Most times the terms religion, spirituality and faith are often used interchangeably. These three sociocultural factors are related to one another; as they all address the relationship between man and God and the mode of worship. Although these three factors have a similar meaning, spirituality and faith are considered as an individual practice, while religion looks at belief and practices shared by a group or community [31]. Religion was an identified barrier to breast cancer screening, as women who went for their screening were tagged as unfaithful [20]. Teachings and words of the religious leaders are held with so much value hence, influences their members' decision and health-seeking behaviours [20]. One of the reported reasons for delayed presentation at the hospital is as a result of patients' trust, hope and faith in God [23]. Patients reported seeking help by engaging in both personal and group prayer sessions while waiting for a miracle; late presentation as attributed to when the miracle was not forthcoming [23]. According to Aziato and Clegg-Lamptey, patients would prefer to remain in their homes and believing that God will heal them instead of presenting themselves at the health care facilities [19]. These findings provided evidence on the impact of religious belief on breast cancer screening, and treatment- seeking behaviours in West Africa.

Support

Five out of the seven included studies reported supported as a theme [17-20, 22]. This theme comprises of family support, social support and social stigma. Four reviewed studies identified family support as an important factor that could predict the treatment outcome of breast cancer; three studies identified social support and one study identified societal stigma [17-20,22]. Among the studies that identified family support, three were carried out in Ghana and one in Nigeria; the three studies that identified social support were all conducted in Ghana; while the only study that reported societal stigma was conducted in Ghana [17-20]. Social support is said to be one of the determinants of wellbeing with its support reliant upon emotional (Nurturance), informational (advice), companionship (sense of belonging), tangible (financial assistance) and intangible (personal advice), [32]. The importance of family support is evident in women referring themselves directly to hospitals due to a lack of familial support [18]. The absence of social support as identified in the studies above explains the social stigmatization faced by breast cancer patients [19]. Social stigma hinders the community members' understanding of breast cancer, hence, it is often viewed as a kind of punishment [17,22]. These identified socio-cultural factors (family support, social support and societal stigma impacts on both breast cancer screening and management.

Fear

Fear of mastectomy (losing their breast), fear of chemotherapy (skin discolouration/ hair loss), fear of losing of spouse/partners (divorce), fear of being discriminated, fear of diagnosis and fear of death (knowing people who died as a result of breast cancer) were all discussed under the theme 'Fear'. Three studies reported this theme [18,19,22]. Two studies reported fear of Mastectomy, one study reported fear of chemotherapy, one study reported fear of losing their spouse/partner because of breast cancer, one study reported fear of being discriminated against, three studies reported fear of diagnosis, while two studies reported fear of death [18,19,22]. According to a participant in the study by Martei et al., 'a woman's glory is her breast; of what use will a woman be without a breast?'. This sociocultural factor 'fear' results in patients not going for their diagnosis (fear of losing a spouse/being discriminated against) and refusing treatment (fear of mastectomy, chemotherapy and death) [18,19,22].

Gender Role

Three studies included in this review reported gender role as sociocultural factors that impact on breast cancer management [19,22,23]. Women are classified as part of the marginalized group according to the population health report, and this leads to health inequality [33]. Gender role deprives women of being a sole or independent decision-maker when making decisions in relation to their health and otherwise [19]. In most settings in West Africa, customary marriage puts men as the head of the family hence, women need their authorization to access everything including healthcare [19,22]. This sociocultural factor does not only impact on breast cancer screening and diagnosis but also the treatment [23]. Evidence from studies shown that most spouses/partners of breast cancer patients will not consent to their spouse's breast cancer treatment due to the financial implication [23,34]. They would rather discourage them from using orthodox treatment while giving their permission for an alternative treatment which is assumed to be cheaper [19]. In such a scenario, women will obey their husbands/partners' decision to avoid being labelled disobedient [23]. The customary marriage system bestows upon the man the responsibility for the economic, social and general welfare of his wife and their children [22]. As morality and chastity in marriage are held in high esteem by families, married women are required to inform and seek authorization from their husbands whenever they need to visit a health facility [19]. Women also feel obliged to respect their husbands' views, as divorce is seen as a sign of failure and disgrace not only to the woman involved but also to her entire extended family [19]. As such, the gender roles of women affect not only breast cancer diagnosis but also their capacity for treatment-seeking behaviour.

Body Image

Body image is a socio-cultural factor that affect breast cancer treatment and treatment-seeking behaviour in this review. Only one study in this review specifically identified body image as a sociocultural factor [19]. Patients tend to avoid appropriate and recommended treatment for breast cancer for the sake of their body image [19]. The idea of a 'full woman' has been misinterpreted resulting in women's refusal of mastectomy as a potential treatment option [19]. As the breast is recognised as a symbol of female identity, treatment options such as mastectomy could be refused; since it will involve the loss of one or both breasts, that could potentially

create the sense of losing one's femininity [35]. Furthermore, side effects of breast cancer treatment such as loss of a breast, development of scars, skin discolouration, change in appearance, as well as weight gain/loss can result in dissatisfaction with body image; and has led to breast cancer patients avoiding formal treatment intervention after a positive diagnosis [19,35]. According to a participant's response in one of the included studies,

'I was so worried about what will happen to me if the doctors found this to be cancer. I do not even have a child yet. What if they want to remove all my breasts, will I ever be a woman again? So I just kept this thing to myself and prayed to fall pregnant first so I could breastfeed my baby'

In other words, undergoing mastectomy would make her feel incomplete as a woman. This identified sociocultural factor affect breast cancer treatment [19].

Language
Language, as reported by in this review, is sociocultural factors that affects breast cancer screening, diagnosis and management [17]. Language is very important; language barriers could result in uncertainty, stress as well as challenges that affect the implementation of culturally competent, patient-centred care as well as effective decision making [17]. The absence of a translation for the term breast cancer in most local languages in this setting, and poor knowledge of breast cancer can be seen as both confounding and being confounded by a lack of linguistic capital [17]. This sociocultural factor reduces the impact of breast cancer awareness outcome which in turn affects the screening [17].

As regards the outcome of the quality assessment using the Critical Appraisal Checklist for a qualitative study, all included studies were of optimal quality. This conclusion was based on the scoring outcome where all studies scored a cumulative score of above 70% or more across the checklist.

Discussion
Summary of Findings
This review is the first to formally synthesise evidence from primary studies on the impact of sociocultural factors on breast cancer screening, diagnosis and management in West Africa. The following sociocultural factors- culture, tradition, religion, family support, social support, spirituality, Language, traditional medicine, gender role and body image were identified in this review. The findings of this review confirm that breast cancer management in West Africa could be influenced by sociocultural factors. This means that for possible improvement in breast cancer management (increase in the survival rate) in West Africa, the role of sociocultural factors needs to be considered. Also, the findings of this review demonstrated limited current research on the topic under review in West Africa. The review findings are important as it close the gap in the literature, opened new channel for further researches, demonstrated the importance of sociocultural factors in breast cancer management and created an awareness focus for an improved outcome of breast cancer management in West Africa.

Alternative Explanations of the Findings
This systematic review reported sociocultural factors that impact on breast cancer screening, diagnosis and management in West Africa. Nevertheless, other factors like lack of fund (treatment affordability), for example, could also result in patients seeking traditional community support and assistance instead of presenting themselves at the hospital for formal diagnosis and treatment; as the traditional remedy is assumed to be cheaper [34]. According to Karimi et al., (2018) breast cancer patients (especially women of lower incomes, uninsured or underinsured) may find themselves stuck between paying for care and paying for basic expenses, like rent, energy and food. Lack of knowledge is evident as one of the under-

lying factors to the misconception of breast cancer which is presented as a sociocultural belief [16]. For instance, not knowing what breast cancer is could be the reason why it is considered as a punishment from the gods [16,36]. Furthermore, lack of awareness is reported as the most common cause of not attending breast cancer treatment [37]. Again, the problem of husbands/partners not giving their consent to their spouses' on breast cancer treatment has been linked with the problem of lack of knowledge or overall awareness of the condition [34].

Finally, accessibility to breast cancer centres could be a hidden factor underpinning why women fail to refer to hospitals for formal diagnosis and treatment interventions [38]. For some people living in rural communities, travelling to cities (urban settlements) where most of the breast cancer centres are situated might be potentially challenging [34]. Other options like engaging in prayers for healing or indulging in self-medication could be their most preferred options [37]. All of these areas raised for discussion can be posited as alternative explanatory factors in the findings of this review.

Strengths and Limitation of the Study
This study is the first systematic review to provide evidence on the impact of sociocultural factors on breast cancer screening, diagnosis and management in West Africa. A similar systematic review on this topic exists but also incorporates studies from other sub-Sahara African countries [16]. Considering some contextual differences in relation to social, cultural, economic and health system among sub-Sahara African countries like South Africa and Nigeria; transferability of findings of the systematic review by Tetteh and Faulkner, may not be appropriate in West Africa [16].

Some of the limitations of this review resulted from the inclusion criteria. The inclusion of only studies written in the English language introduced selection bias thereby excluding studies with possible relevant evidence. Nevertheless, given that the English language is taught throughout the educational system of the anglophone countries, with over 41% of the countries in West Africa having the English language as their official language; the search strategy will be able to capture studies covering a majority of the West African population [39].

Furthermore, although this review focused on sociocultural factors, evidence from previous studies have shown that the greater impact of sociocultural factors like culture and faith is more among those at the lower socioeconomic level [16]. The misconception of breast cancer has been linked to being common among individuals with no formal education [16]. Also, seeking alternative treatment (traditionally) has been linked to lack of money (low income); hence the decision to opt for a less expensive treatment [37].

Finally, although this review was focused on West African, countries in West Africa were not well represented in the study. Only studies conducted in Ghana and Nigeria met the inclusion criteria, hence other countries in West Africa were not represented in this review. Nevertheless, Nigeria and Ghana are representative of West Africa as they share common characteristics; they are spiritual but also linked to the historical and cultural heritage of the people [40]. Furthermore, just like in most West African countries, the healthcare system in Ghana and Nigeria do not meet the World Health Organization's (WHO) framework for good healthcare systems [41].

Comparison with Existing Literature
Among those sociocultural factors identified, culture and tradition were mostly reported to have an impact on breast cancer management in West Africa. All the included studies that were carried out in Ghana reported the impact of culture [17-19,21-23]. This finding supports the results of some researchers which described Ghana as a country with a fascinating

repository of cultural heritage, where tradition and culture are held at high esteem; hence, play a major role in the health of the Ghanaians population [42].

A report of a study conducted in Nigeria concluded that religion has a great influence on health and health-seeking behaviours of Nigerians [43]. In another study, most deaths among patients in Nigeria were associated with the negative impact of religion; patients delayed presentations to healthcare facilities or even stopped taking their medications because of an assurance of miraculous healing promised to them by their religious leaders [44]. These findings are supported in this review as the only Nigerian study included in this review reported religion/spirituality as a major socio-cultural factor that impacts on breast cancer management in West Africa.

Family and social support are important factors affecting breast cancer patients' capacity to deal with their conditions, as well as an associated factor for major depressive disorder among breast cancer patients [5]. family relationship plays a very central role in shaping an individual's wellbeing/ health across the life course [45]. In line with our findings, other studies have demonstrated this important association. The study by Salakari 2017 established an association between inadequate family and social support and an increase in cancer-related mortality. Support sources could be emotional (nurturance), informational (advice), companionship (sense of belonging), tangible (financial assistance) and intangible (personal advice) [32].

Studies have demonstrated the impact of fear as well as gender role on breast cancer management. Evidence has shown the impact of fear on breast cancer treatment [46,47]. In a study by Singer, patients reported fear before and after treatment; fear of surgery, fear of chemotherapy and fear of radiotherapy [46]. The report of these studies is in line with the findings of this review. Also, the influence of gender role on breast cancer management is evident in the research [34,37]. In a study, women are not allowed to make decisions without their husbands' consent [34]. For married women, knowing that divorce will be the consequence of their disobedience, and considering how divorced women are stigmatised, women allow their husbands to guide their decisions making in the light of their religion [34]. The identification of the influence of husbands/partners on breast cancer treatment has been linked with financial cost, as men who cannot afford the treatment cost, tend not to give their consent for treatment [34,37]. The findings of these studies are evident and in line with the findings of this review. This sociocultural factor directly affects patients' capacity for health seeking behaviour and treatment intervention.

Although the least reported sociocultural factors in our review, our results on body image and language, complement those of other studies [6,16,35,48-50]. In a systematic review by Tetteh and Faulkner, body image was reported to play a major role in breast cancer management [16]. Kawar (2013) in highlighting the role of language in breast cancer management stated that for an increased breast cancer screening participation, appropriate language and culturally sensitive educational materials should be created and made available to all [49]. Also, ineffective or suboptimal communication between patients and healthcare providers is due to Language barrier [51].

Practice, Policy and Research Implications
Our review provides evidence on the impact of sociocultural factors on breast cancer screening, diagnosis and management in West African hence, the identified socio-cultural factors ought to be targeted for a positive management outcome. This review contributes to the emerging evidence on sociocultural factors that affects breast cancer management in West Africa as well as provided evidence on the role they play.

This review is the first to be raising awareness of the barriers of independent access to breast cancer diagnosis and treatment intervention for women in relation to their sociocultural backgrounds in West Africa; hence will enable policymakers to reflect upon and revisit the existing proposed strategies for breast cancer management in West Africa. According to the proposed strategies for breast cancer management in Africa, the identified limitations to positive outcomes (high survival rate) of breast cancer management include poor nursing care and surgery, inadequate access to radiotherapy, poor availability of basic and modern systemic therapies; with no consideration on the impact of sociocultural factors to breast cancer screening, diagnosis and management [52].

In line with the findings of this review, there is a need for more and improved awareness with an emphasis on the role of sociocultural factors on to breast cancer screening and management, especially on cultural and religious belief. This improved breast cancer awareness will help in reducing the impact of sociocultural factors on independent access to breast cancer screening, diagnosis and management, hence, increase the survival rate of breast cancer in West Africa.

Further studies need to be carried out in other West African countries to broaden the evidence on the impact of sociocultural factors on breast cancer screening, diagnosis and management. The fact that only studies conducted in Ghana and Nigeria met the study inclusion criteria indicates the limited current data on the impact of sociocultural factors to breast cancer management in other parts of the region under review.

There are needs for more exploratory studies to identify other possible sociocultural factors that could influence breast cancer treatment outcome in this region as well as quantitative studies to investigate the causal pathways between the identified socio-cultural factors and breast cancer screen, diagnosis, and management.

Conclusion
Social determinants of health like sociocultural factors impacts on breast cancer management and outcomes. Identifying these sociocultural factors and understanding their influence on breast cancer management in West Africa will possibly help to improve positive treatment outcomes; hence, reducing the current mortality rate of breast cancer in the study setting. This review identified the sociocultural factors that affects breast cancer management in West Africa. The review also identified gaps for future research on this subject area as little work has been conducted outside Ghana. Also, issued raised in this review are likely to affect people as part of the wider West African diaspora. Addressing the issues of religious belief, fear and other sociocultural factors identified in this review will ensure a positive outcome of breast cancer management. Having done a comprehensive exploration of data from the seven included articles, this systematic review could be concluded to have explored the evidence that relates to the impact of sociocultural factors on diagnosis and management of breast cancer in West African.

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Availability of data and materials
This paper is a systematic review of the results of original studies published in open access journals. The studies used in this review are freely available online.

Authors' contributions

All authors contributed to the conceptualisation, study design and synthesis of findings in this review. Authors agree to be personally accountable for their individual contributions and to ensure that questions related to the integrity of any part of this work are answered. Screening of articles' titles, abstracts and full texts was conducted by VCO and PEA. Data extraction was conducted by VCO and validated by JL and CH. Risk of Bias was investigated by VCO and PEA. Data synthesis was carried out by VCO and was independently validated by PEA, JL and CH. The manuscript was drafted by VCO and substantially revised by PEA, JL and CH. All authors approved the publication of the manuscript.

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