

Ethnicity and breast cancer in the UK: Where are we now?

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ABSTRACT

Outcomes from breast cancer for women in the UK have improved significantly over recent decades. These gains are largely attributable to a combination of earlier diagnosis and access to treatments delivered to patients by the National Health Service irrespective of cost. Ethnic minority groups make up almost fifteen percent of the UK population and there is concern however that these groups may have poorer outcomes from the disease. In this short report we seek to summarise what the current evidence tells us about the patterns of breast cancer incidence and outcomes in ethnic minority women in the UK in order to raise awareness about this topic and provide consideration for what future research is needed to address the gaps that may exist.

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1. Introduction

Breast cancer is an important public health challenge with an annual incidence of around 50 000 cases per year, accounting for one in three cancers diagnosed in women in England and Wales [1]. Significant gains have been made in survival from this common cancer over the last few decades which are largely attributable to detection in asymptomatic individuals, earlier diagnosis in symptomatic women and improved access to treatments [2]. Concerns have been raised that differences in diagnosis and treatment may be leading to poorer outcomes in some groups such as ethnic minority women [3,4]. Addressing inequalities in healthcare wherever they may exist is important and we feel it is timely to report what is known about the associations of breast cancer and ethnicity, to

understand where there are differences already for these groups, and what future research is needed to address the gaps in evidence.

2. Ethnicity recording in UK healthcare

Non-white groups account for approximately 15% of the population in England and Wales according to the most recent census data available and among these, the largest ethnic minority groups are Indians, Pakistanis, Black Caribbeans and Black Africans (Fig. 1) [7]. Until recently, the ability to conduct high quality health related research with a focus on ethnicity has been limited in the UK. Although ethnicity has been recorded voluntarily in Hospital Episode Statistics since 1995, the quality and completeness of recording has been variable [8]. The Equalities Act in 2010, legislating the public sector equality duty for eight protected characteristics including race, has driven an improvement in ethnicity data capture and accuracy. In parallel, significant advances have been made in the completeness and availability of national cancer registration data providing rich contemporary and detailed data on patient, tumour and treatment factors [9]. A summary of selected ethnicity and breast cancer focused publications according to the main outcome of interest since 2011 is

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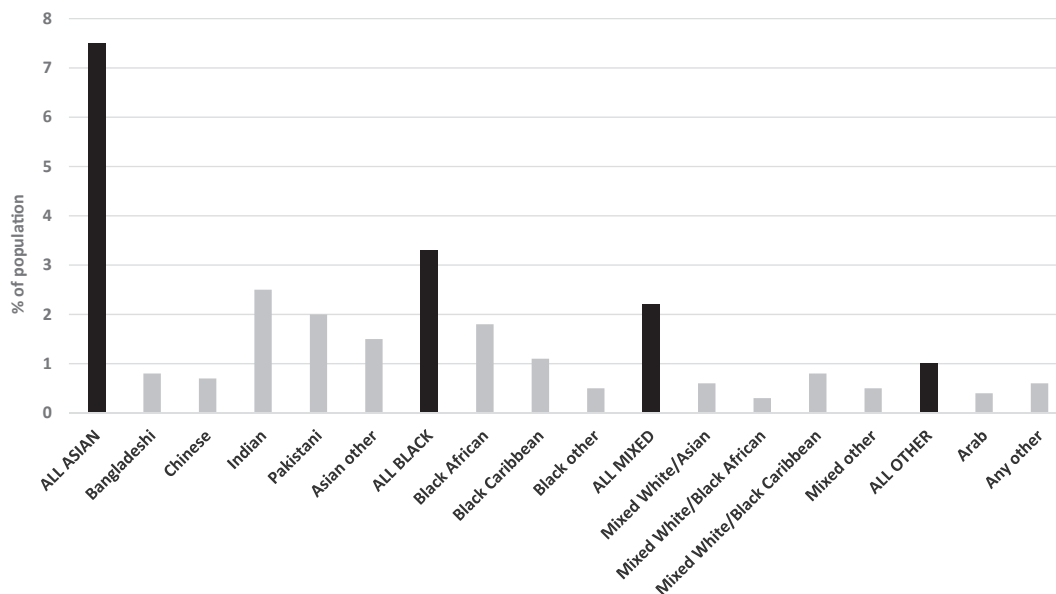


Fig. 1. The percentage and distribution of non-White ethnic minority groups recorded in the 2011 census in England and Wales.

provided in Table 1.

Potential differences in outcomes from breast cancer by ethnicity are a concern in all countries with large multicultural populations. However, a note of caution is advised to making comparisons about breast cancer outcomes in UK ethnic minority communities with other similar developed countries such as the USA and Australia, as differences in the geographical and temporal patterns of migration, together with differences in healthcare systems, will influence any observed variations. Some studies have shown that there may be similarities in the immigrant experience that explain some common health seeking behaviours and access to healthcare observed in minority black and south Asian women in different parts of the world which in turn can influence outcomes [10,11].

There is a long history of migration into Britain with large influxes following the end of the second world war from the Caribbean to boost the workforce, and from the Indian Subcontinent

post-independence, and more recently from Africa. Migrant populations tend to be younger than the host populations and this in turn will influence patterns of disease incidence and presentation in these communities [12,13].

3. Breast cancer incidence

The incidence of breast cancer is reported as being lower in ethnic minority women in the UK [14]. Breast cancer incidence is influenced by known risk factors which are well described and include both reproductive factors and non-reproductive factors. Broadly, reproductive factors such as earlier age at menarche, reduced parity and breast feeding and use of exogenous hormones such as the oral contraceptive pill and hormone replacement therapy all increase breast cancer risk, and the evidence suggests that the magnitude of these effects are similar in different ethnic groups [15–17]. The most important non-reproductive risk factor

Table 1
Summary of selected peer-reviewed publications since 2011 reporting on ethnicity and breast cancer outcomes in the UK.

Main outcome reported	Author	Title	Journal and Year of Publication
Incidence	Downing et al.	Using routinely collected health data to investigate the association between ethnicity and breast cancer incidence and survival: what is the impact of missing data and multiple ethnicities?	Ethnicity & Health 2011
	Gathani et al.	Ethnic differences in breast cancer incidence in England are due to differences in known risk factors for the disease: prospective study.	British Journal of Cancer 2013
Survival	Copson et al.	Ethnicity and outcome of young breast cancer patients in the United Kingdom: the POSH study.	British Journal of Cancer 2013
	Maringe et al.	Cancer survival differences between South Asians and non-South Asians of England in 1986–2004, accounting for age at diagnosis and deprivation	British Journal of Cancer 2015
	Moller et al.	Short-term breast cancer survival in relation to ethnicity, stage, grade and receptor status: national cohort study in England.	British Journal of Cancer 2016
Treatment	Gathani et al.	Ethnicity and the surgical management of early invasive breast cancer in over 164 000 women	British Journal of Surgery 2020
Health-seeking behaviours and experience of care	Anderson de Cuevas et al.	A systematic review of barriers and enablers to South Asian women's attendance for asymptomatic screening of breast and cervical cancers in emigrant countries.	BMJ Open 2018
	Jack et al.	Breast cancer screening uptake among women from different ethnic groups in London: a population-based cohort study.	BMJ Open 2014
	Jones et al.	Barriers to early diagnosis of symptomatic breast cancer: a qualitative study of Black African, Black Caribbean and White British women living in the UK	BMJ Open 2015
	Pinder et al.	Minority ethnicity patient satisfaction and experience: results of the National Cancer Patient Experience Survey in England.	BMJ Open 2016

for breast cancer is age, with over 80% of breast cancer incidence occurring in women over the age of 50, and one third in women over the age of 70 [1]. Other non-reproductive risk factors of interest include alcohol consumption and body mass index, which increase breast cancer risk in post-menopausal women [18,19]. A large prospective cohort study of middle aged women in the UK has shown that differences in breast cancer incidence by ethnicity are largely explained by differences in prevalence of known risk factors for the disease such as parity and breastfeeding, obesity, alcohol consumption and use of hormone replacement therapy [20]. The importance of these findings is the suggestion that there is no “inherent” protection to ethnic minority women from breast cancer once adjustments for age are made, and as lifestyle and reproductive patterns change in the daughters of immigrants, it is likely that incidence and risk of breast cancer will change and public health messaging in these communities needs to reflect that. Further work will be needed to examine the patterns of breast cancer incidence in migrant communities as they mature.

4. Breast cancer survival

Survival from breast cancer is directly related to the stage at presentation of disease and access to appropriate and effective treatments. Later presentation of disease may also require more extensive and intensive treatment, which in turn will impact on patient experience. National data have shown that ethnic minority women on average are known to present with later stage disease [3,21,22].

Routes to breast cancer diagnosis in the UK include asymptomatic detection through routine population-based screening in women aged 50–70 years, and symptomatic early diagnosis through referral from primary healthcare to secondary care for assessment of breast symptoms. These services are publicly funded and available to all residents free of charge who are registered with a primary care physician. Therefore, any differences observed between ethnic groups would be attributable to reasons beyond ability to pay. Breast cancer services are highly quality assured, and it is unlikely that there are significant differences in treatment for a given stage based on ethnicity. Recent data shows that the surgical management for breast cancer, which is the mainstay of treatment, is similar in women of different ethnic groups taking into account differences in presentation [21].

Ethnic minority women, especially young black women, have been reported to have more aggressive tumour profiles compared to white women which may explain some of the observed survival differences [23]. Breast cancer tumour biology is related to age at diagnosis, with younger women in general presenting with more aggressive features. Further in-depth work is needed to examine patterns for other treatment modalities in breast cancer according to ethnicity including radiotherapy and systemic treatments, and to understand the relationship between age, tumour biology and ethnicity to clarify where inherent differences exist between these ethnic groups.

5. Health-seeking behaviour and patient experience

The overall uptake for screening is about 70% [24] with mixed reports on levels of uptake of screening among different ethnic minority groups, with some studies suggesting lower uptake but others reporting no significant differences [25,26]. Health-seeking behaviour for women with symptoms is influenced by knowledge of the signs and symptoms of cancer and existing health services coupled with cultural beliefs about the disease and the potential stigma associated with a cancer diagnosis [11,27], which in turn can result in delayed diagnosis and later stage at presentation. Many

ethnic minority populations are significantly younger compared to the indigenous white population e.g. 80% of the black African population in England is under the age of 50 [7].

This will have two consequences. Firstly, this group will be on average a younger age at breast cancer diagnosis due to a younger population demographic, and secondly many individuals in these communities will not be eligible for routine population based mammographic screening on account of their young age (currently offered to women aged 50–70 years in the UK). As such, healthcare professionals working in ethnically dense regions of the country need to be aware of differences in presentation linked to ethnicity in order to ensure timely referral and assessment in breast services [21]. Further research is needed in this area to better understand both the barriers and enablers to accessing breast healthcare in different ethnic communities and across generations of women within these communities.

A further concern is the inequality of cancer care experience among different ethnic minority groups. The National Cancer Patient Experience Survey audits experiences in a sample of cancer patients annually [28]. Poorer experience of cancer care is consistently reported in ethnic minority groups but the reasons for this are poorly understood and this constitutes an important area of future research.

6. Conclusions

In summary, ethnic minority women represent a group with significant unmet medical need with respect to breast cancer despite the provision of publicly funded care and further research is needed in this area. Routinely collected national datasets now provide a rich data source with which to examine patterns of tumour biology and patterns of treatment, but focused research in the areas of health seeking behaviour and experience of cancer care will provide valuable information about healthcare needs within specific communities. The gains that have been made in breast cancer outcomes should be consistent in all groups of people. Where inequities exist, we should seek to explain and address them to ensure the highest standards of care and the best possible outcomes for all women irrespective of their background and origin.

Conflict of interest

The authors declare no conflict of interest.

CRediT authorship contribution statement

Toral Gathani: Writing – original draft, Original preparation, Methodology, Visualisation, Writing – review & editing, Reviewing and Editing. **Anushka Chaudhry:** Writing – original draft, Resources, Visualisation. **Leena Chagla:** Conceptualization, Writing – review & editing. **Sharat Chopra:** Writing – review & editing. **Ellen Copson:** Writing – review & editing. **Arnie Purushotham:** Writing – review & editing. **Raghavan Vidya:** Writing – review & editing. **Ramsey Cutress:** Conceptualization, Writing – review & editing.

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