



Breast Cancer Management Among Refugees and Forcibly Displaced Populations: a Call to Action

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Abstract

Purpose of Review The prevalence of breast cancer is rising among refugees and displaced populations worldwide, and late-stage diagnosis has contributed to poor health outcomes in these populations. With a specific focus on the Middle East and Lebanon in particular, we discuss the challenges associated with breast cancer prevention and treatment among refugees and displaced populations and highlight priorities for urgent and needed action.

Recent Findings In the Middle East, a complex interplay of social, cultural, economic, and political factors results in delayed diagnosis and treatment of breast cancer among displaced populations. For most displaced women, the most extensive barriers to care are related to cost, transportation, stigma, inadequate cancer education, and a lack of knowledge of and difficulty accessing a host country's health system.

Summary As a result of a lack of attention, limited finances, and insufficient support from humanitarian organizations and host governments, refugees and displaced populations with or at risk for breast cancer in the Middle East face significant barriers to accessing support, preventative care, and treatment resources. Breast cancer has yet to become a priority for international relief agencies and host governments in part due to misperceptions that breast cancers consistently present with poor prognoses and are too costly to treat. With the burden of breast cancer and the number of displaced individuals across the world both rising, host governments and the international community must reconsider and develop new strategies for breast cancer prevention and treatment.

Keywords Breast cancer · Screening · Refugees · Displacement · Barriers to care · Access to treatment

Introduction

Humanitarian crises have changed and can now be characterized by prolonged conflicts and fragility that occur in higher-income countries with comparatively healthier populations [1, 2]. Middle-income countries affected by conflict now have older populations with chronic non-communicable diseases (NCDs) that require long-term access to specialist care and treatment [3, 4]. NCDs are both difficult and expensive to

manage and treat and require access to consistent secondary and tertiary health services to prevent the development of long-term health problems [5, 6]. Managing these conditions effectively requires a robust health system, as opposed to short-term humanitarian campaigns [1]. Globally, NCDs are now the leading cause of death, and approximately 80% of deaths linked to NCDs occur in developing countries that play host to the majority of refugees [7]. One of the most common and neglected NCDs found among refugees and displaced populations is cancer [8•].

Breast cancer is the most commonly diagnosed cancer among women and the leading cause of cancer death among women globally, and the same trend is expected among displaced and refugee women suffering from cancer [9••, 10••]. The prevalence of breast cancer among those displaced is rising, and the increasing incidence can likely be attributed to a variety of genetic and environmental risk factors, including poor nutrition, pollution, viral infections, tobacco use, alcohol consumption, and sedentary lifestyle [8•, 11]. As a

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result, breast cancer among refugees and displaced persons has become a growing concern among health providers, host governments, and humanitarian organizations with limited resources to promote breast cancer screening and treatment.

According to the United Nations High Commissioner for Refugees (UNHCR), over 68.5 million people have been displaced worldwide as a result of conflict, persecution, generalized violence, or human rights violations [12]. When diagnosed with breast cancer, displaced populations usually present at an advanced stage, suffer from a variety of complications, and have poor health outcomes [10••]. Throughout the past few decades, the international community has encountered many waves of displacement and has primarily focused on infectious disease and malnutrition as a part of relief efforts. That being said, although international humanitarian organizations have attempted to provide support for NCDs, chronic illnesses (and breast cancer care specifically) have not been given as much attention and resources. Displaced patients with breast cancer often have poor outcomes as a result of inadequate health education, limited resources, low prioritization among health providers, and significant barriers to accessing care [10••]. Little to no literature exists to examine breast cancer care programs and the prevalence of breast cancer among displaced and refugee populations. In this review, we examine access to breast cancer prevention and treatment among refugees and displaced populations, with a special focus on those displaced in the Middle East. Using Lebanon as an example, we discuss barriers to breast cancer diagnosis and identify areas where improvements and further research are needed.

Mass Displacement in the Middle East

As a result of prolonged periods of conflict within constituent nations, the Middle East has become the site of the largest number of displaced persons. Because of conflicts beginning in 1948, millions of Palestinians have become refugees and displaced persons [13]. Similarly, the Lebanese civil war throughout the 1980s caused considerable strife and displacement. Millions of Iraqis have been displaced as a result of the Iraq War of 2003 and subsequent conflict and terrorism. The Syrian conflict, now in its eighth year, has caused the displacement of over 6.2 million individuals and has forced over 5 million people to flee as refugees to neighboring countries, including Lebanon, Jordan, and Turkey [13]. Finally, over 2.3 million people have been internally displaced and over a million people have been forced to flee Yemen as a result of its most recent conflict [14]. Refugees and displaced persons often arrive to new areas and host countries with war-related injuries, pre-existing conditions, and heightened risk factors for the development of breast cancer, all of which require adequate access to healthcare, infrastructure, and human resources [10••].

Refugees and Displaced Populations with Breast Cancer in the Middle East

Due to the turbulence and unpredictability of migration, refugees and displaced persons often see their treatment for breast cancer interrupted or may develop breast cancer in a new host country as a result of an exacerbation of breast cancer risk factors. Given poor hygiene, living conditions, limited health education, poor access to care, and scarce resources available to them, displaced individuals with breast cancer are often diagnosed at an advanced stage and suffer from severe complications and poor health outcomes [1, 15]. Despite the large number of refugees and displaced persons seeking medical care for breast cancer, very few studies have evaluated the burden of breast cancer among refugees and displaced persons, especially in the Middle East. That being said, the need for additional resources has been well-established. Among Syrian refugees in Jordan, a recent study found that 869 Syrian refugees in Jordan had cancer, of which 55% were women and 176 (approximately 20%) had breast cancer [16•]. The same study found that 20% of Syrian patients with breast cancer presented with distant metastasis compared with only 16% among Jordanians seen during the same period, which the study's authors suggest may support previous findings that cancers among refugees are diagnosed at a more advanced stage as a result of a lack of available or accessible screening and prevention resources [16•]. Another study found that of 38,243 Syrian refugees that presented with cancer in Turkey between 2012 and 2015, the most common type of cancer was breast cancer with 28.21% of the sample between the ages 9 and 64 years of age having been diagnosed [17]. The same study noted that breast cancer had the highest incidence among refugees settled in Turkey [17]. Similarly, one study evaluating funding applications for cancer treatments among refugees in Jordan and Syria between 2009 and 2012 found that breast cancer was the most common cancer noted in applications [4]. In Jordan, 65 of 276 applications were for breast cancer, and in Syria, 222 of 670 approved applications were for breast cancer [4].

With countries facing considerable destruction in the aftermath of conflicts, many nations are unable to offer breast cancer care because of damaged infrastructure, little resources for treatment, and low numbers of remaining oncologists. For example, the war in Syria resulted in the destruction of many hospitals, clinics, laboratories, pharmaceutical factories, and other health infrastructures that were critical to breast cancer care [10••]. The World Health Organization (WHO) had reported that by the end of 2017, 45% of public hospitals were damaged, 25% of hospitals were partially functioning, and 26% were nonfunctioning [18]. Prior to its civil war, Syria had already struggled with the financial burden of cancer and had no established treatment system or national policy on cancer management [18]. As a result, universal guidelines in the diagnosis and treatment of

breast cancer were seldom followed by medical professionals who had little access to diagnostic imaging modalities and radiation therapy in most medical centers in Syria [19••]. Approximately 23% of functional public hospitals in Syria had available cancer treatment services, and only 46% of patients with cancer in Syria had completed radiotherapy treatment without interruption [18, 20]. Moreover, prior to the war, there were about 1.56 physicians for every 1000 individuals in Syria, but because of the conflict, many medical personnel have either been killed or displaced, with over 15,000 of Syria's roughly 30,000 doctors reportedly having left the country by 2015 [4, 13, 21]. Among 94 surgical hospitals in Syria, the mean nurse-to-physician ratio was 1.71:1, which is nearly half of the internationally recommended ratio of 3:1 to 4:1 [18]. As a result, many patients, including those displaced, have sought treatment outside of their home country. That being said, these individuals are usually unfamiliar with the health system in a given host country and are unaware of available breast cancer screening and treatment programs [4, 15].

Access to Breast Cancer Treatment Among Displaced Populations

Conflict and subsequent displacement can cause major delays in the diagnosis and treatment of breast cancer. A delay of 3 months or more before diagnosis has been shown to be highly correlated with increased morbidity and mortality [22]. In many countries playing host to displaced populations, the time from symptom recognition to diagnosis greatly exceeds this time. Even given timely diagnosis, displaced patients with breast cancer commonly suffer from a lack of access to affordable and effective treatment schemes [8•]. Those that are able to begin treatment often do not complete the full course due to financial constraints, fear of prosecution, distance, time away from work, familial obligations, and a variety of other factors [7, 9••, 14, 19••, 23].

Delays in accessing treatment among refugees and displaced populations are due to a multitude of intertwined variables involving finances, provider availability, and patient-related factors [24, 25]. With respect to finances, refugees and asylum seekers, specifically in the Middle East, seldom have any legal status within a given host country; as a result, they do not qualify for any public health insurance funds to cover the cost of breast cancer diagnosis and treatment and are forced to pay out of pocket for their health care or rely on international humanitarian organizations or local non-governmental organizations to subsidize healthcare costs [8•, 10••]. For instance, Syrian refugees do not qualify for national health insurance, the amount of health aid available has diminished considerably, and Syrian refugees earn too little to be able to finance expensive breast cancer treatments [8•].

Developing countries host approximately 80% of displaced populations worldwide [26]. In these countries, the percentage

of gross domestic product spent on healthcare is approximately half of that seen in developed, high-income nations [27••]. The result of this disparity is a variety of system-level deficits that prevent access to healthcare for refugees and even the host population. These deficits include access to diagnostic services, breast cancer medications, treatment facilities, and a skilled healthcare workforce, specifically oncologists, nurses, and biomedical personnel [22, 28, 29]. Iraq and Lebanon, for instance, both play host to large sums of refugees and have relatively low numbers of oncologists to treat a growing population of cancer patients; and, in a recent study, the mortality to incidence ratio for cancer was found to be 0.53 in Lebanon and 0.65 in Iraq [30]. Likewise, in host countries, access to diagnostic instruments and pathology services is limited, which results in delays in processing specimens and interpreting biopsy results—delays that compound barriers to acquiring treatment [29]. Furthermore, many host countries have limited infrastructure to deliver comprehensive oncology care, such as chemotherapy or radiation oncology services [30].

Breast Cancer Education, Beliefs, and Practices Among Displaced Populations

Beyond the availability of human and infrastructure resources to treat this disease, breast cancer education, beliefs, and practices among displaced populations are significant predictors of treatment outcomes. Patient-mediated barriers to seeking care for breast cancer encompass education level, health literacy, and employment status, all of which influence knowledge and awareness of breast health and symptoms and signs of breast cancer [24, 25]. In the countries that play host to refugees, particularly in the Arab world, cancer knowledge has been found to be especially low [8•, 11]. One study evaluating knowledge surrounding breast cancer among women in Saudi Arabia found poor awareness of symptoms and risk factors. The same study reported that the widely held belief that getting a mammogram is painful was a significant barrier to screening [31]. In Jordan, another study with 3,196 participants found that although most participants recognized the need for regular screening to promote early detection, only 10% of participants had actually received a cancer screening [32]. Poor cancer awareness is not limited to refugees, however. In Lebanon, a study found that both Lebanese citizens and Syrian refugees had low levels of cancer education, indicating the need for a more holistic approach to improvement in this regard within the country [8•].

As in contexts outside of displacement, sociocultural factors also play a role in influencing the health-seeking behavior of women with signs and symptoms of breast cancer [25]. The beliefs of a community in which a woman resides and the support she receives are integral in determining care-seeking behavior, individual agency, and access to services. Social stigma, fatalism, collectivism, fear, and myths surrounding

breast cancer and the use of alternative treatments could each serve as barriers to seeking medical attention [33–36]. In displaced populations especially, refugees with no legal status and limited access to humanitarian aid may forego seeking treatment out of a fear of an inability to pay or a fear of discrimination by the local population and authorities [7].

In the Middle East, social conservatism and patriarchal norms may also contribute to poor care-seeking behavior and exacerbate social stigma surrounding breast cancer symptoms, diagnosis, and treatment [33]. Given social and cultural customs, women and their partners may be hesitant to seek care from a male health provider, and in many of the countries playing host to refugees, the lack of female oncologists compounds the already limited supply of specialist medical personnel [37, 38]. Further, married women may need to get permission from their partner to seek care, and in some cases, health decisions surrounding breast cancer may be collective and determined by family members or the community rather than by the individual [38]. These factors may contribute to more delays in acquiring treatment and diagnostics, especially if those involved have little knowledge about the health system at hand, breast cancer screening, and treatment options.

International Relief Efforts to Address Breast Cancer: the Case of Lebanon and Multi-Aid Programs (MAPs)

In situations of mass displacement, international agencies and non-governmental organizations often provide several kinds of humanitarian support in host countries, including subsidizing or covering the health expenses of patients with breast cancer who have a life-threatening condition and otherwise would not be able to finance the cost of treatment [4]. However, in countries that host the largest number of refugees, such as Lebanon and Turkey, inadequate cancer surveillance programs and cancer registries to track the number of refugees with cancer make it extremely difficult to know how many patients require treatment and are not receiving it as a result of low levels of resources [39]. Here, we describe the state of breast cancer care in Lebanon and highlight the work of a humanitarian organization known as [Multi-Aid Programs \(MAPs\)](#).

Currently, Lebanon hosts the largest number of refugees relative to its national population. Given that refugees now account for one in four people in Lebanon, the country's privatized and disintegrated health system is struggling to provide adequate health services for the rapidly growing population [40, 41]. Other host countries, such as Jordan and Turkey, are facing similar challenges [10••]. As a result of the increasing number of refugees in Lebanon and their demanding health needs, the United Nations High Commissioner for Refugees (UNHCR) has entered an inter-agency partnership with the Lebanese Government and the Lebanese Ministry of Health to coordinate a humanitarian and to bolster the provision of health services [42]. Together, the UNHCR and the Lebanese Government subsidize primary

health care services for refugees in existing primary health care centers (PHCC), which are state-run, across the country's governorates [42]. Additionally, the Lebanese Government has contracted a private third-party administrator to manage referrals for the provision of secondary and tertiary services, including emergency care and the delivery of newborns [43]. That being said, the Ministry of Public Health in Lebanon reported that, in 2016, hospitals encountered a deficit greater than \$15 million as a result of the influx of Syrian refugees, accentuating the negative effects of mass displacement on health systems with already strained resources [10••, 44].

With limited funding from the UNHCR and a lack of capacity within the Lebanese health system to deal with cancer care among refugees, many patients with cancer are left untreated. Cancer care for refugees in Lebanon is supported by Exceptional Care Committees (ECCs) of the UNHCR [30]. A recent report found that the arrival of Syrian and Iraqi refugees coincided with a 37.6% increase in breast cancer incidence in Lebanon [10••]. Despite the increase in cancer incidences among those displaced, funding for cancer treatment has only reached 30% of the requested UNHCR budget, and the UNHCR in Lebanon is currently facing an 83% deficit in funding [10••, 45]. As such, the UNHCR has been forced to selectively fund cancer cases based on criteria that aims to determine which cases are most deserving of health care coverage, which is usually determined by disease prognosis [4]. In one study, the UNHCR reported that only 246 of 511 Syrian refugees applying for cancer treatment were approved in Jordan because of a shortage of funds [4]. Further complicating the situation, given that refugees are not based in camps in Lebanon, their health outcomes and access to health services are expected to differ from those in other nations because these refugees reside in urban areas with living conditions characterized by pollution, tobacco consumption, and poor nutrition that typically exacerbate chronic illnesses such as cancer [11].

The leading cancer centers in Lebanon currently include the NK Basile Cancer Institute and the American University of Beirut Medical Center (AUBMC), including the Children's Cancer Center. A recent study found that at the AUBMC, 41% of patients with breast cancer seen in 2015 were Iraqi and Syrian [10••]. Twenty-four percent of Iraqi patients presented with metastatic breast cancer as compared to 15% of Lebanese patients, which provides further support that displaced populations are more likely to present with a late-stage diagnosis of breast cancer [10••]. Similarly, only 4% of Iraqi patients with breast cancer seen at AUBMC were screen-detected, as compared with 28% of Lebanese patients with breast cancer [10••].

MAPs, a non-profit, non-governmental organization registered in both Lebanon and Germany, has sought to support breast cancer diagnosis and treatment among displaced populations in Lebanon. With a team of more than 350 trained and

qualified individuals, MAPs offers programs in education and healthcare, among other areas of humanitarian relief. In 2015, MAPs provided more than 300,000 services through a comprehensive primary health care center, a specialized center, a breast cancer screening center, and a variety of teaching programs in camps. MAPs has noted that humanitarian organizations in the region seldom address breast cancer prevention among Syrian refugees. In one pre-assessment survey of patients who visited a primary care center in Lebanon, only 7% of women reported having completed an annual screening for breast cancer.

In hopes of decreasing breast cancer morbidity and mortality among displaced populations in Lebanon, MAPs established a breast cancer program in 2015 that aims to provide breast cancer awareness, screening and diagnosis, and treatment coordination with in-country partners. By the end of 2018, the program had led a variety of breast cancer awareness workshops and has provided more than 4,800 mammograms, 1,500 ultrasound screenings, and 160 surgical procedures, ranging from biopsies to aspirations, to displaced women in Lebanon. In this time, they have also diagnosed 76 new cases of breast cancer and followed-up on 25 previously diagnosed cases. Of those cases, nearly 58% were diagnosed at either stage 3 or stage 4, and approximately half of those diagnosed were under the age of 50. Though the program was able to diagnose and coordinate treatment for many displaced women in Lebanon, these findings are alarming and highlight the need for additional resources to address the burden of breast cancer among refugees in Lebanon.

As such, the situation of access to breast cancer treatment among refugees and displaced persons in Lebanon is urgent, especially considering that very little information exists to describe the experience of displaced patients with breast cancer. Overall, the level of accessibility to and affordability of health services prevents patients from obtaining adequate cancer care. Primary health centers often have mandatory payments, and because secondary and tertiary care within Lebanon is completely privatized, it is far too expensive for refugees to afford. As a result, the UNHCR considers support for cancer patients on a case by case basis, with a large majority of the refugee population with cancer struggling to find treatment. In the absence of any cancer management programs for those displaced in Lebanon, organizations that support general health needs among refugees often perceive cancer as financially agonizing. Thus, establishing an initiative to support cancer management among displaced persons in the Middle East is highly needed.

Conclusions

Refugees and displaced populations face major disruptions in their treatment for breast cancer and experience significant

delays in accessing diagnostic and treatment services. Thus, these patients often present with an advanced stage of breast cancer, which leads to poor health outcomes. As a result of limited finances and insufficient support from humanitarian organizations and host governments, refugees and displaced populations in the Middle East face significant barriers to accessing care, support, and educational resources. Breast cancer has yet to become a priority for international relief agencies and host governments because of misperceptions that breast cancers consistently present with poor prognosis and are too costly to treat. With the burden of breast cancer and the number of displacement populations across the world both rising, host governments and the international community must reconsider and develop new strategies for breast cancer prevention and treatment among displaced populations. Given the complex interaction of factors that affect breast cancer diagnosis and treatment outcomes for refugees and displaced populations, additional resources to improve breast cancer treatment outcomes and to provide more accessible, sustainable, and affordable care for refugees and displaced populations must be developed. Breast cancer stands as a significant social and economic burden for refugees and displaced persons, and the current amount of resources directed toward displaced populations is deeply inadequate.

There is no predictable end to the drivers of current conflicts that are creating massive waves of displacement, and as a result, the incidence of breast cancer is expected to rise moving forward. Therefore, we find it to be absolutely imperative to further investigate the drivers of breast cancer development among displaced populations through epidemiological and prevention research. Similarly, host governments with large numbers of refugees should make it a priority to establish population-based cancer registries. These registries will provide a valuable source of data to understand the burden of breast cancer on displaced populations. Using this data and that of further research can inform national policies, the amount of additional resources required, and the development of cancer care programs. Such evidence-informed cases for breast cancer control can help garner greater support from international agencies to support breast cancer care and reduce risk factors among those displaced.

At the same time, we also recommend that researchers, international organizations, and host governments collaborate and further elucidate locally specific barriers to breast cancer care among refugees and displaced populations and develop national programs to increase cancer education as a means of prevention. Given the complexity of breast cancer treatment among refugees and displaced populations and the multitude of factors contributing to worse treatment outcomes, the only way to address health inequities for such women with breast cancer is to develop a strategy that accounts for the local context and provides relevant resources for their care.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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