



Commentary

A potential rise of breast cancer risk in the UAE post-COVID-19 lockdown: A call for action

ARTICLE INFO

1. Introduction

Coronavirus disease 2019 (COVID-19) was first detected in late December of 2019 with early reports of pneumonia-like symptoms from Wuhan, China. This outbreak has quickly caused major healthcare havoc, with the World Health Organization (WHO) recognizing it as a public health emergency of international concern and subsequently declaring it a global pandemic on March 11th, 2020 [1]. The first confirmed case in the United Arab Emirates (UAE) was reported on January 29th 2020. As of April 6th, 2022, the current total case count has reached over 800,000 infections with a total of 2300 coronavirus-related deaths [2,3].

The UAE government took early and effective approaches, which all successfully played a crucial part in controlling the rate of infection [4]. Unfortunately, however, even with the implementation of these measures, the strain on the healthcare facilities necessitated the cessation of elective procedures and created gaps in many routine screening appointments for women seeking early detection of breast cancer. This delay in vital screening amidst the COVID-19 pandemic as reported by relevant clinical studies is thought to be responsible for the concerning spike in late-stage breast cancer cases across the country today [5].

The sudden reprioritization of care had a profound impact on oncological services, with a noticeable reduction in routine breast cancer screening programs such as mammograms and ultrasounds [6]. Additionally, there have been numerous reports of an increasing number of late-stage breast cancer diagnoses as an unintended effect of the pandemic's early lockdowns and medical restrictions as described by early reports from global trends [7,8]. Oncology experts worldwide are expressing their fears over this new phenomenon known as the "Tsunami of Cancer", where there will be an expected upscale in cancer diagnoses on a global level [9]. To date, there has been a lack of published papers in this context in the UAE. The aim of this commentary article is to highlight the implications surrounding breast cancer screening in the UAE and provide recommendations.

2. Epidemiology of breast cancer and its relevance in the UAE during the COVID-19 Era

Breast cancer is the most commonly diagnosed cancer, accounting for 2.3 million new cases annually which makes up 11.7% of total new

cancer cases in 2020 [10]. It is also the most prevalent cancer worldwide with 7.8 million women alive today being diagnosed with breast cancer in the past 5 years [11]. Advanced Breast cancer is a fatal disease with the mortality rate reaching up to 684,996 globally. In the United States, it is the second most common cause of cancer-related deaths [12]. The COVID-19 lockdown has disrupted efforts in breast cancer control halting breast cancer screening programs thus allowing cases to be detected at a later and more invasive stage. This has led to an observed subsequent surge in advanced presentations and an increase in mortality globally.

Several studies were conducted to model the widespread impact of COVID-19 on breast cancer. Countries such as Canada, the Netherlands, Germany, Italy, the UK, and Australia have completely suspended their screening programs for 1–6 months in response to the COVID-19 pandemic [13]. In a recent Canadian study by Yong et al., the incidence and mortality from a 3-month pause in breast screening were modeled and it was found that it results in an increase in the number of cases diagnosed at advanced stages by 310 and cancer deaths by 110 in 2020–2029 [14]. A US model showed that the cumulative number of excess breast cases in the US could increase to 2487 by 2030 as a result of the pandemic's impact on screening, diagnosis, and treatment [15].

Breast cancer is the most frequently diagnosed cancer in the United Arab Emirates (UAE). In 2020, 9.8 million people were estimated to live in the UAE, of which 28% were females aged between 25 and 54 years [16]. New breast cancer cases in 2020 totaled 1030 out of 4,807 total cancer cases, making up 21.4% of total new cancer cases in the region [17]. In the same year, the total deaths reached 1,896. An increasing number of younger patients are being diagnosed with breast cancer in the UAE, which is likely to be due to the high number of the young expat population which lowers the average age of the female population [18]. Currently, internal studies are being conducted at different centers in the UAE where clinicians are noticing that women are having a delay in vital breast cancer screening which is resulting in the presentation of late-stage breast cancer cases as a result of the COVID-19 lockdown. Many UAE residents travel abroad to receive treatment for medical conditions including cancer which is referred to as "medical tourism". The pandemic early lockdown has led to interruptions in cancer treatment plans received abroad and has led to patients returning home without the completion of the required treatment regimen which could have detrimental effects on their oncologic outcomes. As a result of the

Abbreviations: WHO, World Health Organization; UAE, United Arab Emirates; GCC, Gulf Cooperation Council.

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decrease in medical tourism, the UAE could see a rise in the number of patients receiving treatment locally [19].

3. Potential reasons for the rise in breast cancer diagnoses

In the UAE, it is known that breast cancer accounts for the most commonly diagnosed cancer in both sexes with 21.4% according to the WHO and 38.8% in females of all ages in the UAE in the year 2020 [17]. In a study based in the UAE, women aged 40 and under possessed a significantly higher incidence of HER2-positive breast cancer in comparison to older age groups [20]. Age-standardized rates for the incidence and mortality from breast cancer in the UAE are lower compared with western countries, this could be possibly due to a younger age population, limited exposure to some risk factors and lesser screening habits compared to western countries [21].

Important lifestyle patterns contributing to breast cancer risk include the usage of regular oral contraceptive pills, breastfeeding practices, menstrual cycle characteristics, physical training, and dietary patterns. These identifiable risk factors for breast cancer are interconnected to the reproductive life of women, such as early menarche, nulliparity, multiparity, late age at first delivery, a shorter period of breastfeeding, and late menopause. The female population's reproductive practices perceived in the UAE and other Gulf Cooperation Council (GCC) countries typically include an early start to pregnancy and childbirth, decreased birth intervals, and thereby increasing parity. Nulliparous women have an increased likelihood of developing breast cancer, whereas multiparity has been inversely proportional to the risk of developing breast malignancy [22].

A collaborative analysis study in 2002 proved the risk of developing breast cancer in women from 30 countries was reduced by 4.3% for every 12 months she breastfed, in addition to the risk decreasing to 7% for every additional birth [23]. Women in the UAE are affected by breast cancer at a younger age compared to the global average, which is attributed to the average expatriate population in the UAE that falls within the younger age group [24].

A study from 2012 demonstrated that women of all ages, nationalities, and educational levels had poor screening practices in Abu Dhabi, UAE [25]. This could be attributed to the stigma revolving around breast cancer and the religious and social role that women possess in the Arab community. Thus, exploring the stigmatization that many women living in the UAE face and overcoming such barriers, can allow the healthcare community to promote the screening of breast cancer.

Financial concerns for non-UAE locals exist for breast cancer screening and, if need be, treatment. Younger females are also worried due to their low wages and lack of insurance coverage. Most expatriates fear termination from their workplace and consequently, discontinuance of health insurance upon a cancer diagnosis, as they are unable to work as efficiently due to their decline in health. Accessibility and limited transportation methods to clinics and hospitals were also matters that prevented, or add further difficulty, in gaining screening services. Additionally, there was also a fear of radiation from the mammogram, treatment, and potentially dying due to the disease. Mistrust in the insurance companies and healthcare professionals also seemingly made treatment more difficult for the population, in addition to increased paperwork and documentation required for insurance-dependent individuals [26,27].

As March 2020 began with the global public health care emergency, strict lockdown measures and concerns over contracting the novel COVID-19 virus prevented the public from halting their checkups at healthcare settings, resulting in the absence of disease detection and loss of vital lifesaving management. In particular, 821 women arrived for a breast scan in 2019, whereas in 2020 it was reduced to 730 women. However, in 2021, as stay-at-home measures relaxed and confidence returned, NMC Hospital, Al Nahda, reported an increase of 20% of women coming in for routine breast scans. In addition, the shortage of breast cancer radiologists has also added to the limited screening done at

hospitals [28].

During the pandemic, through news outlets and social media, there was a shift of focus on COVID-19 cases that allowed many women to neglect their other comorbidities or possibly health concerns. However, there have now been campaigns in the UAE, namely "New Normal, Same Cancer" in partnership with AstraZeneca GCC that have motivated the public to resume their cancer screening and to remember that cancer has always been and continues to be a multifaceted global challenge. The necessity of timely cancer-related services was affected, delaying diagnosis and treatment of breast cancer and subsequently increasing mortality [29].

4. Potential implications of this situation due to delays in breast cancer screening

Early detection of breast cancer is vital since it is linked to a greater number of treatment choices, a better prognosis, and a higher quality of life. It gives women with a significant family history of breast cancer the best opportunity of getting appropriate treatment and improving their outcomes. As a result of the delays in identification and treatment, potentially increasing mortality, more severe treatment may be required.

A rise in cancer mortality is the most alarming potential effect of a reduction in cancer screening. Currently, there is no evidence of reported mortality related to reduced screening during the COVID-19 epidemic but the scale of a potential rise in mortality will certainly add to the pandemic's worldwide public health consequences. Cancer mortality has been on the increase during the majority of the twentieth century. However, overall cancer mortality has declined every year since 1991, and cancer mortality has fallen by 30% from 1991 to 2018 [30]. Because of the decline in cancer screening rates, it appears plausible to assume an increase in cancer-specific mortality. However, it is unknown to what extent this will occur. The sudden drop in cancer screening as a result of the pandemic's lockdowns was unprecedented. The pandemic's global impacts on future cancer mortality have far-reaching public health implications that have yet to be identified.

A Canadian modeling research study had reported that if all planned mammograms are postponed for 6 months and then progressively resumed, the number of fatalities will rise by 0.48% by 2029 [31]. Another research focused on the United Kingdom indicated that the pandemic would increase the number of breast cancer deaths by 7.9%–9.6% in 5 years. However, that study assumed that malignancies could not be discovered after a screening exam but only through urgent referrals during the epidemic [32]. The importance of evaluating women with breast cancer symptoms promptly, especially during times when health-care access and capacity are limited, should be highlighted.

5. Recommendations and a call for action

Limited access to healthcare services calls for more efforts toward prevention in combination with high-risk screening. Prevention-wise, popular and social media channels can be used to increase awareness about breast cancer risk factors and breast self-exams. YouTube, Facebook, and Instagram have been the three most popular platforms with more than 6 million. UAE-based users during 2021 [33]. Therefore, these platforms need to be prioritized and the content of established breast cancer prevention tools can be promoted through them.

Elements from established cancer prevention tools, such as the European Code Against Cancer, can further improve the existing content. The latter addresses multiple risk factors and promotes healthy living as a whole in the context of breast cancer prevention while urging authorities and stakeholders to protect the individual right to a healthy lifestyle [34]. For instance, combining healthy nutrition, exercise, and breastfeeding in the context of breast cancer prevention can have a cumulative benefit to disease prevention rates. Nevertheless, the potential of these practices can be realized only if the authorities protect

exercise time during the working day and help the public obtain basic exercise at-home equipment for free or at discounted prices. Therefore, a health-regulating campaign should also be organized to encourage and enable the public to undergo screening. Additionally, a representative example of an international strategy for breast cancer control post-COVID-19 pandemic is the EU4Health program which commissions €5 billion of the European budget and many countries as well to the management of non-communicable diseases that have been neglected in the COVID-19 pandemic including breast cancer.

Furthermore, the existing shortage of the number of radiologists in the country is only adding to the burden of this problem, hence the dire need for recruitment of more radiologists is essential to aid in creating better screening programs for all women. Apart from healthcare- and state-centered efforts, community involvement matters. Local influencers can help spread credible information. Respecting the local cultural norms of propriety with regard to potentially sensitive content, namely breast self-exam illustrations and videos, is also important. Previous studies have shown that low breast self-exam rates among women of Arabic origin were associated with cultural and religious perspectives [35]. Involving religious stakeholders and preachers in breast cancer prevention should be considered. Spiritually based approaches have been shown to increase breast cancer prevention rates in Afro-American populations [36]. Although relevant studies from Muslim countries have not led to conclusive results to date [37], such an approach can be further studied during its application. In the same context, patients diagnosed during the pandemic can be invited to share their experiences given the documented potential of narrative communication in cancer prevention. Certainly, the involvement of these individuals does not breach confidentiality.

6. Conclusion

Breast cancer in the UAE has been a long-term challenge as it is the most common cancer in the region. The recent rise in breast cancer diagnoses has further exacerbated the healthcare system during the COVID-19 pandemic due to various socio-economic barriers, including a lack of screening. Many countries worldwide have presented modeling studies that suggest a potential rise in breast cancer cases as a result of the COVID-19 lockdown which interrupted cancer screening programs. These global trends serve as a reminder for urging preparedness and give us an opportunity to recommend evidence-based action plans in the UAE before it is too late. It is vital to prioritize early screening programs, increase research funding and awareness towards breast cancer prevention, and interdisciplinary collaborations in mitigating this rising public health challenge.

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Registration of research studies

1. Name of the registry: N/A.
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