STUDENTS' CORNER
LETTER TO THE EDITOR

Prevalence of vitamin D deficiency in Pakistani females and its link to breast cancer

Hussain Mansoor[1], Eisha Waqar[2], Rabbia Tariq[3]

Madam, Female breast cancer remains a major health concern due to its rising incidence and mortality rates around the world. Recent statistical trends have shown a significant increase in its prevalence, accounting for 11.7% of all cancer cases worldwide.[1] In Pakistan, female breast cancer incidence is the highest among all other malignancies, with a total of 25,928 cases reported nationally in 2020.[2]

There are numerous risk factors for breast cancer: old age, family history of breast and reproductive tract malignancies, early menarche, nulliparity, late menopause, high-fat diet, alcohol consumption etc.[3] A study conducted in 2017 identified vitamin D deficiency (VDD) as a possible risk factor for breast cancer.[4] In 2020, the results of a case-control study conducted in Karachi, Pakistan, revealed that women with low serum vitamin D <20ng/ml were at a greater risk of developing breast cancer compared to patients with sufficient serum vitamin D >30ng/ml.[5]

Historically, Pakistani women are prone to developing VDD despite abundant sun light due to Pakistan's subtropical climate. The primary reason behind this paradox can be associated with the low air quality index in many of the major cities of the country. The high population density and closely-built infrastructure also act as barriers towards adequate sun exposure for Pakistani women. Furthermore, distorted beauty ideals that discourage women from going out in the sun are deeply rooted in South Asian culture. The cosmetics industry plays a huge role in reinforcing this notion through advertisements that glorify fair-skinned women. There is also a lack of awareness regarding balanced diets among women, especially from lower socio-economic backgrounds.

The possible correlation of VDD with female breast cancer has amplified the need for awareness programmes to educate the female population regarding the importance of vitamin D. Women-centric NGOs and healthcare organisations spreading awareness regarding breast cancer should emphasize VDD as its underlying cause and encourage them to spend more time outdoors and to include vitamin D supplements in their diet. Electronic media can also play a pivotal role in propagating this information. Lastly, the government's ongoing food fortification programme against VDD and other nutritional deficiencies should be accelerated and strictly monitored to ensure its proper implementation and success.

With female breast cancer increasing at an unprecedented rate, the government must take effective measures to minimize the risk of breast cancer in vitamin D deficient females.

Disclaimer: None.

Conflict of Interest: None.

Funding Sources: None.

DOI: https://doi.org/10.47391/JPMA.11-4169

[1,2]2nd year MBBS Student, Dow Medical College, Dow University of Health Sciences, Karachi, Pakistan.; [3]3rd year MBBS, Student, Dow Medical College, Dow University of Health Science, Karachi, Pakistan.

Correspondence: Hussain Mansoor. e-mail: mansoorhussain520@gmail.com

References

1. Sung H, Ferlay J, Siegel R, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021; 71:209-49.
2. Gco.iarc.fr. [Online] [Cited 2021 April 04]. Available from: URL: https://gco.iarc.fr/today/data/factsheets/populations/586-pakistan-fact-sheets.pdf
3. Sun Y, Zhao Z, Yang Z, Xu F, Lu H, Zhu Z, et al. Risk Factors and Preventions of Breast Cancer. Int J Biol Sci. 2017; 13:1387-97.
4. Buono G, Giuliano M, De Angelis C, Lauria R, Forestieri V, Pensabene M, et al. Pretreatment Serum Concentration of Vitamin D and Breast Cancer Characteristics: A Prospective Observational Mediterranean Study. Clinical Breast Cancer. 2017; 17: 559-63.
5. Shamsi U, Khan S, Azam I, Habib Khan A, Maqbool A, Hanif M et al. A multicenter case control study of association of vitamin D with breast cancer among women in Karachi, Pakistan. PLoS One. 2020; 15:e0225402.