

nanomaterials

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ABSTRACT

Globally, breast cancer poses a persistent and serious health issue, with its incidence steadily increasing. Traditional medicinal plants from the Indian Himalayas offer promising potential for treatment. Our review evaluates traditional knowledge and practices in the Himalayan region concerning the use of medicinal plants for breast cancer treatment. It identified 31 plants with potential for managing breast cancer, belonging to 30 genera and 24 families. The Asteraceae and Fabaceae families were the most represented, each contributing three species, followed by Amaryllidaceae and Zingiberaceae. Regarding plant habits, herbs were the most frequently utilized, followed by trees, climbers, and shrubs. Various plant parts, were used in treating breast cancer with fresh or dried leaves being most common, followed by roots and bark. Numerous bioactive substances with anticancer qualities, including flavonoids, alkaloids, terpenoids, tannins, saponins, steroids, and glycosides, are found in these anticancer plants. They have a range of inhibitory actions against cancer cells through apoptosis, microtubule and cytokine inhibition, inhibition of transcription factor NF- κ B, and Histone Acetyltransferases (HATs). Himalayan medicinal plants hold potential as anticancer agents against breast cancer; However, most studies lack scientific validation and rely on anecdotal evidence. Further research is required to establish their mechanisms and therapeutic relevance.

KEYWORDS

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