

Ability of berries in prevention of breast cancerSidra Jamal,¹ Sajid Ali,² Marium Farooqi³

Madam, Berries and concord grapes are sweet little treats that have been recently implicated as potential role players in the prevention of breast cancer (BRCA). Besides their tart, tangy pungent taste, the cultivar concord grapes' the flavonoid and phytochemical rich berries have been proven to prevent this leading cause of worldwide morbidity and mortality in women as a third of women, suffering from cancers suffer from BRCA. Berries are packed with a powerful nutritional punch that is high in fiber, low in calories and contains numerous vitamins that the body needs to function normally.

Furthermore, edible berries like raspberry, gooseberry, black currant and low bush berry contain bioactive photochemical compounds such as phenolic acid, proanthocyanidins, anthocyanin and other flavonoids that offer protection from breast cancer by arresting the cell cycle.¹ These compounds down regulate the expressions of cdk2, cdk4, cyclin D1, cyclin D3, inhibit Tumour Necrosis Factor (TNF) induce COX-2 expression and activate the transcription factor NFkB.² The former effects of berries are those that have been proven to prevent the cancer if down regulated, inhibited, induced and activated respectively. Furthermore, berries have been proven to sensitize the tumour cells to chemotherapeutic agents, by inhibiting the cellular pathway that may increase resistance to chemotherapy. Therefore, berries

have shown to augment the treatment of breast cancer. Anthocyanin extract from concord grapes has been shown to boost the activity of detoxifying enzyme Glutathione-transferase and NADPH, which prevent Reactive Oxygen Species (ROS) formation and DNA adduct formation in normal human cells, along with modulating activities of carcinogen metabolizing enzymes.

Thus, consumption of berries and concord grapes not only aids in preventing BRCA which is on its annual incline upwards globally, but, these fruits are also very affordable to the pocket, as treatment cost of BRCA per person is very high price that most people of south Asian regions cannot afford to pay for, resulting in reduced compliance. BRCA once diagnosed is treated by a costly sequence of surgery, chemotherapy, radiation and hormonal therapy.³ Moreover, millions of new cases of BRCA are being reported annually both from developed and developing countries. Last but not least because the mentioned facts have been proven scientifically, patients should be encouraged to practice consumption of berries, concord grapes and such natural diets rich, in fiber regularly.

References

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