Chemopreventive nutraceuticals by phytochemical classification

A growing body of evidence supports chemopreventive nutraceutical use. Several nutraceutical classification systems exist. Nutraceuticals' biochemical classification gives at least 9 categories: Alkaloids, lipids, organosulphurs, phytic acids, phenols, terpenes, polysaccharides, organic acids, and phytosteros. Phytosterols reduce lung cancer incidence by 50% (95% Confidence interval [CI].31 to .70) and stomach cancer incidence by 67% (95 CI .17 to .65). Phenol containing Schisandra extracts inhibit lung cancer. Citrus flavonoids inhibit chemical-induced carcinogenesis, protecting DNA from damage, and stimulating DNA repair following damage. The cruciferous vegetable derived indole-3-carbinol (I3C) and diindolylmethane are protective against estrogen-enhanced breast, cervical, and endometrial cancers. Meanwhile, the lipid docosahexanoic acid is chemopreventive for breast, colon, and prostate cancers. Future research on berries across life stages may clarify the effect of berry polyphenols for breast cancer primary and secondary chemoprevention. Future chemopreventive nutraceutical research may be most successful when nutraceuticals are trialed against physiologic pathways for which they have most activity. AT-rich interactive domain 1A pathways, hippo pathways, insulin-like growth factor-receptor pathways, Luteolin and p53 pathways, notch pathways, phosphatas and tensin homology pathways, retinoblastoma protein pathways, are all pathways for which nutraceuticals are available to trial. Outcomes for primary prevention trials of black raspberry for oral cancer, phyllanthusmin C for acute myeloid leukemia, silibinin and I3C for lung cancer, and sulforaphane for skin cancer are awaited.

Biography

Oroma Beatrice Nwanodi graduated from Meharry Medical College of Nashville, Tennessee in the United States of America as a Medical Doctor in 2001. She specialized in Obstetrics and Gynecology at The University of Massachusetts and Maimonides Medical Center. In 2016 she completed the Doctor of Health Science program at A T Still University, Mesa, Arizona. In 2017 she became triple-boarded in Integrative Medicine. She has publicly presented internationally in London, England, and Munich, Germany. She has served as a Conference Chair, Moderator, Organizing Committee Member, and Editorial Board Member. She has over 30 peer-reviewed publications.

Notes: