

## Prevalence and alleviation of different forms of cancer in Australasian region

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### SHORT COMMUNICATION

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Australasian region comprising of the Australia, New Zealand and some neighbouring islands is culturally and ethnically diverse and even economically distinct. Therefore, there is variation in the health care setups. The screening programs for the cervical cancer and other forms of cancer also vary in this region. For example Human papilloma virus is the most common risk factor. Australia is the first country in the world to start government funded HPV vaccine program. Among women, breast cancer is the most common form of neoplasm and is also the leading cause of mortality among women all across the world. This is also true in case of Australasian region. On a world wide scale more than 2 million cases are reported per year out of which nearly 70000 succumb to the disease. Clinical research and development in the last few decades has resulted in development and optimization of methods and protocols for the large scale screening, early diagnosis, treatment and management of breast cancer in an effective and efficient manner. However, there exist regional differences and inequalities in the trend of breast cancer incidence and treatment outcomes. In high income countries the mortality rate is very low when compared to low and middle income countries. This is also the reflection of the health care infrastructure and facilities for the cancer treatment. In North America and Australia the mortality of the breast cancer patients showed a decreasing trend over last few decades. However the situation in Asia is very concerning and there is need for further advancement for screening and management of breast cancer. Among America, Oceania, Latin America, highest rate of decrease in the mortality was observed in the Australia. The decrease in the mortality trend in the Asian region is lowest thus indicating the high prevalence but inadequate treatment options. There is a greater need to build screening, diagnosis and treatment facilities in the Asian region. In one of the recent studies, the prevalence of the lung cancer in the different Australasian countries was analyzed

based on the World Health Organization data. It was reported that in Russia there was highest predicted cancer mortality rate whereas lowest mortality rates were found in the Philippines. Cancer deaths could be reduced in the Australia but in Philippines the cancer deaths reduction could not be achieved. Cancer mortality in Russia and Australasia were predicted to show a declining trend. Such differences exist due to differences in the health care infrastructure and medical expertise for timely diagnosis and treatment.

Certain studies demonstrated that in Australasia a significant association exists between the conventional adenoma size and mismatch repair deficiency. Testing of the adenomas in the suspected Lynch syndrome is regarded as a useful alternative in cases where cancers are unavailable. In Australasia most of the conventional adenomas from the mutation carriers showed loss of the mismatch repair protein expression probably due to underlying germ line mutation. Prediction of the cancer mortality rates is useful for public health planning and policy making. It was observed that the stomach cancer rates showed declining trend in all of the countries studied. Colorectal cancer declined since 1990. In Hong Kong and Korea the lung and breast cancer rate declination were favourable in case of women. Australia showed lung cancer death rates higher than the breast cancer. In most of the countries studied, the predicted rates of uterine, ovarian, prostate and bladder cancer and the leukaemia's were declining. However, such reduction in the Philippines was not observed. In European countries and USA the predicted cancer rates were much lower. This could be due to differences in the allocation of funds for cancer diagnosis and treatment.

Prostate cancer screening was studied with respect to the Australasian region and many epidemiologists and public health physicians have suggested that systematic population based screening and self-requested screening should be discouraged as they lead to unnecessary treatment and further recommended that the patients should only be investigated for prostate cancer when they present urinary symptoms.

It was observed that Australasian oncology nurses are encouraging the promotion of physical activity for their patients suffering from cancer across different treatment

stages as they are strongly believing that physical activity is beneficial for the patients. Hospitals need to encourage the nurses in promoting the physical activity and must provide referral pathways to exercise physiologists and physiotherapists. In Australia the survival of the cancer affected patients continue to increase. However cancer treatment including surgeries, hormonal therapy, radiation therapy and chemotherapy leads to acute and long term side effects. This may lead to further complications. Therefore there is a chance for the reduction in the quality of life and productivity adversely affecting their lives. Regular physical exercise was found to reduce adverse effects of the cancer treatment.

Genetic testing for mutations in the breast cancer susceptibility genes offers an opportunity for risk reduction and gene therapy. A study was conducted to screen *gremlin* *PALB2* mutations in women affected with breast cancer due to high estimated breast cancer risk and to ascertain if clinical testing for these mutations is warranted. It was observed that nearly 1.5 percent of the Australasian multiple case breast cancer families attending clinics are segregating protein truncating mutations in *PALB2* and therefore clinical *PALB2* testing was recommended.

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