A method used in developing countries to restore dental cavities can be a viable alternative for conventional tooth restorations, scientists from Johannesburg in South Africa are reporting. In a systematic review involving clinical studies from China and the Middle East, they found that survival rates of restorations using the so-called Atraumatic Restorative Treatment (ART) are comparable and to some extend superior to those placed with amalgam.

Developed in Africa in the mid-80s, ART is a clinical procedure based on removing carious enamel and dentine using hand instruments only and restoring the tooth with an adhesive filling material such as glass-ionomer (GI). It is said to be painless and require minimal cavity preparation while conserving sound tooth tissue.

The World Health Organization currently recommends the procedure for application in developing countries with limited resources for treatment as well as elderly and patients with special needs in developed countries.

In the new review, the researchers from the University of Witwatersrand in Johannesburg compared 27 datasets of ART restorations with amalgam fillings in Class I, II and V cavities of primary and permanent teeth from clinics in Kuwait, Syria and China. Most of them did not show a difference between the success rates of ART and amalgam restorations, they said. In fact, four comparisons were even in favour of the procedure. They recommended to verify the findings through more randomized control trials, as the studies observed were done under unclear randomized sequence allocation.

According to WHO figures, caries prevalence in developing countries is still high despite preventative measures such as water fluoridation and improved school-based dental hygiene education.

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Scientists link dental X-rays to cancer

LONDON, UK/LEIPZIG, Germany: A joint research team from Kuwait and the UK has reported a link between dental X-rays and increased numbers of thyroid cancer. After factoring X-rays taken of 300 patients in a hospital in Kuwait, they found that men and women who had had up to four dental X-rays were more than twice as likely to have developed the disease than those who had never had any dental X-rays. For those patients who had had between five and nine X-rays, their risk rose more than four fold.

Although thyroid cancer is one of the least deadliest cancers, incident rates have almost doubled in countries like Australia in recent years.

The findings are consistent with previous reports of increased risk of thyroid cancer in dentists, dental assistants, technicians and X-ray workers, suggesting that sensitivity of the thyroid to radiation is not necessarily related to direct irradiation of that organ but to any exposure to ionizing radiation. Besides thyroid cancer, significant risks have also been observed for leukaemia and cancers of the breast.

The researchers warned that the results of their study “should be treated with caution” because the data was based on self reporting by the participants and the fact that other factors could be contributing to the increase in thyroid cancer cases. Further research is required to confirm the exact effect of dental X-rays, the added.

“It is important that our study is repeated with information from dental records, including frequency of X-rays, age and dose at exposure,” Dr Anjum Memon, Senior Lecturer and consultant in Public Health Medicine at Brighton and Sussex Medical School, who led the study, said. “If the results are confirmed, then the use of X-rays as a necessary part of evaluation for new patients, and routine periodic dental radiography, particularly for children and adolescents, will need to be reconsidered, as will a greater use of lead collar protection.”
Sex virus to save from death through oral cancer

Patients who suffer from certain types of head and neck cancer are more likely to survive following treatment if the tumor was caused by a papillomavirus (HPV), scientists from the University of Sydney in Australia report. According to their research published in the latest issue of the British Journal of Cancer, patients with HPV positive tumours of tonsil and base of the tongue are four times less likely to die than patients whose cancers did not follow a HPV infection. Furthermore, the cancer was three times less likely to recur at the primary site in patients with HPV positive cancers.

New evidence shows mercury to drive Alzheimer’s

Earlier studies of low-dose human exposure, such as to dentists and their staff, have shown that exposure to mercury is correlated with long-term neurological or psychological harm. The new review is one of the first that tried to find a systematic link between mercury deficits and increased levels of mercury found in Alzheimer patients.

According to Professor Harold Walsch, PhD, Vrijez European University in Frankfurt, “It’s very effective. If you put a tiny amount of lysostaphin in a solution with Staphylococcus aureus, you’ll see the bacteria die almost immediately,” said Ravi Kane, a professor in the Department of Chemical and Biological Engineering at the Rensselaer Polytechnic Institute in Troy, New York. “At the end of the day we have a very selective agent that can be used in a wide range of environments—paints, coating, medical instruments, door knobs, surgical masks—and it’s active and it’s stable.”

Kane added that the coating has a dry storage shelf life of up to six months and can be washed repeatedly without losing effectiveness.