

LETTER TO THE EDITOR

Dental Hygiene in Childhood Cancer Survivors: The Importance of Tertiary Long Term Follow-up Care

To the Editor: We read with interest the article by Halperson et al. published in *Pediatric Blood and Cancer* which examined the pulpotomy success rate and risk of systemic complications in children receiving cancer treatment [1]. Their data highlighted the deleterious effects of cancer treatment and the importance of ongoing management of dental hygiene in this high risk population. Halperson et al.'s findings are particularly pertinent to childhood cancer survivors (CCS). CCS are at higher risk of ongoing dental problems resulting from radiation and chemotherapy, including caries, tooth discoloration or developmental abnormalities, sensitivity, and root stunting or thinning [2,3][3].

We analyzed the dental practices and follow-up of 279 (53% male) CCS, 5 or more years post cancer diagnosis, treated at four Australian hospitals for all types of childhood cancer. Adult CCS, or the parents of survivors under 16 years of age, completed a questionnaire assessing CCS' dental practices (dentist visits, current and anticipated cancer-related health problems, smoking) and attendance at long term follow-up (LTFU) clinic. Sixty-two percent were adults (mean age 28 years, SD = 8.70; mean time since diagnosis: 21 years, SD = 9.72), and 38% survivors under 16 years (child's mean age: 12 years, SD = 2.42; mean time since diagnosis: 9 years, SD = 1.86). We tested the fit of the Health Belief Model (HBM), identifying significant predictors of dental practices in CCS [4].

Halperson et al. emphasize the dental sequelae of cancer treatment, underscoring the importance of preventative oral health. However, just 57% of our sample reported currently attending LTFU clinic, which aims to monitor/mediate late effects of cancer treatment. Even fewer CCS (42%) reported attending a dentist for cancer-related dental problems, since finishing treatment.

Despite preventative dental health recommendations for CCS, including daily flossing/brushing, 6-monthly dentist visits, and no tobacco or alcohol use [5], these were not met by many in our sample. Six percent of adult CCS reported smoking regularly and 10% had quit. In our sample, just 12% reported flossing "often" or "always," comparatively lower than Australian general population rates of up to 60% [6,7][7]. More males reported never flossing (47% vs. 24%, $\chi^2 = 19.631$, $P = 0.001$). CCS treated with chemotherapy reported flossing their teeth more regularly (12.4% vs. 5.3% no chemotherapy, $\chi^2 = 8.047$, $P = 0.018$). CCS currently attending LTFU clinic reported experiencing greater cancer treatment-related dental problems (38% vs. 26% of nonattendees, $\chi^2 = 4.107$, $P = 0.043$) and a higher perceived risk of future problems (44% vs. 30% of nonattendees, $\chi^2 = 5.666$, $P = 0.017$), suggesting greater awareness than those who currently did not attend clinic.

Consistent with the HBM, dentist visits were predicted by perceived risk of future cancer-related dental problems ($P = 0.007$), perceived importance of access to a dentist at LTFU ($P = 0.045$), past cancer treatment-related dental problems ($P = 0.015$), and clinic attendance ($P = 0.033$). These variables did not predict tooth care by flossing, a possible surrogate marker of oral hygiene. Together with Halperson et al.'s data, these findings highlight poor dental hygiene in CCSs and the need for ongoing follow-up to

monitor immediate and late dental effects of cancer treatment, and encourage better dental awareness and practices.

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