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VITAMIN D DEFICIENCY AMONG SURVIVORS OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKAEMIA: A SINGLE-CENTRE STUDY

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INTRODUCTION
Vitamin D plays a vital role in bone mineralization, and in reducing the risk of developing coronary heart disease, type 2 diabetes as well as cancer. As survivors of childhood acute lymphoblastic leukaemia (ALL) have a higher risk of developing chronic health problems, maintaining a normal vitamin D level is of utmost importance.

METHODOLOGY
This single-centre, cross-sectional study aimed to determine the prevalence of vitamin D deficiency among survivors of childhood ALL at a tertiary paediatric oncology centre and examine possible contributory risk factors. Ninety-eight survivors (44 males and 54 females) were recruited over a 19-month period. Validated questionnaires were used to determine sun exposure and physical activity level. Serum vitamin D level was measured, with 25(OH)D ≤50 nmol/L considered as vitamin D deficiency.

RESULTS
Median age at diagnosis was 4.96 years [interquartile range (IQR): 25th 2.89; 75th 6.53) while median age at study entry was 14.88 years (IQR: 25th 10.6; 75th 21.0). Majority of them were diagnosed with standard risk B-ALL. Fifty survivors (51%) had vitamin D deficiency. Using bivariate logistic regression, three factors were identified as a significant independent risk factor ($p<0.05$) for having vitamin D deficiency: female gender [odds ratio (OR) 7.059, 95% confidence interval (CI): 2.077 to 23.986), attained puberty (OR 5.561, 95% CI: 1.728 to 17.898) and wearing long sleeves (OR 4.194, 95% CI: 1.011 to 17.391). Treatment-related factors (corticosteroid use and radiotherapy) were not found to influence vitamin D status in this study.

CONCLUSION
Half of the survivors of childhood ALL in this study had vitamin D deficiency. Targeted screening and supplementation would be beneficial to ensure optimal vitamin D status and reduce their risk of long-term morbidities.