

Prevalence of Malnutrition in Children with Cancer: A Study of 3608 Children across India

Sripriya Venkiteswaran¹, Anju Morarka²

¹Cuddles Foundation, Cuddles Institute of Clinical Nutrition (CICN), Mumbai, India

²Cuddles Foundation, Research, Knowledge Management and Impact, Mumbai, India



Background & Aim

Large scale data on malnutrition prevalence in paediatric cancer across India is lacking as most studies till date have reported centre- or hospital-specific prevalence rates. Hence, the aim of this retrospective study was to analyse the prevalence of malnutrition in paediatric cancers in 33 government hospitals across India that Cuddles Foundation (CF) partners with.

Methods

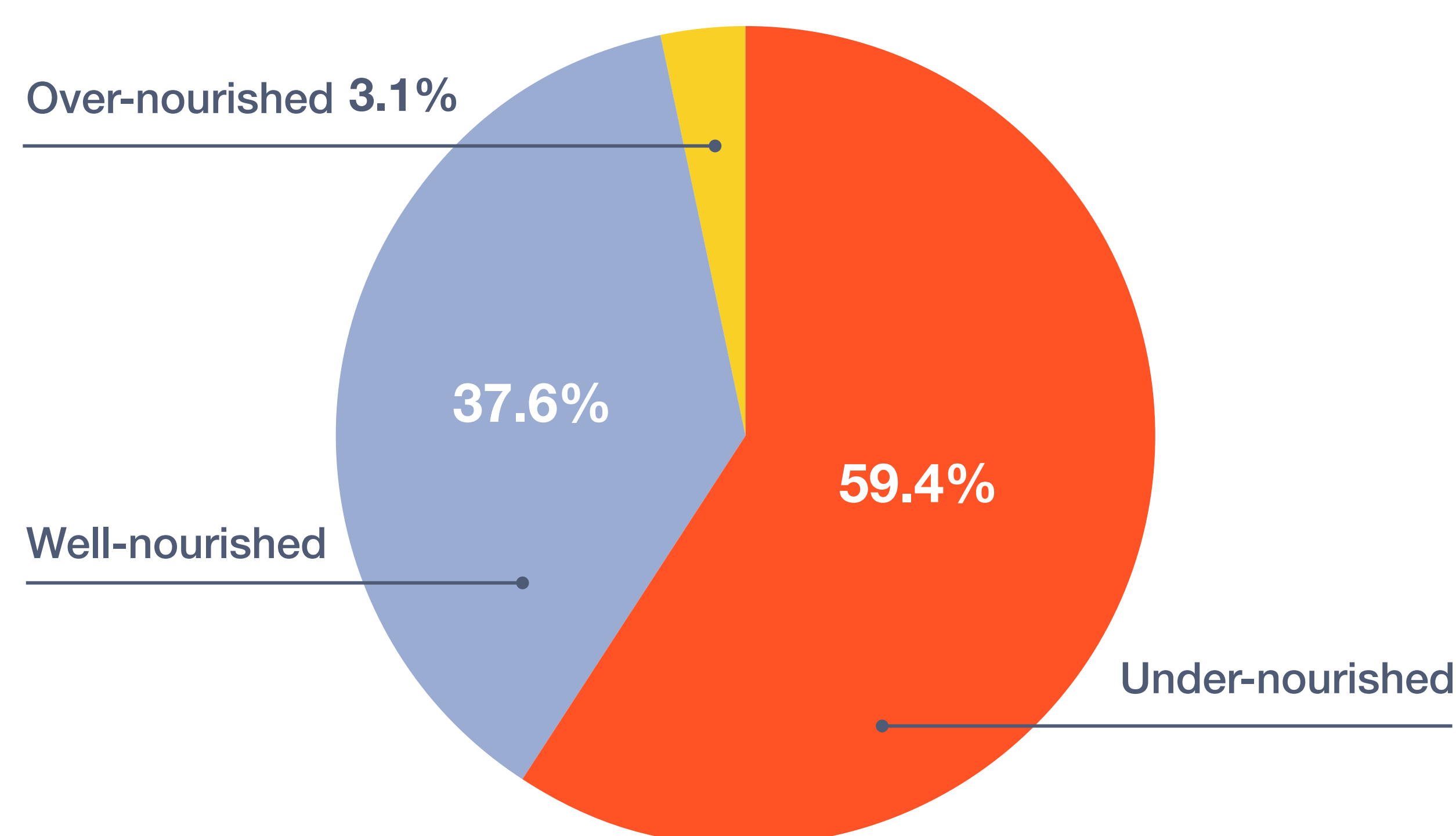
FoodHeals™ is a CF-developed app that collects data from patients who have been counselled by a CF nutritionist. Anthropometric data uploaded between Feb 2021 and Jan 2022 of patients in the induction phase was analysed. The nutritional status of children with solid cancers (SC) and those below the age of 5 years were determined using mid-upper arm circumference. Children with haematological cancers (HC) were graded using the WHO BMI for age index. Children were classified as; mildly-, moderately- or severely- undernourished, well-nourished or overnourished.

Results

A total of 3608 children between 0-18 years were included in the analysis. The overall prevalence of under-nourishment was found to be 59.4%.

Figure 1

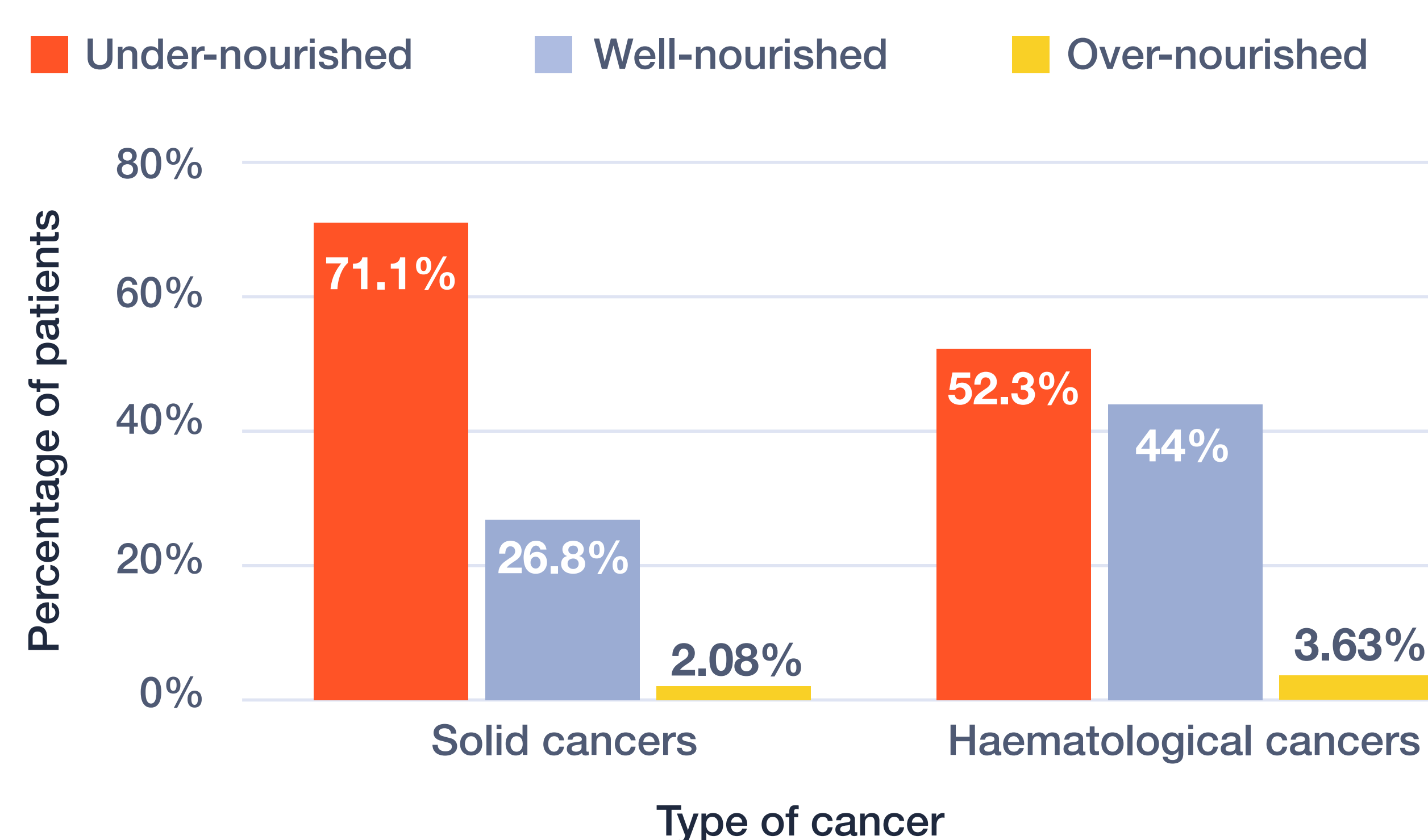
Prevalence of under-nourished, well-nourished and over-nourished children with cancer (n=3608)



However, when stratified according to cancer type, children with SC had a higher prevalence of undernutrition (71.1%) compared to HC (52.3%).

Figure 2

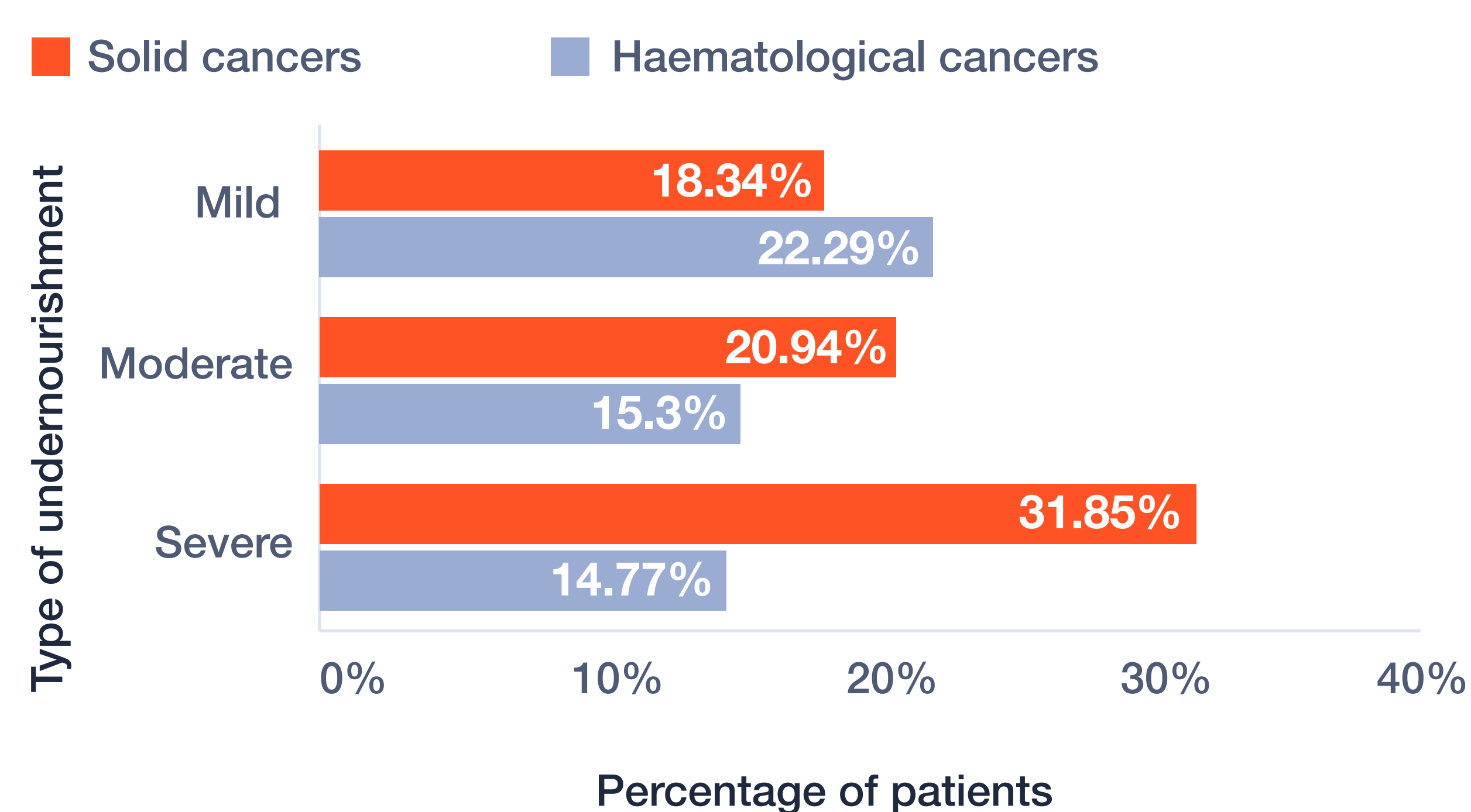
Percentage of under-nourished, well-nourished and over-nourished children with solid cancers and haematological cancers



Percentage of mildly-, moderately- and severely- undernourished children suffering from HC was 22.29%, 15.3%, 14.77% and from SC was 18.34%, 20.94%, 31.85%, respectively. The prevalence of well-nourished children was lower in the SC group (26.8%) compared to the HC group (44.01%). Prevalence of over-nourished children was higher in the HC group compared to the SC group (3.63% vs 2.08%). There was a statistically significant difference in nutritional status between SC and HC ($p < 0.001$).

Figure 3

Prevalence of mild-, moderate and severe under-nourishment in children with solid cancers and haematological cancers (n=2142)



Conclusion

More than half the children with cancer that Cuddles Foundation supports, across India are undernourished and those with solid cancers are more at risk of being severely undernourished.