

### Malnutrition related deaths in Infants and children enrolled in Child Health and Mortality Prevention Surveillance (CHAMPS) Kenyan site, May 2017 -December 2022

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#### Abstract

Despite a reduction in the global malnutrition rate, malnutrition remains a major cause of child deaths, especially in resource limited setting. Approximately 45% of global under-five mortality is attributed to malnutrition with sub-Saharan Africa and southern Asia accounting for more than 80% of the 5 million under-5 fatalities in 2020. In sub-Saharan Africa the prevalence of stunting is 30.7% and wasting is 6.0%. In Kenya stunting is at 18% and wasting at 5%. To describe malnutrition as a contribution to child deaths in the Kenya Child Health and Mortality prevention and surveillance (CHAMPS) site. CHAMPS was established to understand and track preventable causes of childhood death globally. In Kenya the study areas were Karemo in Siaya County, and Manyatta in Kisumu County. Post-mortem tissue specimen was collected through Minimally Invasive Tissue Sampling (MITS) technique and subjected to extensive etiologic testing. These alongside child and maternal abstracted clinical data, anthropometrics and child case photos were reviewed by the determination of cause of death panel. Between May 2017 and Dec 2022, CHAMPS enrolled and had causes of death CoD) determined for 373 infants and children (46.9 % and 53.1% respectively). One hundred and fifty-six (41.8%) had at least one form of malnutrition as a cause of death. Ninety-seven (62.2%) of these had malnutrition as an underlying CoD, 32 (20.5%) as a morbid condition and 27 (17.3%) as other significant condition. Marasmus kwashiorkor was the most common form of malnutrition, accounting for more than 30% of all the cases. Sepsis, pneumonia and gastroenteritis were the most common immediate causes of death among children with malnutrition as an underlying CoD, in 36.2%, 10.6% and 7.5% respectively. Malnutrition remains a major cause of death in infants and children. Therefore, interventions need to be put in place to reduce malnutrition related mortalities.

**Keywords:** Malnutrition, cause of death