Follow-up between 6 and 24 months after discharge from treatment for severe acute malnutrition in children aged 6–59 months: a systematic review

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Background: Severe acute malnutrition (SAM) is a major global health problem estimated to affect 16.9 million children under-5, and confers an increased risk of mortality and morbidity. Community Management of Acute Malnutrition (CMAM) programmes have revolutionised treatment for SAM and significantly reduced associated mortality. Community follow-up after discharge from treatment is variable, as links to supplementary feeding programmes are often weak. This review aimed to draw attention to the uniquely vulnerable period of 6–24 months post-discharge that, until now, has fallen through the gap.

Methods: Embase, Global Health and MEDLINE were systematically searched with terms related to SAM, nutritional intervention and follow-up between June and August 2017.

Results: A total of 3691 articles were retrieved from the search, 55 full-texts were screened and seven met the inclusion criteria to be included in the review. Loss-to-follow-up, mortality, relapse, morbidity and anthropometry were outcomes reported. Between 45.1% and 0.0% of cohorts were lost-to-follow-up. Mortality ranged from 10.4% to 0.6% at an average of 12 months after discharge. Two studies reported improvement of weight-for-height (WHZ) from discharge to 12 month follow-up, whilst the three studies that reported height-for-age (HAZ) found either limited or no improvement.

Conclusion: This review suggests there is a scarcity of studies that follow-up children for at least 6 months after discharge. Therefore, there is an urgent need for further follow-up studies investigating a diverse range of outcomes, using control groups and streamlined admission and discharge criteria.

This review has demonstrated that children remain vulnerable to adverse outcomes after discharge from SAM treatment programmes. We must begin to look beyond anthropometric definitions of recovery and the sole focus of reducing mortality. Instead, we should take a holistic view of child nutrition that defines recovery and the sole focus of reducing mortality.

Key themes that shaped the inquisitive, open mind-set that medical students should have throughout their training and beyond were highlighted. Three points seemed especially important: having a realistic perspective on the 'crisis of the NHS', awareness of the lack of transparency in clinical research and the advancement of technology and associated impact on patient-centred care. If we are able to address some of these issues it might help to not only maintain but also raise the standards of healthcare that we can provide.

Overall, we feel that by embracing change, especially at the beginnings of our education, we can overcome miscalculations made by our predecessors. It is easier to have the right attitude ingrained in you from the start than it is to alter one already set in stone. By shifting focus to patient-centred care we can put patients and families back in the driving seat of their own health. Changes supporting openness in clinical trials approach can ensure that patients are not harmed by poor clinical decisions based on research misconduct and publication bias. To be great future doctors we must be receptive to changes going on around us. Technology is revolutionising medicine; we should embrace it and adapt it into our practice to provide the best care. As Professor Tony Young—Head of NHS Innovation England—said, this will enable the clinicians of now and the future to be ‘advisors and navigators’ and not just ‘gatekeepers to medicine.’
**Results** Data were collected for 51 patients (63% female; mean age at surgery 14.7 years). Diagnoses included adolescent (62.8%), juvenile (7.8%) and infantile (5.9%) idiopathic scoliosis, congenital (7.8%) and syndromic scoliosis (2%) and Scheuermann’s kyphosis (13.7%). Mean (±SD) thoracic curvature was 61.3±15.2°, and mean kyphosis in those with Scheuermann’s was 92.4±7.3°. No correlation was elicited between FEV1 or FVC (%predicted) and VO2peak(%predicted). Greater thoracic curves were associated with lower FEV1(%predicted), r=−0.45, p=0.02, smaller total lung capacity (r=−0.47, p=0.002) and lower BR at the end of exercise (r=−0.57, p<0.0001). There was a positive correlation between FEV1(%predicted) and BR (r=0.65, p<0.001) and a negative correlation between FEV1 and VO2 at AT (r=−0.37, p=0.008). Those with higher VO2peak measures also had higher VO2 at AT (r=0.78, p<0.001). SRS-22 scores correlated significantly with VO2peak(%predicted) (total SRS-22 vs VO2peak(%predicted), r=0.50, p=0.006).

**Conclusion** Contrary to previously published data, those with larger thoracic curves and therefore poorer lung function show improved exercise capacity and later onset AT, likely as a consequence of improved physical conditioning. These patients also report better quality of life, which may be due to maintenance of normal exercise levels. These findings suggest that physical adaptation occurs in scoliosis with impaired lung function, and that this may be protective to patients’ mental health.