Efficacy of nutrition screening and dietetic intervention in improving nutritional status of malnourished paediatric patients

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Introduction
Children admitted to hospital with poor nutrition status are associated with worse clinical outcomes. Early identification of malnutrition and prompt nutritional intervention are essential. In November 2013, nutrition screening was implemented in Paediatric wards at Princess Margaret Hospital. Patients at risk of malnutrition were referred to dietitian for nutritional assessment and intervention.

Objectives
To evaluate the effectiveness of nutrition screening and dietetic intervention in improving nutritional status of malnourished paediatric patients.

Methodology
A retrospective observational review on weight and height changes of malnourished paediatric patients after dietetic intervention. Nutrition screening was performed on admission. Patient with weight-for-height ≤3rd percentile was referred to dietitian. Nutritional assessment and intervention was given by dietitian. An individualized meal plan was provided to patient for enhancing calories and nutrients intake at hospital. Diet education was provided to carer before discharged and outpatient follow-up appointment was offered. Data were collected retrospectively when patient attended outpatient clinic. Percentage change in weight and height between visits were compared by one-sample t-test. Percentage of patients with weight-for-height ≤3rd percentile was calculated.

Result
9088 patients were screened during admission from November 2013 to August 2014. 242 patients (2.6%) had weight-for-height ≤3rd percentile. 6 out of 242 patients (2.5%) were not followed by dietitian for various reasons (e.g. refused, discharged against
medical advice). As of 21 October 2014, 55 patients attended outpatient clinic follow-up from 14 January 2014. The mean time between initial visit and follow-up outpatient visit was 87.3±38.5 days. The mean age was 3.0±3.4 years (ranged from 11 days to 15 years old). 27 patients (49.1%) were male and 28 patients (50.9%) were female. The mean initial height and weight was 88.6±23.5cm and 11.1±6.5kg respectively. The mean height increased by 0.9% (95%CI -0.1% to 1.9%, P=0.08) and mean weight increased significantly by 12% in average 87 days (95%CI 9.3% to 14.7%, P<0.01). Before intervention, 55 patients (100%) had weight-for-height ≤3rd percentile. After intervention, 38 patients (69%) showed improvement with weight-for-height >3rd percentile in average 87 days. This study showed that nutrition screening and dietetic intervention improved nutritional status in malnourished paediatric patients.