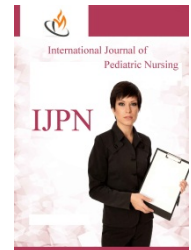




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### PREVENTION AND COMMUNITY BASED TREATMENT OF CHILD MALNUTRITION ROLE OF HEALTH CARE PROFESSIONALISTS

A. Zechariah Jebakumar<sup>\*1</sup>, Hassan S. Nondo<sup>1</sup>, Samuel K. Sarfo<sup>2</sup>

<sup>1</sup>Dept. of Research and Scientific studies, Prince Sultan Military college of Health Sciences, Dhahran-31932, Kingdom of Saudi Arabia.

<sup>2</sup>Department of Nursing, Prince Sultan Military college of Health Sciences, Dhahran-31932, Kingdom of Saudi Arabia.

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#### ABSTRACT

Many children still go on to become severely malnourished, even when prevention programs are in place, and these children will require treatment. Hence therapeutic programs are still needed as “safety nets” in parallel with prevention programs. Thus, extensive benefit would ensue from more effective and widely available treatment of severe mal- nutrition. Yet until recently, developing and applying better treatment methods have low priority severe malnutrition can almost be regarded as a neglected disease. For example, in the Lancet series on child survival, Lancet series on child survival, Lancet management of severe malnutrition is not mentioned as a potentially lifesaving intervention.

#### INTRODUCTION

Severe malnutrition in children is commonly found in conjunction with gastroenteritis, pneumonia and other infections. To preserve essential processes, severely malnourished children undergo physiological and metabolic changes, which include reductions in the functional capacity of organs and slowing of cellular activities. Coexisting infections add to the difficulty of maintaining metabolic control. These profound changes put severely malnourished children at particular risk of death from hypoglycemia, hypothermia, electrolyte imbalance, heart failure and untreated infection, and the WHO guidelines for the management of severe malnutrition pay particular attention to preventing deaths from these causes [1,2]. The initial stabilization phase focuses on restoring homeostasis and treating medical

complications and usually takes 2-7 days of inpatient treatment. The rehabilitation phase focuses on rebuilding wasted tissues and may take several weeks. Because of the relatively long duration of rehabilitation, families may request that their children be discharged early from hospital. Reasons include concern for the care of other family members and loss of earnings. Requests for early discharge may also come from hospital managers in response to bed shortages or budgetary constraints. Early discharge reduces the risk of hospital-acquired infections to which severely malnourished children are prone. Although early discharge may have benefits for the child and family, there is a high risk of death unless provision is made for continuity of care and supervision [3,4].

The dangers associated with sending children home before they have recovered are

- they remain malnourished because their home diet is inadequate for catch-up growth
- their immune function remains impaired and they are prone to repeated infections
- continuing malnutrition and repeated infections lead to

Corresponding Author

A. Zechariah Jebakumar

Email:- [zacbiostat@gmail.com](mailto:zacbiostat@gmail.com)

Review Article



relapse and death. Any strategy for community-based treatment must therefore include:-

- a diet that will support catch-up growth and improve immune function
- timely access to health care when infections arise
- continuing care to assess progress, provide support, and take action when needed.

Malnutrition is a general term that refers to both under-nutrition and over-nutrition. Under-nutrition is due to inadequate food intake, dietary imbalances, deficiencies of specific nutrients and over-nutrition due to excess food consumption

- The National Institute for Health and Clinical Excellence (NICE) Guideline 32 defines malnutrition as 'a state in which a deficiency of energy, protein, vitamins and minerals causes measurable adverse effects on body composition, function or clinical outcome
- Under-nutrition can have a severe effect on a patient's health and wellbeing and general quality of life. Patients may have a reduced ability to fight infection, develop apathy and depression, and have impaired wound healing ability and reduced muscle strength and fatigue. Wider health and wellbeing effects may include a reduced quality of life and a reduced ability to work, shop, cook and self-care. Patients who are under-nourished also use more NHS resources with more GP visits and hospital admissions as well as longer stays in hospital[5,6,7].

#### **Factors causing Malnutrition:**

- decreased dietary intake due to loss of appetite or physical impairment
- impaired gastrointestinal function, which can reduce digestion, absorption and increase nutrient losses from the gut altered metabolism, which changes the utilization and disposal of nutrients.
- treatment of the disease, for example due to chemotherapy, radiotherapy

The causes of malnutrition in the community are several-fold and include many interacting factors. The most at risk groups in the community are often those who are housebound or who have limited mobility and do not have a social support network in place to assist with tasks such as food shopping and cooking. This includes people who are sick with long-standing diseases as well as the elderly. Reasons for the high prevalence of malnutrition in the community include inadequate or poorly coordinated services – particularly for those patients that have been discharged from hospital. There can often be a breakdown in the continuity of care between the hospital setting and the community when the care a patient needs becomes more dependent on social care support. Patients may 'fall through the gaps' and miss out on key support services such as home help and meals on wheels. Patients can end up being discharged from hospital and can be left isolated with no social care support.

The population is aging over the last 25 years the number of over 65s increased from 15% per cent in 1984 to 16 per cent in 2009, an increase of 1.7 million. By 2034, it is projected that 23% of the population will be aged 65 and over[8]. Many charities and experts, including the European Nutrition for Health Alliance (ENHA) recognize that the problem of malnutrition is already endemic in the community, hospitals and homes for the elderly and with an aging population, the number of malnourished people will grow.

#### **Malnutrition in Hospitals**

The issue of malnutrition in hospital has been the focus of many hard hitting campaigns including Age UK's Hungry to be Heard and also Still Hungry to be Heard. This campaign has highlighted that patients are becoming malnourished in hospital because they either don't get food they can eat or the help they need to eat it. Healthcare professionals are also concerned about the issue of malnutrition in hospitals and one in three nurses are not confident that malnourishment would be noticed if a relative was admitted to hospital[9].

#### **Preventing and treating malnutrition:**

Use of a valid, reliable screening tool to identify high-risk patients on admission to hospital or upon contact in primary care settings

- Prompt referral of high-risk patients to the dietitian for further detailed assessment.
- Referral to occupational therapist and/or physiotherapist of disabled individuals who require aids/postural supports for eating
- Referral to speech and language therapist of individuals with dysphagia.
- Documenting all nutritional assessments and weekly monitoring data in the nursing care plans.
- Consulting with patients about individual preferences for foods, portion sizes, textures and flavours, ensuring ethnic/religious needs are met[10].
- Provision of skilled assistance at mealtimes to disabled individuals; use of feeding protocols can markedly improve intakes in dementia[11].
- Provision of an environment in institutional settings that has adequate lighting, decor, seating choice and comfort, dining surfaces that provide easy access for the disabled and handwashing facilities[12]. Furthermore it has been suggested that specific roles for healthcare professionals to prevent and manage malnutrition should include[13].

Use of fortified meals and snacks that combine increased energy and nutrient density with small and/or normal portion sizes, particularly helpful where appetites are affected by illness[14,15]. Monitoring of therapeutic diets. Attending to food presentation, delivery, serving



and accessibility of meals, for example using a decentralised, bulk food portioning approach, offering direct choice from a trolley[16]. Development of local management policies for nutritional care, including the inception of multidisciplinary nutrition support teams. Achieving best practice in nutrition support through the development and implementation of evidence-based guidelines for screening, assessment and management developed by multidisciplinary consensus –leadership and education are needed to implement these effectively.

### Breastfeeding

It is the closest thing we have to a ‘silver bullet’ in the fight against child malnutrition and newborn deaths. Properly trained health workers are important for explaining the benefits of breastfeeding before birth and supporting new mums to start breastfeeding within the first hour of an infant’s life. Women who had a skilled health worker present at the time of birth were twice as likely to initiate breastfeeding within the first hour as those who did not have a skilled birth attendant<sup>[17]</sup>. The global shortage of midwives and health workers with midwifery skills means that 48 million women give birth without any skilled assistance and miss out on crucial support and advice[18]. Increase investment in the recruitment and training of new health workers; Develop and implement health workforce plans that include strategies for continued training and professional development; support and supervision; fair remuneration; and incentives to encourage deployment to underserved areas; Ensure that achieving key competencies in maternal, infant and child nutrition is a core component of pre-service and in-service training curricula for all levels of health workers; Fully fund national, costed plans to scale up direct and indirect interventions to treat and prevent malnutrition, and include budget lines for the delivery of nutrition training for health workers Patients who are at risk of malnutrition or have malnutrition must be informed about the nutritional treatment options, by their Healthcare professional, as it is outlined in the NHS Constitution that patients have a right to be made aware of treatments that are available on the NHS, that are clinically appropriate for them. Evidence shows that ONS use is consistently linked to lower mortality rates and complications rates compared to standard care as well as fewer readmissions to hospital and improved rehabilitation in the treatment of malnutrition[19]. This is a significant advance. Until recently, the WHO recommendation was to admit severely malnourished children to the hospital as inpatients for a period of at least a month [20]. The limitations of a hospital-based

approach for a condition affecting large numbers of children, particularly when hospital capacity is poor, have been recognized for more than 30 years [21,22]. Moreover, hospital stays of several weeks for a child and mother are disruptive for families, especially when the mother has other children at home or when her labor is essential for the economic survival of the household. As a result, hospital-based management of severe malnutrition was perceived as efficacious, but not effective, on a large scale, either as part of routine health services or in emergencies [23-32].

### CONCLUSION

Rehabilitation at home with family foods is more cost-effective than inpatient care. The cost- effectiveness of ready-to-use therapeutic foods vs family foods has not been studied • where children have access to a functioning primary health care system and can be monitored, the rehabilitation phase of treatment of severe malnutrition should take place in the community rather than in hospital • if carers can make energy- and protein-dense food mixtures at home, then domiciliary care is probably the best delivery system for community-based care. If carers cannot make such foods, then provision of ready-to-use therapeutic foods may be an alternative but the cost to the health service, logistics of procurement and distribution, and sustainability need to be assessed. There are strong justifications for establishing community-based management of severe malnutrition within routine health systems. It could benefit children by reducing exposure to hospital-acquired infections and providing continuity of care after discharge. It could benefit families by reducing the time carers spend away from home and the risk of possible neglect of siblings, and by reducing opportunity costs. It could benefit the health system through capacity building and be the catalyst for strengthening nutrition activities within clinics. It could provide closer integration of curative and preventive services. It could lower costs if fewer cases are referred to hospital or if children are discharged sooner than is currently the case. If services improve and are more convenient for families, then uptake and coverage may increase.

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