

Critical Care Nutrition in Nepal: Where do we stand?

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ABSTRACT

Critical care nutrition is a vastly unexplored domain when it comes to managing critically ill patients admitted to the hospitals in Nepal. Patients who are critically ill require a holistic approach in their management and as such the nutritional part of their care cannot be overstated. The lack of regulatory bodies and practice guideline has been a long-standing problem. It is high time for nutrition to come to the forefront in a clinical scenario and play an equal part when it comes to treating critically ill patients, as they are more likely to be undernourished.

Keywords: *critical care nutrition, guidelines, Nepal.*

BACKGROUND

The speciality of critical care medicine began to develop in the late 1950s with development of first ICU. Since then, major advances have been made in terms of understanding of disease process, technology and development of human resources. Patients in need of critical care require multidisciplinary approach. Management of the dietary and nutritional needs of these patients is crucial, and the evidence-based input of specialists in nutrition and dietetics is central to their care. Optimal nutrition therapy is essential to improve the long-term outcome and to reduce the likelihood of getting complications during and even after ICU stay.¹

Malnutrition is very common in acutely ill patients, occurring in 30 to 50% of hospitalized patients.² Malnutrition in hospitalized patients also increases hospital costs³ and is associated with increased long-term mortality. In the last few years, there has been notable development in critical care nutrition in terms of guidelines and technology around the world. In this review, we highlight the current scenario of critical care nutrition in Nepal.

Where we stand?

Before talking about nutrition in critical care, let us look into the history of critical care facility of Nepal, which in itself is quite short. The very first ICU was a five bedded medical ICU established at Bir hospital in 1973. That is nearly a half decade later than the first ICU of the world was started. The numbers of intensive care beds and advanced respiratory support (ventilators) in Nepal are limited to 1395 and 480 respectively.⁴ ICUs of Nepal have fewer resources and manpower for the diagnosis and treatment of critical illness than ICUs in high income countries.⁵ Furthermore, there are no governing bodies that monitor the services, quality and facilities required to run an ICU.⁶ However, we might have come long way since 1973, but still as for critical care nutrition in Nepal, it remains in low priority of clinicians.

Malnutrition within the critical care setting is a global issue where prevalence in developing and developed countries can be as high as 78.1% and 50.8%, respectively.⁷ In the study conducted in India, 39.6% of patients were found to be malnourished in ICU.⁸ However, during the review of articles for this paper, no such studies were found to be conducted in Nepal. The report of Department of Health Services (DoHS) regarding the nutrition are only limited to prevalence of malnutrition on under-five children, pregnant women and adolescent girls. In contrast, no data is available about the malnutrition rates in hospitalized patients (of any settings). In addition to that, the programs related to nutrition are found to be implemented in community settings only. Till date, adequate focus has not been made by governing bodies in the sector of critical care nutrition. Nutritional problems have only considered as public health problems but not clinical problems.

Critical care medicine is a super speciality service which is provided by an inter-professional team of clinicians.⁹ In such type of interdisciplinary team, intensivists along with other

types of attending physicians collaborate with and share their inter-professional expertise of bedside nurses, respiratory therapists, clinical pharmacists, dieticians, and clinical psychologists.¹⁰ Dietetic professionals are placed to provide best advice to the interdisciplinary team on the optimal way to manage the nutritional needs of patients who are critically ill.¹¹ In relation to this, it is very unfortunate to report that, there are no dedicated and specialized critical care dieticians till date in Nepal. Nevertheless, there are few dieticians who look after diet and nutrition of the patient in critical care settings in some of the tertiary level hospitals.

Nepalese Society of Critical Care Medicine (NSCCM), an association of critical care specialist formed on 2010 A.D is one of the pioneering organizations that have been working on the development of critical care medicine in Nepal. However, it seems that there are only critical care specialists as members (medical doctors) in this society and no paramedical members such as clinical pharmacist, physiotherapist and dieticians, despite the fact that critical care is a multidisciplinary and integrated approach.

There is non-uniformity of nutritional practice and protocol in ICUs of Nepal. This could have led to under-nutrition of patients, thereby leading to higher morbidity /mortality and prolonged hospital stay in our patient's population. Among countries of south-east Asia, only Sri Lanka, India and Pakistan have published their own nutrition guidelines for ICU.¹² The guideline that are mostly referenced as a critical care nutrition guideline in ICU's of Nepal are those developed by American Society of Parenteral and Enteral Nutrition (ASPEN) and European Society of Clinical Nutrition and Metabolism (ESPEN). However, the guidelines of those societies may not be applicable in every context to Nepalese population. To address this issue, NSCCM along with Nepal Dietetic Association (NDA) and Critical Care Nurses Association of Nepal (CCNAN) have started drafting for nutrition guideline for ICU practice in Nepal. Nepal Critical Care Development Foundation (NCCDF), NSCCM has also conducted various workshops and short training courses in partnership with CCNAN and NDA. Furthermore the NSCCM has published its working guidelines in critical care nutrition, which can be accessed via the society website. This must be considered a significant step in the right direction, but still much remains to be done.

Where do we stand internationally?

The role of clinical nutritionist or dietician is one of the important aspects of improved outcomes in critically ill patients. The dieticians working in critical care need to have clinical privileges such as automatic referral, ability to order oral, enteral and parenteral nutrition and ordering of relevant laboratory tests. Despite the above fact, the dieticians are not still considered as part of multidisciplinary team in the majority of ICUs. Doctors working in ICU are still making the prescriptions for the nutritional requirements and diet of the patients. From 2017, in the UK, Health and Care Professions

Council (HCPC) - registered advanced dieticians can now undertake non-medical supplementary prescribing training to allow them to prescribe interventions as parenteral nutrition (PN), vitamin and mineral supplementation and pancreatic enzyme therapy rather than relying on junior doctors to sign off prescriptions for patients that they have not nutritionally assessed.¹³ In context to mentioned situations, limited dietician in Nepal working in ICU have no such privilege. There needs to be a strong mutual understanding between ICU consultants and dieticians while planning for nutrition care process of ICU patients.

Status of current academic nutrition courses and opportunities in Nepal

Educational programs and formal trainings about the nutrition among the ICU nurses and dieticians have significantly updated the quality of critical care services. Inadequate knowledge about critical care nutrition can lead to negative outcome such as increased morbidity.¹⁴ To overcome this problem, comprehensive educational program regarding the critical care nutrition needs to be incorporated in the curricular activities of different levels of educational activities of nutrition. To our knowledge, the syllabus of nutrition, that are being run by different institutes in Nepal have not mentioned about the critical care nutrition. The Bachelors and Masters in Science in Nutrition and Dietics offered by Tribhuvan University and others since 2006 has started to provide the country with much needed professionals with a strong background in science. Where the stage was once filled with professionals without much academic training in the sciences, these University courses have paved way for a new batch of dieticians and nutritionists to flourish.

In Nepal, a number of dieticians are being graduated every year but there are no vacancies for permanent positions that have been announced till date by Public Service Commission (PSC), which is involved in selecting meritorious candidates required by government of Nepal for various vacant posts of the civil service. This is creating discouragement to students and professionals who have studied the course of nutrition in their graduate and post graduate level and for those who are seeking their career in the same field. Those professionals who have completed their academic studies, are generally working as contracted temporary staff.

Hospitals, being a place of care and treatment, a clinically practicing professional needs accreditation or should be registered in their respective council. In United Kingdom, for instance, to be qualified as a dietician, dietetics programme approved by Health and Care Profession Council (HCPC) needs to be undertaken.¹³ In our context, none of the dieticians are registered under health councils of Nepal. As Nepal Health Professional council gives accreditation to other paramedical professionals such as pharmacist, physiotherapist, lab technologist etc., it has not yet started giving accreditation to dieticians.

CONCLUSION

To summarize, although ICU services and critical care medicine in Nepal has developed to a considerable stage in the last few decades, critical care nutrition also needs to be considered as an integral part of this area of medicine. Stakeholders should envision to incorporate nutrition as one of the important factors in management of critically ill patients. The responsible health council should not delay to recognize clinical nutritionist/dieticians and should provide them with the council accreditation or registration. In addition, the government needs to appoint council registered clinical nutritionist/dieticians in every tertiary level hospital, for optimal management of nutritional needs of critically ill patients.

The role of dieticians in nutritional management of critically ill patients need to be well appreciated. They need to be commissioned by PSC as permanent staffs in government hospitals, should be registered under respective health council and get involved during multidisciplinary management of patients in ICU. Critical care nutrition in Nepal is an area with in critical care medicine, that is yet to be explored and that needs to get nurtured.

REFERENCES

1. Van Zanten ARH, Waele ED, Wischmeyer PE. Nutrition therapy and critical illness: practical guidance for the ICU, post-ICU, and long-term convalescence phases. *Critical Care*. 2019;23(1):1-10. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
2. Baccaro F, Moreno JB, Borlenghi C, et al. Subjective global assessment in the clinical setting. *JPEN J Parenter Enteral Nutr*. 2007;31(5):406-9. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
3. Reilly Jr JJ, Hull SF, Albert N, et al. Economic impact of malnutrition: a model system for hospitalized patients. *JPEN J Parenter Enteral Nutr*. 1988;12(4):371-6. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
4. (MoHp), M.o.H.a.P., Health Sector Emergency Response Plan. 2020.
5. Marasini BR. Health and hospital development in Nepal: past and present. *Journal of Nepal Medical Association*. 2003;42(149):306-11. [[Google Scholar](#)]
6. Acharya SP. Critical care medicine in Nepal: where are we? *Int Health*. 2013;5(2):92-5. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
7. Lew CCH, Yandell R, Fraser RJL, et al. Association between malnutrition and clinical outcomes in the intensive care unit: a systematic review. *JPEN J Parenter Enteral Nutr*. 2017;41(5):744-58. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
8. Chakravarty C, Hazarika B, Goswami L, Ramasubban S. Prevalence of malnutrition in a tertiary care hospital in India. *Indian J Crit Care Med*. 2013;17(3):170-3. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]

9. Weled BJ, Adzhigrey LA, Hodgman TM, et al. Critical care delivery: the importance of process of care and ICU structure to improved outcomes: an update from the American College of Critical Care Medicine Task Force on Models of Critical Care. *Crit Care Med.* 2015;43(7): 1520-5. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
10. Durbin Jr CG. Team model: advocating for the optimal method of care delivery in the intensive care unit. *Crit Care Med.* 2006;34(3):S12-7. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
11. Mowe M, Bosaeus I, Rasmussen HH, et al. Insufficient nutritional knowledge among health care workers? *Clin Nutr.* 2008;27(2):196-202. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
12. Raheem AA, Yusof BNM, Yii LZ, Latheef AA, Ibrahim NA. Do South Asian Nutrition Guidelines for Critically Ill Recommend Commercial Feeds or Blended Tube Feeds?-A Narrative Review. *Bangladesh Critical Care Journal.* 2020;8(1):48-52. [[Google Scholar](#)]
13. Terblanche E. The role of dietitians in critical care. *J Intensive Care Soc.* 2019;20(3):255-257. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]
14. Kim H, Chang SJ. Implementing an educational program to improve critical care nurses' enteral nutritional support. *Aust Crit Care.* 2019;32(3):218-222. [[PubMed](#) | [Google Scholar](#) | [DOI](#)]