GMJ. 2012;1(2):84-87
www.gmj.ir

SHORT COMMUNICATION

Received: 1 Oct 2012
Revised: 10 Nov 2012
Accepted: 1 Dec 2012

2011 World Nutrition Day Report in Training, Research and Clinical Ghaem Hospital in Mashhad

Seyedeh Neda Mousavi[1], Monireh Dahri[2], Mohsen Nematy[3], Fatemeh Kazemi[2], Abdolreza Norouzy[3] ✉, Seyed Javad Purafzali Firouzabadi[4]

[1]PhD Student of Nutrition, Department of Nutrition and Biochemistry, Tehran University of Medical Sciences, Iran
[2]MSc in Nutrition, Department of Nutrition and Biochemistry, Mashhad University of Medical Sciences, Iran
[3]Department of Biochemistry and Nutrition, Endoscopic & Minimally Invasive Surgery and Cancer Research Centers, Mashhad University of Medical Sciences, Iran
[4]Medical Student, Student Research Committee, Mashhad University of Medical Sciences, Iran

Abstract

Introduction: Malnutrition in hospitalized patients will worsen the medical condition or disease prognosis. Also, duration of hospitalization and recovery will be delayed. In order to investigate these problems, the team of World Nutrition Day, on behalf of Nutritional Support Organization of Australia (with ESPEN support) decided to perform extensive research as a multi-centered one on the nutritional status of hospitalized patients in the world. This study aimed to compare the nutritional status of patients in the intensive care units (ICUs) of Ghaem Hospital with that in the world. **Methods and Materials:** This study is part of a cross-sectional multi-center audit which was held by the Nutritional Support Organization in Australia (with ESPEN support) on November 4th, 2010. From Iran, only Ghaem Hospital, with 8 ICUs, participated in this study. First, the consent form, and then questionnaires designed by the team of World Nutrition Day were filled for patients. After the completion of the questionnaires, they were sent online to the Center of Nutritional Support in Australia. Data were analyzed by the Center of Nutritional Support in Australia and were returned after they had been compared with the other centers as tables. **Results**Thirty-two patients from the ICUs of Ghaem Hospital were participated in this study. Mean age was 57 years, and 46.9% of the patients were female. Parenteral feeding was not prescribed, and the total calorie intake of the patients was 394±790. Also, no monitoring was performed for the blood glucose of the patients, and the mean duration of hospitalization in the ICU was 19 days. **Conclusions:** This study shows that the presence of nutrition experts in the various units of hospitals is critical to better assess patients' needs and to promote Iranian hospitals to reach global standards. **[GMJ. 2012;1(2):84-87]**

Keywords: Nutritional status; Intensive care unit; Global standards; Hospital

GMJ

Fax: +98 731 2227091
PO Box 7461686688
Email:info@gmj.ir

Accessible online at:
www.GMJ.ir

✉ **Correspondence to:**
Abdolreza Norouzy, Department of Nutrition, Biochemistry and Nutrition, Mashhad University of Medical Sciences, Iran
Telephone number: +98 912 712 6991
E-mail: Norouzya@mums.ac.ir , norouzya@gmail.com

Introduction

Intensive Care Unit (ICU) patients may sufer from protein loss, accumulation of fat in organs, hypertriglyceridemia, hyperglycemia, and insulin resistance. During the course of the disease, hyper-catabolism and increased damage to proteins occur; production of acute phase proteins and glucose in the liver, therefore, increases, which reduces muscle mass and increases energy and protein needs of patients.[1] Inadequate nutrition can lead to malnutrition within 8-12 days. Malnutrition in patients during admission can delay the healing process and thus the hospitalization costs.[2,3] To investigate these problems, the team of World Nutrition Day on behalf of Nutritional Organizations Support in Australia (with ESPEN support) decided to extensively assess the nutritional status of hospitalized patients in the world as a multi-centered study. The aim of this study was to assess malnutrition with a simple screening test. For the first time, this team studied the nutritional status of more than 15000 patients hospitalized in 859 hospitals in over 26 European countries in 2006. Since then, this survey has been performed annually as a one-day study in a multi-center form, in three parts: hospitals, ICUs, and nursing homes in over 30 countries (America, Europe, and Asia).

To reduce the consequences of malnutrition and improve nutritional support for hospitalized patients, we need nutritional assessment, diet history, medical history, physical examination, and biochemical tests. For this reason, this study was performed to compare the nutritional status of hospitalized patients in Iranian ICUs with hospitals with international standards on a global level.

Methods and Materials

This study was a part of a multi-center study conducted by the World Nutrition Day team on behalf of the Nutritional Support Organization in Australia (with ESPEN support) on the fourth day of November 2010, simultaneously in 43 countries and 750 medical centers. Ghaem Training, Research, and Clinical Hospital with eight ICUs participated in this study from Iran.

All adult patients hospitalized in the ICUs, admitted or discharged from 7 AM November, fourth, 2010 to 7 AM November, fifth, 2010 were included in this study. Three trained dietitians filled the consent and questionnaire forms, designed by the team of World Nutrition Day, for all the patients.

The questionnaire included questions about the structure and status of the participated units, nutritional status of patients, and a summary of patients' nutritional and medical information, disease severity, and degree of patient's cooperation. The participants' units were specified with a code on the questionnaires. After the questionnaires had been completed, they were sent online to the Center of Nutritional Support in Australia. Transmission and data store were completely confidential and were protected via access with a user name and password. Researchers completed and submitted mortality data 60 days later.

The Center of Nutritional Support in Australia analyzed the data, compared them with those from other centers, and returned the results as tables.

Results

Thirty-two patients hospitalized in the ICUs of Ghaem Hospital were participated in this study. Mean age of the patients was 57 years, and 46.9% of them were female.

The team of World Nutrition Day analyzed the data and returned them as tables. The tables were comprised of three columns. The first column included the name of evaluation, the second, Ghaem Hospital's results, and the third was standard hospital's results.

Demographic information of the participated patients from Iran in comparison with patients in hospitals with international standards is shown in Table 1. Also, hospital structure comparisons are demonstrated in Table 2. Table 3 presents the reasons of patients' admission in the ICUs of Ghaem Hospital in comparison with global standards. The most common cause of hospitalization in this center was neurological problems (50%).

From the 32 participated patients, 7 patients

received oral, 19 patients received enteral nutrition, and the rest were NPO (no food). Totally, parenteral nutrition was prescribed in Ghaem Hospital, and total calories that were prescribed were lower than those in hospitals with international standards. Furthermore, blood sugar control did not exist for the patients. The reason for no oral nutrition was due to the inability of the patients to swallow in the ICUs of Ghaem Hospital. About 30% of the patients were hungry. Also, all the patients, regardless of the attention to the amount of calorie needs, received the same amount of calories (Table 4). Finally, the average of hospital stay in the ICU was 19 days (Table 5).

Discussion

Ghaem Hospital, in the Iranian city of Mashhad, was participated as the only Iranian center in the World Nutrition Day 2010 in order to determine the nutritional status of patients and compare them with international standards.

Participants in this study had a mean age of 57 years, which was lower than that of the global average (60 years). The gender distribution was approximately equal and 46.9% of the patients were female. In reference hospitals, the most common reason for hospitalization is due to neurologic complications. Unlike the reference hospitals, weight was not measured in the ICUs of Ghaem Hospital. Stress-induced hyperglycemia is the most important cause of mortality in ICU patients; however, it can be lessened by accurate control of blood glucose. There was no blood glucose control in Ghaem Hospital, unless the patient was hospitalized with a diagnosis of diabetes, while in reference hospitals only 17.8% of the patients suffer from high blood glucose (more than 180 mg/dl) and with a good controlling, blood glucose is maintained below this value. Nutritional support through parenteral method was not prescribed in Ghaem Hospital. From that point of view, it was lower than international standards. Oral feeding patients in reference hospitals were more than those in Ghaem Hospital, while more patients in Ghaem Hospital were on enteral nutrition. Estimated and provided calories to patients in Ghaem Hospital were less than international standards. Duration of enteral nutrition in Ghaem Hospital was similar to the reference hospitals. The reason for lack of oral feeding in the patients at Ghaem Hospital was inability to swallow, whereas at the reference hospitals, it was due to doctors' orders. A large number of the patients in Ghaem Hospital were hungry (30%) while in reference hospitals, this is less (11.3%). Duration of hospitalization in the ICUs of Ghaem Hospital was longer than that in the reference hospitals.

Conclusions

In conclusion, the amount of received and provided calories for the patients in Ghaem Hospital was less than required. Thirty percent of the patients were hungry. Also, blood glucose was not controlled, despite of the fact that it can be effective on patients' recovery. Due to a lack of proper control of nutritional status and estimation of calorie needs as well as insufficient administration of nutritional products to meet the calorie needs of patients, the duration of hospitalization in the ICUs of Ghaem Hospital was longer than that of the reference hospitals.

Therefore, there is a need for the presence of nutrition experts in the ICU. Nutrition education for ICU specialists is suggested for better controlling of hospitalized patients to upgrade Iranian hospitals closer to the international standard level.

Acknowledgements

The authors declare no conflict of interest. The cross-sectional audit presented in this manuscript is supported by all authors, who made substantial contribution in conducting the study, and read and approved the final version of the manuscript. We are very grateful to the patients and nurses of the ICU of Ghaem Hospital for their corporation.

References

1. Derde S, Vanhorebeek I, Van den Berghe G. Insulin treatment in intensive care patients. Horm Res. 2009;71(1):2-11.
2. Sandstrom R, Drott C, Hyltander A, Arfvidsson B, Schersten T, Wickstrom I, et al. The effect of postoperative intravenous feeding (TPN) on outcome following major surgery evaluated in a randomized study. Ann Surg. 1993; 217(2):185-95.
3. Correia MI, Waitzberg DL. The impact of malnutrition on morbidity, mortality, length of hospital stay and costs evaluated through a multivariate model analysis. Clin Nutr. 2003;22(3):235-9.