Original article

Nationwide survey of nutritional management in an Asian upper-middle income developing country government hospitals: Combination of quantitative survey and focus group discussion

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SUMMARY

Background & aims: The objective of this study was to identify the differences in pattern, process, and management of nutrition care in government hospitals in Thailand (an Asian upper-middle income developing country).
Methods: This is a combination of a quantitative nationwide questionnaire survey and focus group discussions. A total of 2300 questionnaires were sent to government hospitals across Thailand. The responders were divided by routine-nutrition screening/assessment unit vs. non-routine-nutrition screening/assessment unit (RSA vs. NRSA). The comparison between the groups was reported as percentage and cross-sectional odds ratio (CS-OR) with 95% confidence interval (CI). The significant difference was defined as $p < 0.05$.
Results: A total of 814 questionnaires (35.4%) were returned. The three most common tools of RSA were 42% Bhumibol Nutrition Triage (BNT), 21.2% Subjective Global Assessment (SGA) and 20.2% Nutrition Alert Form (NAF). The RSA was significantly higher in proportion for the role of the nurses (RSA vs. NRSA; CS-OR [95% CI]: 68.3% vs. 11.9%; 15.8 [11.1 to 22.7]; $p < 0.01$), the multidisciplinary team (90.1% vs. 0.4%; 2266 [558 to 1909]; $p < 0.01$), the nutrition management guidelines (60.6% vs. 2.8%; 53.6 [29.6 to 102.8]; $p < 0.01$), the nurse-driven enteral feeding protocols (31.7% vs. 17.5%; 2.2 [1.5 to 3.1]; $p < 0.01$) and preference for hospital formula enteral nutrition (91.4% vs.69.7%; 4.6 [2.9 to 7.4]; $p < 0.01$). For focus group discussions, the main barrier of RSA implementation was that there was no national recommendation of a screening/assessment tool, inconsistency of policy and reimbursement, and professional and acceptable workload.
Conclusion: Nutrition screening/assessment tools were found to be varied in Thailand. RSA affected the nutrition management working process and the types of nutrition support. The main barriers of RSA implementation were inconsistency of policy and reimbursement, acceptable workload, and national guidance as regards — screening/assessment tools.

1. Introduction

Thailand is an upper-middle income developing country in Asia. The actual prevalence of hospital malnutrition in Thailand has not been known. Phairin et al. reported that the prevalence of

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malnutrition measured by the Subjective Global Assessment (SGA) was 41% in the Priest Hospital [1]. However, despite the population being the same, different measurement tools yielded distinct prevalence of risk of malnutrition. The study of Putwatana et al. indicated that the prevalence was different when the patients' nutrition status was measured using different tools including the Mini-Nutrition Assessment (MNA), Malnutrition Screening Tool (MST), Nutritional Risk Classification (NRC) and Nutritional Risk Screening-2002 (NRS-2002) in surgical patients [2]. Although there are many validated screening and assessment tools used worldwide [3,4], in Thailand, there are two validated assessment tools (i.e., Bhumibol Nutrition Triage, BNT [Appendix A]; and Nutrition Alert Form, NAF [Appendix B]) used widely [5,6]. Because of these distinctions, although early nutrition support for patients at risk of malnutrition could improve outcomes [7], there exist a couple of difficult issues that have to be managed obtaining a nationwide recommendation and determining the reimbursement decision. In addition, the situation of nutrition screening and assessment in Thailand is still unknown. Therefore, the objective of this study was to identify the gap and the differences in the pattern, process, and management of nutrition care in government hospitals in Thailand.

2. Materials and methods

2.1. Study design and questionnaire development

We performed two steps of a study which was a quantitative nationwide questionnaire survey and focus group discussions (Fig. 1).During May—September, 2012, the nutrition management questionnaire was developed by the cooperation of the Thai Dietetic Society, Thai Nursing Councils, Health Intervention and Technology Assessment Program (HITAP), Thai Healthcare Accreditation Institute (HA), and Faculty of Medicine, Chiang Mai University. The questionnaire included hospital types and caring units, nutrition support working processes, health care provider resources, and management of malnourished patients. These questions were separated into parts based on the working processes as routine screening/assessment unit (RSA) and non-routine screening/assessment unit (NRSA). The definition of RSA unit is the unit which routinely performs nutrition screening and assessment in daily practice in all admitted patients based on some tools or developed methods. The NRSA unit is the unit which does not routinely implement the nutrition screening and assessment in daily practice. The nutrition risk is detected by individual attending or host physician by some abnormal eating history, physical examination, or blood testing. This also included the unit with no concern for nutrition risk evaluation. This study was approved by the Ethical Committee, Faculty of Medicine, Chiang Mai University (Study code: SUR-13-1381-EM/Research ID: 1381).

2.2. Nationwide survey for quantitative study

A total of 2300 questionnaires were sent to 273 government hospitals across all of the provinces in Thailand. These comprised 25 regional hospitals, 238 general hospitals, and 10 university hospitals. The number of questionnaires, which were sent to each hospital, was estimated by hospital bed capacity. The Thai regional hospital is a service tertiary referral hospital and has more than 500 admission beds (10—15 questionnaires/hospital). The general hospital is a secondary referral hospital and has between 200 and 500 beds (5—10 questionnaires/hospital), and a university hospital is a tertiary teaching referral hospital (10—20 questionnaires/ hospital). The small community hospitals (primary care hospitals) were not included in this survey. Each of the hospital quality improvement working groups took responsibility for the distribution of the questionnaires to the chief of health care providers who responded on the nutrition caring processes (i.e., nurses, physicians, or dietitians/hospital nutritionists) in all the inpatient wards and nutrition support units. A week after the questionnaires were sent, two research assistants called all the hospitals to confirm the receipt of the questionnaire and followed up the study progression. The details regarding the flow of the study are demonstrated in Fig. 1.

2.3. Focus group discussions

After the last questionnaires were returned, the units were divided into RSA group and NRSA group based on the answers in the questionnaires. Regarding hospital types and specialties, each
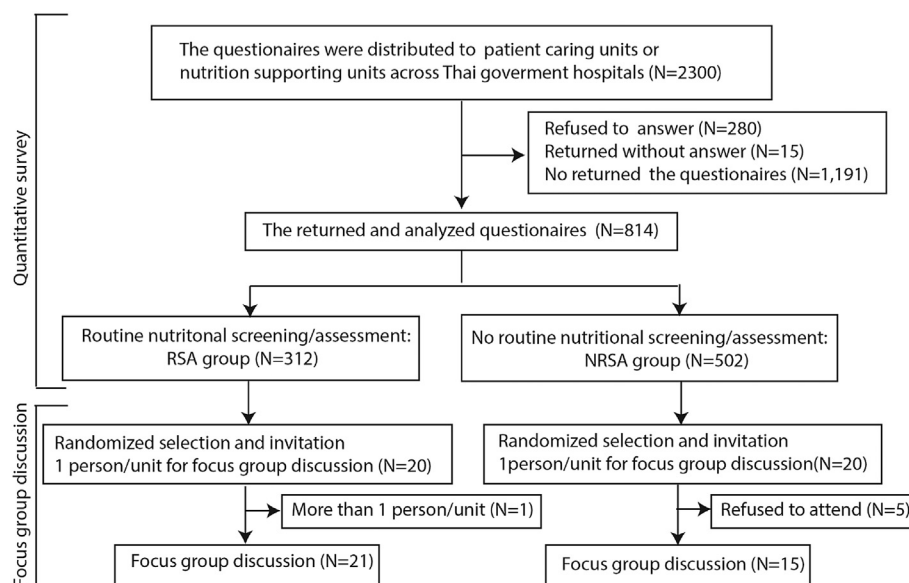

Fig. 1. The flow of this study.