Nutrition Support Team Activity at Kawasaki Municipal Tama Hospital: Achievements and Future Considerations

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Abstract

Kawasaki Municipal Tama Hospital began Nutrition Support Team (NST) activity in June 2008. Patients requiring NST care were first identified by floor nurses or managerial dietitians or by doctors or nurses from various departments who filled out an official form requesting NST care. Over the past 6 years, the number of requests for NST care has totaled 182, with the number of requests per year increasing gradually. Of the 17 departments with inpatient beds, 13 made such a request. Of the patients requiring NST care, 81.9% were aged 70 years or over, and 57.7% were aged 80 years or over. In this study, we report the development and spread of NST activity at our hospital and discuss how we can make it more effective.

Key word
Nutrition Support Team (NST)

Introduction

The Nutrition Support Team (NST) concept has spread nationwide since the inauguration of the NST Project by the Japanese Society for Parenteral and Enteral Nutrition (JSPEN) in 2001. Whereas full-time staff run independent NST in the United States, the teams in Japan are organized by the Potluck Party Method (PPM)¹. Therefore, each institution runs its program with a different team of doctors, nurses, managerial dietitians, pharmacists, and rehabilitation staff. JSPEN requires the participation of a physician and at least three-allied healthcare professionals². NST activity began at our hospital in 2008. In this study, we report the particular setting and actual accomplishments of the NST at our hospital.

Brief Introduction to Kawasaki Municipal Tama Hospital

Kawasaki Municipal Tama Hospital is located in the northern part of Kawasaki City in Kanagawa Prefecture. It opened in February 2006 as a community medical center and now has a total of 376 beds and 24 departments.

Introduction to the NST at Kawasaki Municipal Tama Hospital

Preparation for NST activity at our hospital started in April 2008. The actual program started in June 2008 after 2 months of simulation practice. The program is run by the PPM. The team comprises six doctors, six nurses, three managerial dietitians, one pharmacist, one speech therapist, and one dental hygienist.

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About NST Activity

On the basis of a special nutrition-screening tool prepared by our nurses, a patient’s nutritional status/risk is evaluated at the time of admission (Table 1). If a patient is given a total score of 4 points or more, the patient is considered in need of nutritional management, and our managerial dietitian draws up an appropriate plan. Also, if a patient’s serum albumin level is 3.5 g/dL or less at the time of admission, or if a patient requires special dietary management such as fasting, our managerial dietitian prepares a plan. Doctors in designated departments and/or nurses in designated wards make any necessary NST requests and refer to the nutrition management plans.

When help from the NST is requested, an NST Request Form (Fig. 1) must be filled out and submitted to the Nutrition Department. There is no special restriction such as patient age or medical condition, so nurses as well as doctors may submit the request. The managerial dietitian obtains patient information from the form, especially the patient’s medical condition and nutritional status, and discusses it with the team during the NST round.

The NST round is conducted once a week. Before the round, all members of the NST (nurses rotate depending upon their duty schedule) meet to share and confirm information on patients and their conditions. After the round, another conference is held to confirm the nutrition support plans and to create a list of patient names and the respective management plans for all doctors and nurses concerned.

At the same time, NST pharmacists review the total parenteral nutrition (TPN) cases and discuss the TPN content by calculating the patients’ nutritional requirements. A bed sore team works separately to ensure appropriate nutritional management of patients with bed sores. In addition, educational lectures are given twice a year to all hospital staff. The topics include mouth care, enteral nutrition, dysphagia, gastrostomy management, and the basics of infusion.

NST Achievements

Over the six years between June 2008 and March 2014, our NST received 182 requests (Fig. 2). One hundred and three were for male patients, and 79 were for female patients. There were slight decreases in the number of cases in 2009 and 2012, but overall, the number increased gradually each year. Of our 17 departments with inpatient beds, 13 requested NST care (Fig. 3).

Most of the patients for whom NST care was requested were elderly people: 81.9% were aged 70 years or over, and 57.7% were 80 years or over (Fig. 4). Between 2008 and 2012, 79.1% were aged 70 years or over, and 53.7% were 80 years or over. In 2013, 89.6% of patients were aged 70 years or over, and 68.8% were 80 years or over.

Most of the NST requests were for evaluation of a patient’s nutritional status and a suggested improvement plan. A few patients required nutrition management during the perioperative period. There were also a few consultations regarding the contents of nutritional infusion or the route of infusion.

Discussion

It has been six years since NST activity began at our hospital, and it seems that the NST has come to be recognized throughout the hospital, gradually but steadily. More than half of our NST nurses have been replaced, and in 2012, the NST chairperson was replaced. We speculate that the decrease in the number of requests for NST care in 2012 was due to replacement of the chairperson. As noted above, NSTs in Japan are organized by the PPM, so the skill of the core member(s) can greatly influence the direction of activity. Thus, we confirmed the importance of a chairperson who exercises strong leadership.

When we look at the number of requests by department, we see that most medical departments requested NST care, demonstrating that NST activity has spread throughout the hospital. We assume that the number of departmental requests depends on the total number of inpatients in each department, the medical specialty of each department, and the particular condition of each patient in the department. The

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Table 1. Nutrition Risk Assessment at the Time of Hospitalization

<table>
<thead>
<tr>
<th>Subject</th>
<th>Given point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 65 years or more</td>
<td>1</td>
</tr>
<tr>
<td>Surgery within the past month</td>
<td>1</td>
</tr>
<tr>
<td>Diet restriction</td>
<td>1</td>
</tr>
<tr>
<td>Poor appetite</td>
<td>2</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>2</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>2</td>
</tr>
<tr>
<td>Swallowing difficulty</td>
<td>2</td>
</tr>
<tr>
<td>Decreasing weight</td>
<td>4</td>
</tr>
</tbody>
</table>
Nutrition Support Team

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**NST Request Form**

**Department( ) Ward( ) Dr’s name( ) PHSh( )**

Name of patient __________________ Sex _____ Age _____ Date of admission ________________

Primary disease __________________________ Complications __________________________

1. Purpose of request (check as many boxes as applicable)

- [ ] ① Evaluate nutritional status
- [ ] ② Improve nutrition (e.g., dosage, administration route, formula)
- [ ] ③ Consultation re: infusion
- [ ] ④ Consultation re: nutrition route
- [ ] ⑤ Change to at-home nutrition
- [ ] ⑥ Other ( )

2. Please explain briefly why the patient fell into malnutrition.

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3. Problems related to nutrition (check as many boxes as appropriate)

- [ ] ① Loss of appetite
- [ ] ② Chewing/swallowing disorder
- [ ] ③ Gastrointestinal transit disorder
- [ ] ④ GI hemorrhage
- [ ] ⑤ Invasive mechanical procedures
- [ ] ⑥ Pre-/Post-Operation
- [ ] ⑦ Disturbed consciousness
- [ ] ⑧ Chemotherapy
- [ ] ⑨ Terminal cancer
- [ ] ⑩ Hepatic failure
- [ ] ⑪ Renal failure
- [ ] ⑫ Cardiac arrest
- [ ] ⑬ Inflammatory bowel disease
- [ ] ⑭ Bedsore(s)
- [ ] ⑮ Other ( )

4. Treatment or treatment plan (check as many boxes as appropriate)

- [ ] ① Operation (Operative procedure: )
- [ ] ② Chemotherapy ( )
- [ ] ③ Other ( )

5. Future treatment plan

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6. Vital signs

- Height cm, Weight (now) kg, (when healthy) kg, (When? ), Body temperature (patient w/fever) °C
- Dehydration (+ - +) Edema (+ - +) Ascites (+ - +)
- Lack of appetite (+ - +)
- Vomiting (+ - +)
- Diarrhea (+ - +)
- Bedsores (+ - +)

* Lasting more than 2 weeks

Metabolic disorder:

- Activity: [ ] Bed rest (Activity index 1.2) [ ] Out of bed activity (Activity index 1.3)
- Physical stress: [ ] None (0.0~1.0) [ ] Mild (mild infection, etc.) (1.1~1.2)
- [ ] Moderate (peritonitis, severe infection, etc.) (1.2~1.5)
- [ ] Severe (burn injury, multiple illnesses, etc.) (1.6~2.0)

7. Request NST review  [ ] Yes  [ ] No

Please print this form and submit it to the Nutrition Department by 3 PM after calling them (Ext. 3053)

NST, Kawasaki Municipal Tama Hospital

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**Fig. 1** NST Questionnaire

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NST Request Form.
There were 182 cases of NST requests over a span of six years from June 2008 to March 2014.

The largest number of requests has come from the Division of Gastroenterological and General Surgery, suggesting that the NST members in this department promote NST activity and communicate with each other often.

Our hospital is an acute care hospital. However, because of our aging society, the percentage of elderly patients at our hospital increases each year. The requests for NST care involve mostly elderly patients, and the percentage of requests for elderly patients has tended to increase each year. Elderly persons, in comparison to relatively young persons, show greater functional decline in various organ systems, including the gastrointestinal system; even the swallowing function can be compromised. Such patients are at risk of malnutrition. Even if a patient has no nutritional disorder at the time of initial hospitalization, fasting and irregular meals to allow for specific examinations can lead to a nutritional disorder. NST activity should be promoted not only to improve patients’ nutritional status but also to manage the dietary needs of elderly patients not showing specific kinds of malnutrition.

For further development of NST activity, we believe various overall improvements are necessary. We
Most of the patients for whom NST care was requested were elderly people: 81.9% were aged 70 years or over, and 57.7% were 80 years or over.

are in the process of initiating comprehensive staff development, including holding regular study meetings and conferences, reexamining the current nutrition assessment program, publicizing NST care more in each hospital department, and collaborating with medical institutions in the community. However, as long as the NST is run by the PPM method, consideration of staff workloads is essential.

Conclusion

We have considered the development and spread of NST activity at Kawasaki Municipal Tama Hospital. It is necessary now to examine how the NST can become even more effective. We are evaluating this theme by analyzing each case and shifts in the data. We believe it is essential to examine our NST activity in a flexible manner to suit current needs and to expand future productivity.

References