

Research on case management system in the geriatric health services facility  
【Abstracts】

[Background]

Changes in function in the elderly during and after discharge from geriatric health services facilities (Roken) was studied in the former research project, "Research Project on Factors Concerning the Elderly, Who Require Nursing Care, to Continue Living at Home, after Returning from the Facility", conducted in FY2013. This study showed improvement in most of functions such as "mobility and ADLs", "cognitive functions" and "diet and self-care" during the stay at the Roken. However, functional decline started after they returned home except in the area of social participation. This was measured using the ICF staging, but the period of follow-up was limited to 3 months. Therefore it was required to measure the long-term trajectory of functional decline after 3 months to design services to maintain elderly functioning. In addition, this study could not determine the factors related to functional decline. Adequate intervention, such as case-management based on the risk management might be effective, however, this also remained to be studied. In order for the facilities care management to fully operate, it is desirable that case-management both at home and at facility, medical support, rehabilitation management and nutrition management are provided integrally while being aware of the patient's functional changes over time. However, the question of whether the current care management was able to provide those things still remained. Further, regarding nutritional care management, not only management by nutritionists, but oral dysphagia rehabilitation from the perspective of rehabilitation was also necessary to be concurrently provided for effective care.

[Purpose]

The main purposes of this project was to realize care planning based on multidisciplinary collaborations and taking the changes in the patients and prevention of deterioration into account.

Therefore we looked at the followings;

1. Examine the pattern of changes in the patients after discharge as the basic material to understand their their changes in function.
2. Propose a nutritional dysphagia care plan from the perspectives of both nutrition care management and dysphagia rehabilitation. Verify the effects of risk management.

3. Propose a system which makes it possible to integrally provide care management, rehabilitation management, and dysphagia rehabilitation management while taking the change of the patients into consideration.

[Methods]

1. Examine the pattern of changes in the patients after discharge as the basic material to understand their changes in function.

To understand the changes in both physical functions and living environments, the survey continuously measured each patient at 6 set times. (On admission, just after returning from the facility, after one week, one month, three months and about one year after returning home). In addition to ICF Staging, new survey items, such as IADL, motivation index, pain evaluation items and IADL were included. While gaining an understanding of the trend of functional change using average value, the generalized linear model (GLM) was used to test the significance of the changes of function after discharge.

2. Propose a nutritional dysphagia care plan from the perspectives of both nutritional care management and dysphagia rehabilitation.

The programs for nutritional care management and dysphagia rehabilitation were examined to standardized dysphagia and nutritional management. After examining necessary items of both nutritional care management and rehabilitation, the standard rehabilitation program was created by an expert panel. The necessary items were fed back and added to the form mentioned in section 4, which describes the creation of the care management form.

3. Verification of the risk management effects.

In an earlier project in FY 2014, the occurrence of undesirable events such as fall and aspiration pneumonia were studied from 2 perspectives. (1) The effect of risk management, and (2) the effect of assigning a risk manager. After intervention, the process of the risk management was improved. However it was not evident whether the outcome such as the effect on the occurrence of undesirable events remained to be studied. It was possible that we had stratified the target population using the previous history of such events. Therefore, the data used in FY2014 was re-analyzed to show the effect of risk-management on the occurrence of undesirable outcomes.

4. Development of a standard form for care management at the time of admission to the facility, short-term stay or day-care while taking into consideration the changes in the patient's circumstances.

After understanding the above matters and adding the necessary items from the perspective of dysphagia and nutrition rehabilitation, and risk management, a draft of the multidisciplinary collaborative care management form which makes it possible to see the changes in the patients was created by the multidisciplinary panel. The forms were actually used for admission rehabilitation and outpatient rehabilitation at the geriatric health services facility, and some corrections were made. Finally the multidisciplinary panel made a revision and a final version was draughted.

[Results]

1. Examine the pattern of changes in the patients after discharge as the basic material to understand their changes in function.

The examination was made based on the 7 abstract indexes (the adding scale, motivation index and IADL based on ICF Staging, motivation and IADL). The pattern of changes in the elderly patients functioning from admission through to discharge and after their home return was similar to the results from last year, confirming the reproducibility of the data.

As a result, the functions of the patients were significantly improved during the facility stay in all of the indexes. Although their state is maintained after 3 months of their returning home, a trend of deterioration was observed in the survey conducted approximately one year after. Regarding their social participation, the elderly patients who returned home maintained participation for a relatively long time. The IADL functions were low during the stay at the facility and remained low at home. The Index of motivation improved at the facility, however, it dropped 3 months after returning home down to the level at the time of admission to the facility and the level continued to dropped.

2. Propose a nutritional dysphagia care plan from the perspectives of both nutritional care management and dysphagia rehabilitation.

Through the findings of the previous surveys and discussion by the experts, necessary items of assessment for nutritional dysphagia care management were selected. Based on those items, a standardized plan of nutrition and dysphagia

rehabilitation were developed using BMI and oral functioning index.

### 3. Verification of the risk management effects.

The significant differences were not clearly recognized in the survey involving the entire subject patients in 2014. However, in the survey targeting only the patients who had a high-risk anamnestic history, the occurrence of aspiration pneumonia and decubitus was reduced by about ½ after implementation of the care plan. On the other hand, the interventions effect against falls, fractures, fever and dehydration were not observed.

### 4. Development of a standard form for care management at the time of admission to the facility, short-term stay or day-care while taking into consideration the changes in the patient's circumstances.

The major changes to the draft were as follows;

1. Similar items were put together on the same sheets. The first sheet contains the items of social worker, medical, nursing and risk management. The second sheet, the items related to rehabilitation. The third sheet, the items related to nutritional dysphagia.
2. Since Zarit burden interviews cannot be used for care management, it was deleted from the form. Instead, the information regarding intake interviews requested from the offices was included to be entered on the form.
3. Instead of creating a plan for each small item, it was decided to make a plan to itemize categories..

### [Conclusion]

Previous care management systems for the elderly had been created with the idea that care should be given as services to compensate for a loss of functions. However, in the concept of comprehensive and integrated community care, care should aim at helping the elderly to continuously live with dignity in the community they are used to living in. Living with dignity means, not only maintaining functions, but also maintaining their participation in society, such as leisure and social interaction, etc. The results of this research showed that although various functions and social participations of the elderly improved through admission to the facility, after returning home, their functions began to deteriorate except for social participation, and after 3-6 months, returned to the same state as at the time of admission, and about one year later, was worse than the state at time of admission. On the other

hand, their social participation showed a tendency to be maintained throughout the period of their living at home.

According to the results, even during the period of their living at home, day-care rehabilitation or other rehabilitation, or intensive rehabilitation by re-admission in the short-term could be seen as desirable.

In addition, known factors of functional deterioration in the elderly are fractures, aspiration pneumonia, dehydration, decubitus and others. Care management of the patients using the history of undesirable events, (high-risk individuals), is very effective to prevent aspiration pneumonia and decubitus. On the other hand, the effect of the management couldn't be clearly seen in regard to falls, dehydration or fever. Thus, explanations to the patients will differ according to the type of event. For example, fall, fever and dehydration may not be prevented, and aspiration pneumonia and decubitus may be reduced, but not eliminated. Also, in the future, it might be necessary to re-examine the care management methods for preventing fall and fractures. In the meantime, it is desirable to disseminate the knowledge that falls and fever are not preventable to the agencies that provided care services. Moreover, through use of the form for multidisciplinary performing diet, nutrition and dysphagia rehabilitation, standardized programs in these areas became possible.

The main achievement of this study is the development of a standard form for care management taking into consideration the changes in the patient's circumstances.

It not only incorporates the assessment items to maintain their function but also the items necessary to maintain the social participation of the elderly in care management. Regarding features of ICF Staging, leisure and social interactions were added to the indexes for the system to measure the social participation of the elderly. Furthermore, this time, risk indexes, which may become more important in the future, and the concepts of diet, nutrition and dysphagia care management for standardized services was incorporated in the care management.

In this research project the care management method was re-examined based on the Geriatric Health Services Facility in Japan's R4 system. Through this re-examination, a new multidisciplinary method was proposed that enables the monitoring of changes in the patients and to achieve social participation through rehabilitation. Also, this system is recommended to be used after the elderly patients return home and change the way they receive the services.