A Study on Information Gathering in Caregiving Process: Targeting Students at a Four-Year University in Japan

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ABSTRACT

Assessing care requires adept information gathering, care workers must skillfully collect information from various perspectives. This study aimed to assess the current status of students and address the issues related to their information gathering by clarifying the information items and sources utilized by students, as outlined in written records that describe their eating (activity being carried out). Targeting 25 first-year students in the Care Practice II program at University A, data were extracted from records on eating created by students. Inductive coding categorized record contents nine information item categories and identified four source categories: "observation," "records," "staff," and "care recipients." The study revealed a predominant use of "observation," with minimal use of "staff" and "care recipients." Despite students considering nine perspectives, there was a dearth of information on care recipients' subjective feelings. Differences existed in both information items and quantity among students, with some displaying inadequate writing skills. Notably, information obtained directly from other people was limited.

Keywords: Caregiving Process, Eating, Information Gathering, Certified Care Workers, Students at Four-Year Universities.

ABBREVIATIONS

ICF: International Classification of Functioning, Disability and Health.

INTRODUCTION

In March 1987, the national care-worker certification system was created in Japan based on the Certified Social Worker and Certified Care Worker Act [1]; care-worker training education in Japan began in the following year. Subsequently, in the FY2009 curriculum revision, the educational curriculum of the care-worker training program was reviewed, and "caregiving process" was added for the purpose of enhancing caregivers' knowledge and skills. Furthermore, in the FY2019 curriculum revision, "improvement in practical skills in the caregiving process" [2] was included in the teaching content with the goal of pursuing scientific

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exploration of caregiving practice.

The caregiving process consists of thought and practice regarding assessment, planning, implementation, and evaluation of a caregiving plan for the purpose of realizing a better life desired by older adults and those with disabilities. It is a care practice based on scientific evidence and expertise. The first stage of this process is assessment in the caregiving setting; it involves identifying the service users' needs (issues) based on the user's mental and physical condition and living environment through information gathering. It is an important stage that determines the quality of the planning, implementation, and evaluation of the subsequent caregiving plan [3].

Then, how is the assessment process implemented? Specifically, it is conducted in this order: (1) information gathering, (2) interpretation, association, and integration of information, and (3) clarification of needs (issues). Inappropriate assessments normally have a problem somewhere in this process. In particular, information gathering is an important task that forms the basis of assessment. Therefore, care workers must have the ability to observe and gather information from multiple perspectives.

The International Classification of Functioning, Disability and Health (ICF) are recommended for assessment in Japanese care-worker training programs. The ICF categorizes a wide range of concepts to allow for a multifaceted view of health. Specifically, it has six elements: "health condition," "body functions and structures," "activity," "participation," "environmental factors," and "personal factors." Care workers collect information on these elements to understand the service user's overall situation and needs (issues). As care workers provide support for all activities of daily living, they must have the ability to discern the relationship between the "activities being carried out," which is the starting point, and other elements. It is important for care workers to correctly grasp the "activity being carried out" (service users' daily activities) and "the activity that could be carried out" (the ability that service users could demonstrate during training), as well as to identify the cause of the difference between the two. This is because this difference constitutes the needs (issues) of the service user. Therefore, care workers must first be able to collect information on the "activity being carried out" in a multifaceted and objective manner.

Prior studies regarding caregiving-process education

include a comparative study of various textbooks on the caregiving process [4], a study on the development of teaching materials for caregiving-process education [5-8], and a study analyzing the current status and issues involving the assessment of students who completed caregiving practice [9]. However, to the best of our knowledge, no study has focused on information gathering in caregiving process education. Therefore, this study used records of eating (activity being carried out), which contained the largest amount of information among the activity data recorded by students, to clarify the perspective (information item) and the source (information source) of information collection. In this way, this study grasps the current status of students' information gathering and educational issues to assist in the caregiving process education in future.

Characteristics of University A's caregiving-process education

The current educational curriculum for care worker training programs constitutes 1,850 hours, of which 150 hours are devoted to caregiving process and 450 hours to caregiving practice. In the first half of the first year at University A, students deepen their understanding of the ICF, as well as the definition, elements, and method of proceeding with the caregiving process, in the Caregiving Process class (30 hours). In the second half, in Caregiving Process Exercise I (30 hours), students acquire basic skills regarding how to proceed with the caregiving process based on a case study from Caregiving Practice I (90 hours). This is followed by Caregiving Practice II (135 hours). In the first half of the second year, students in Caregiving Process Exercise II (30 hours) study assessment and formulate a care plan through group work based on a case study of the service user to whom they are assigned in Caregiving Practice II. In the second half, students in Caregiving Process Exercise III (30 hours) work on a case study of the service user to whom they are assigned in Caregiving Practice III (225 hours) and formulate their view of caregiving. In the second half of the fourth year, students in Caregiving Process Exercise IV (30 hours) acquire the ability to work cooperatively with a team of care workers and other professionals through home-visit care exercises.

Thus, the university's curriculum aims to improve the practical skills required in the caregiving process by emphasizing the link between the Caregiving Process classes

and the Caregiving Exercise classes. This study targets students who have completed the first year Caregiving Process, Caregiving Process Exercise I, Caregiving Practice I, and Caregiving Practice II. In Caregiving Practice II, students are assigned to a service user for the first time and learn how to gather information and make assessments.

Objective

This study aims to understand the current status and issues involving students' information gathering by identifying information items and information sources based on written records that describe eating (activity being carried out).

MATERIALS AND METHODS

Survey participants and analysis data

The participants were 25 first-year students who completed Caregiving Practice II, a part of the care worker training program at University A, in the academic year 2022. Data were taken from information collection sheets (ICF sheets), included among the records of the caregiving process created by the participants during Caregiving Practice II. The focus of analysis was the record of eating (activity being carried out), as the largest amount of information among the recorded activities was about eating.

Analysis

Inductive coding was used for the analysis. First, the recorded contents of eating (activity being carried out) from each participant were split into separate pieces, with each piece containing meaningful information. These pieces were categorized according to the type of information, and the names of the information items were generated. The number of information items, the number of participants who recorded the information, and the sources of information were also identified. Four researchers conducted the analysis. The objectivity and validity of the analysis results were ensured by advice from researchers with experience in nursing and caregiving and five researchers familiar with qualitative research.

Ethical considerations

This study was conducted with the review and approval of the ethics review committee of University A university (Application No. 22-024-02) regarding research involving human participants. The training facilities were informed of the study both orally and in writing, and the consent was obtained from the facilities' training instructors. Students were informed both orally and in writing of the purpose and method of the survey. They were told that their participation was voluntary, that it would not affect their grade, that the results would be used for research on care-worker education in a way that individual participants would not be identified. The students then signed a consent form.

RESULTS

Information items

We extracted 311 pieces of information from student records. Of these, 15 records that did not describe their eating (activity being carried out) were excluded. Finally, 296 pieces of information were categorized to generate nine information items (information items are placed within the symbol []): [eating movements], [food and liquid type], [food volume and liquid volume], [use of food utensils], [posture], [swallowing and chewing movements], [dropping food], [preference], and [time required]. Items such as "grabs a spoon with the left hand," "uses chopsticks to cut the main dish," "carries main dish to the mouth with the left hand," and "eats autonomously" were included in [eating movements]. Items such as "eats food prepared in a blender," "eats smooth food," "uses some thickener," and "water intake is normal" were included in [food and liquid type]. Items such as "consumes the entire amount of food," "consumes 70–80% of food," "200 cc of tea," and "200 cc of milk in the morning" were included in [food volume and liquid volume]. Items such as "uses a self-help device (platter)," "eats with a curved spoon with a grip," "use a spoon with a sponge," and "uses an apron" were included in [use of food utensils]. Items such as "places the soles of the feet on the floor," "sits back in the chair" "tends to lean to the lower right," and "lifts the back off the wheelchair" were included in [posture]. Items such as "chews 16–24 times," "chews 13–30 times," "occasionally chokes," and "often coughs" were included in [swallowing and chewing movements]. Items such as "sometimes drops food when bringing it to the mouth," "often drops food (when using dentures)," "drops food," and "does not drop food" were included in [dropping food]. Items such as "likes sweets," "likes to eat," "does not each much curry," and "does not like carrots or broccoli" were included in [preference]. Items such as "finishes a meal in 15–20 minutes," "eats a meal in approximately 20 minutes with assistance," "eats a meal in approximately one hour," and "eats slowly" were included in

[time required].

We obtained the following number of instances for each information item: [eating movements] = 68 (23.0%), [food and liquid type] = 56 (18.9%), [food volume and liquid volume] = 44 (14.9%), [use of food utensils] = 31 (10.5%), [posture] = 28 (9.5%), [swallowing and chewing movements] = 23 (7.8%), [dropping food] = 16 (5.4%), [preference] = 16 (5.4%), and [time required] = 14 (4.7%).

The number of participants who recorded each information item was as follows: [food and liquid type] = 23 (92.0%), [eating movements] = 20 (80.0%), [use of food utensils] = 19 (76.0%), [food volume and liquid volume] = 19 (76.0%), [posture] = 13 (52.0%), [swallowing and chewing movements] = 12 (48.0%), [time required] = 12 (48.0%), [dropping food] = 11 (44.0%), and [preference] = 8 (32.0%) (Table 1).

Table 1. Information items

Information item (Total)	Number of pieces of information (n=296)		Number of participants who recorded (n=25)	
	n	%	n	%
Eating movements	68	23.0	20	80.0
Food and liquid type	56	18.9	23	92.0
Food volume and liquid volume	44	14.9	19	76.0
Use of food utensils	31	10.5	19	76.0
Posture	28	9.5	13	52.0
Swallowing and chewing movements	23	7.8	12	48.0
Dropping food	16	5.4	11	44.0
Preference	16	5.4	8	32.0
Time required	14	4.7	12	48.0

Sources of information

From the abovementioned 296 pieces of information, 395 sources were identified and classified into four categories. The sources are placed within the symbol < >. In descending order, 225 (57.0%) pieces were obtained from <observation>, 92 (23.3%) from <records>, 52 (13.2%) from <staff>, and 26 (6.6%) from < care recipients >.

Next, the sources of information for each information item were as follows. For [eating movements], <observation>: 65 (78.3%); <records>: 7 (8.4%); <staff>: 6 (7.2%); and < care recipients >: 5 (6.0%). For [food and liquid type], <observation>: 27 (35.5%); <records>: 37 (48.7%); <staff>: 9 (11.8%); and < care recipients >: 3 (3.9%). For [food volume and liquid volume], <observation>: 23 (37.1%); <records>: 27(43.5%); <staff>: 10 (16.1%); and < care recipients >: 2 (3.2%). For [use of food utensils], <observation>: 29 (69.0%); <records>: 6 (14.3%); <staff>: 5 (11.9%); and < care recipients >: 2 (4.8%). For [posture], <observation>: 28 (87.5%); <records: 2 (6.3%); <staff>: 1 (3.1%); and < care recipients >: 1 (3.1%). For [swallowing and chewing movements], <observation>: 18 (47.4%); <records>: 6 (15.8%); <staff>: 9 (23.7%); and < care recipients >: 5 (13.2%). For [dropping food], <observation>:13 (81.3%); <records>: 0 (0.0%); <staff>: 3 (18.8%); and < care recipients >: 0 (0.0%). For [preference], <observation>: 9 (32.1%); <records>: 6 (21.4%); <staff>: 7 (25.0%); and < care recipients >: 6 (21.4%). For [time required], <observation>: 13 (72.2%); <records>: 1 (5.6%); <staff>: 2 (11.1%); and < care recipients >: 2 (11.1%) (Table 2).

Table 2. Information sources

Information item (Total)	Information source							
	Observation		Records		Staff		Care recipients	
	n	%	n	%	n	%	n	%
Eating movements (83)	65	78.3	7	8.4	6	7.2	5	6.0
Food and liquid type (76)	27	35.5	37	48.7	9	11.8	3	3.9
Food volume and liquid volume (62)	23	37.1	27	43.5	10	16.1	2	3.2
Use of food utensils (42)	29	69.0	6	14.3	5	11.9	2	4.8
Posture (32)	28	87.5	2	6.3	1	3.1	1	3.1
Swallowing and chewing movements (38)	18	47.4	6	15.8	9	23.7	5	13.2
Dropping food (16)	13	81.3	0	0.0	3	18.8	0	0.0
Preference (28)	9	32.1	6	21.4	7	25.0	6	21.4
Time required (18)	13	72.2	1	5.6	2	11.1	2	11.1
Total	225	57.0	92	23.3	52	13.2	26	6.6

DISCUSSION

Information items

The nine information items revealed that students perceived "eating (activity being carried out)" from the multiple perspectives of safety, comfort, and independence.

The first item, [eating movements], provides important information for students to understand the degree of autonomy in eating. Eating is defined by the ICF as bringing the food to the mouth skillfully and eating in a culturally acceptable manner. Examples include cutting food into small pieces, crushing food, opening bottles and cans, and using chopsticks and forks [10]. The students' descriptions indicated that they had acquired the ability to gather necessary information based on the ICF viewpoint. This is because the students were repeatedly taught the perspective and concepts of the ICF in the Caregiving Process and Caregiving Practice classes in their first year. However, some students provided ambiguous descriptions that failed to fully convey the service users' physical movements, indicating that their ability to provide detailed descriptions was inadequate. Therefore, students must learn to accurately observe service users' eating movements, identify any impairments, and record their observations as objective facts. Suzuki et al. [11] also pointed out the need to clarify the perspective of observation and recording by indexing specific movements.

The second item, [food and liquid type], provides important information for safe eating. Food and liquid types are designed to be easy to chew and swallow based on a person's level of mastication and swallowing functions. When providing meal assistance, students observed the feeding situation of service users and compare their difficulty in chewing and swallowing for different types of food. The results revealed that students acquired information by observing the factors that promoted and inhibited eating movements.

The third item, [food volume and liquid volume], provides important information that can help in the early detection and countermeasures against low nutrition and dehydration of service users. Decreased food and water volume may be due to a hindrance in the eating process, poor physical condition, or decreased physical activity. The results indicated that students evaluated dietary conditions by associating the service users' food and liquid volume with their nutritional status and physical and mental functions.

The fourth item, [use of food utensils], is important for improving eating movements and autonomy. However, the students' records only showed which utensils were used, and did not describe how these were used. For the service users to eat by themselves and rely on others as little as possible, it is necessary to choose utensils that they can easily use in accordance with their physical conditions, such as paralysis of the arms and hands, muscle weakness, and joint contractures. Care workers must also provide information on the use of utensils to rehabilitation workers and others.

Therefore, students need to consider this and collect specific information in an objective manner.

The fifth item, [posture], is important information for eating safely. The students' records indicate that they gathered information about the correct posture for preventing aspiration, including information on the trunk balance, feet position, neck angle, and distance between the table and the body. However, there were also descriptions of postures that may increase the risk of aspiration. Postures to prevent aspiration vary depending on where the eating takes place (e.g., chair, wheelchair, bed) and the degree of disability. Upon obtaining necessary information, students should be able to determine whether the service user has a correct posture, instead of making simple observations.

The sixth item, [swallowing and chewing movements], is important information for safe eating, as in the case of [Posture]. Dysphagia makes eating and drinking difficult, raising the risk of aspiration, malnutrition, and dehydration. In class lessons, the process of eating and swallowing is divided into five phases, and students are taught which items to observe in accordance with the mechanism of each phase. Therefore, as far as chewing is concerned, the students collected objective information, such as the number of chewing actions. However, the amount of information regarding food-lump formation, food residue in the mouth, choking, heartburn, and reflux was inadequate, as it was difficult to observe the tongue and throat for swallowing motions.

For the seventh item, [dropping food], it is important to find out how the food is dropped by linking the information with other information items. The students' records focused on eating and chewing but did not have much information on complementary feeding or swallowing. Dropping food is closely related to the other information items mentioned above. In other words, food is likely to be dropped when there is a problem in eating movements, use of utensils, posture, or chewing and swallowing. Students need to gather information by taking this into account.

The eighth item, [preference], contains important information for providing comfortable meals. Respecting the food preference of service users and providing satisfying dietary care based on users' wishes and intentions improves quality of life. The students' records were specific in describing the service users' favorite and least favorite foods and understanding their individual preferences. However, perspectives to grasp information conveyed by service users' words, facial expressions, and gestures were lacking. These perspectives include whether users enjoyed their meals and whether they ate with peace of mind. Eating is not only an act of nutrition intake but also provides emotional satisfaction, a sense of security, and enjoyment of life. Therefore, it is necessary to respect the eating habits of service users and obtain information from their subjective viewpoints.

The ninth item, [time required], measured safe and comfortable eating. Excessively long eating time can make service users tired and cause poor swallowing. Moreover, drowsiness during the meal reduces the appetite. The students' records clearly described the usual time required, indicating that they observed the service users' eating pace. If a meal could not be finished within the recommended time, the cause must be determined considering various information, such as physical condition, eating ease, and assistance methods.

The nine information items described above included five main ICF activities: [eating movements], [use of food utensils], [posture], [swallowing and chewing movements], and [dropping food].

The five information items above represent important daily life activities that constitute eating (activity being carried out). However, items related to [posture] were recorded by only approximately 50% of the participants, and those related to [swallowing and chewing movements] and [dropping food] by less than 50%; meanwhile, [eating movements] and [use of food utensils] were recorded by almost 80% of the students. The results indicate that there were differences in the amount of information collected and perspectives among the students.

To understand "eating (activity being carried out)," Information that relates the five main ICF activity items to the other four items must be gathered. That is the ability to interpret what the information means to the service user, and to derive a certain conclusion from the results of the interpretation. Students who possess this ability could collect further necessary information and link the various pieces of information to understand the "activity being carried out" by service users. The results revealed that most,

although not all, of the students were able to collect relevant information, which could be considered the information gathering process for beginners.

Information sources

There were 395 information sources grouped into four categories: <observation>, <records>, <staff>, and < care recipients.>. Of these, <observation> was used by the largest number of students (225; 57.0%). The students are frequently taught the importance of using the five senses, such as sight and sound, to gather direct information, which is of higher quality than information obtained from other sources. Therefore, the percentage of <observation> was the highest for seven of the nine information items. For the remaining two items, <records> had a high percentage. The second most common source of information was <records> (about 20% of the total). For two of the information items, [food and liquid type] and [food volume and liquid volume], the largest amount of information was derived from <records>. There is a general classification of food and liquid, but there are various food and liquid items. The students' descriptions indicate that these items come in a variety of forms and have different names, such as special soup, smooth food, and light thickness, depending on the training facility. This makes it difficult for students to accurately identify the type of food. With regard to [food volume and liquid volume], a common practice is to add information to caregiving records for the purpose of sharing it with other staff members and providing accurate information to family members. In recent years, caregiving records are being increasingly digitized in such a way that past records can be easily accessed. Thus, the students may have actively used such records to obtain more accurate information. The results indicate that the students may have selected information sources in such a way that they could obtain objective information more efficiently.

Meanwhile, the use of <staff> and < care recipients> was low, with 52 students (13.2%) and 26 students (6.6%) using these information sources, respectively. It should be noted that this survey did not extract <other professions>. Thus, the students' information sources were biased, and they did not have enough opportunities to obtain information through dialogue with other people. The service users have various conditions. Therefore, it is essential to develop a user-centered caregiving process, with a team of care workers collaborating with multiple professions, to meet individual needs and provide high-quality care. Such a process makes it possible to better understand the service users' daily activities and determine their abilities and potential for independent living based on information from other professionals, such as physical and occupational therapists. In other words, it is only in the context of team care and collaboration across various professions that the factors that differentiate between the "activity being carried out" and the "activity that could be carried out" can be clearly understood.

Caregiving Practice II is the stage of the caregiving learning process where students are assigned to a service user for the first time to learn how to conduct assessments. Many students are confounded by the vast amount of information regarding the user to whom they are assigned even though they have acquired the basic skills for proceeding with the caregiving process. It is necessary to teach students again the methods and importance of information gathering based on the recognition that Caregiving Practice II is the starting point of assessment. In addition, to understand the factors of the difference between the "activity being carried out" and the "activity that could be carried out," it is essential to have direct information from service users, peers, and those in other professions. It is important to improve the ability to gather information through dialogue with service users, as well as the ability to gather information in the context of a care-worker team or in collaboration with those in other professions.

Limitations and future recommendations

This study was limited to eating (activity being carried out). Therefore, it is necessary to examine the relationship of eating with other components, starting with activities being carried out (including eating), as a means of deeply analyzing how students gather information. It is necessary to continuously examine the current status of assessment, including information gathering.

CONCLUSION

The students understood "eating (activity being carried out)" in a multifaceted manner through nine information items, including the perspectives of safety, comfort, and independence. However, there was insufficient information related to service users' subjective feelings, such as satisfaction, security, and enjoyment. Furthermore, there

were differences among the students with respect to information items and the amount of collected information. As for the information content, students had acquired the ability to collect necessary information based on the ICF. However, some students lacked the ability to record information in detail and in an objective manner. Information sources were grouped into <observation>, <records>, <staff>, and < care recipients>. Among these, the percentage of use was the highest for <observation>, and low for <staff> and < care recipients>. It was suggested that there was little information obtained directly from other people.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

N.M. and K.T. substantially contributed to the study conceptualization. K.T. developed the statistical analysis plan, and N.M. conducted the statistical analyses. N.M., K.T., and J.K. contributed to the interpretation of the results. N.M. and K.T. drafted the original manuscript. K.T. supervised the conduct of this study. All authors reviewed the manuscript draft and revised it critically on the intellectual content. All authors approved the final version of the manuscript to be published.

REFERENCES

1. Certified Social Worker and Certified Care Worker Act (Act No. 30 of May 26, 1987) [Internet]. [cited 2023 Nov 4]. Available from: https://www.mhlw.go.jp/web/t_doc?dataId=82021000&dataType=0&pageNo=1.

2. The Japan Association of Training Institutions for Certified Care Workers. (2019). Report on survey and research project on teaching methods in light of the care worker education content review, care worker training program new curriculum educational methods guide.

3. Japan Association of Certified Care Workers. (2020). Textbook for caregiving instructors. Revised 2nd edn. Japan National Council of Social Welfare; Tokyo. 201 p.

4. Kato N. (2015). Epistemological consideration of the caregiving process. Memoirs of Mejiro University College (Japanese). 51:31-41.

5. Takagi T. (2017). Devising a worksheet for writing for problem analysis in the caregiving process: Based on the compositional elements of sentence examples for problem analysis. The Study of Social Work (Japanese). 56:42-51.

6. Matsunaga S. (2020). A study on assessment in the caregiving process: Examination of systematic organization of theories and methods. Keishin Journal of Life and Health (Japanese). 4(1):103-108.

7. Fukunaga H, Mami H, Annoki K, Takenaka M, Tanigawa S. (2021). An experiment in teaching the caregiving process in a caregiver training program: Focusing on assessment. Bulletin of Kagoshima Women's Junior College (Japanese). 58:59-67.

8. Fukizaki K. (2010). Creating an assessment sheet for the caregiving process: Two assessment sheets to improve understanding during the assessment phase. Bulletin of Kyoei Gakuen Junior College (Japanese). 26:1-27.

9. Hirano K. (2020). Reexamination of teaching methods for the caregiving process: Based on a survey of the assessment section for students who have completed caregiving practice II. Journal of Junior College, Asahikawa University (Japanese). 50:23-28.

10. Welfare study group for persons with disabilities. (2002). International classification of functioning, disability and health, ICF. Chuohoki Publishing (Japanese). p. 148.

11. Suzuki T, Takeda K, Fujiawara H, Mizutani N, Tomitagawa S, Kuze J. Examination of educational methods for the caregiving process in response to the promotion of scientific caregiving: Ambiguity in capturing the "activity that could be carried out" from the "activity being carried out" and the use of ADL evaluation methods. Vol. 28, No. 2.