

Analysis of Utterances by Older Persons in ‘Life-Worldly’ Communication with Caregivers in Japan

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Received date: July 24, 2016; Accepted date: October 17, 2016; Published date: October 25, 2016

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Abstract

Objective: The purpose of this study is to grasp the actual conditions of utterances by elderly persons in geriatric care facilities in Japan. Specifically, the study considers utterance frequency, duration, and structure according to the two types of communication: Type I (Task-oriented) and Type II (Life-worldly).

Method: Study subjects were comprised of 37 residents in three long-term care facilities in Japan. The study surveyed the personal attributes of each elderly person, and the type and duration of utterances they made within 1 day. Type I and II communication characteristics were both quantitatively and qualitatively investigated.

Results: The duration of utterances from older residents was very short, at about 4 min. The average duration of utterances by elderly persons who are bedridden was 115.54 s (SD=131.55), which was significantly lower ($p<0.05$) in comparison to the average duration of utterances by elderly persons who are able to walk or move using a wheelchair, which was 331.1 s (SD=234.97). In type II communication, the utterances by the older resident were not limited to short replies to caregiver speech, but were relatively longer and self-initiated utterances were also produced.

Keywords: Communication; Elderly persons; Long term-care; Conversation analysis

Introduction

The number of older persons above the age of 65 requiring care in daily life due to illness or disability in Japan rose to 5,691,000 in 2013 [1]. Among them, 27.6% of older persons live in a care facility operated by the public insurance system (long-term care insurance system) [2].

Many older persons requiring care in Japan live their daily lives by receiving help from caregivers. For such older persons requiring care, communication plays an important role in building, maintaining and furthering relationships between older persons and their caregivers [3,4]. Particularly for older persons in geriatric care facilities, verbal communication is indispensable in establishing and maintaining self-identity as a member of society [5] and exerts a strong influence on quality of life of older persons living a limited existence [6,7].

However, it has been noted in previous international studies regarding communication of older persons that, although those in nursing are aware of the importance of psychosocial communication, in practice they did not engage patients in social interaction [8]. It has also been noted that communication in geriatric care facilities contains little social interaction [9] and there is also a lack of verbal communication [10,11]. There are few opportunities for conversation [12], verbal communication is superficial and used by caregivers to control the older residents [13] and communication is limited and one-

sided [14,15]. These problems with communication in geriatric facilities may be at least partly due to the fact that caregivers use communication with older persons as means for carrying out their duties.

In recent years, various studies using communication training programs for caregivers have been conducted to remedy some of the aforementioned communication issues in geriatric care facilities [16-18]. Many of these studies, however, focused on the improvements in the communication skills of caregivers rather than the older patients. Caris-Verhallen et al. [19] argues, based on a review of studies in the nurse-older person communication, that there is a lack of previous studies that take into consideration contributions made by the older to their communication. Thus, it is required to investigate the caregiver-older person communication as an “interaction” in which both parties interact with each other.

In Japan, however, there is little research regarding communication between caregivers and older persons living in care facilities, and even worse, verbal communication has not been clearly acknowledged as a care provision [3].

Therefore, we conducted a study [20] which demonstrated that verbal communication between caregivers and older residents of Long-Term Care Health Facilities falls into two types. The first type of communication is “task-oriented” communication, meaning communication for the purpose of performing various nursing or care tasks to facilitate the older residents’ activities of daily living

(henceforth "Type I" communication). The second type of communication is "life-worldly" communication (henceforth "Type II" communication), which encompasses verbal exchanges about family, work and social events that occur normally in social life. Analysis of the relationship between these two types of communication and utterances by older residents showed that Type II communication by caregivers elicited more utterances from older residents than did Type I communication.

The purpose of this study is to grasp the actual conditions of utterances by elderly persons in geriatric care facilities in Japan. Specifically, the study considers utterance frequency, duration, and structure according to the types of communication. We will thus focus specifically on older persons' self-initiated utterances as an indicator of communication similar to free daily conversation. For it has been argued that in an institutional settings (e.g. hospitals, courts and schools), in contrast to free-flowing ordinary conversation, communication is subject to various restrictions due to specific institutional arrangements, and thus users of the system (e.g. patients) tend not to be given opportunities to initiate conversation [21,22]. However, even in an institutional setting such as geriatric care facilities, Type II communication may have higher potential to develop into conversation close to ordinary conversation. In this type of conversation it is considered that there is an opportunity for free interactive conversation, in other words an opportunity for the older person to initiate communication.

Concurrently, with respect to the communicative ability of older persons, the effects of dementia level and the attributes of residents are noted [23] and thus, these must also be examined.

Furthermore, considering the fact that communication is essentially a mutual creation of both parties, we will also focus on the actual interaction between caregivers and older persons, and qualitatively analyze the structural mechanism of both Type I and Type II communication.

If these mechanisms could be made clear, it would be possible to encourage reconsideration of communication methods with nursing staff and future use for staff education.

Thus, the objective of this study is to examine: (a) the frequency and duration of all utterances and self-initiated utterances by older persons; (b) the relationship between the duration and frequency of utterances by older persons and their attributes; (c) the structural mechanism of older persons' utterances of Type I and Type II communication.

Study Design and Methods

This study uses a combination of two analysis methods: quantitative and qualitative. Quantitative method is concerned with objectives (a) and (b) above and qualitative method with objective (c) above.

Definition of Terms

Utterances: These comprise all speech by older residents, including utterances initiated by older persons and responses to speech initiated by caregivers. Utterances are categorized as the following task-oriented utterances and life-worldly utterances [20].

Task-oriented utterances (Type I utterances): Utterances by the older during communication with caregivers about various nursing and caregiver tasks to enable the residents' activities of daily living.

Life-worldly utterances (Type II utterances): Utterances by the older during communication with caregivers about family, work and social events that occur in normal social life.

Self-initiated utterances: Self-initiated utterances directed at another person, including both Type I and Type II communication.

A turn: An opportunity in which one person speaks at a time, which may consist of one or more components such as words, phrases, clauses and sentences [24].

Subjects of the study

The study surveyed the personal attributes of each elderly person, and the type and duration of utterances they made within 1 day.

The research target facility of this study is the Medical Long-Term Care Sanatorium, which is a facility for older persons who require care and higher medical needs due to chronic conditions. A total of 37 older residents live in three Medical Long-Term Care Sanatoriums

A total of 37 older residents in three geriatric care facilities in Prefecture A who matched the selection criteria below consented to cooperate with this study (10 from Facility A, 15 from Facility B and 12 from Facility C). The basic attributes of the older subjects were: 11 men (29.7%), 26 women (70.3%), ranging in age from 72–100 years, with an average age of 84.6 years. The level of independence for performing activities of daily living (ADL) was comprised of 11 bedridden residents (29.7%), 21 who used a wheelchair (56.8%), 4 able to walk (10.8%) and 1 unknown (2.7%). Eight subjects (21.6%) had verbal impairment and six persons (16.2%) had auditory impairment. As defined by the classification of daily life independence for older persons with cognitive impairment in Japan's nursing-care insurance system, 5 subjects with no cognitive impairment (13.5%), 1 subject (2.7%) was classified I (cognitive impairment but able to live independently), 25 subjects (67.6%) were II–III (cognitive impairment requiring partial nursing care), 5 (13.5%) were IV (cognitive impairment requiring full-time nursing care) and one subject was unknown (2.7%).

Selection criteria for older subjects

Selection criteria are:

1. Older persons 65 years and above requiring nursing care;
2. Older persons themselves or legal guardian able to provide written informed consent.

Older person's exclusion criteria

Exclusion criteria are:

1. Persons with total hearing loss;
2. Persons with total aphasia;
3. Persons with an unstable state of health

Research period

The research took place in November 2005.

Research methods

The observation period of the types and quantity of utterances by older residents lasted from 9:00 a.m. to 5:00 p.m. The observation involved an investigator assigned to one older subject, standing by in

the corridor outside the subject's room to avoid imposing a psychological burden, then accompanying the caregiver into the room when the caregiver entered and recording all conversation using a recording device, based on which a verbatim transcript was produced.

Analysis Methods

Statistical analysis

Classification of verbal communication type and measurement of frequency and duration of communication: To categorize the

transcripts of the recorded conversation into communication types, we first coded each sentence from the transcripts. These codes were then assigned to the respective thirdly category, based on the 'Categories of Utterance by Older Persons', shown in Table 1. Three researchers assigned the codes for all the caregiver and older participants, with an agreement rate of 84% among the researchers. For the codes where they did not agree, the researchers categorized them after discussing their meaning within the conversational context. One sentence was calculated as having an utterance frequency of one for an individual category. Two syllables in the transcript were counted as one second in order to compare the utterance duration for each category (Table1).

Primary Category	Secondary Category	Thirdly Category	Example
Type I	Utterances related promotion of behavior	Acknowledge action instructions/urging	Yes, I understand. Um, that's OK.
		Confirm instruction/urged behavior	I'm supposed to take this medicine?
		Resist instruction/urged behavior	I'm coming now, so please wait!
		Indicate difficulty of instruction/urged behavior	If I sit, I can't remove my (socks).
		Refuse instruction/urged behavior	It's fine for now. Please do it later.
		Indicate action completion	I've finished.
	Utterances related assistance behavior	Evaluate action and receive praise	Thanks to you I was able to put it on by myself. You were a big help.
		Acknowledge/reply to explanation of assistance action	Yes, I understand.
		Acknowledge/reply to assistance behavior start	Please do it for me.
		Acknowledge/reply to assistance behavior finish	Is it all done? Thank you.
		Evaluate assistance behavior	That felt good.
	Utterances about physical condition and daily routine	Acknowledge/reply to schedule explanation or instruction	We are going to do it now, I understand.
		Ask question about schedule explanation/instruction	What time does (rehabilitation) start?
Reply to question about completed daily schedule		I just finished rehabilitation.	
Receive evaluation of completed daily schedule		I still can't do it properly by myself.	
Reply to question about physical condition		That feels better.	
Acknowledge explanation about physical condition		That's why it hurt.	
Reply to confirming state of illness		It was bad until just a little while ago.	
Confirming wishes and desires	Express will	Please turn on the television.	
	Reply to confirming wish/desire	That's all right for now.	
Warning to be careful	Acknowledge warning	I understand, I'll be careful.	
	Indicate difficulty in complying with warning	It's difficult even if you warn me about it because I'm going senile.	
Other		Ah, is that so? Uh-uh.	
Type II	Utterances about life experience	Talk about past experiences	Long ago, we used to.... I was best at cooking....
		Talk about hobbies and tastes	Ikebana is a hobby of mine.... I like sushi, I often went with my husband....

		Talk about family, friends, acquaintances, pets	We had a hard time with our son, but.... Yesterday my grandchild came....
	Utterances about social events	Talk about social events	The sumo yesterday.... The election's coming up....
	Utterances about psychological state/knowledge	Talk about psychological state (emotions)	I was lonely, but.... But thanks to you, today I'm in good spirits.
		Talk about knowledge or memory	That's a chrysanthemum. Today's Culture Day, isn't it?
	Greetings	Greetings	Good morning.
	Other		It's time for the plum trees to blossom, isn't it? Isn't Miss XX here today? (Watching TV) Haha, that's funny.

Table 1: Categories of utterances by older person, Note: Type I=Task-Oriented; Type II=Life-Worldly.

The study used a t-test to examine the relationship between the attributes of elderly persons and utterances they made. 37 of the study participants were used as subjects for analysis. We used SPSS Ver. 18 for the statistical analysis.

Conversation analysis: In conversation analysis, a detailed transcript was created from recordings of naturally occurring conversations, and the organization of the talk-in-interaction was examined [25]. In this study, we demonstrated how the utterance frequency of older residents changed in response to Type II speech through a comparison of the interactional characteristics of Type I and Type II communication.

Ethical considerations

The older residents and their representatives were given an oral explanation based on written material outlining the study objectives, methods, duration, expected benefits and disadvantages, and the guarantee of free will to participate or not participate in the study with no disadvantage incurred by deciding to not participate as well as a guarantee of privacy. Written informed consent to participate was then

obtained through the free will of the participants. This study was approved by the Ethical Evaluation Committee.

Results

Older person's utterance and self-initiated utterance

As shown in Table 2, the duration of utterances over 1 day for each elderly person ranged from a minimum duration of 1 s to a maximum duration of 936.00 s, with an average of 266.61 seconds (SD=228.73). The duration of Type I utterances ranged from a minimum duration of 1 s to a maximum duration of 630.50 s, accounting for 66.50% of the total, with an average of 177.31 s (SD=163.37). The duration of Type II utterances ranged from a minimum duration of 0 s to a maximum duration of 664 s, with an average of 89.30 s (SD=132.72). The average duration of Type I self-initiated utterances was 29.48 s (SD=41.30); these accounted for 16.60% of total Type I utterances. Meanwhile, the average duration of Type II self-initiated utterances was 21.62 s (SD=29.34); these accounted for 24.20% of total Type II utterances.

	n	Minimum		Maximum		M		SD		%	
		Second	Frequency	Second	Frequency	Second	Frequency	Second	Frequency		
Total utterance duration	37	1		936		266.61		228.73		100	
Type I utterance duration	37	1		630.5		177.31		163.37		66.5	100
Replied utterance	37	0		567		147.82		121.44			83.4
Self-initiated utterance	37	0		147.5		29.48		41.3			16.6
Type II utterance duration	37	0		664		89.3		132.72		33.5	100
Replied utterance	37	0		559.5		67.67		118.79			75.8
Self-initiated utterance	37	0		104.5		21.62		29.34			24.2
Total utterance frequency	37		1		311		73.73		56.63	100	
Type I utterance frequency	37		1		290		53.62		49.43	72.7	100
Replied frequency	37		1		275		48.05		46.42		89.6
Self-initiated frequency	37		0		23		5.57		6.5		10.4

Type II utterance frequency	37	0	148	20.11	30.53	27.3	100
Replied frequency	37	0	141	16.59	28.18		82.5
Self-initiated frequency	37	0	16	3.51	4.44		17.5

Table 2: Descriptive statistics about utterance duration and frequency, Note: Type I utterance=Task-oriented utterances; Type II utterance=Life-worldly utterances; SD=Standard Deviation.

The frequency of utterances over 1 day for each elderly person ranged from a minimum frequency of 1 time to a maximum frequency of 311.00 times, with an average of 73.77 times (SD=56.63)

Relationships between duration of older persons' utterance and attributes

We investigated whether the attributes (ADL, auditory disorders, language disorders and dementia) of the older residents influenced the duration of their utterances.

As shown in Table 3, the average duration of utterances by elderly persons who are bedridden was 115.54 s (SD=131.55), which is significantly lower in comparison to the average duration of utterances

by elderly persons who are able to walk or to move using a wheelchair, which was 337.1 0 s (SD=234.97). No significant differences were observed with regard to the presence or absence of auditory disorders, language disorders or dementia. However, the average duration of utterances by elderly persons without language disorders was 299.95 s (SD=230.74), which is around double the average duration of utterances by elderly persons with language disorders at 145.75 s (SD=186.59). The average frequency of utterances by elderly persons who are bedridden was 40.27 occurrences (SD=28.78), which is significantly lower in comparison to the average frequency of utterances by elderly persons who are able to walk or to move using a wheelchair which was 88.88 occurrences (SD=60.9).

Older person's utterance	Attributes		n	M		SD		F	t	p
				Second	Frequency	Second	Frequency			
Utterance duration	ADL	bedridden	11	115.54		131.55		4.56	-3.6	*
		walk/wheelchair	25	337.1		234.97				
	auditory disorders	no	31	262.97		238.27		1.01	-0.22	ns
		yes	6	285.42		188.55				
	language disorders	no	29	299.95		230.74		0.75	1.73	ns
		yes	8	145.75		186.59				
	dementia	no	6	279.33		175.6		1.2	0.1	ns
		yes	30	269.22		242.41				
Utterance frequency	ADL	bedridden	11		40.27		28.78	2.5	-2.51	*
		walk/wheelchair	25		88.88		60.9			
	auditory disorders	no	31		71.35		60.91	1.74	-0.57	ns
		yes	6		86		24.83			
	language disorders	no	29		80.07		58.09	0.02	1.31	ns
		yes	8		50.75		47.17			
	dementia	no	6		57.33		36.62	0.68	-0.77	ns

	yes	30		77.23		60.67			
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Table 3: Relationship between an elderly person's personal attributes and the duration and frequency, Note: SD=Standard Deviation; *<0.05, **<0.001; ns=Not statistically significant.

Table 4 shows the relationship between an elderly person's personal attributes and the duration and frequency of their self-initiated utterances. The average duration of utterances by elderly persons who are bedridden was 20.86 s (SD=37.31); the average duration of utterances by elderly persons who are able to walk or to move using a wheelchair was around triple this, at 61.96 s (SD=55.65). The average

frequency of self-initiated utterances by elderly persons who are bedridden was 3.54 occurrences; the average frequency of utterances by elderly persons who are able to walk or to move using a wheelchair was around triple this, at 11.48 s (SD=8.37). No significant differences were observed with regards to the presence or absence of auditory disorders, language disorders or dementia.

Older person's utterance	Attributes		n	M		SD		F	t	p
				Second	Frequency	Second	Frequency			
Duration of self-initiated utterances	ADL	bedridden	11	20.86		37.31		2.24	-2.22	*
		walk/wheelchair	25	61.96		55.65				
	auditory disorders	no	31	54.82		57.29		4.24	1.49	ns
		yes	6	31.91		28.98				
	language disorders	no	29	58.05		54.04		0.44	1.51	ns
		yes	8	25.94		40				
	dementia	no	6	83.58		65.93		0.8	1.59	ns
		yes	30	45.68		50.88				
Frequency of self-initiated utterances	ADL	bedridden	11		3.54		5.26	3.55	-2.89	*
		walk/wheelchair	25		11.48		8.37			
	auditory disorders	no	31		9.29		8.66	1.6	0.35	ns
		yes	6		8		6			
	language disorders	no	29		10.06		7.93	0.12	1.41	ns
		yes	8		5.5		8.86			
	dementia	no	6		12.5		9.35	0	1.06	ns
		yes	30		8.57		8.09			

Table 4: Relationships between duration of older persons' utterance and frequency and attributes, Note: SD=Standard Deviation; *<0.05, **<0.001; ns=Not statistically significant.

The relation between the degree of ADL and the other attributes of elderly persons was considered because the average duration and frequency of utterances at the bedridden older persons were significantly lower than those of elderly persons who can walk or move with a wheelchair. The significant relation between the degree of ADL and auditory disorders, language disorders and dementia was not observed.

Conversation analysis results

Type I utterances and their communication context

Excerpt 1 in Table 5, taken from a bed-bath assistance scene, is an example of where Type I communication is observed (Table 5).

Excerpt 1 (Type I)			Excerpt 2 (Type II)		
1	CP:	<i>Sukoshi senakawo fukimasu.</i> I'll wipe your back a bit.	1	CP1:	<i>Sato-imo wa mada desu ka?</i> Taro aren't ready yet?= <i>=korekara desu</i> =Just about to be.
2	OP:	<i>Hai.</i> Yes.	2	OP:	
3	CP:	<i>Ii? Yoko mukemasuka?</i> OK? Can you turn to the side?	3		(0.2)
4	OP:	<i>nn, sonomama ni shite.</i> No, leave me as I am.	4	CP1:	<i>Un</i> Yeah
5	CP:	<i>Hhh. Senaka wo fukimasu-kara, yokowomui-te.</i> Hhh. I'll wipe your back, so let's turn to the side.	5		(0.4)
6	OP:	<i>Uhuh</i> Uhuh	6	OP:	<i>Kotoshi wa dekita kana to omotte</i> I was wondering if they're ready this year
7	CP:	<i>ii-desuka? Hai. Sokoni tukamatte kudasai.</i> OK? Yeah. Just hold onto it please.	7	CP2:	<i>Huhuhuhu hu</i> Huhuhuhu hu
8		(0.5)	8	OP:	<i>amega yoku futta kara</i> Because a lot of rain fell.
9	CP:	<i>Tukamatte.</i> Ho:ld onto it.	9	CP2:	<i>soudane ame futta monone?</i> That's right:: There was a lot of rain, wasn't there:?
10		(0.5)	10	OP:	<i>Uchino musukowa imane, Kinoko-tori ni muchuu=</i> My son is now engrossed in picking mushrooms=
11	CP:	<i>Konna funi?</i> Like this?	11	CP2:	<i>=Ahahahahahaha kinoko ka:?</i> =Ahahahahahaha mushrooms? Haha::
12		(1.0)	12	OP:	<i>Kinoko wo torini=</i> Going picking mushrooms=
13	CP:	<i>Dokoka kayu-toko arimasu-ka? Senaka-wa?</i> Anywhere itchy? On your back?	13	CO2:	<i>=aa sounano? Mou osoinn-jya naino?</i> =Is that so? Isn't it too late?
14		(2.5)	14	OP:	<i>Nani?</i> What?
15	CP:	<i>Dokomo?</i> Nowhe:re?	15	CP1:	<i>Ima jikinano? (0.3) mou osoinn-jya naino?</i> Is it the season now? (0.3) Is it just right? Now?
16	OP:	<i>Ee. Ano:</i> No. Well:	16	OP:	<i>Ima, chodo-i jikidesu.</i> Now is just the right time.
17	CP:	<i>Hai?</i> Yes?	17	CP1:	<i>Nn: (0.8) hahaha</i> Mm: (0.8) hahaha
18		(1.2)	18	OP:	<i>Kama wo oite kichattande,</i> He left the little sickle when he came,
19	CP:	<i>Omutu-no mawari wa? Sokowa daijyoubu desuka?</i> What about around your diaper? Are you OK around there?	19	CP1:	<i>E?</i> What?
20	OP:	<i>Hai.</i> Yes.	20	OP:	<i>Kama wo ne.</i> The little sickle.
21		((5 lines omitted))	21	CP1:	<i>Nn:</i> Mm:
22		(8.0)	22	OP:	<i>Kamawo ne, yamani oiteccha-tten desu.</i> The little sickle, he left it on the mountain.
23	CP:	<i>OK, owari-mashita. Hai, saa iidesuyo.</i> OK, finished. Yes, it's OK. Please let go.	23	CP1:	<i>Nn: (2.0) kinoko ni kuwashii-in desukaka, musuko-san wa?</i> Ah: (2.0) He's knowledgeable about mushrooms is he, your son?
			24	OP:	<i>Hon wo katte yonnderu no.</i>

					He's reading a book he bought about it.
			25	CP1:	Ah: sou: ? (0.4) hee: Is that so: ? (0.4) Wow :

Table 5: Examples of Type I and II communication, Note: For transcription conventions, see Heritage & Maynard [25], CP=Care Providers. OP=Older Person. Every line contains *Japanese utterances* and their English translation.

Characteristics of turn taking and self-initiated utterance: All the caregiver's speaking turns, in lines 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 and 23, are started on her own initiative, as questions, urgings or requests, leading and controlling the conversation. In contrast, all the utterances of the resident, in lines 2, 4, 6, 16 and 20, are all replies to what the caregiver said. In other words, the older persons' utterances are all produced as urged responses prompted by the caregiver's speech. Thus, self-initiated utterances by the resident are entirely absent.

Characteristics of conversation content: The content of the caregiver speech prepares the older resident by urging them to cooperate with a specific nursing task, such as wiping the resident's back (lines 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 and 23). In other words, the caregiver selects a topic that is, content, of conversation (a nursing task), by initiating conversational sequences with the view to achieving that specific nursing task. In response, the resident gives a confirming response or complies with what the caregiver urges them to do (lines 2 and 20). When a disconfirming response is given (lines 4, 8 and 10), the caregiver urges compliance (lines 7 to 9). As a result, the content of conversation is confined to the specific nursing task that the caregiver desires to implement and the older persons' responses concerning that nursing task.

Characteristics of utterance length: Notice that the length of caregiver speech is usually longer (lines 1, 3, 5, 7-11, 13-14). In contrast, the utterances by older persons are in most circumstances of minimal length (lines 2, 6, 12 and 15). The reason is that the caregiver speech initiates and leads the communication, thereby restricting conversational content to the specific nursing tasks and as a result, places restraints on what the resident should say or do in the next speaking turns, with the result that the resident is given almost no opportunities for self-initiated utterances and only produces short replies and complies with the caregiver's requests or urgings.

Type II utterances and their communication context

Excerpt 2 in Table 5 is an example of a conversation displaying Type II utterances.

Characteristics of turn taking and self-initiated utterance: The conversation is started when, in line 1, the caregiver asks a question about 'taro' (coco-yam). In response to this question, the resident produces a reply in line 2. Caregiver 1 acknowledges this reply with a brief acknowledgement token which, together with a short silence of 0.4 s, indicates that she will not speak further. This gives the older resident the opportunity to take a turn-at-talk. The older resident thus begins to speak on her own initiative in line 6 and to further expand her utterance from line 8 to lines 10, 12, 18, 20 and 22. In other words, the older resident is treated as the "story-teller" and given the opportunity to elaborate on and develop her story by producing self-initiated utterances.

Characteristics of conversation content: Caregiver proffers a topic ("taro") by asking a question of the older (line 1). This topic pertains to

the life-world of the older resident. As is evident from its grammatical construction (i.e., an interrogative), this speech presupposes that the caregiver has no or less knowledge about this topic, and thus it is the resident who has the right and authority to talk about it.

Characteristics of utterance length: In Excerpt 2, utterances by the older resident are not limited to short replies to caregiver speech, but are relatively longer, and self-initiated utterances are also produced (lines 6, 8, 10, 14-22). The reason is that Type II communication is closer to ordinary conversation and when the residents are provided a topic pertaining to their life-world, they had more opportunities to initiate their own speech and develop their story as the "story-teller". The resident's utterances are upheld by caregiver's discursive support such as acknowledgements and expressions of agreement (line 4, 9 and 21), the caregivers' laughter (line 7, 17) and expressions of strong interest (lines 11, 13 and 25) (Table 5).

Discussion

Characteristics of type I utterances by older persons

The daily duration of utterances from older residents was very short, at about 4 min. One factor in the shortness of utterance duration was the characteristic of Type I communication accounting for 66.5% of total utterances. Type I communication is conversation associated with completing nursing and care tasks to support the activities of daily life of the older residents, and therefore caregivers direct the conversation. In this context, the conversation topics are limited to those raised and initiated by the caregivers, and since almost all utterances by the older are restricted to replies in an order determined by their caregivers, they tend to be very short, which creates an environment wherein it is difficult for the older to produce self-initiated utterances.

Such restricted conversation is seen widely in medical settings, and Jones and Collins [26] revealed through analysis of actual conversations in admission interviews that topics proposed by patients are not followed up on or given assessment, which severely restricts what patients can contribute to the consultation. However, Kaakinen [27] pointed out that conversational quantity was limited due to the communication rules and self-restraint exercised by residents to avoid causing trouble when conversing with others in order to adapt to the environment of the nursing home. We therefore infer that self-restraint by residents themselves is also a factor limiting the duration and frequency of older persons' utterances.

Chatwin et al. [28] found that even in this type of restricted communication, if ordinary short conversation is included in medical interviews, the doctor-patient relationship becomes more interactive and builds rapport. Thus, even within Type I communication that is inherently highly task-oriented, combining it with Type II communication, which on the surface appears unrelated to completing medical or nursing tasks, has the potential to develop better two-way communication.

Characteristics of type II utterances by older persons

Previously identified problems in caregiving for older persons include circumstances in which patients want to continue interactions with social talk, but nurses want to hurry up [29] and the belief of residents in geriatric facilities that they are not given the opportunity to speak [12]. Krause and Rook [30] pointed out that such a lack of mutual interaction between caregivers and older persons causes chronic stress in the older persons. However, as was shown in this research, if the older persons are properly given opportunities to speak, they will likely be able to pursue more conversation about their own life-world, as seen in the previously-mentioned Excerpt 2. In Type II communication where free conversation like ordinary daily conversation such as this develops, increased two-way communication was observed.

The reason for this was that the older were given the possibility of expanded utterance opportunities and self-initiated utterances when nursing caregivers presented these life-worldly topics to older residents as topics that the residents should talk about, response by nursing caregivers exhibited strong approval and interest, and indicated caregivers were listening attentively. Heliker [31] speaks of the importance of story-sharing and conversation between caregivers and older residents of long-term care facilities, as the older use stories to give shape to the course of their lives up to that point through the spoken word. In the past, although nursing caregivers were aware of the importance of psychosocial communication, it has been noted that in reality nurses had little priority for communicating with patients [32]. However, in limited living spaces, relationships with a limited number of people, and during the final stages of their lives, more affective and/or socio-emotional communication between older residents and facility caregivers is needed.

The relationship between the personal attributes of each elderly person and the duration of their utterances

In terms of the relationship between the personal attributes of each elderly person and the duration and frequency of their utterances, the duration and frequency of utterances by bedridden patients was significantly less than those by elderly persons who are able to move using a wheelchair or by walking. For this reason, the relationship between being bedridden and language disorder was examined, but no significant relationship was found. The relationship between communication by nursing staff and the personal attributes of elderly persons in geriatric care facilities was examined in previous study [33]; the study revealed that staff communicated twice as frequently with bedridden elderly persons as with other elderly persons. However, the majority of these communications was Type I, i.e., encouragement of daily activities and explanations of care procedures. The lack of utterances by bedridden elderly persons in this study is considered to be a limitation due to one-way communication, where no response was expected from such elderly persons.

The Limitation and Challenges of this Study

The number of facilities that approved study for this research was only three and very few. Also, it was extremely difficult to secure research subjects that met the selection standard of older persons for this study as most of the older persons living in Medical Long-Term Care Sanatoriums suffer from severe cases of dementia. For this reason, the number of subjects in this study was 37 and very few, and thus there is the possibility of Type I error being included in the

analysis result. In the future it is necessary to increase the number of samples and further clarify the current state of communication between staff and older persons.

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