

Communication as Care for the Elderly

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Yasuko Fukaya¹⁾

Rituko Wakabayashi²⁾

1)Kanto Gakuin University, Japan

2) Tokai University, Japan

Elderly speech duration in 1 day

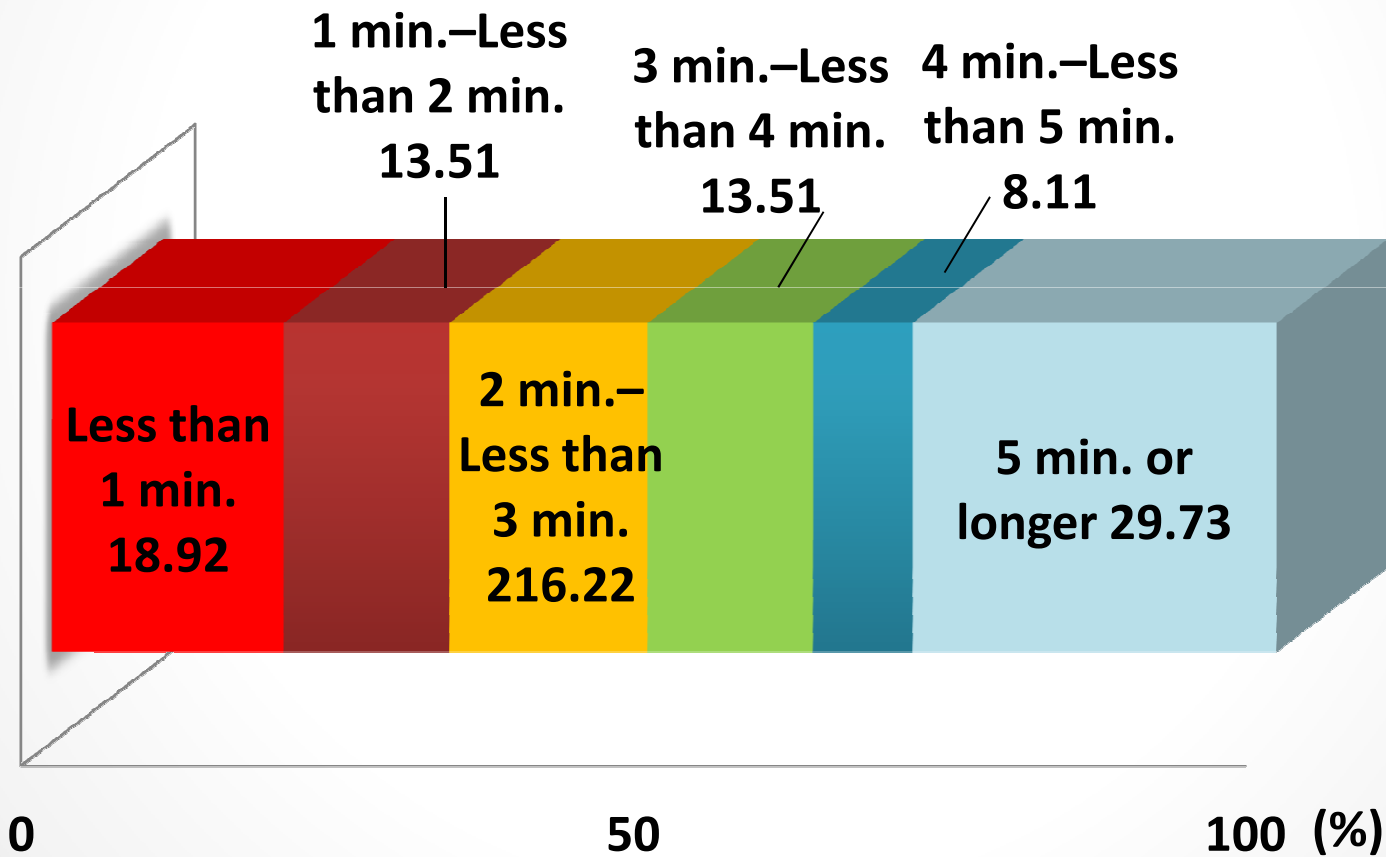
Average speech duration: 247.4 sec. (4.12 min.)

SD: ± 171.06

Minimum: 1.0 sec.

Maximum: 936.0 sec.

Speech duration in 1-min. intervals



INTRODUCTION

Background

1st Stage

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graph TD; A[1st Stage] --> B[2nd Stage]; B --> C[Present study];
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2nd Stage

Present study

The 1st stage (Fukaya, et al., 2004)

Aim :

**To clarify Types of
communication between
caregivers and elderly residents**



THE TYPE OF COMMUNICATION

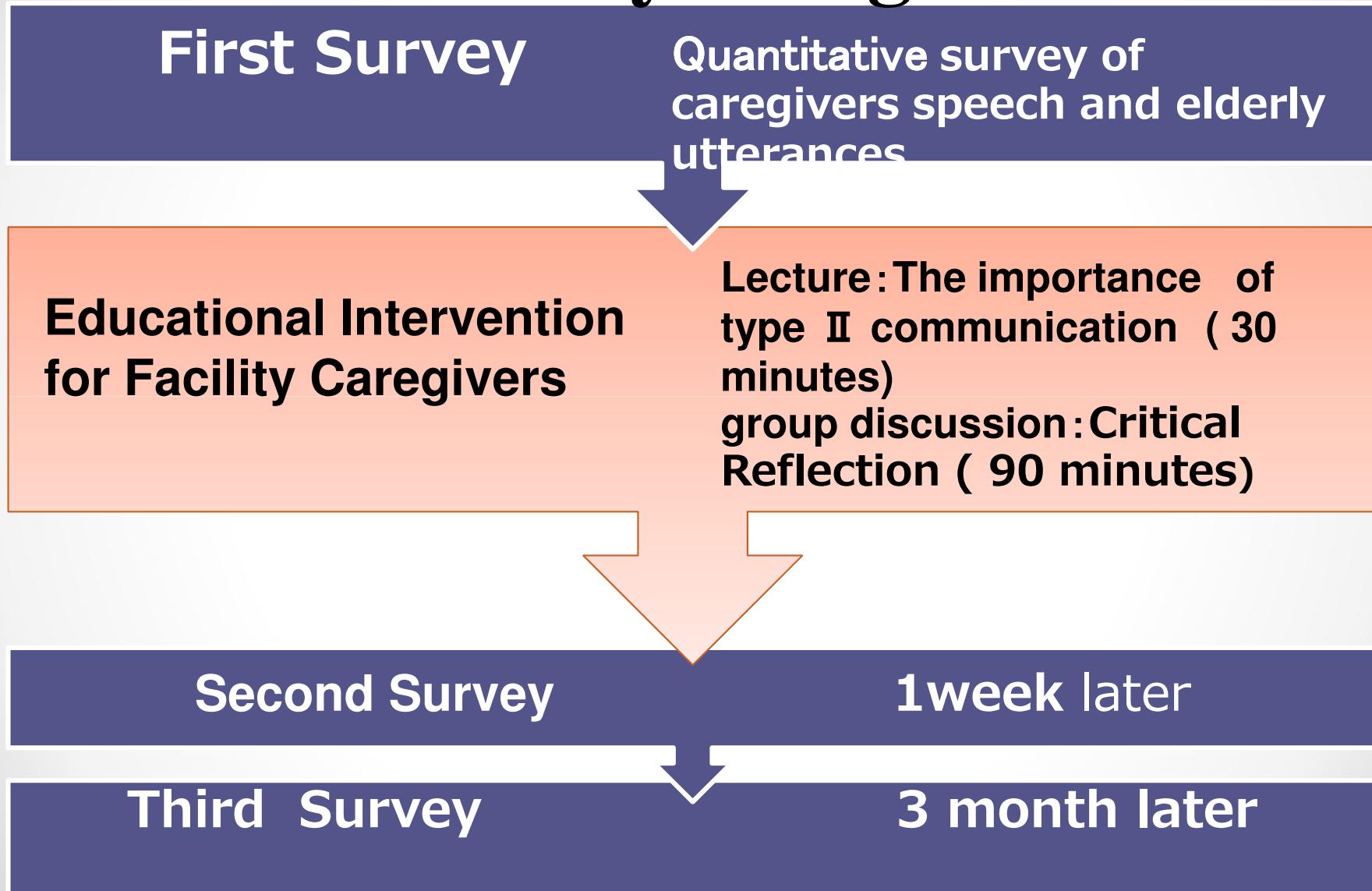
category	Type I communication (7 6%)	Type II communication (2 4 %)
Secondary category	Talk for Promotion of behavior	Greetings
	Talk for Assistance behavior	Topics from resident's life history
	Questions and explanations about daily schedule and activities	Topics on social and natural surroundings and events
	Questions and explanations about physical condition	Topics on psychological state
	Questions on wishes and desires	Others
	Warning to be careful	
	Calling out	
	Others	

The second stage (Fukaya, et al., 2009)

Aim :

- To conduct an education intervention (lecture and group discussion) with the aim of making caregivers aware of the need for Type II communication to the elderly
- To discover practical measures to increase Type II communication of caregivers after an education intervention

Study Design



Results :

**Type II talking increased significantly
($p < .05$) from 226.5 sec (SD126.5)
before intervention to 390.1 sec
(SD274.0) 1 month after intervention,
and it maintained an increased level
after 3 months**

Aims of Present Study

1. To investigate the effect of educational intervention on duration and frequency of elderly utterances
2. To investigate the influence of changes in duration of Type II speech on elderly self-initiated utterances

3. To investigate the influence of changes in duration of Type II speech on secondary categories of elderly Type II utterances

Definition of Terms

- Type I utterances(Task-oriented): Utterances by the elderly during communication with caregivers about various nursing and caregiver activities in order for the elderly to pursue daily living.
- Type II utterances(Life-Worldly): Utterances by the elderly during communication with caregivers about family, work and social events that occur in normal social life.
- Self-initiated utterances: Utterances self-initiated towards another person.

Survey Participants

■ 37 elderly persons (Facility A15 , Facility B10 , Facility C12)

➤ GENDER : 11 males, 26 females

➤ AGE : 72 ~ 100 years old (a mean age of 84.6 years old)

➤ Activities of daily life (ADL) : 11 bedridden (30.6%), 21 in wheelchair(58.3%), 4 ambulatory (11.1%), one unknown.

➤ Cognitive impairment : 6 persons (16.2%) lightness dementia , 25 persons (67.6%) moderate dementia, 5 persons (13.5%) severe dementia .

■ 240 nurses and other caregivers (Facility A: 69 caregivers, Facility B: 89 caregivers, Facility C: 82 caregivers)

Analysis Method (1)

Coding

- Each sentence from transcript of recorded scenes was coded

Classification

- These codes were allocated to each type of subcategory based on the category tables for the type of elderly utterances from the previous studies

Counting

- Each two syllables in transcript were counted as 1 second when calculating the utterance duration for each type.

Analysis Method (2)

Statistical analysis

- Changes in the duration of caregivers Type II speech were compared before and after educational intervention .

Increase Group : 7–711 second increase in speech duration
21 residents (56.8%)

Decrease Group : 6–897 second decrease in speech duration
16 residents (43.2%)

- Evaluating the relationship between caregivers Type II speech and elderly utterances and self-initiated utterances before and after educational intervention in the two groups (Increase Group/Decrease Group).
- Conducting t-tests, ANOVA and Bonferroni analysis, by using SPSS v.18

RESULTS

Table 1
Effect of Educational Intervention on the Duration and Frequency of Elderly Utterances.

Facility	Elderly Utterance	Intervention	CI						
			n	M	SD	LL	UL	t	p
A and C	Utterance duration	Before	22.00	212.00	185.71	-186.76	12.40	-1.82	0.08
		After	22.00	299.18	259.10				
	Type I	Before	22.00	155.41	146.56	-105.86	35.41	-1.04	0.31
		After	22.00	190.64	168.23				
	Type II	Before	22.00	56.59	54.98	-98.64	-5.31	-2.32	0.03
		After	22.00	108.57	122.46				
	Utterance frequency	Before	22.00	78.23	50.84	-36.47	2.65	-1.80	0.09
		After	22.00	95.14	67.48				
	Type I	Before	22.00	66.00	45.63	-21.82	12.73	-0.55	0.59
		After	22.00	70.55	51.88				
	Type II	Before	22.00	12.23	11.24	-22.03	-2.70	-2.66	0.02
		After	22.00	24.59	24.39				

Note. Type I = Task-oriented . Type II = Life-worldly. SD = Standard deviation. CI = Confidence interval. LL = Lower limit. UL = Upper limit.

Table 2
Change in duration and frequency of elderly self-initiated utterances due to Type II caregiver speech duration

Elderly subjects' self-initiated utterance	Caregivers' Type II speech	<i>n</i>	<i>M</i> (sec)	<i>SD</i>	<i>t</i>	CL		<i>p</i>
						<i>LL</i>	<i>UL</i>	
Change in self-initiated utterance duration	Increase	21	27.76	69.75	2.20	3.51	90.26	.04
	Decrease	16	-19.13	56.44		4.75	89.03	
Type I self-initiated utterance	Increase	21	7.33	33.49	0.56	-17.27	30.32	.58
	Decrease	16	0.81	37.62		-17.79	30.84	
Type II self-initiated utterance	Increase	21	20.43	52.00	2.59	8.66	72.07	.01
	Decrease	16	-19.94	39.51		9.82	70.91	
Change in self-initiated utterance frequency	Increase	21	4.48	10.11	2.31	0.84	12.86	.03
	Decrease	16	-2.38	7.04		1.12	12.58	
Type I self-initiated utterance	Increase	21	2.14	7.46	0.73	-2.82	5.99	.47
	Decrease	16	0.56	5.06		-2.61	5.77	
Type II self-initiated utterance	Increase	21	2.33	5.90	2.86	1.53	9.01	.01
	Decrease	16	-2.94	5.05		1.61	8.94	

Note. Type I utterance = Task-oriented utterances. Type II utterance = Life-worldly utterances. *SD* = Standard deviation. CL = Confidence interval. *LL* = Lower limit. *UL* = Upper limit.

Table 3
Change in frequency of elderly Secondary category utterances due to Type II Caregiver speech duration

Elderly subjects' Secondary category utterances	Caregivers' TypeII speech	CL						
		<i>n</i>	<i>M(sec)</i>	<i>SD</i>	<i>t</i>	<i>LL</i>	<i>UL</i>	<i>p</i>
Social events	Increase	21	5.10	12.43	2.66	2.33	17.48	.01
	Decrease	16	-4.81	9.42		2.61	17.20	
Life experience	Increase	21	4.48	7.86	3.07	2.28	11.17	.004
	Decrease	16	-2.25	4.39		2.58	10.87	
Psychological state/knowledge	Increase	20	0.60	7.38	2.43	1.40	15.67	.03
	Decrease	16	-7.94	13.39		0.80	16.27	
Greeting	Increase	21	0.10	1.97	1.57	-0.29	2.23	.13
	Decrease	16	-0.88	1.71		-0.26	2.20	
Other	Increase	21	5.24	10.55	1.39	-2.41	12.76	.18
	Decrease	16	0.06	12.14		-2.60	12.96	

Note. *SD* = Standard deviation. *CL* = Confidence interval. *LL* = Lower limit. *UL* = Upper limit.

Conclusions

when the duration of Type II speech by caregivers increased, the duration and frequency of Type II utterances by the elderly tended to increase.

when the duration of Type II speech by caregivers increased, the duration and frequency of self-initiated utterances by elderly residents also increased.

Table 2
Change in elderly utterance duration and frequency
due to Type II caregiver speech duration

Elderly subjects' utterance	Caregivers' Type II speech duration	<i>n</i>	<i>M</i> (sec)	<i>SD</i>	<i>t</i>	CL		<i>p</i>
						<i>LL</i>	<i>UL</i>	
Change in utterance duration	Increase	21	112.64	224.48	2.71	43.25	300.29	.01
	Decrease	16	-59.13	133.18		51.30	292.23	
Type I utterance	Increase	21	55.17	170.77	1.09	-48.16	158.87	.29
	Decrease	16	-0.19	127.29		-44.13	154.84	
Type II utterance	Increase	21	61.38	111.57	3.22	55.38	243.70	.01
	Decrease	16	-88.16	170.25		48.43	250.64	
Change in utterance frequency	Increase	21	28.43	44.60	4.61	36.75	94.60	.001
	Decrease	16	-37.25	40.60		37.09	94.26	
Type I utterance	Increase	21	16.10	42.04	3.44	17.22	66.97	.002
	Decrease	16	-26.00	28.73		18.44	65.75	
Type II utterance	Increase	21	13.24	22.59	3.13	8.22	38.63	.004
	Decrease	16	-10.19	22.54		8.18	38.67	

Note. Type I utterance = Task-oriented utterances. Type II utterance = Life-worldly utterances. *SD* = Standard deviation. CL = Confidence interval. *LL* = Lower limit. *UL* = Upper limit.

Table1

Descriptive Statistics about Utterance duration

	n	minimum	maximum	M(sec)	%	Total %	SD
Total utterance duration	37.00	1.00	936.00	247.42		100.0	222.91
Type I utterance duration	37.00	1.00	622.50	161.57	100.00	65.3	146.18
Replied utterance	37.00	0.00	567.00	130.12	80.53		121.44
Self-initiated utterance	37.00	0.00	147.50	31.45	19.47		41.78
Type II utterance duration	37.00	0.00	664.00	85.85	100.00	34.7	133.89
Replied utterance	37.00	0.00	559.50	63.08	73.48		118.79
Self-initiated utterance	37.00	0.00	104.50	22.77	26.52		30.10

Difference among facilities in changes in elderly utterance duration

Elderly subjects' utterance	Facility	<i>n</i>	<i>M</i> (sec)	<i>SD</i>	<i>F</i>	CI		<i>p</i>
						<i>LL</i>	<i>UL</i>	
Change in utterance duration	A	10	124.60	253.93	1.68	-57.05	306.25	.20
	B	15	-26.50	164.20		-117.43	64.43	
	C	12	47.58	201.25		-80.28	175.45	
Type I utterance duration	A	10	75.90	146.65	0.66	-29.01	180.81	.52
	B	15	26.43	135.47		-48.59	101.46	
	C	12	0.00	183.81		-116.79	116.79	
Type II utterance duration	A	10	57.25	138.56	3.92	-41.87	156.37	.03
	B	15	-84.33	186.79		-187.78	19.11	
	C	12	47.58	73.42		0.93	94.23	

Note. Type I utterance = Task-oriented utterances. Type II utterance = Life-worldly utterances. *SD* = Standard deviation. CI = Confidence interval. *LL* = Lower limit. *UL* = Upper limit.

Table 7
Change in utterance duration
according to elderly attribute

			Utterance duration			
Impairment		<i>n</i> (%)	<i>M</i> (sec)	<i>SD</i>	<i>t</i>	<i>p</i>
Cognitive	I	6 (17)	94.50	285.61	0.82	0.42
	II –IV	30 (83)	18.52	189.04		
Auditory	No	31 (84)	11.81	172.33	-1.8	0.83
	Yes	6 (16)	75.58	221.26		
Verbal	No	29 (78)	44.48	232.57	0.59	0.74
	Yes	8 (22)	16.19	56.45		

Note. I = mild cognitive impairment. II–IV = moderate and more severe cognitive impairment. *SD* = Standard deviation.

Long-Term Care Insurance System in Japan

Levels of the certified care (support) and services available

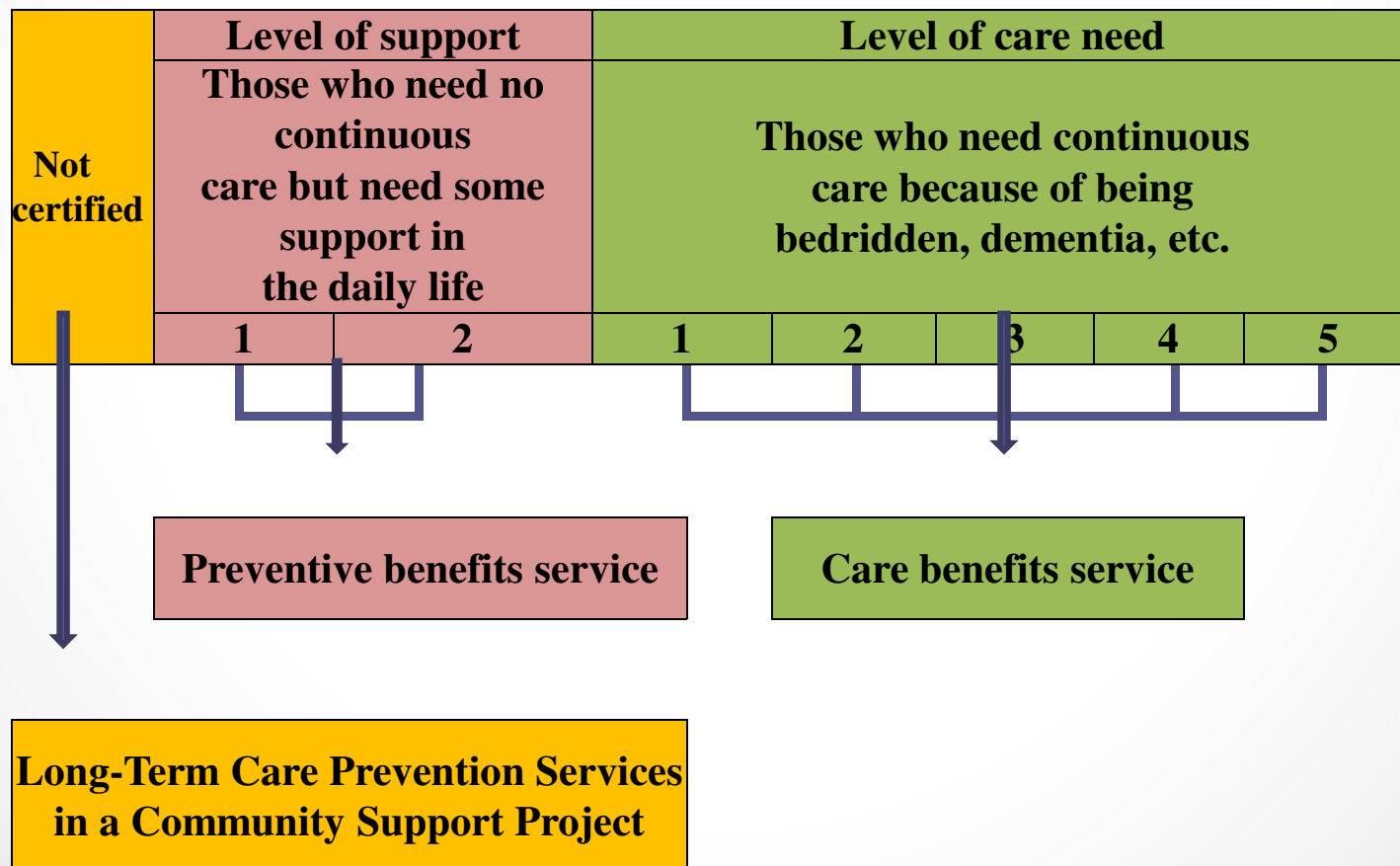


Table 4
Change in frequency of elderly Secondary category utterances due to Type II Caregiver speech duration

Elderly subjects' Secondary category utterances	Caregivers' TypeII speech	<i>n</i>	<i>M(sec)</i>	<i>SD</i>	<i>t</i>	CL		<i>p</i>
						<i>LL</i>	<i>UL</i>	
Social events	Increase	21	5.10	12.43	2.66	2.33	17.48	.01
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	Decrease	16	-2.25	4.39		2.58	10.87	
Psychological state/knowledge	Increase	20	0.60	7.38	2.43	1.40	15.67	.03
	Decrease	16	-7.94	13.39		0.80	16.27	
Greeting	Increase	21	0.10	1.97	1.57	-0.29	2.23	.13
	Decrease	16	-0.88	1.71		-0.26	2.20	
Other	Increase	21	5.24	10.55	1.39	-2.41	12.76	.18
	Decrease	16	0.06	12.14		-2.60	12.96	

Note. *SD* = Standard deviation. *CL* = Confidence interval. *LL* = Lower limit. *UL* = Upper limit.

ケアスタッフの声かけのタイプ

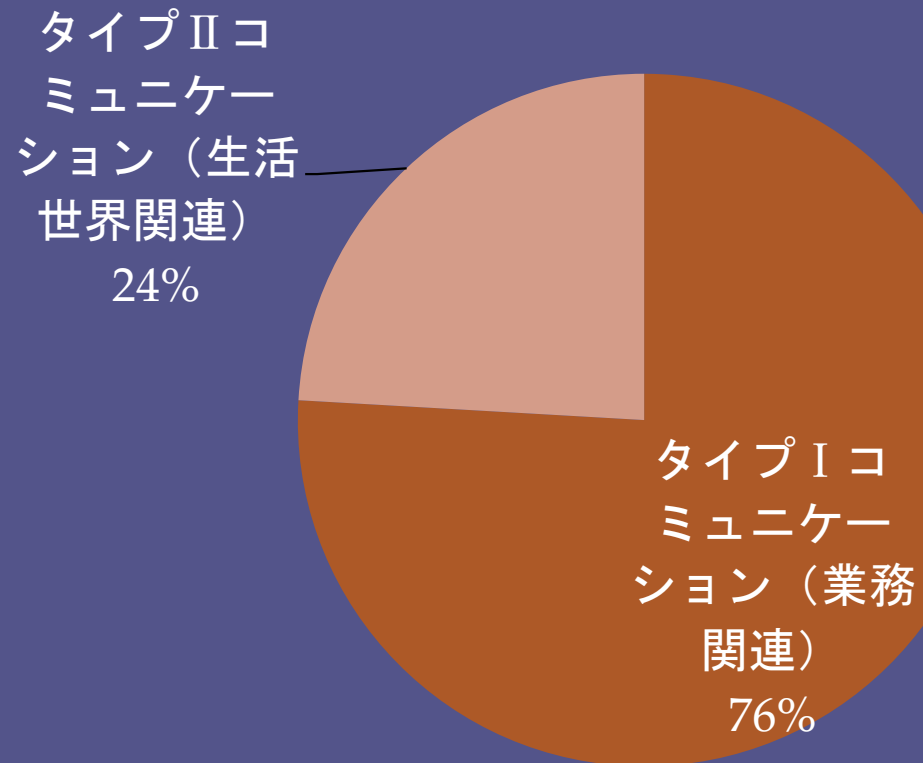


Table 5
Change in utterance duration
according to elderly attribute

			Utterance duration			
Impairment		<i>n</i> (%)	<i>M</i> (sec)	<i>SD</i>	<i>t</i>	<i>p</i>
Cognitive	I	6 (17)	94.50	285.61	0.82	0.42
	II –IV	30 (83)	18.52	189.04		
Auditory	No	31 (84)	11.81	172.33	-1.8	0.83
	Yes	6 (16)	75.58	221.26		
Verbal	No	29 (78)	44.48	232.57	0.59	0.74
	Yes	8 (22)	16.19	56.45		

Note. I = mild cognitive impairment. II–IV = moderate and more severe cognitive impairment. *SD* = Standard deviation.

Type I communication

Primary Category	Secondary Category
Utterances about promotion of behavior	Acknowledge action instructions/urging Confirm instruction/urged behavior Instruction/request urging behavior Indicate difficulty of instruction/urged behavior Refuse instruction/urged behavior Indicate action completion
Utterances about assistance behavior	Evaluate action and receive praise Acknowledge/reply to explanation of assistance action Acknowledge/reply to assistance behavior start Acknowledge/reply to assistance behavior finish Evaluate assistance behavior
Utterances about physical condition and daily routine	Explain schedule/acknowledge or reply to instruction Ask question about schedule explanation/instruction Reply to question about completed daily schedule Receive evaluation of completed daily schedule Reply to question about physical condition Acknowledge explanation about physical condition Reply confirming state of illness
Confirming wishes and desires	Express will Reply confirming wish/desire
Warning to be careful	Acknowledge warning Indicate difficulty in complying with warning
Other	

Type II communication

life experience	Talk about past experiences
	Talk about hobbies and tastes
	Talk about family, friends, acquaintances, pets
social events	Talk about social events
psychological state/ knowledge	Express psychological state (emotions)
	Reply about psychological state (emotions)
	Reply confirming knowledge or memory
Greetings	Greetings
Other	Talk about the weather, express doubt, talk to oneself, etc.

Measurement Framework

- Measurement of t wo times :
 - Before** the education intervention
 - one week after** the intervention
 - (a total of two days)
- Observation period :
 - AM 9.00 hours ~ PM 17.00 hours
- Observation content :
 - All verbal communication between elderly resident and caregivers

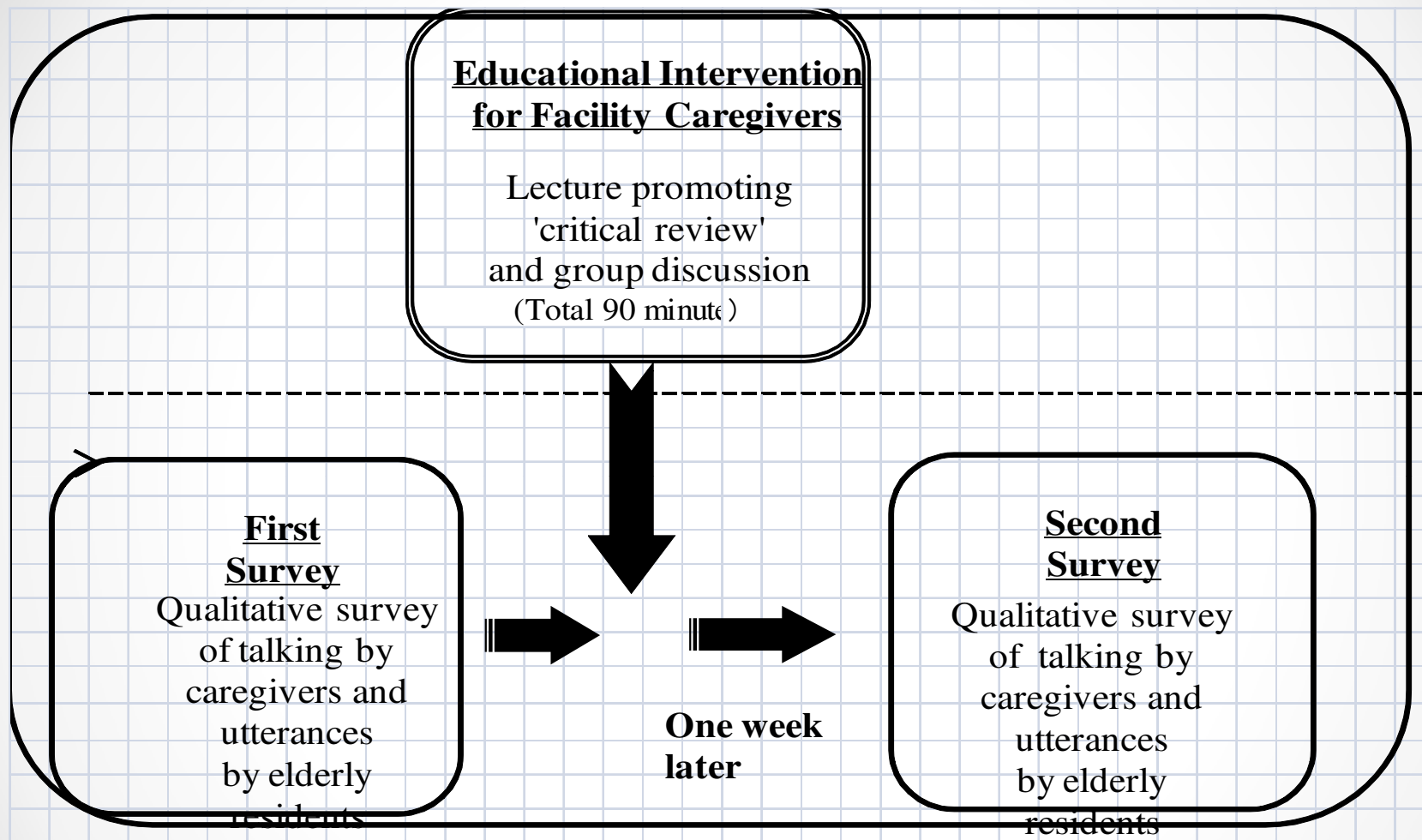


Fig. 1 Survey Design

Home Care Service Costs to Be Paid by the User

- As for the home care service (services other than the facility services stated in the left page), the user has to pay 10% of the costs.
- Cost for meals, for room, and for daily necessities are borne by the user.

Care level	Rough basic limits to benefits per month	Rough amount of user payment (10% of the basic limit) when the insured members use services to the standard basic limit to benefits
Support level 1	¥ 49,700	¥ 4,970
Support level 2	¥ 104,000	¥ 10,400
Care level 1	¥ 165,800	¥ 16,580
Care level 2	¥ 194,800	¥ 19,480
Care level 3	¥ 267,500	¥ 26,750
Care level 4	¥ 306,000	¥ 30,600
Care level 5	¥ 358,300	¥ 35,830

Note: The actual basic limit to benefits is determined by the number of units. The price per unit differs according to the municipality and the type of service. The figures in the table at left were calculated supposing the price per unit to be ¥10.

Staff placement standard

	Welfare facility for the elderly requiring care(special nursing home for the elderly)	Health service facility for the elderly requiring Care	Sanatorium type medical care facility for the elderly requiring care
	※The staff who is necessary per 100 residents	※The staff who is necessary per 100 residents	※patient : staff
Doctor	One or more	One or more	3 or more
Nurse	3	10	5 : 1
Care staff	31	24	5 : 1
A specialist in therapy and rehabilitation		One or more	The number needed
Care manager	One or more		The number needed

Results :

Caregivers talking duration in a day =38.1 minutes

Elderly Utterances duration in a day=4.1 minutes

Type I communication = 75.9%

Type II communication = 24.1%

Contents of group discussion

Current conditions

Type I talking (around work)

Being busy with care, time constraints for Type II communication

While thinking about the next work

Talking without awaiting an answer

Must be a short conversation, otherwise obstruct duties

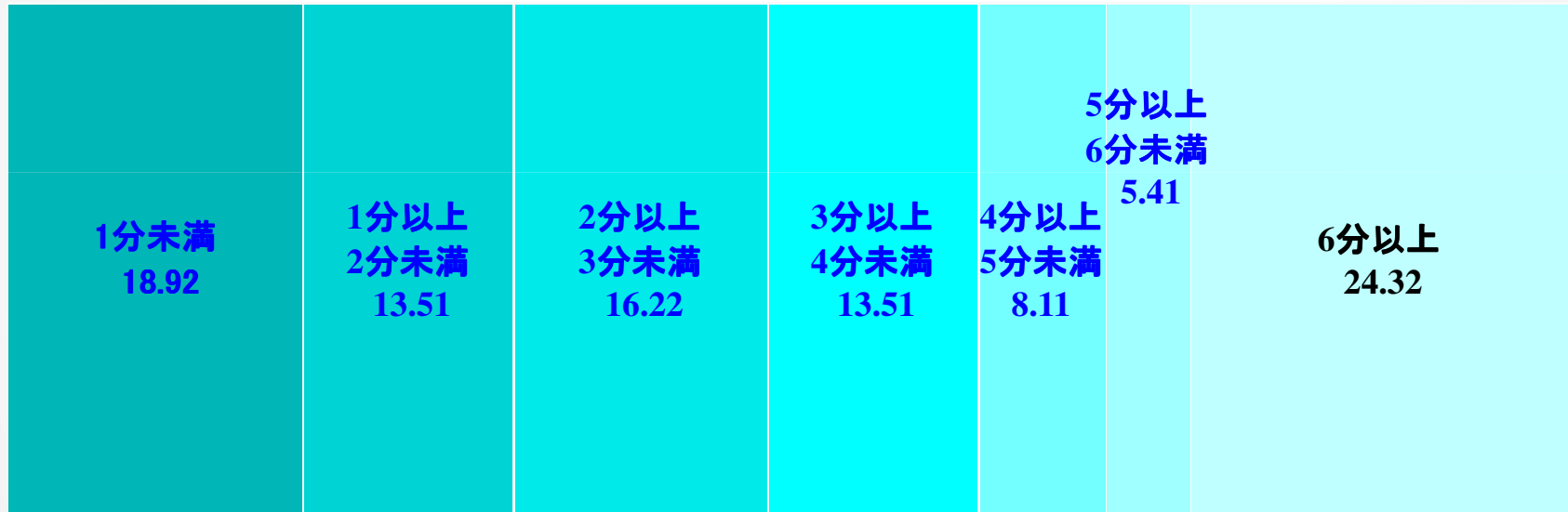
Some Type II talking

When there is time

Finding topics to talk about

Use Type II communication when providing care

分單位発語時間



0

10

20

80

90

100

Contents of group discussion

Background to current talking situation

Talking to the selected elderly

Not necessary for caregiver to talk to independent elderly
No need to talk to elderly who have many family visits
Infrequent talk to elderly unable to convey their wishes

Working conditions

Too much work to accomplish
Unwillingness to impose on colleagues due to staff shortages
Prioritization of work in accordance with the work function

Communication consciousness and skills

Type II talking is labeled negligent
Communication is not regarded as work
No conversation topics in common with the elderly
No interest in the elderly
Not knowing much about the elderly

Contents of group discussion

Improvement measures

Revision of duties

- Setting a target conversation time per day
- Setting a target for planned conversation with elderly residents
- Increase the number of recreational opportunities
- Include verbal communication in a daily action plan

Understanding the elderly

- Sharing information about the elderly
- Not discriminating among the elderly based on conversational ability and degree of independence
- Knowing background of the elderly

Consciousness reform regarding communication

- Regard communication as part of duties
- Change the viewpoint that conversation while working is not good
- Normal conversation based on person to person relations
- Have peace of mind

Communication inventiveness

- Not holding preconceptions about elderly
- Talk about nature and incidents in society as conversation topics
- Provide more opportunities for interaction between elderly residents sharing similar interests