



Original Article

Occupation-based differences in shared perceptions of older resident needs within multidisciplinary care teams: a cross-sectional study of care workers, nurses, and therapists linked to older residents

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Abstract. [Purpose] To examine whether the needs of older individuals are commonly understood by multidisciplinary team members at elderly care facilities. [Subjects and Methods] A questionnaire survey with care workers, nurses, and therapists linked to residents and structured interviews with residents were conducted at eight facilities in Japan. The questionnaire comprised 25 items regarding basic activities of daily living, instrumental activities of daily living (IADL), environment and lifestyle (EL), and emotion. [Results] The data of 88 residents (83.0% female, 86.4% aged ≥ 75 years) and 125 staff members (63 care workers, 36 nurses, and 26 therapists) were analyzed. Perceptions regarding the subjective needs of residents differed significantly by occupation with regard to pace of eating, pace of dressing, and freedom to brush at any time; shaving or putting on make-up; personal space, role performance, and health exercises; and feeling good. All three occupations underestimated the subjective needs of residents for household chores. [Conclusion] Staff members had insufficient understanding of the subjective needs of residents, with a tendency to underestimate IADL and EL needs. Perceived subjective needs also differed by occupation. Sharing the understanding of subjective needs of older individuals within multidisciplinary care teams is desired.

Key words: Care for older residents, Subjective needs, Multidisciplinary care team

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INTRODUCTION

As aging advances in many countries worldwide¹⁾, Japan is rapidly facing an aging society with the highest proportion of older individuals in the world²⁾. In Japan, the public long-term care insurance system was enacted in 2000^{3, 4)}, and the number of individuals certified to require long-term care or assistance continues to increase each year⁵⁾. Moreover, among providers of long-term care facility services, geriatric intermediate care welfare and health facilities have been increasing in number since the enactment of this system⁵⁾.

The public long-term care insurance system is designed to provide comprehensive assistance in the form of nursing care,

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long-term care, and rehabilitation in addition to medical care, for the purpose of supporting the independence and autonomy of older individuals^{6, 7}). To this end, what is needed particularly at geriatric intermediate care facilities, where recuperative care, nursing care, and rehabilitation are provided comprehensively under the medical supervision of a doctor, is a team-based approach involving workers specializing in different fields (i.e., medicine, healthcare, welfare). As such, doctors, nurses, care workers, and therapists (physical therapists, occupational therapists, or speech-language therapists) must be placed at geriatric intermediate care facilities⁸). Although such facilities are positioned to provide rehabilitation care to older individuals with the aim of return to life at home, long-term institutionalization is often inevitable. In life circumstances in which the purpose of institutionalization varies widely, a shared perception of the purpose of care between users and providers, as well as a shared process for deciding care objectives among the care team, are necessary. However, it remains unclear whether multidisciplinary team members have been able to share the needs of the elderly, and whether they have an understanding of the needs of residents. Geriatric care teams normally comprise various specialists with different educational backgrounds. The training process for each specialist is indeed diverse. In particular, in contrast to doctors, nurses, and therapists who come to work at geriatric facilities after a certain period of training or working at a medical institution, many care workers are employed directly at long-term care facilities. It is considered meaningful that specialists of such diverse backgrounds provide geriatric care as a multidisciplinary team⁹), and that specializations within the team are fully exerted in this manner. In healthcare, interprofessional work is known to affect the quality of healthcare that they provide¹⁰).

Research on the needs of patients or older individuals and how these are perceived by specialists has been conducted in a number of fields^{11–13}). In the medical area, clinicians and patients differ in their perceptions of disorders and quality of life (QOL) brought about by disease, prompting the suggestion that clinicians should pay attention to the symptoms patients consider to be important¹¹). Comparisons among hospitalized patients, nursing students, and nurses revealed that nursing students and nurses tend to overestimate patients' subjective needs in the psychological domain¹³). In the area of geriatric care as well, differences have been noted between older facility residents and care staff members in their perception of older resident subjective needs^{13–15}). Furthermore, older individuals, their families, and their care teams differ in how they construe treatment strategies¹⁶). However, studies to date have focused on the subjective and perceived needs of older individuals (and their families) and their care providers, without addressing the different or distinct ways in which the needs of older individuals are shared within care teams.

The present study aimed to examine whether the needs of older individuals are understood by and shared among care workers, nurses, and therapists at elderly facilities.

SUBJECTS AND METHODS

A questionnaire survey with staff members and structured interviews with older residents were conducted to obtain anonymous and linkable data.

On the basis of a previous study¹⁷) in which interviews on care goals were conducted with multidisciplinary care providers, and by referring to the areas and questions in other previous studies^{13, 14}), we created a questionnaire consisting of 25 items for the following four areas: basic activities of daily living (BADL), instrumental activities of daily living (IADL), environment and lifestyle (EL), and emotion (EM)¹⁸). The questionnaire rated the need for each item under the present lifestyle on a 5-point scale (5, strongly agree; 4, agree; 3, neither agree nor disagree; 2, disagree; 1 strongly disagree). The reproducibility of this questionnaire has been evaluated using data collected in 2011 (n=18; weighted kappa coefficient ≥ 0.60 for 14 of 25 items)¹⁸) and was validated with data from the present study (n=120; $\chi^2/df=1.090$, RMSEA=0.03; standardized path coefficient=0.28–0.87). Using the same questions, we asked staff members how they thought the users felt.

As a general rule, we linked a doctor, a care manager, two care workers, a nurse, and a therapist (physical therapist, occupational therapist, or speech-language therapist) to each person who was admitted, scored at least 18 on the Mini-Mental State Examination (MMSE)¹⁹), and could verbally communicate. We targeted to obtain 102 sets of older residents and staff members (102 older residents, each of whom is linked to two care workers, a nurse, and a therapist).

The present study was carried out after a pilot study at two geriatric intermediate care facilities was conducted to confirm the procedures in Japan. We interviewed the older residents using a questionnaire comprising 25 items as well as items to assess the degree of satisfaction toward daily life. We also conducted a survey of facility staff members using a similar questionnaire comprising 25 items as well as items to assess the degree of satisfaction toward care provision and other questions (January–March, 2008)¹⁵). Four investigators in total, with one playing a central role, unified the method for interviewing the older residents based on the questionnaire.

We requested each facility to select older residents and enroll facility staff members in the study. The responsible facility authority collected the questionnaires, which were enclosed in envelopes by employees who had also distributed the questionnaires. In addition to responses on the MMSE, we collected basic information on the older residents such as gender, age, required care level, and activities of daily living²⁰), which was evaluated by facility staff members. Six to eight days after distribution, an investigator visited the facility, received the staff questionnaires, and conducted questionnaire-based interviews with older residents. The interviewed subjects did not include those admitted to the facility only for a short period. The questionnaires for older residents who had left the facility for reasons such as hospitalization were excluded.

Data from older residents, care workers, nurses, and therapists were matched and analyzed. To obtain a variety of responses

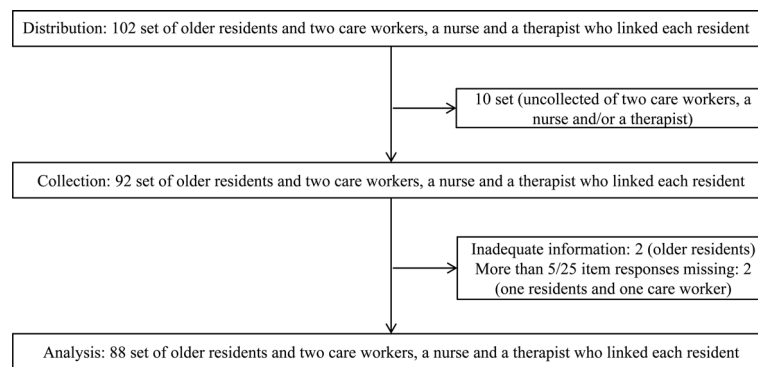


Fig. 1. Design and flow of participant selection.

from care workers, we assigned two such workers to each older resident, and then used the data from one that was randomly selected. Data from those with markedly missing data (i.e., lack of basic information and/or missing or duplicate responses for more than five of 25 items) were excluded from the analysis. Data from older residents and care workers overlap with those used previously by care workers to assess the perception of subjective needs of the older residents, which suggested that most elderly facility residents had common subjective needs in the areas of BADL and EM, and that proportions of those who expressed needs in the areas of IADL and EL were somewhat low relative to those with needs in BADL and EM areas¹⁵).

Older residents and staff members provided their responses on a 5-point scale, which were then classified into two categories (needs/no needs) to evaluate the presence/absence of needs from the viewpoints of both residents and staff members. For statistical analyses, we used descriptive statistics together with Cochran's Q test^{21, 22} for comparing perceptions of the subjective needs of the older residents among the three types of occupation, or with McNemar's test^{21, 22} for comparing the subjective needs of the older residents with those perceived by each specialist. The criterion for statistical significance was set to $p < 0.05$ for Cochran's Q test and $p < 0.017$ for McNemar's test by using the Bonferroni correction. IBM SPSS Statistics 20²³) was used for all analyses.

The study protocol was approved by the Ethics Committee of Kyoto University Graduate School and Faculty of Medicine (E347). The director of each facility approved the study, and notices of the study were posted at all facilities, as not all participating facilities had an ethics committee. The study objective was explained to participating older residents and/or their families, and written consent was obtained. All participating care staff members were given written information, and completed questionnaires were considered as their consent to participate. All collected data were subjected to linkable anonymization, and personally identifiable information was never taken outside the facilities.

RESULTS

Of the 102 sets of data collected, 88 were subject to analysis. **Figure 1** shows the flow of selecting participants for analysis. **Table 1** shows basic information for the 88 participants admitted to the eight geriatric intermediate care facilities targeted in the present analysis, as well as for the 63 care workers, 36 nurses, and 26 therapists. Of the 88 older residents who participated in this study, 73 were women (83.0%). At the time of the study, 73 were at least 75 years of age (86.4%), and 59 had been admitted for at least six months (67%). The number of questionnaires used for analysis was one per worker for 71.4% (45/63) of care workers, 44% (16/36) of nurses, and 23.1% (6/26) of therapists. Additionally, those younger than 30 years of age accounted for approximately half of the care workers (47.6%) and therapists (46.2%).

Table 2 shows the degrees to which care workers, nurses, and therapists perceived the subjective needs of older individuals. Perceptions differed significantly among the three occupational categories regarding the following eight items: pace of eating [Q3], pace of dressing [Q4], and freedom to brush at any time [Q5] (BADL); shaving or putting on makeup [Q8] (IADL); personal space [Q15], role performance [Q18], and health exercises [Q19] (EL); and feeling good [Q23] (EM).

Table 3 shows the percentages of older residents indicating their subjective needs and the percentages of staff members that perceived them. Significant differences were found between residents and staff members (two or three occupations) for 12 of 25 items (BADL 5/7, IADL 2/5, EL 4/8, EM 1/5). All three occupations underestimated the subjective needs of the older residents for household chores [Q12], and two of the three occupations underestimated the needs for money management [Q11], role performance [Q18], and health exercises [Q19]. On the other hand, care workers overestimated the subjective needs of the older residents for moving around in the facility [Q6], and therapists overestimated the subjective needs of older residents for talking with people other than staff members [Q14], respectively ($p < 0.017$).

Table 1. Participant characteristics

	Residents		Care workers		Nurses		Therapists	
	n=88	(%)	n=63	(%)	n=36	(%)	n=26	(%)
Gender								
Female	73	(83.0)						
Male	15	(17.0)						
Age								
<75 years	12	(13.6)						
≥75 years	76	(86.4)						
Length of stay								
<6 months	29	(33.0)						
≥6 months	59	(67.0)						
Independence in activities of daily living								
Moving: walking	31	(35.2)						
Moving: w/c	28	(31.8)						
Transfer	51	(58.0)						
Using the lavatory (N=86)	43	(50.0)						
Eating	57	(64.8)						
Changing clothes	41	(46.6)						
MMSE								
≥24	45	(51.1)						
23–18	43	(48.9)						
Gender								
Female			39	(61.9)	33	(91.7)	14	(53.8)
Male			24	(38.1)	3	(8.3)	12	(46.2)
Age								
20–29 years			30	(47.6)	2	(5.6)	12	(46.2)
30–49 years			24	(38.1)	22	(61.1)	14	(53.8)
≥50 years			9	(14.3)	12	(33.3)	0	(0.0)
Length of work								
<5 year			30	(47.6)	2	(5.6)	14	(53.8)
5–9 years			19	(30.2)	7	(19.4)	5	(19.2)
≥10 years			12	(19.0)	26	(72.2)	7	(26.9)
unknown			2	(3.2)	1	(2.8)	0	(0.0)
Length of work at the facility								
<5 year			36	(57.1)	19	(52.8)	21	(80.8)
5–9 years			20	(31.7)	10	(27.8)	4	(15.4)
≥10 years			6	(9.5)	6	(16.7)	1	(3.8)
unknown			1	(1.6)	1	(2.8)	0	(0.0)
Number of questionnaires for analysis								
One			45	(71.4)	16	(44.4)	6	(23.1)
Two			13	(20.6)	10	(27.8)	6	(23.1)
Three			3	(4.8)	4	(11.1)	4	(15.4)
Four			2	(3.2)	2	(5.6)	4	(15.4)
Over five			0	(0.0)	4	(11.1)	6	(23.1)

w/c: wheelchair; MMSE: Mini Mental State Examination.

DISCUSSION

In the present study, 83.0% of the 88 older residents who participated in this study were women, and 86.4% were at least 75 years of age, i.e., the results generally represent those of late-stage older women. In addition, the number of older residents assigned to each nurse or therapist was high (the analyzed questionnaires concerning 88 older residents were obtained from

Table 2. Levels of agreement among care workers, nurses, and therapists with regard to perception of the subjective needs of older residents

	Set	Care workers		Nurses		Therapists	
		N	n (%)	n (%)	n (%)	n (%)	n (%)
BADL 1	Go to the toilet when one wants to (includes both independently or with help)	87	79 (91)	69 (79)	73 (84)		
BADL 2	Take a bath when one wants to (includes both independently or with help)	87	57 (66)	63 (72)	50 (57)		
BADL 3	Desire to eat at one's own pace (includes both independently and with help)	87	76 (87)	78 (90)	56 (64) *		
BADL 4	Desire to change clothes at one's own pace (includes both independently and with help)	88	74 (84)	66 (75)	49 (56) *		
BADL 5	Desire to brush teeth (includes washing dentures) when one wants to (includes both independently and with help)	88	70 (80)	67 (76)	47 (53) *		
BADL 6	Desire to move around the facility when one wants to (includes both independently and with help)	88	81 (92)	70 (80)	74 (84)		
BADL 7	Desire to go outside the facility when one wants to (includes both independently and with help)	87	49 (56)	54 (62)	47 (54)		
IADL 8	Desire to shave or put on makeup when one wants to (includes both independently and with help)	88	51 (58)	54 (61)	36 (41) *		
IADL 9	Desire to go shopping when one wants to (includes both independently and with help)	87	43 (49)	54 (62)	48 (55)		
IADL 10	Desire to interact by phone or letters when one wants to (includes both independently and with help)	88	46 (52)	51 (58)	47 (53)		
IADL 11	Desire to control money at one's discretion	88	28 (32)	38 (43)	30 (34)		
IADL 12	Desire to cook, do laundry, and clean by oneself (includes both independently and with help)	87	25 (29)	23 (26)	17 (20)		
EL 13	Desire to eat one's preferred meals (includes take-out and eating out)	87	61 (70)	66 (76)	60 (69)		
EL 14	Desire to talk with family or people other than staff	88	72 (82)	69 (78)	72 (82)		
EL 15	Desire for more time to oneself and own space	87	37 (43)	34 (39)	21 (24) *		
EL 16	Desire to talk more with staff	87	46 (53)	47 (54)	35 (40)		
EL 17	Desire to carry out one's preferred hobbies (e.g., reading, sports, games)	87	52 (60)	47 (54)	51 (59)		
EL 18	Desire to carry out activities that give one a role in the facility, such as manual work	88	39 (44)	33 (38)	48 (55) *		
EL 19	Desire to move around for health	88	48 (55)	43 (49)	63 (72) *		
EL 20	Desire to go out to any location when one wants to (e.g., taking a walk, shopping, leisure)	88	54 (61)	62 (70)	58 (66)		
EM 21	Desire to live without worrying about health	87	82 (94)	82 (94)	83 (95)		
EM 22	Desire to be free of bodily pain	87	69 (79)	65 (75)	58 (67)		
EM 23	Desire to live feeling good without getting depressed	88	76 (86)	83 (94)	70 (80) *		
EM 24	Desire to live enjoyable days	88	74 (84)	81 (92)	79 (90)		
EM 25	Desire to live without worry (e.g., health, food, clothing, shelter, living, and relationships)	88	79 (90)	84 (95)	84 (95)		

BADL: basic activities of daily living; IADL: instrumental activities of daily living; EL: environment and lifestyle; EM: emotion. Cochran's Q test was used to examine agreement among care workers, nurses, and therapists with regard to their understanding of resident subjective needs.

*Cochran's Q test $p < 0.05$.

63 care workers, 36 nurses, and 26 therapists), and thus the individual characteristics of various staff members in each of these occupations might have been reflected in the results to a higher degree. This presumably explains why the three occupations did not necessarily have a shared perception of the needs of older residents. In addition, all three occupations underestimated the subjective needs of older residents for household chores [Q12], and two of the three occupations underestimated the needs for money management [Q11], role performance [Q18], and health exercises [Q19]. On the other hand, care workers and therapists overestimated the needs for moving around in the facility [Q6] and talking with people other than staff members [Q14], respectively.

In terms of shared perceptions of the subjective needs of older residents among the three occupations, the perceived subjective needs diverged particularly in BADL (3/7) and EL (3/8) areas. Geriatric care requires an approach based on multi-

Table 3. Occupation-based differences in shared perceptions of older resident needs

			Residents			Care workers			Nurses			Therapists		
			all	n	(%)	all	n	(%)	all	n	(%)	all	n	(%)
BADL	1	Go to the toilet when one wants to (includes both independently or with help)	88	81	(92)	88	79	(90)	87	69	(79)	88	74	(84)
BADL	2	Take a bath when one wants to (includes both independently or with help)	88	69	(78)	88	57	(65)	87	63	(72)	88	50	(57) *
BADL	3	Desire to eat at one's own pace (includes both independently and with help)	88	73	(83)	87	76	(87)	88	79	(90)	88	57	(65) *
BADL	4	Desire to change clothes at one's own pace (includes both independently and with help)	87	73	(84)	87	73	(84)	87	65	(75)	87	49	(56) *
BADL	5	Desire to brush teeth (includes washing dentures) when one wants to (includes both independently and with help)	88	72	(82)	88	70	(80)	88	67	(76)	88	47	(53) *
BADL	6	Desire to move around the facility when one wants to (includes both independently and with help)	88	66	(75)	88	81	(92) *	88	70	(80)	88	74	(84)
BADL	7	Desire to go outside the facility when one wants to (includes both independently and with help)	88	62	(70)	88	50	(57)	88	55	(63)	87	47	(54)
IADL	8	Desire to shave or put on makeup when one wants to (includes both independently and with help)	88	53	(60)	88	51	(58)	88	54	(61)	88	36	(41)
IADL	9	Desire to go shopping when one wants to (includes both independently and with help)	88	56	(64)	88	43	(49)	87	54	(62)	88	49	(56)
IADL	10	Desire to interact by phone or letters when one wants to (includes both independently and with help)	88	60	(68)	88	46	(52)	88	51	(58)	88	47	(53)
IADL	11	Desire to control money at one's discretion	88	46	(52)	88	28	(32) *	88	38	(43)	88	30	(34) *
IADL	12	Desire to cook, do laundry, and clean by oneself (includes both independently and with help)	88	55	(63)	88	26	(30) *	87	23	(26) *	88	17	(19) *
EL	13	Desire to eat one's preferred meals (includes take-out and eating out)	87	51	(59)	87	61	(70)	86	65	(76)	87	60	(69)
EL	14	Desire to talk with family or people other than staff	88	58	(66)	88	72	(82)	88	69	(78)	88	72	(82) *
EL	15	Desire for more time to oneself and own space	88	23	(26)	88	38	(43)	87	34	(39)	88	21	(24)
EL	16	Desire to talk more with staff	88	45	(51)	88	47	(53)	87	47	(54)	88	36	(41)
EL	17	Desire to carry out one's preferred hobbies (e.g., reading, sports, games)	88	65	(74)	88	52	(59)	88	47	(53) *	87	51	(59)
EL	18	Desire to carry out activities that give one a role in the facility, such as manual work	88	57	(65)	88	39	(44) *	88	33	(38) *	88	48	(55)
EL	19	Desire to move around for health	88	70	(80)	88	48	(55) *	88	43	(49) *	88	63	(72)
EL	20	Desire to go out to any location when one wants to (e.g., taking a walk, shopping, leisure)	88	60	(68)	88	54	(61)	88	62	(70)	88	58	(66)
EM	21	Desire to live without worrying about health	88	82	(93)	88	83	(94)	87	82	(94)	88	84	(95)
EM	22	Desire to be free of bodily pain	88	77	(88)	88	70	(80)	87	65	(75)	88	59	(67) *
EM	23	Desire to live feeling good without getting depressed	88	81	(92)	88	76	(86)	88	83	(94)	88	70	(80)
EM	24	Desire to live enjoyable days	88	76	(86)	88	74	(84)	88	81	(92)	88	79	(90)
EM	25	Desire to live without worry (e.g., health, food, clothing, shelter, living, and relationships)	87	82	(94)	87	78	(90)	87	83	(95)	87	83	(95)

BADL: basic activities of daily living; IADL: instrumental activities of daily living; EL: environment and lifestyle; EM: emotion. McNemar's test was used to examine agreement between the subjective needs of residents and those perceived by each occupational category.

*McNemar's test: $p < 0.05/3 = 0.017$, Binomial Distribution.

disciplinary care teams^{24, 25)} comprising care workers who provide care during daily living, nurses who manage medical and nursing needs, and therapists who provide training and guidance upon assessing functional impairments and activity limits of older individuals. For such teams to be successful, it is necessary that specialists involved discuss what they perceive from their respective viewpoints and strive for improvements in care quality. In particular, such teams will need to devise geriatric care plans after the three occupations construe the subjective needs from the perspective of the older residents. However, the results of the present study indicate that the perceptions of such needs were not necessarily shared fully within care teams.

In comparisons of the subjective needs of older residents and those perceived by staff members, all three occupations underestimated the subjective need for household chores, while two of the three occupations also underestimated the needs for money management [Q11], role performance [Q18], and health exercises [Q19], which are all related to autonomy and should thus be given due attention to maintain the dignity of older people²⁶⁾. They are also intimately related to social activities. Hence, attention needs to be paid to the social roles of the older people²⁷⁾ when providing care within facilities as well. A problem unique to therapists was that they underestimated the subjective needs relating to BADL items. This may have been due to the effects of how BADL items were worded, i.e., questions were asked in terms of self-determination of how to do something (e.g., “Desire to do it at my own pace”). More specifically, because therapists evaluate performance and capacity frequently, they may have been unable to fully perceive the subjective troubles or desires of older residents in the context of everyday life. Furthermore, in this study, compared with care workers or nurses, therapists were younger, had less experience, and needed to be aware of many more older residents, as was clear from the number of questionnaires they filled out. This may be another reason why they did not fully perceive the subjective needs of older residents (such are also the background circumstances in which therapists in Japan have been increasing rapidly and placed in facilities). Thus, differences in how the subjective needs of older residents were perceived may have arisen depending on the specialization of the occupation. Therapists will need to work on further understanding the subjective needs of older residents in everyday life settings by cooperating with care workers and nurses. Because the subjective needs and values of older residents are keys to evaluating care quality²⁸⁾, there is a need to provide care on the basis of autonomy and dignity after first obtaining a holistic view of older individuals²⁹⁾. Therefore, within interprofessional care teams, which typically assess subjective needs of older individuals according to each member’s profession, a shared perception of these needs among team members as well as discussions of care plans are required. In addition, interdisciplinary team approaches, rather than multidisciplinary team approaches, are recommended in rehabilitation³⁰⁾.

Strength of this study is that each older resident was linked to two care workers, a nurse, and a therapist to obtain matched data for analysis. Therefore, we were able to reveal differences in perceptions among care team members. However, the present study has some limitations worth noting. First, the generalizability of the results—non-random sampling and largely from late-stage older women with relatively high autonomy in a very limited number of facilities in Japan—is limited. Second, the analysis is restricted to three occupations, namely, care workers, nurses, and therapists. That said the care team typically also includes doctors and care managers, who focus more on management. The present study analyzed the three occupations mentioned above as those particularly involved in providing direct daily care in facilities. Finally, it will be important to determine carefully whether the Bonferroni correction, which was performed for each of the 25 questionnaire items in carrying out McNemar’s Test for each of the three occupations in reference to older individuals, is adequate to account for multiple significance tests.

In conclusion, the subjective needs of older residents were not fully understood by staff members, and their perceived needs also differed by occupation. Moreover, each type of occupation tended to underestimate such needs in IADL and EL areas. Each care team member should pay attention to resident needs in IADL and EL areas as well as BADL and EM areas. In particular, the fact that all three occupations underestimated the needs of older individuals for household chores suggests that needs may be overlooked within teams. To realize high-quality care, it will be desirable to establish methods for achieving a shared perception of the subjective needs of older individuals within multidisciplinary care teams.

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Conflict of interest

Authors have no financial or personal relationships that could pose a conflict of interest in this study.

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