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Embracing the perspectives of older adults in organising and evaluating person-centred and integrated care

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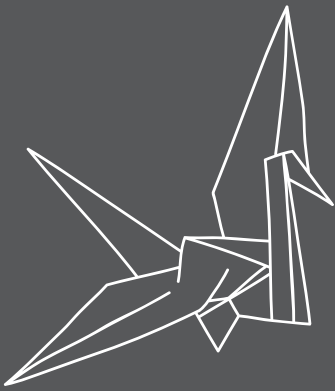
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The Geriatric ICF Core Set reflecting health-related problems in community-living older adults aged 75 years and older without dementia: development and validation

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ABSTRACT

Purpose • The aim of the present study was to develop a valid Geriatric ICF Core Set reflecting relevant health-related problems of community-living older adults without dementia.

Methods • A Delphi study was performed in order to reach consensus ($\geq 70\%$ agreement) on second-level categories from the International Classification of Functioning, Disability and Health (ICF). The Delphi panel comprised 41 older adults, medical and non-medical experts. Content validity of the set was tested in a cross-sectional study including 267 older adults identified as frail or having complex care needs.

Results • Consensus was reached for 30 ICF categories in the Delphi study (14 Body functions, 10 Activities and Participation, and 6 Environmental Factors categories). Content validity of the set was high: the prevalence of all problems was $>10\%$, except for *d530 Toileting*. The most frequently reported problems were *b710 Mobility of joint functions* (70%), *b152 Emotional functions* (65%), and *b455 Exercise tolerance functions* (62%). No categories had missing values.

Conclusion • The final Geriatric ICF Core Set is a comprehensive and valid set of 29 ICF categories, reflecting the most relevant health-related problems among community-living older adults without dementia. This Core Set may contribute to optimal care provision and support of the older population.

IMPLICATIONS FOR REHABILITATION

- The Geriatric ICF Core Set may provide a practical tool for gaining an understanding of the relevant health-related problems of community-living older adults without dementia.
- The Geriatric ICF Core Set may be used in primary care practice as an assessment tool in order to tailor care and support to the needs of older adults.
- The Geriatric ICF Core Set may be suitable for use in multidisciplinary teams in integrated care settings, since it is based on a broad range of problems in functioning.
- Professionals should pay special attention to health problems related to mobility and emotional functioning since these are the most prevalent problems in community-living older adults.

INTRODUCTION

An understanding of the health-related problems of older adults is essential in order to tailor health care to their needs.^{1,2} At present, >50% of those 60 years and older have multimorbidity³ and this percentage will further increase in the coming years.^{4,5} The majority of these patients rely on several health care professionals,^{6,7} as they require assistance in various domains.⁵ This increases the risk of fragmented care,^{4,6} which often leads to misunderstanding by the patient, adverse drug events, impaired treatment participation and even treatment errors.^{5,6} Preferably, older adults should receive care and support that is integrated and coordinated, taking all health-related aspects into account, and tailored to their situation.^{1,2} A first step towards that goal is to gain a clear understanding of the relevant health-related problems of older adults.

A broad form of functional assessment could provide better insight into these health-related problems.⁸ At present, several assessment instruments are in use that focus on medical, physical, psychological and social functioning. A well-known multi-dimensional method to assess health status among older adults is a comprehensive geriatric assessment. This type of assessment is quite extensive, and therefore time-consuming, and requires the involvement of a multidisciplinary team.⁹

One assessment instrument that is increasingly used on the older population is the EASY-Care Standard, which aims to be more efficient than traditional geriatric assessment tools. EASY-Care was developed by health professionals using conventional generic measurement instruments in order to support multidisciplinary, personalized care.^{10,11}

A relatively new approach that might offer a valid and reliable basis for identification of relevant health-related problems is offered by the International Classification of Functioning, Disability and Health (ICF). This WHO classification is an internationally accepted frame of reference and provides a unified language for the evaluation of functioning and disability associated with a person's health status – both at the individual and the population level.¹² According to the ICF, functioning is 'an umbrella term encompassing all body functions, activities, and participation' [p. 3], while disability is 'an umbrella term for impairments, activity limitations, or participation restrictions' [p. 3].¹³ The ICF comprises over 1,450 categories, which prohibits its use in daily practice.¹⁴ Therefore, derivatives of the ICF have been developed to describe the broad spectrum of disabilities of specific patient populations.¹⁵ It was in this manner that the ICF Core Sets were developed, using a conceptual approach for specific conditions (chronic or otherwise)¹⁵⁻¹⁷ and health care

settings,^{18,19} and to represent the perspectives of various professionals.²⁰ Another method that might be used to develop a Core Set is to link ICF categories to existing measurement instruments.^{21,22}

To date, only a Core Set for older adults in early post-acute rehabilitation facilities has been developed.¹⁹ No ICF Core Set for the non-demented community-living older population was found that was developed from a conceptual point of view. Hence, the aim of the present study is to develop a comprehensive and valid Geriatric ICF Core Set that reflects relevant health-related problems of community-living older adults without the diagnosis of dementia. The set will be based on the ICF since it (1) provides a common language for describing health and health-related states, (2) describes the broad concept of health, and (3) offers the possibility to involve the target population in the category selection process, thus increasing the content validity of the set.²³

METHODS

Study design

This study consists of two sub-studies. First, a Delphi study^{24,25} was performed to reach consensus on a Core Set of ICF categories that describes the most relevant health-related problems of community-living older adults aged 75 years and older (without dementia). Second, the content validity of the Core Set was verified in a cross-sectional study among a sample of older adults aged 75 years and older who participated in a randomized controlled trial on the effectiveness of Embrace, a model for integrated elderly care.²⁶ Older adults aged 75 years and older were included in both studies as the number of health-related problems increases especially after the age of 75.²⁶ The Medical Ethical Committee of the University Medical Center Groningen assessed the study proposal of the Embrace study and concluded that approval was not required (Reference METc2011.108).

Delphi study

Recruitment of panel members

A broad and representative panel, with three subpanels, was constituted of experts on health and health-related problems due to ageing. Potential panel members were selected based on their presumed expertise in the field of ageing and health-related problems of community-dwelling older adults. The subpanels consisted of older adults, who were included to represent the opinions of the target population and were regarded as experts

par excellence; medical experts, who had graduate medical training in the field and were included to evaluate the medical issues experienced by older adults; and non-medical experts, who were included for the evaluation of non-medical health-related problems. Older adults working as volunteers in welfare were recruited through local older citizen's associations and welfare organizations. Professionals were recruited from health care organizations in various parts of the country.

Potential panel members were invited to participate by e-mail or letter, with information on the goal of the study, methods to be used and estimated time investment, and they were also asked to confirm their expertise. If requested, more detailed information was given by telephone. Attempts were made to obtain 10-15 experts per subpanel. Panel members who agreed to participate received the first questionnaire and additional information on the Embrace study, the goal of the Delphi study and its procedure, and detailed instructions on how to select categories reflecting relevant health-related problems for older adults without the diagnosis of dementia.

Selection of ICF categories

The short version of the ICF, with 265 two-level categories, was used²⁷ because our goal was to develop a Core Set assessment tool that was easy to administer. Categories included e.g. *b144 Memory functions* (Body Functions), *s110 Structure of brain* (Body Structures), *d450 Walking* (Activities and Participation) and *e310 Immediate family* (Environmental Factors). No category preselection was made in order to avoid selection bias.

The Delphi study consisted of two rounds, a decision that was based on the guidelines of Hasson et al. (2000)²⁵ and on our experiences with similar studies in which consensus was reached after two rounds.²⁸

In the first Delphi round, panel members received a list of all second-level ICF categories from the ICF components Body Functions and Structures, Activities and Participation, and Environmental Factors. Panel members had to evaluate each ICF category on its relevance to the majority of non-demented, community-living individuals aged 75 years and older. A category could be considered (very) relevant when older adults experience more often or a more serious impairment in body functions, limitation in activities, restriction in participation, or barrier in the environment, compared to younger adults. Response options included "not relevant" (score 1), "hardly relevant" (score 2), "somewhat relevant" (score 3), "relevant" (score 4), and "very relevant" (score 5). The response option "cannot judge the category"

could be selected if someone was not able to evaluate that category. Categories from the Body Functions and Structures component were only presented to medical experts, as the evaluation of these categories requires specific medical training and knowledge. Categories from the Environmental Factors component were only presented to the two other subpanels, because of their expertise in that particular realm. The first Delphi round led to the selection of categories rated as “very relevant” by the total panel. In addition, categories rated as “very relevant” by the subpanel of older adults – but not by the total panel – were treated preferentially and therefore also selected for the second Delphi round. Finally, categories rated as “relevant” by the total panel were included in the second round set.

In the second Delphi round, the results of the first round were presented to the panel. Panel members were asked to indicate whether they agreed (agree/disagree) with the inclusion of the “very relevant” categories in the “initial Geriatric ICF Core Set”. In addition, ICF categories appraised as “relevant” were included in this second round to test whether they were not incorrectly removed from the set. Panel members were asked to indicate whether they agreed (agree/disagree) with the final exclusion of these “relevant” categories from the initial Core Set. The initial Core Set included categories with sufficient content validity as determined by either the total panel or the subpanel of older adults. The results of the second Delphi round were reported back to the panel members as “the initial Geriatric ICF Core Set”.

For both Delphi rounds, panel members had 2 weeks to respond. A reminder was sent 3 days before each deadline.

Data analysis

Data were analysed using SPSS Statistics version 20.0 (SPSS Inc., Chicago, IL). Descriptive statistics were used to calculate median scores, response frequencies and percentages of panel responses for each category.

After the first Delphi round, categories were included in the second Delphi round as “relevant” when the total panel assessment resulted in a median score of 3.5-4.5 and as “very relevant” if the total panel assessment resulted in a median score that was ≥ 4.5 , or if the subpanel assessment by older adults resulted in a median score of 5.0.

After the second Delphi round, the content validity of each individual category was determined for the total panel and for the subpanel of older adults by calculating the content validity index scores for all “relevant” and “very relevant” categories (I-CVI).²⁹ A “very

relevant” category was included in the initial set if the index score for the total panel or for the subpanel of older adults was ≥ 0.70 , calculated as the proportion of panel members who agreed with the inclusion of that category. A “relevant” category was included in the initial set if the index score for the total panel or for the subpanel of older adults was ≥ 0.70 , calculated as the proportion of panel members who disagreed with the exclusion of that category.

Validation study

Sample and baseline measurements

The validation study comprised a subsample of participants of the Embrace study. People aged 75 years and older and registered with one of the participating general practitioners were eligible for inclusion in the Embrace study. In total, 1478 older adults (response rate 49.7%) decided to participate. Those who were identified as frail or having complex care needs and who had been assigned to the intervention group were initially suitable for inclusion in the validation study (n=315). Those participants who completed history-taking with the Geriatric ICF Core Set within six months of the start of the study were also included in the validation study (n=267; 84.8%).

Participants in the Embrace study completed baseline measurements using self-report questionnaires which measured, among other factors, the complexity of care needs (INTERMED for the Elderly, self-assessment, INTERMED-E-SA; scores range from 0 to 60, with a higher score indicating higher levels of complexity of care needs),³⁰ level of frailty (Groningen Frailty Indicator, GFI; scores range from 0 to 15, with a higher score indicating higher levels of frailty),³¹ self-rated health status (EQ-5D visual analogue scale, scores range from 0 to 100, with a higher score indicating better health),³² quality of life (reported scores range from 0 to 10, with a higher score indicating better quality of life) and the number of chronic conditions (general question). Participants were then stratified into one of three Embrace risk profiles: robust (INTERMED-E-SA < 16 and GFI < 5), frail (INTERMED-E-SA score < 16 and a GFI score ≥ 5) or complex care needs (INTERMED-E-SA score ≥ 16). Finally, participants were randomized to the control or the intervention group. A more detailed description of the inclusion and exclusion criteria and the stratification of participants in the Embrace study has been published elsewhere.²⁶

Procedure

During a home visit, which was part of the Embrace procedure,²⁶ participants were interviewed by case managers using the Core Set as a history taking tool. Case managers

were either district nurses (regarding participants with complex care needs) or social workers (regarding frail participants). Participants had to indicate whether or not they experienced problems in functioning concerning each of the ICF categories in the Body Functions and Activities and Participation components, and whether they experienced lack of support in relation to the categories in the Environmental component. They had to rate all categories on a scale ranging from 1 (no problem) to 10 (complete problem). For the purpose of this validation study, scores were dichotomised to “no problem” (score 0) and “problem” (scores 1-10). The participants assessed all of the categories, so there were no missing values. Additional health and health-related problems as mentioned by the participant were also recorded. These newly identified problems were linked to the best corresponding ICF category by two members of the research team (authors SLWS and KW).

After finishing the interviews, case managers evaluated the completeness of the core set by responding to the statement: “Are there any health-related problems not included that should be included in the final set?” If so, this question was followed by the open question: “Which health-related problems would you like to add?”

Data analysis

Data were analysed using SPSS Statistics version 20.0 (SPSS Inc., Chicago, IL). Descriptive statistics were used to present the characteristics of participants and the prevalence rates of health-related problems. ICF categories had sufficient content validity if 10% or more of the participants indicated a problem with that category.¹⁷ New categories were included in the final set if 10% or more of the participants indicated experiencing a health-related problem in that particular category. In addition, if the majority (>50%) of the case managers suggested the inclusion of a specific category, it was also included in the final set.

RESULTS

Delphi study

Participants

Initially, 83 experts were contacted. We included the first 41 persons who confirmed their expertise and agreed to participate. Experts were evenly divided across the three subpanels, and all experts participated in both Delphi rounds (no loss-to-follow-up). The older adults subpanel (n=16; 39.0%) consisted of six senior volunteers and ten people from an elderly advisory group for professionals. The medical experts (n=16; 39.0%) included six elderly

care physicians, three (clinical) geriatricians, two general practitioners specialized in elderly care, and five nurse specialists in elderly care. The non-medical expert panel (n=9; 22.0%) included two district nurses, three social workers and four consultants in the field of elderly care and/or welfare. Each ICF category was assessed by at least sixteen experts.

ICF categories identified

In the first Delphi round, which started with 265 ICF categories, panel members appraised 27 categories as “very relevant” and 124 categories as “relevant” of which four “very relevant” categories were added by the subpanel of older adults (*d470 Using transportation; e125 Products and technology for communication; e320 Friends; e570 Social security services, systems and policies*).

In the second round, all of the “very relevant” categories were retained, except one excluded by both the total panel and the subpanel of older adults (*e125 Products and technology for communication*), while two categories were added from the “relevant” categories by the total panel (*b240 Sensations associated with hearing and vestibular function; b525 Defecation functions*) and two categories were added by the subpanel of older adults (*e325 Acquaintances, peers, colleagues, neighbors and community members; e580 Health services, systems and policies*).

The initial Geriatric ICF Core Set consisted of 30 categories after the second round: fourteen Body Functions categories (46.7%), ten Activities and Participation categories (33.3%) and six Environmental Factors categories (20.0%). No categories from the Body Structures component were selected. See Table 1 for details on the selection process.

TABLE 1 • Number (and row percentages) of ICF categories per ICF component at start and after each Delphi round

	ICF Component				Total numbers
	Body Functions and Structures		Activities and Participation	Environmental Factors	
	Body Functions	Body Structures			
Initial category sample	79 (29.8)	40 (15.1)	82 (30.9)	64 (24.2)	265 (100.0)
Category selection after Delphi Round 1	43 (28.5)	18 (11.9)	56 (37.1)	34 (22.5)	151 (100.0)
Very relevant	12	0	10	5	27
Relevant	31	18	46	29	124
Category selection after Delphi Round 2	14 (46.7)	0 (0.0)	10 (33.3)	6 (20.0)	30 (100.0)

ICF = International Classification of Functioning, Disability and Health.

Validation study

Participants

Descriptive characteristics for the participants at baseline are presented in Table 2. The mean age of the participants was 81.6 years (SD 4.90) and the majority were female (67%). Approximately half of the participants had a low educational level (56%), were living with others (51%) and had complex care needs (57%). The mean number of chronic conditions was 3.3 (range 0-8) and the majority of the participants (77%) were using more than three medications.

Content validity

Table 3 presents the prevalences for all of the ICF categories from the initial Geriatric ICF Core Set. All of the categories met the criterion for content validity ($\geq 10\%$) except for *d530 Toileting* (Table 3). Participants mentioned two new health-related problems, but these did not meet the criterion for inclusion in the final set (*e340 Personal care providers and personal assistants*: $n=11$, 4.1%; *b134 Sleep functions*: $n=6$, 2.2%). Five of nine case managers (55.5%) suggested seven additional health-related problems: *e340 Personal care providers and personal assistants* ($n=2$), *d920 Recreation and leisure* ($n=1$), *d610 Acquiring a place to live* ($n=1$), *e1101 Drugs* ($n=1$), *b280 Sensation of pain* ($n=1$), *b670 Sensations associated with genital and reproductive functions* ($n=1$) and *b134 Sleep functions* ($n=1$). These problems did not meet the criterion for inclusion (prevalence $\leq 50\%$).

As a result, the final Geriatric ICF Core Set consisted of 29 categories: fourteen Body Functions categories (48.3%), nine Activities and Participation categories (31.0%) and six Environmental Factors categories (20.7%).

Most disabilities experienced by the participants were related to the Body Functions component (prevalences varied from 32% to 70%), with *b710 Mobility of joint functions* (70%) as the most prevalent problem, followed by *b152 Emotional functions* (65%) and *b455 Exercise tolerance functions* (62%). The Activities and Participation component had two problems with outlying prevalences (*d450 Walking*, 60% and *d410 Changing basic body position*, 56%) while the prevalence of problems in the remaining categories varied from 8% to 25%. Regarding the Environmental Factors component, the prevalence of lack of support varied from 14% to 25%.

TABLE 2 • Background descriptive characteristics of participating older adults (n=267) in the validation study

Variable	n (%)
Female gender	178 (66.7)
Age, mean (SD)	81.6 (4.9)
Living situation	
Community-living with others	122 (45.7)
Community-living single	98 (36.7)
Residential care with partner	14 (5.2)
Residential care single	33 (12.4)
Educational level (highest level)	
(Less than) primary school or low vocational training	149 (55.8)
Secondary school/vocational training	99 (37.1)
Higher professional education	7 (2.6)
University	12 (4.5)
Embrace profile	
Complex needs profile	151 (56.6)
Frail profile	116 (43.4)
Number of chronic conditions, mean (SD)	3.3 (1.77)
Using more than 3 medications	205 (76.8)
Health status ^a , mean (SD)	61.3 (16.18)
Quality of life ^b , mean (SD)	6.6 (1.18)

SD = standard deviation.

^a EQ-5D visual analogue scale, scores range from 0 to 100, with a higher score indicating better health.

^b Reported scores, range from 0 to 10, with a higher score indicating better quality of life.

DISCUSSION

This study resulted in the Geriatric ICF Core Set, which includes 29 ICF categories that represent the most relevant health-related problems among community-living older adults without the diagnosis of dementia. The final Core Set includes categories from all ICF components, which supports the notion that older people's health is a multidimensional construct. This is also in line with other geriatric assessment tools that cover a wide range of domains^{9,10} and is also in agreement with a recently developed multidimensional model of health for older adults that covered daily living activities, physical status, emotional health and social engagement.³³

TABLE 3 • Frequency (and percentage) of older adults reporting a problem with an ICF category (n=267)

ICF Category	n (%)
Body Functions	
b144 Memory functions	111 (41.6)
b152 Emotional functions	172 (64.5)
b210 Seeing functions	134 (50.2)
b230 Hearing functions	125 (46.9)
b240 Sensations associated with hearing and vestibular function	158 (59.2)
b410 Heart functions	139 (52.1)
b420 Blood pressure functions	118 (44.2)
b455 Exercise tolerance functions	166 (62.2)
b525 Defecation functions	96 (36.0)
b530 Weight maintenance functions	84 (31.5)
b620 Urination functions	134 (50.2)
b710 Mobility of joint functions	187 (70.1)
b730 Muscle power functions	134 (50.2)
b810 Protective functions of the skin	118 (44.2)
Activities and Participation	
d410 Changing basic body position	148 (55.5)
d450 Walking	160 (60.0)
d470 Using transportation	45 (16.9)
d510 Washing oneself	53 (19.9)
d520 Caring for body parts	39 (14.7)
d530 Toileting	21 (7.9)
d540 Dressing	42 (15.8)
d550 Eating	36 (13.5)
d560 Drinking	54 (20.3)
d760 Family relationships	66 (24.8)
Environmental Factors	
e310 Immediate family	50 (18.8)
e320 Friends	66 (24.8)
e325 Acquaintances, peers colleagues, neighbours and community members	66 (24.8)
e570 Social security services, systems and policies	36 (13.5)
e575 General social support services, systems and policies	36 (13.5)
e580 Health services, systems and policies	48 (18.0)

ICF = International Classification of Functioning, Disability and Health.

Delphi study

In the Delphi procedure, a high level of consensus among the various panel members was reached on 30 of the 265 ICF categories. In the first Delphi round, only four categories were appraised as more relevant by the subpanel of older adults than by the total panel, of which three remained after the second round. In addition, all of the “very relevant” categories, with the exception of one, remained in the final selection, while four were added from the “relevant” categories. Considering the high level of consensus among the panel members, the professionals demonstrated that they have a good idea of the health-related problems that older adults experience. This also demonstrates the broad support for the initial Geriatric ICF Core Set.

Validation study

The validation study showed that the Core Set had very high content validity, with all ICF categories satisfying the prevalence criterion (>10%) except for *d530 Toileting*. This category was removed from the final Geriatric ICF Core Set. Results from another study with community-living older people confirms this low percentage of people reporting problems with toilet use (<2.8%).³⁴ None of the additional categories mentioned by participants or case managers met the criteria for inclusion in the final set. It is likely that these problems were incidental, and thus less relevant to the total population of older people.³⁵

A comparison of our Core Set with ICF categories derived from a linkage study on the EASY-Care Standard and ICF showed a higher percentage of Activities and Participation categories compared to our set (49% vs 31%).²¹ This is probably due to differences in the method of development, as the EASY-Care Standard was developed using existing measurement instruments while we used a conceptual approach.³⁴ However, our Geriatric ICF Core Set has rates similar to the ICF Core Set for geriatric patients in rehabilitation facilities, in relation to problems in the components of Body Functions (41% vs 48% in our study), Activities and Participation (29% vs 31%) and Environmental Factors (23% vs 21%).¹⁹ In contrast, only six categories of our final set correspond with the categories of the brief version of this Rehabilitation Core Set. They concerned five Activities and Participation categories and one Environmental category.³⁶ While the samples seem comparable, with two-third women (67.0% vs 66.7%, respectively) and mean ages of 80.4 years and 81.6 years, respectively, Grill’s study included patients who lived in a rehabilitation facility, while we included people living in the community. This difference in setting may explain the differences in the categories selected, which would imply that our Core Set better represents the health-related problems of community-living older adults than any other ICF set for older adults.

Strengths and limitations

The main strength of our study is the involvement of older adults in both the Delphi and validation study, increasing the content validity of the set.²³ For example, the items that were appraised as more relevant by the subpanel of older adults in the first Delphi round appeared to be relevant to our population, with a prevalence of 13.5% for *e570 Social security services*, 16.9% for *d470 Using transportation* and 24.8% for *e320 Friends*. In addition, the two “relevant” categories that were included by the older people subpanel after the second round also appeared to be relevant, with a prevalence of 18.0% for *e580 Health services, systems and policies* and 24.8% for *e325 Acquaintances, peers, colleagues, neighbors and community members*.

A further strength of the Delphi procedure was that panel members anonymously filled in the questionnaire, which may reduce the effects of social desirability.²⁵ Another strength of our approach was that we checked whether we had incorrectly removed “relevant” items. This is illustrated by the fact that many older adults experienced problems with the four “relevant” categories that were included in the initial Core Set, with prevalences ranging from 18.0% (*e580 Health services, systems and policies*) to 59.2% (*b240 Sensations associated with hearing and vestibular function*). Another design strength was the use of the ICF as the frame of reference. The ICF offers a unified, international language describing the broad concept of health and health-related domains. This enables comparison of results between subgroups and international data¹³ and may improve content validity.

A potential limitation should also be mentioned. The Core Set was specifically developed for community-living older adults without dementia. However, older adults with dementia or cognitive impairments could have been included in the validation study since dementia was not an exclusion criterion for participation in the Embrace study. Nevertheless, the impact on the results was expected to be trivial as the case managers were experienced interviewers. Moreover, if a participant was suffering from severe cognitive problems, a partner or family member participated in the assessment. Future research should investigate whether older adults with dementia experience different health-related problems from older adults without dementia.

Implications

The focus in this study was on frail older adults and older adults with complex care needs, since they are at risk of experiencing health-related problems. In order to obtain a complete and reliable picture of the prevalence of health-related problems in the entire

non-demented population of older adults living in the community, future research should also assess robust older adults without frailty and complex care needs using the Geriatric ICF Core Set.

In addition, the generalizability of the Core Set should be confirmed in future international studies, as different environmental factors and medical systems in other countries could alter the selection of and judgments regarding such factors.³⁷ Further research should also examine whether the results of our study are applicable to other older age groups, e.g. 65-74 year olds.

Furthermore, the number of added “very relevant” and “relevant” categories by the older adults in this study illustrated the importance of including members of the target population in the development of an ICF Core Set.

The Geriatric ICF Core Set may contribute to optimal, integrated care and support of the older population. Given that the set is based on a broad range of problems in functioning, it may be suitable for use in multidisciplinary teams. Taking into account the great numbers of older adults suffering from mobility and emotional problems, professionals must pay special attention to these domains. Moreover, older adults specifically added some critical ICF categories, in particular related to environmental issues. This shows the importance of accommodating these issues in delivering integrated care to older adults.

Future studies should determine which problems in functioning are the most severe and which problems have the highest need for support as indicated by the older adults themselves. Such information could guide the work of integrated care teams, as well as the management of services.

Conclusion

Based on our findings, we can conclude that our final Geriatric ICF Core Set is a valid 29 category set that reflects the most relevant health-related problems of community-living older adults without dementia. Currently, the Core Set is already being used by case managers in the Embrace study as a tool for history-taking and counselling older patients. The Core Set may also be of value in various other domains, such as in training programmes and social policy making. However, additional research on the use of the Geriatric ICF Core Set for these purposes will be required.

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