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Research paper

How Finnish geriatricians perform comprehensive geriatric assessment in clinical practice?

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ABSTRACT

Introduction: Comprehensive geriatric assessment (CGA) is one of the most important evaluation tools in geriatrics, but there is variability in its use in different clinical settings. In this study we aimed to clarify how Finnish geriatricians apply CGA in their clinical practice.

Methods: We organized a web-based survey among the members of Finnish Geriatricians ($n = 248$). The questionnaire included items about use and content of CGA. The evaluated domains were assessment of cognition, nutrition and functional ability, evaluation of depression, and measurement of orthostatic blood pressure.

Results: Altogether 121 physicians (49%) responded, and the present analysis included 95 geriatricians performing clinical work. Majority of the respondents (94%) used CGA. Of them, 38% performed CGA to all new patients and 62% to selected patients only. Ten respondents (11%) incorporated all five domains into CGA whereas others selected domains according to their clinical judgment. Greater proportion of female than male physicians included evaluation of depression (39% vs. 16%, $P = 0.045$) and assessment of functional ability (48% vs. 24%, $P = 0.01$) always in CGA. Respondents, who applied CGA to all new patients, incorporated nutritional assessment (68% vs. 34%, $P = 0.002$) and measurement of orthostatic blood pressure (76% vs. 54%, $P = 0.04$) always into CGA more often than those who performed CGA to selected patients only. Respondents' working conditions were not associated with the application of CGA.

Conclusions: Majority of the respondents performed CGA to their patients. The content of CGA varied between geriatricians. Incomplete evaluation may lead to inadequate detection of geriatric syndromes and other problems.

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Comprehensive geriatric assessment (CGA) is a central part of modern geriatric medicine. It has been developed to help health care professionals deal with the complex situation of an older patient, and to determine strategies to maintain and optimize patient's functional ability. CGA includes conventional medical history and examination but also systematic evaluation of patient's functional, psychosocial and cognitive capacity as well as consideration of environmental factors [1].

An important component of CGA is the screening and assessment for geriatric syndromes [2,3]. These syndromes are common – though often undiagnosed – and present a considerable threat on patient's quality of life and functioning [2]. Although geriatric syndromes are as prevalent as chronic diseases among older persons, they are not traditionally considered in medical history and examination [4].

There is a large volume of studies describing the beneficial role of CGA-based health care compared to the conventional care of older patients. CGA has been established to reduce functional deterioration and mortality, to decrease nursing home admissions and to increase patients' chances to be living in their own homes at

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6–12 months after the assessment [5–7]. Especially effective CGA is in the subgroup of frail older patients [8,9].

However, implementation of evidence based practices into clinical practice is a complex task. Successful implementation requires multiple changes from the level of individual clinical practice to organizational structures and systems of care [10]. Owing to its complex nature, implementation of CGA may be challenging [11]. Furthermore, working conditions and factors related to the health care system may affect geriatricians' ability to perform CGA. Nevertheless, the use of CGA should be systematic, i.e. a standard practice [8], in order to reach its beneficial effects.

To the best of our knowledge, there is only one previous study about geriatricians' use of CGA. That Chinese study [12] showed that application of CGA was not adequate: only 12% of Chinese geriatricians used CGA as a routine tool, 14% used it often and 20% had never evaluated their patients using CGA. Also our experiences from Finland suggest that many frail older patients remain without multidimensional geriatric assessment even in geriatric units.

The aim of our study was to get knowledge about how geriatricians in Finland perform CGA in daily practice. Moreover, we wanted to clarify which factors are associated with the application of CGA.

1. Methods

We organized a web-based survey among Finnish geriatricians. An invitation to participate in the survey was electronically distributed to all members of the Finnish Geriatricians society ($n=248$) in April 2013. The invitation was sent again in the beginning of May, and it was renewed at end of May to the members who had not yet participated in the survey.

The questionnaire's first set of questions aimed to clarify respondents' working conditions and views while the second set of questions explored their performance of CGA. There were also questions about respondents' background information. The results of the first set of questions have been published before [13]. In the second set of questions the respondents were asked whether they perform CGA to all new patients, to selected patients or to none. If the respondent performed CGA, he/she was asked if he/she incorporates following domains into CGA: (1) assessment of cognition (e.g. Mini Mental State Examination), (2) screening and assessment of malnutrition, (3) structured assessment of functional ability, (4) structured assessment of depression (using screening instrument or diagnostic criteria for depression) and (5) measurement of orthostatic blood pressure. The answer alternatives were (1) always, (2) after consideration, and (3) never.

Criteria for selecting these domains into questionnaire were as follows: assessment of functional ability is a fundamental component of CGA and the other selected domains (cognition, nutrition and depression) evaluate conditions that are prevalent [14], severe and often unrecognized in older patients [2]. These domains have been used in the studies that have demonstrated the effectiveness of CGA [15,16]. Measurement of orthostatic blood pressure is an important part of medication review and assessment of falls [17]. Furthermore, selected domains represent conditions that are relevant part of assessment in various medical settings and there are good treatment protocols available to address the identified concerns.

Respondents' application of CGA in relation to sex, age, clinical experience as a geriatrician and working place was reported descriptively. Statistical significance was analyzed using Chi-square test or Fisher exact test as appropriate. P -value <0.05 was considered statistically significant. Data management and analysis were performed using IBM SPSS Statistics 20.

2. Results

2.1. General data

A total of 121 physicians responded to the survey, of whom 103 were geriatricians, 14 were residents in geriatrics and 4 were other physicians. Response rate was 49%. Due to our will to get knowledge on geriatricians' clinical practice, we excluded non-geriatricians ($n=18$) and respondents who did not work as clinical geriatricians ($n=8$). Thus, 95 respondents were accepted to the analyses.

Of respondents, 71% were women, and 11% were under 40 years, 43% 40 to 50 years and 46% over 50 years of age. The length of clinical experience as a geriatrician was less than 5 years in 31%, 5 to 15 years in 50%, and more than 15 years in 19% of the respondents. One-fifth were working at least 50% of working time in primary care, two-fifths in hospital wards or rehabilitation, nearly one-fifth in specialized health care and the rest in nursing homes (5%), in private clinics (11%) or in administration, teaching or research (12%). Nearly two-thirds of the respondents were working in the southern parts of Finland. In 2013, there were 229 working-aged geriatricians in Finland, of whom 72% were women. The median age of geriatricians was 49 years [13]. The geographical distribution, age range and sex of the respondents were similar to that of geriatricians in Finland in general.

Most respondents rated the atmosphere in older people's health care and quality of health care for the older adults as very good or fairly good. Similarly, possibility to determine the content of one's own work and to enforce a good geriatric care at work were rated as good or fairly good by majority of the respondents [13].

2.2. CGA in clinical practice

Majority of the respondents ($n=89$; 94%) used CGA when evaluating their older patients. Of them, 34 (38%) performed CGA to all new patients and 55 (62%) to selected patients only. No differences were observed in application of CGA between age groups, working places, length of experience as a geriatrician, or between female and male physicians (Table 1). Neither did the university where the respondents had studied geriatrics affect the results.

Respondents, who coped at work very well, seemed to perform CGA more often than those who coped at work well or moderately. Similarly, respondents who experienced good possibilities to determine the content of their own work seemed to perform CGA more often than those who experienced moderate or slight possibilities. However, no significant statistical differences were observed (Table 2). Other issues related to working environment were not related to the use of CGA either.

The content of CGA varied between geriatricians. Assessment of cognition and measurement of orthostatic blood pressure were incorporated always into CGA more often than nutritional assessment, evaluation of depression and structured assessment of functional ability (Fig. 1). 7% of the respondents did not incorporate structured assessment of functional ability into CGA. Most respondents (89%) selected the content of CGA after consideration. However, 10 respondents included all five domains always in CGA.

Greater proportion of female than male physicians included evaluation of depression (39% vs. 16%, $P=0.045$) and structured assessment of functional ability (48% vs. 24%, $P=0.01$) always in CGA. No differences were observed in the content of CGA between age groups, clinical experience as a geriatrician or working places. Respondents, who applied CGA to all new patients, incorporated nutritional assessment and measurement of orthostatic blood pressure always into CGA more often than those who performed CGA to selected patients only (Table 3).

Table 1

The use of CGA according to respondent's gender, age, clinical experience as a geriatrician and working place.

Respondent's characteristics	Use of CGA				P-value
	n				
		No	Yes		
	%	To selected patients %	To all new patients %		
Respondents	95	6	58	36	
Gender					0.22
Male	28	11	64	25	
Female	67	5	55	40	
Age					0.64
Under 50 years	51	4	61	35	
Over 50 years	44	9	55	36	
Clinical experience as a geriatrician					0.51
Less than 10 years	54	4	61	35	
More than 10 years	41	10	54	37	
Working place for at least 50% of working time					0.30
Primary care	20	5	50	45	
Hospital ward or rehabilitation	36	8	67	25	
Specialized health care	13	8	54	36	
Nursing home	5	0	80	20	
Private clinic	10	0	40	60	
Administration, teaching or research	11	9	55	36	

Table 2

The use of CGA according to respondent's opinions on health care for older people and on one's own work.

Working conditions	Use of CGA				P-value
	n	No		To all new patients %	
		%	To selected patients %		
<i>General atmosphere in older people's care</i>					0.53
Good	59	7	59	34	
Moderate	28	4	54	43	
Unsatisfactory	4	25	50	25	
<i>The state of older people's care in Finland</i>					1.00
Good	57	7	56	37	
Moderate	34	6	59	35	
Unsatisfactory	4	0	75	25	
<i>The feeling of outside appreciation of geriatricians work</i>					0.21
Good	72	4	57	39	
Moderate	20	5	65	30	
Unsatisfactory	2	50	50	0	
<i>Coping at work</i>					0.15
Very well	33	0	58	42	
Well	46	9	54	37	
Moderately	14	7	79	14	
<i>Possibility to determine the content of one's own work</i>					0.63
Good	38	3	61	37	
Fairly good	29	7	52	41	
Moderate or slight	28	11	61	29	
<i>Possibility to enforce a good geriatric care at work</i>					0.30
Good	29	3	48	49	
Fairly good	46	7	59	35	
Moderate or slight	18	3	78	22

Fig. 1. The content of CGA in relation to the selected domains of assessment with the respondents who performed CGA (n = 89).

Table 3

The content of CGA according to whether CGA was conducted to all new patients or to selected patients only.

Component of CGA	Geriatricians who perform CGA				P-value
	To selected patients		To all new patients		
	n	%	n	%	
<i>Cognition</i>					0.21
Always	36	65	18	55	
After consideration	19	35	15	45	
<i>Nutrition</i>					0.002
Always	18	35	23	68	
After consideration	33	65	11	32	
<i>Orthostatic blood pressure</i>					0.04
Always	29	54	25	76	
After consideration	25	46	8	24	
<i>Depression</i>					0.25
Always	16	29	13	38	
After consideration	39	71	21	62	
<i>Functional ability</i>					0.27
Always	19	35	17	52	
After consideration	30	56	15	45	
Never	5	9	1	3	

3. Discussion

Majority of the Finnish geriatricians, who responded to our survey, reported that they evaluate older patients using CGA. However, CGA was not performed systematically to all new patients but usually to selected patients. The content of CGA varied between geriatricians. Because respondents included individual domains into assessment mostly according to clinical judgment, the content of CGA was variable also between individual patients. Only a few geriatricians systematically incorporated all five analyzed domains (assessment of cognition, screening and assessment of malnutrition, structured assessment of functional ability and depression, and measurement of orthostatic blood pressure) into CGA.

Despite of the knowledge on the benefits of systematically performed CGA, clinical experiences of the use of CGA have been reported scarcely. We found one Chinese study with this aim [12]. Compared to that, Finnish geriatricians used CGA more frequently than Chinese colleagues, but the use of CGA was not systematic or routine even in Finland.

A key to the success of CGA is identification and management of geriatric syndromes [18]. Despite of their substantial prevalence [4,14], they are largely undetected and untreated [3]. Especially true this is with the problems that are not clearly evident like depression, malnutrition and postural hypotension [19–21]. Geriatric syndromes are associated with poor health outcomes [14]. For example, depression and malnutrition worsen patient's quality of life and increase risks for functional decline and hospitalizations [19,20], and orthostatic hypotension is associated with falls and functional decline [17,21]. In order to prevent or delay such adverse consequences, geriatric conditions should be detected and managed in their early stages [18]. Therefore, the findings of our study are alarming. Systematic assessment of depression, malnutrition and measurement of orthostatic blood pressure were performed only by 30%, 45% and 60% of the respondents, respectively. We also noted that – for unclear reasons – greater proportion of female than male geriatricians included evaluation of depression and assessment of functional ability always in CGA. On the other hand, it turned out that the rare geriatricians, who perform CGA to all new patients, also incorporate domains into CGA more systematically, leading to fewer possibilities to miss problems.

Indeed, there are good reasons for promoting systematic approach instead of relying on clinical experience. In the case of depression, one possible reason for under-diagnostics is that physicians most likely detect depression when the patient expresses emotions like feeling depressed, sad and worthless [22]. However, many older patients more frequently report poor appetite and other somatic complaints rather than emotional feelings related to depression [23]. Consequently, physicians should routinely assess for other symptoms related to depression besides depressed mood and dysphoria. In the case of orthostatic hypotension, the only way to detect postural hypotension is to measure blood pressure in both supine and standing positions, as in patients with orthostatic hypotension supine systolic and diastolic blood pressure are, misleadingly, usually higher than in patients, who do not have postural hypotension [24].

As it comes to functional ability, structured assessment, firstly, is a useful tool for patient's treatment and rehabilitation planning and evaluation of their outcomes [25]. Secondly, it allows transfer of similar knowledge from one health care setting to another [25]. Thirdly, because an older person's functional ability is a sensitive indicator of health changes [26], registering new functional losses may lead to detection of new, treatable disease or geriatric syndrome. Finally, together with cognition, functional ability is a strong indicator of prognosis, future disability and need of care [27], and hence, measurement of these two indicators helps in developing proper treatment and rehabilitation plans.

The reasons underlying Finnish geriatricians' way of using CGA are unclear. A possible explanation for our results may be the lack of adequate structural support for geriatricians to use CGA as a routine tool. Although the role of CGA is well-established among geriatricians, the value of CGA is less well known among other professionals. Recently, a national consensus statement "Towards better old age" [28] stated that CGA should be a part of routine care of the aged. However, there are currently no national incentives requiring or supporting the use of CGA despite of the fact that CGA could be considered a quality measure of health care of the aged. As CGA is a multidisciplinary and time consuming process, geriatricians are not able to use it without educated assisting interdisciplinary team members and strong organizational support. Many Finnish geriatricians work alone in primary health care and, therefore, lack the support of geriatric colleagues and team. Another possible reason for incomplete assessment could be current heavy workload that does not encourage workers to use systematic approach on patients. In fact, there was a tendency that

respondents who coped well at work, seemed to perform CGA more often than those who coped at work moderately. The association, however, did not reach statistical significance, and none of the other factors related to working environment were associated with the use of CGA. These issues indicate that the use of CGA is certainly linked with the leadership and underline the importance of having geriatricians also in leading roles in health-related decision-making.

The literature has emphasized the importance of frail older person to get comprehensive geriatric assessment timely. According to our study results, CGA is not optimally organized in Finland. Our health care system is basically designed for young people with one disease or disorder and this kind of approach is not optimal for older patients with multimorbidity and functional deterioration [29]. To take population aging and WHO's strategy into account, it is necessary to develop health care systems to provide comprehensive and coordinated care to older people with functional disability [30,31]. In the future, greater efforts are needed to ensure that older patients undergo CGA and rehabilitation when they need it the most [11]. Significance of CGA should be emphasized already from the beginning of geriatric training to ensure that geriatricians acquire good skills in performing CGA [32]. Furthermore, as there are large regions in Finland without geriatricians, it is necessary to broaden the use of CGA beyond geriatricians as well. Standardized geriatric assessment instruments embedded in routine practice could be one solution. Resident Assessment Instrument is currently used in certain regions of Finland but its value in everyday practice is not yet known. Based on our results, a proposition will be taken to the Board of Finnish Geriatrics society to promote CGA at the national level, perhaps embedded in the digital patient records being developed (Timo Strandberg, personal communication). Furthermore, training in CGA is an essential part in the courses for residents in geriatrics.

The main weakness of this study was the limited quantity of questions about the use of CGA. Important issues that were not addressed were social and environmental aspects of CGA and multidisciplinary teamwork, and availability of time for performing CGA. Again, we did not ask about precise working department (memory clinic, hospital ward, home care etc.) and about patients' case mix. In Finland, many geriatricians work in primary health care (either in health care center wards or geriatric outpatient clinics) treating a heterogeneous patient population. This may explain the somewhat surprising result that no differences in application of CGA were observed between different working places. Another possible explanation for this may be the small amount of geriatricians who did not use CGA at all. We acknowledge that certain responder-related issues, including scientific competence and literacy as well as having a leadership role, could affect (probably improve) the use of CGA but these items could not be analyzed with our data.

The small number of respondents in our study is obviously a weakness. This being the case, it was not possible to determine the independent roles of the different factors associated with the use of CGA. On the other hand, our material was a representative sample of Finnish geriatricians and the response rate (49%) is comparable to the usual response rate of surveys among physicians. Yet, the available number of respondents may lead to misinterpretation of the results and especially emphasize the role of individual responses. The challenges on implementation of CGA into daily practice warrant further study.

4. Conclusions

In conclusion, this study indicated that most Finnish geriatricians use CGA when they assess older patients. However, the use of CGA is not systematic and the content of CGA is variable. This

kind of incomplete evaluation may lead to inadequate detection of geriatric syndromes and other health problems.

Authors' contribution

H. Kerminen, T. Strandberg and J. Valvanne planned design and materials of the study. H. Kerminen and H. Huhtala analyzed the data. All authors contributed to analysis, interpretation and manuscript. All authors have approved the final article.

Disclosure of interest

Strandberg, T: EUGMS, past president; Finnish Geriatricians, member of the executive board.

Other authors have none to declare.

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This survey has been made with the permission of the executive board of Finnish Geriatricians society for the members of the society. Responding to the survey was voluntary.

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