Scandinavian Journal of Public Health

The Subjective Health Complaints Inventory: A useful instrument to identify various aspects of health and ability to cope in older people?

Elin Thygesen, Torill Christine Lindstrom, Hans Inge Saevareid and Knut Engedal

Additional services and information for *Scandinavian Journal of Public Health* can be found at:

Email Alerts: http://sjp.sagepub.com/cgi/alerts

Subscriptions: http://sjp.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

Citations: http://sjp.sagepub.com/content/37/7/690.refs.html

ORIGINAL ARTICLE

The Subjective Health Complaints Inventory: A useful instrument to identify various aspects of health and ability to cope in older people?

ELIN THYGESEN[1], TORILL CHRISTINE LINDSTROM[2], HANS INGE SAEVAREID[3] & KNUT ENGEDAL[4]

[1]*Faculty of Health and Sport, University of Agder, Kristiansand, Norway,* [2]*Department of Psychosocial Science, Faculty of Psychology, University of Bergen, Bergen, Norway,* [3]*Faculty of Health and Sport, University of Agder, Arendal, Norway, and* [4]*Norwegian Centre for Dementia Research, Centre for Ageing and Health, Department of Geriatric Medicine, Ullevaal University Hospital and Faculty of Medicine, University of Oslo, Norway*

Abstract

Aims: The aims were to investigate the factor structure of the Subjective Health Complaints Inventory (SHC) in a population of 75 years and above and to identify whether somatic, psychosocial, and coping factors were associated with the SHC factors. *Methods:* Data from 242 elderly persons were analyzed. The measures were: the SHC Inventory, Sense of Coherence, Social Provision Scale, Self-Rated Health, General Health Questionnaire, Clinical Dementia Rating, Reported Illness, Barthel ADL Index, sex, age, and education. *Results:* The factor analysis resulted in four subgroups: musculoskeletal pain (15% of variance), gastrointestinal problems (12% of variance), respiratory/allergy complaints (11% of variance), and pseudoneurology (11% of variance). The occurrence of complaints was 76% for musculoskeletal complaints, 51% for gastrointestinal complaints, 30% for flu, 43% for allergy, and 93% for pseudoneurology. Self-rated health and reported illness were significantly associated with musculoskeletal complaints (15% of variance), impairment in activities of daily living (ADL) with gastrointestinal complaints (3% of variance), and finally sense of coherence, self-rated health, and psychological distress were associated with pseudoneurology (32% of variance). No variables were associated with respiratory/allergy complaints. ***Conclusions:* This study supports the stability of the SHC's factor structure. The low occurrence of health complaints could possibly be due to survival effects, or that old people to a greater extent than younger people compare themselves with aged peers. The subscales focusing on somatic symptoms were explained by reported illnesses and functional impairments to a limited degree only. The pseudoneurology subscale score was associated with psychological measures, particularly ability to cope**.

Key Words: *Factor analysis, older people, subjective health complaints*

Background

Subjective health complaints are common in the general population [1]. The health concerns of individuals are not always caused by actual diseases, but rather *subjective* feelings of wellness or distress. This subjective experience, expressed as subjective health complaints, is what older persons generally refer to when talking about their "health" [2].

The Subjective Health Complaints Inventory (SHC) [3,4] measures the occurrence and severity of somatic and psychological complaints. It records ailments based on objective diseases, but is particularly sensitive to health complaints with minimal or no clinical findings [5].

A previous factor analysis of the SHC Inventory revealed a five factor structure (dimensional structure) containing the following categories of health complaints: musculoskeletal pain (eight items), pseudoneurology (seven items), gastrointestinal problems (seven items), allergy (five items), and flu (two items) [4]. Minor variations in the factors have been

reported [4], and may differ between subgroups [1]. Most studies have been done on populations younger than 75 years and little is known about how relevant the scale is when used with very old people. One prevalence study that included persons of different ages concluded that subjective health complaints increased with age, and that the oldest participants differed from younger participants in various ways [1]. However, in that study the oldest group was defined as people between 50 and 84 years, implying a very wide definition of "old".

Among the oldest old it may be particularly relevant to use the scale for persons who receive in-home nursing care on a daily or weekly basis. Home nursing professionals encounter difficulties in assessing their patients' health conditions and nursing needs. Evaluations are primarily based on patients' spontaneous, subjective statements and complaints. Because somatic, social, psychological, and coping factors may all contribute to subjective health complaints, it might be pertinent to know to what extent these complaints are connected to diseases and functional impairments.

The aim of this study was to investigate the factor structure of the SHC Inventory used in a population of 75 years and above, and to identify somatic, psychosocial, and coping factors that were associated with the various SHC factors.

Material and methods

The data for this study come from a survey that is part of the European Union's Fifth Framework Programme (FP5): Care for the aged at risk of marginalization (CARMA). Key action six of this programme is "The ageing population and disabilities" (http://www.ageingresearch.group.shef.ac.uk/ka6_care.php#2002-02341).

Study population

The study was set in a random sample of seven municipalities in southern Norway. The randomization was based on a stratified distribution according to representative classifications with regard to industrial activity, population density, and urban/rural location [6].

People were eligible for the study if they were aged 75 years and over, community dwelling and receiving in-home nursing care, and able to understand the purpose of the investigation and to give their consent. In-home nursing care means care delivered by nursing professionals in patients' homes. This may include several types of care: care relating to activities of daily living (ADL), nursing care (often involving technical interventions), and psychosocial care. The frequency of visits varies from less than once a week to several times a day. The unit chief nursing officer identified patients fulfilling the inclusion criteria. The population comprised 348 individuals. Of these, 78 (22.4%) refused to participate, nine died, nine were permanently institutionalized before the study started, and 10 of the interviews were not completed, resulting in a baseline sample of 242 persons, of whom 171 were women. For ethical reasons we could not collect data on health status for the persons who refused to participate. Mean age was 84.6 years (range 75–98 years); for women 84.8 years (range 75–96 years) and for men 84.2 years (range 75–98 years). Sixty per cent had completed elementary school or less, 31% intermediate school, and 9% grammar school or higher education. The sample was representative of patients above 75 years of age receiving in-home nursing care. Data collection was performed in the participants' homes by registered nurses who were not previously acquainted with these patients. Interviews lasted about 90 minutes.

Instruments

The Subjective Health Complaints Inventory (SHC) [3,4] is a 29-item scale that registers occurrence, intensity, and duration of subjective somatic and psychological complaints experienced during the past 30 days, without reference to specific diagnostic categories. The instrument can be divided into five categories: musculoskeletal pain (headache, neck pain, upper back pain, lower back pain, arm pain, shoulder pain, migraine, and leg pain), pseudoneurology (extra heartbeats, hot flushes, sleep problems, tiredness, dizziness, anxiety, and sadness/depression), gastrointestinal problems (heartburn, stomach discomfort, ulcer/non-ulcer dyspepsia, stomach pain, gas discomfort, diarrhoea, and constipation), allergy (asthma, breathing difficulties, eczema, allergy, and chest pain) and flu (colds/flu and coughing). The scores for each item range from 0 to 3, giving a total score from 0 (excellent) to 87 (very poor). In the present study the duration of complaints was not recorded. The answers were dichotomized by combining "not at all" and "minor complaints" into one category called "any complaints", and "some" and "severe complaints" into another category called "substantial complaints". Substantial complaints were computed for each subscale. The criteria were some complaints (score 2) for at least one of the complaints and minor (score 1), some (score 2), or severe complaints (score 3) for all other complaints included in the subscale [1]. The questionnaire has

satisfactory validity and reliability (4). In the current study Cronbach's alpha was 0.83.

The demographic variables were sex (men = 1, women = 2), age, and education (less than/or elementary school or continuation school = 1, further education = 2).

The 13-item version of Sense of Coherence (SOC) [7] questionnaire was used to measure coping resources. SOC contains three sections: comprehensibility, manageability, and meaningfulness. Each question is rated on a Likert scale, ranging from 1 (lowest) to 7 (highest) for level of coping resources, giving total scores from 13 (poor coping) to 91 (excellent coping). Cronbach's alpha in the present study was 0.80.

The Revised Social Provisions Scale (SPS) [8] was used to assess social belongingness. It consisted originally of six subscales: attachment, social integration, nurturance, reassurance of worth, reliable alliance, and guidance. According to Weiss [9], the provisions will have different meanings at various stages in life. The first four are of most importance in the oldest old and are therefore used in this study, as recommended by Cutrona and Russell [8] and Bondevik and Skogstad [10]. The total score ranged from 16 (low social support) to 64 (high social support). For the present study the Cronbach's alpha was 0.81.

The 30-item version of General Health Questionnaire (GHQ) [11, 12] was used to measure psychological distress. GHQ is a screening instrument that measures symptoms of depressed mood, anxiety, social inadequacy, and hypochondriasis. Each question was scored using a Likert scale of 0–3, giving a total range of 0–90. A low score indicates an absence of psychological distress symptoms. GHQ is found to be a valid instrument for assessing mental health in older people and people with mild cognitive impairment [13]. Cronbach's alpha in this study was 0.92.

Self-rated health (SRH) was measured using the question "How is your health now?" The answer categories were 1 = poor, 2 = not very good, 3 = good, and 4 = very good. SRH is a good predictor of future health status as measured by mortality and morbidity [14].

The Clinical Dementia Rating Scale (CDR) [15,16] assesses severity of cognitive impairment/dementia. It consists of a global score derived from scores for six domains of cognitive and functional performance: memory, orientation, judgment and problem solving, community affairs, home and hobbies, and personal care [17]. The sum of domain scores was calculated according to instructions given in Morris [17]. Cronbach's alpha in the present study was 0.79.

Reported illness (RI) is an eight-item checklist covering common physical diseases affecting older people: angina pectoris, congestive heart failure, hypertension, thyroid disease, diabetes, cancer, osteoarthritis, and osteoporosis, giving a total score between 0 (no disorders) and 8.

The Barthel ADL index (ADL) [18] was used to measure functional impairment in activities in daily living (ADL). The instrument includes 10 functions: bowel and bladder functioning, feeding, grooming, dressing, transfer from bed to chair, toilet use, mobility, climbing stairs, and bathing. The total score ranges from 0 (dependent in all functions) to 20 (independent in all functions). It was scored as recommended by Wade and Collin [19]. In the current study Cronbach's alpha was 0.82.

Ethical considerations

This study conformed to the principles embodied in the Declaration of Helsinki (http:/www.wma.net). Each participant received oral and written information and gave written consent before data collection. The study was approved by the Regional Ethics Committee for Medical Research in Western Norway and The Norwegian Data Inspectorate.

Statistical analyses

A factor analysis of the SHC was performed using principal component analysis (PCA) with varimax rotation. The number of factors to extract was determined using the criterion of eigenvalue greater than 1 and by examining the scree plot. Factor loadings >0.4 were considered statistically significant. Standard multiple regression analyses were used to investigate the relationships between health and coping factors and the SHC Inventory.

Results

Occurrence of health complaints

The occurrence of various health complaints is presented in Table I. Any "musculoskeletal pain" was reported by 76.4%, "gastrointestinal problems" by 51.2%, "flu" by 29.8%, "allergy" by 43%, and "pseudoneurology" by 93%. In all, 9.5% reported substantial "musculoskeletal pain", 2.4 % had substantial "pseudoneurology", and 2.1% had substantial "allergy". The most frequent complaints in both sexes were low back pain, tiredness, leg pain during physical activity, and dizziness (results not presented). Table I also shows a comparison of results with a Norwegian study of the general population [1].

Table I. Comparison of occurrence of subjective health complaints. Report of any substantial subjective complaints (score above 0) and substantial subjective complaints (score above 1 on at least one of the items and some complaints (1, 2, or 3) on all the other items).

	Ihlebaek et al. (2002)[1] $n=1,240$	Thygesen [present study] $n=242$	Ihlebaek et al. (2002)[1] $n=1,240$	Thygesen [present study] $n=242$
	Any complaints		Substantial complaints	
	n (%)	n (%)	n (%)	n (%)
Musculoskeletal pain	999 (80.4)	185 (76.4)	157 (12.7)	23 (9.5)
Gastrotintestinal problems	620 (59.8)	124 (51.2)	37 (3.6)	1 (0.4)
Allergy	354 (33.9)	104 (43.0)	20 (1.9)	5 (2.1)
Pseudoneurology	715 (65.1)	225 (93.0)	52 (4.7)	6 (2.4)
Flu	559 (54.0)	72 (29.8)	187 (18.1)	0 (0.0)

Factor analyses of the SHC Inventory

First the suitability of data was assessed. The Kaiser–Meyer–Oklin value was 0.760 and the Bartlett's test of sphericity reached statistical significance (<0.001), supporting the factorability of the data. PCA revealed nine components with an eigenvalue >1, explaining 62.3% of the variance. The scree plot revealed a clear break after the fourth component, and we decided to retain these four components. Five items clustered into a group called "Musculoskeletal pain", six items into a group called "Gastrointestinal problems", five items into a group called "Respiratory/allergy problems", and six items into a group called "Pseudoneurology" [4]. Six items did not load on any factor; chest pain, dizziness, hot flushes, migraine, diarrhoea, and eczema. The varimax rotation procedure was repeated without these six items, clustering the same items as before in the four components (Table II).

Multivariate analyses

Linear regression analyses were carried out to identify variables that could be associated with the four SHC factors (Table III). The potential explanatory variables were first tested by a series of univariate analyses. Only variables with a *p*-value equal to or lower than 0.20 were included in the multivariate model. Four multivariate regression models were built, one for each of the four subscale scores (see Table III).

For the "Musculoskeletal pain" factor, SRH and RI explained 15% of the variance. Of the variables included in the "Gastrointestinal problems" subscale score, only ADL was significantly associated with the subscale score, explaining 3.1% of the variance. None of the variables were significantly associated with the "Respiratory/allergy problems" subscale score. Finally, the "Pseudoneurology" subscale score was best explained by a model consisting of the following variables: SOC, SRH, and psychological distress (GHQ). These variables explained 32% of the variance. When entering the variables stepwise, SOC accounted for 24.2% of the variance.

Discussion

The occurrence of health complaints among older people

Compared with results from the Norwegian study of the general population (see Table I), the occurrence of reported musculoskeletal pain, gastrointestinal problems, and flu were lower among the old people in this study. Furthermore, the old people had more allergies. In contrast, substantially more of the older people (93%) than in the general population (65.1%) reported having at least one pseudoneurological complaint [1]. This means that older people may suffer more minor psychological complaints and, surprisingly, slightly fewer somatic complaints than younger people. We expected that old people would have substantially more complaints than the general population. Therefore, the relatively low occurrence of subjective health complaints compared with the general population was surprising, taking into consideration that the old people in the current study comprised a particularly vulnerable group of care-dependent individuals. One could argue that the most severely ill and frail old people may have been excluded from the study. Another explanation could be that old people under-report health complaints because socially desirable responses are more likely in face-to-face data collection than in self-administered modes [20]. Further, the low occurrence of subjective health complaints could possibly be due to survival effects. Individuals with high levels of physical and psychological morbidity may simply have died earlier [21]. The mean age in the current study was 84 years, which suggests that these participants may constitute a rather healthy group of older people. They may under-report complaints because they are inclined to regard their health as better than that of their peers of the same age [22].

Table II. Factor analysis of the Subjective Health Complaints Inventory ($n = 242$).

Items	Factor loadings			
	Musculoskeletal pain	Gastrointestinal problems	Respiratory/allergy problems	Pseudoneurology
Upper back pain	0.816			
Arm pain	0.772			
Neck pain	0.742			
Shoulder pain	0.722			
Lower back pain	0.630			
Leg pain during physical activity	0.447			
Heartburn		0.805		
Stomach discomfort		0.792		
Ulcer/non-ulcer dyspepsia		0.619		
Gas discomfort		0.543		
Stomach pain		0.480		
Headache		0.468		
Asthma			0.777	
Breathing discomfort			0.761	
Coughing			0.660	
Allergy			0.584	
Colds/flu			0.511	
Sadness/depression				0.702
Anxiety				0.691
Sleep problems				0.587
Tiredness				0.479
Obstipation				0.446
Extra heartbeats				0.426
Eigenvalue	5.523	2.414	1.956	1.808
% Variance	14.718	11.971	10.909	10.711
Cronbach's alpha	0.800	0.745	0.668	0.708

Extraction method: Principal Component Analysis: Rotation model: Varimax with Kaiser Normalization.

Table III. Adjusted associations between the Subjective Health Complaints Inventory and patient characteristics. Linear regression analyses.

	Musculoskeletal pain		Gastrointestinal problems		Respiratory/allergy problems		Pseudoneurology	
	r	β	r	β	r	β	r	β
Sex	0.220**	0.116	−0.012	−0.067	0.63	0.027	0.039	−0.058
Age	−0.127*	−0.050	−0.111	−0.047	−0.086	−0.049	−0.076	0.053
Education	−0.098	−0.091	−0.047	−0.012	−0.012	0.003	−0.026	−0.29
SOC	−0.023		−0.155*	−0.134	−0.128*	−0.075	−0.483***	−0.336***
SPS	−0.011		0.025		0.065		−0.146*	0.020
SRH	−0.267***	−0.165*	−0.135*	−0.022	−0.176**	−0.068	−0.348***	−0.234***
GHQ	0.080		0.115	−0.005	0.163*	0.088	0.426***	0.209***
CDR	−0.077		0.074		−0.008		0.109	0.008
RI	0.369***	0.242**	0.109	0.105	0.145*	0.120	0.173**	
ADL	−0.028		−0.161*	−0.139*	−0.019		−0.068	0.056
Adjusted R^2	0.150		0.031		0.038		0.321	

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$ analyzed by listwise deletion. SOC, Sense of Coherence; SPS, Social Provisions Scale; SRH, Self-Rated Health; GHQ, General Health Questionnaire; CDR, Clinical Dementia Rating; RI, Reported Illness; ADL, Activities of Daily Living.

However, when it came to substantial health complaints, old persons reported more of these, particularly on some single items compared with the participants in the general population: upper back pain, lower back pain, leg pain, breathing discomfort, tiredness, obstipation, and dizziness (results not presented). The most probable explanation is that these complaints are caused by diseases common in old people, and by age-related changes.

Musculoskeletal pain, tiredness, sleep problems, and dizziness were the most frequently reported single complaints in this group of older people (results not presented). Thus the results from our sample, although not a representative sample of old Norwegians, do not differ from what is reported by Ramm [23].

Factor structure of the SHC Inventory

The factor structure of the SHC Inventory in our study did not differ substantially from the structure based on data from younger persons in the general population [4]. The main difference in our study compared with that of Eriksen et al. [4] was that some variables did not load at any of the factors. Very few of the elderly participants reported hot flushes, migraine, diarrhoea, or eczema. If this finding can be confirmed in new studies, such infrequent complaints could be excluded from the SHC when used with old people. Further, we found it even more surprising that dizziness and chest pain, two common complaints in old age, did not load on any factors. One explanation may be that both dizziness and chest pain are common symptoms among patients aged 75 years and above, and thus could be connected to all factors due to their non-specific and multi-factorial nature. All in all, this study supports the universal stability of the factor structure of the SHC, showing only minor changes in the factor structures across age groups and in patient samples compared with the general population. Therefore, we suggest that the SHC Inventory may be a useful tool for surveillance of the well-being, or lack of such, in old care-dependent persons, at least for research purposes. In clinical practice it may be too extensive to be practical. Here the measure of SRH may be a good alternative [2].

Factors associated with the SHC subscales

Because of the multidimensional structure of the SHC scale it was expected that different measures of health, functioning, and coping would be associated with each of the four factors of the SHC. This hypothesis was confirmed. The three subscales focusing mainly on complaints connected to somatic symptoms, namely musculoskeletal, gastrointestinal, and respiratory/allergy problems, were only to a very limited degree explained by reported illnesses and functional impairments. We expected that musculoskeletal pain would be associated with functional impairments [24] but this was not the case. The absence of these associations could be explained by a general acceptance of general deterioration processes in ageing, particularly connected to symptoms that do not reach the level of a diagnosis. Another possibility is that elderly people tend to express psychological suffering in bodily complaints, without medical somatic findings [25].

The picture changes for the pseudoneurology subscale score. This score was mainly associated with psychological measures, in particular coping. Surprisingly, SOC was a stronger explanatory variable than GHQ. This prominent position for coping gives support to the notion that coping is essential for psychological health [26–28]. This may draw attention to the issue of a conceptual or methodological confounding between SOC and psychological health. One could, of course, question whether sense of coherence and psychological health simply encompass the same phenomena. However, a meta-analysis has concluded that sense of coherence is not the same as, but an important predisposition for, the development and maintenance of mental health [28].

There seems to be a consensus that the health consequences of stress are highly dependent on cognitive mechanisms [3]. Coping experiences may accumulate to generalized positive response outcome expectancies that are close to a trait [29,30]. Similarly, sense of coherence is also a general coping resource, close to a trait, that pertains to a general feeling of exerting control and being able to influence one's own life [7].

Limitations

For ethical reasons, information about differences between participants and non-participants was not available. The cross-sectional nature of the study prevented analysis of the direction of associations and the possible influence of other factors. Indeed a search for such directions may be futile because the relationship between subjective health complaints and health status is bidirectional.

Conclusions

The factor structure of the SHC Inventory and the occurrence of subjective health complaints did not differ significantly in old care-dependent individuals compared to the general Norwegian population. Therefore, the SHC Inventory may be a useful tool to make a survey of complaints without reference to a diagnostic system in old care-dependent people. Surprisingly, somatic symptoms could only to a limited degree be explained by reported illnesses and functional impairments. Pseudoneurological complaints were highly associated with low

coping abilities. Evidently, coping makes a difference with regard to subjective health complaints in very old people.

Acknowledgment

References

[1] Ihlebaek C, Eriksen HR, Ursin H. Prevalence of subjective health complaints (SHC) in Norway. Scand J Public Health 2002;30:20–9.

[2] Saevareid HI, Thygesen E, Nygaard HA, Lindstrom TC. Does sense of coherence affect the relationship between self-rated health and health status in a sample of community-dwelling frail elderly people? Aging Ment Health 2007; 11:658–67.

[3] Ursin H, Endresen IM, Ursin G. Psychological factors and self-reports of muscle pain. Eur J Appl Physiol 1988;57: 282–90.

[4] Eriksen HR, Ihlebaek C, Ursin H. A scoring system for subjective health complaints (SHC). Scand J Public Health 1999;27:63–72.

[5] Eriksen HR, Svendsrod R, Ursin G, Ursin H. Prevalence of subjective health complaints in the Nordic European countries in 1993. Eur J Public Health 1998;8:294–8.

[6] Statistics Norway. Standard Classification of Municipalities 1994. Oslo: Statistics Norway; 1994.

[7] Antonovsky A. Unraveling the mystery of health: how people manage stress and stay well. San Francisco, CA: Jossey-Bass; 1987.

[8] Cutrona CE, Russell DW. The provisons of social relationships and adaptation to stress. In: Jones WH, Perlman D, editors. Advances in personal relationships. Greenwich, CT: JAI Press; 1987. pp. 37–67.

[9] Weiss RS. The provisions of social relationships. In: Rubin Z, ed. Doing unto others. Englewood Cliffs, NJ: Prentice Hall; 1974. pp. 17–26.

[10] Bondevik M, Skogstad A. The oldest old, ADL, social network, and loneliness. West J Nurs Res 1998;20:325–43.

[11] Goldberg D, Williams P. A user's guide to the General Health Questionnaire. London, UK: Nfer-Nelson; 1988.

[12] Malt UF, Mogstad TE, Refnin IB. Goldberg's General Health Questionnaire. Tidsskr Nor Laegeforen 1989; 109:1391–4.

[13] Papassotiropoulos A, Heun R, Maier W. Age and cognitive impairment influence the performance of the general health questionnaire. Compr Psychiatry 1997;38:335–40.

[14] Idler EL, Benyamini Y. Self-rated health and mortality: a review of twenty-seven community studies. J Health Soc Behav 1997;38:21–37.

[15] Engedal K, Haugen PK. The prevalence of dementia in a sample of elderly Norwegians. Int J Geriatr Psych 1993;8: 565–70.

[16] Hughes CP, Berg L, Danziger WL, Coben LA, Martin RL. A new clinical-scale for the staging of dementia. Br J Psychiatry 1982;140:566–72.

[17] Morris JC. The Clinical Dementia Rating (CDR): current version and scoring rules. Neurology 1993;43:2412–14.

[18] Mahoney FI, Barthel DW. Functional evaluation: the Barthel Index. Md State Med J 1965;14:61–5.

[19] Wade DT, Collin C. The Barthel ADL Index: a standard measure of physical disability? Int Disabil Stud 1988;10: 64–7.

[20] Moum T. Mode of administration and interviewer effects in self-reported symptoms of anxiety and depression. Soc Indic Res 1998;45(1–3):279–318.

[21] Bowling A. The prevalence of psychiatric morbidity among people aged 85 and over living at home. Associations with reported somatic symptoms and with consulting behavior. Soc Psychiatry Psychiatr Epidemiol 1990;25:132–40.

[22] Vuorisalmi M, Lintonen T, Jylha M. Global self-rated health data from a longitudinal study predicted mortality better than comparative self-rated health in old age. J Clin Epidemiol 2005;58:680–7.

[23] Ramm J. Funksjonsvansker og hverdagsmestring. Helse i Norge. [Difficulties in function and coping in everyday life. Health in Norway]. Oslo: Statistics Norway. Available at: http://www.ssb.no/emner/03/00/sa41/helseoghver.pdf. (accessed 9 December 2008) 2005. pp. 71–9.

[24] Hartvigsen J, Frederiksen H, Christensen K. Back and neck pain in seniors – prevalence and impact. Eur Spine J 2006;15:802–6.

[25] Hocking L, Koenig H, Blazer D. Epidemiology and geriatric psychiatry. In: Tsuang M, Tohen M, Zahner G, editors. Textbook in psychiatric epidemiology. New York, NY: Wiley-Liss; 1995. pp. 437–52.

[26] Eriksen HR, Ursin H. Subjective health complaints, sensitization, and sustained cognitive activation (stress). J Psychosom Res 2004;56:445–8.

[27] Eriksson M, Lindstrom B. Validity of Antonovsky's sense of coherence scale: a systematic review. J Epidemiol Community Health 2005;59:460–6.

[28] Eriksson M, Lindstrom B. Antonovsky's sense of coherence scale and the relation with health: a systematic review. J Epidemiol Community Health 2006;60:376–81.

[29] Levin S, Ursin H. What is stress? In: Brown M, River C, Koob G, editors. Stress neurobiology and neuroendocrinology. New York, NY: Marcel Dekker; 1991. pp. 3–21.

[30] Eriksen HR, Ursin H. Sensitization and subjective health complaints. Scand J Psychol 2002;43:189–96.