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SHORT REPORT: CHRONIC MEDICAL CONDITIONS AND LIFE SATISFACTION IN THE ELDERLY

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The aim of this study was to examine the effect of chronic disease on life satisfaction in community dwelling elderly. A total of 5279 research participants, mean age 69.57 (SD = 8.04) yrs, were asked to judge their life satisfaction on the Seven Point Satisfaction Rating Scale. They were also administered a checklist of 18 chronic medical conditions. The results indicate that the more chronic conditions elderly people have, the lower their life satisfaction gets. It is argued that these findings can be explained with the concept of downward comparison.

KEY WORDS: Elderly, chronic illness, life satisfaction, psychological well-being.

Diener (1984) distinguished two components of psychological well-being, namely affective well-being and life satisfaction (LS). Affective well-being refers to a person's balance of positive and negative affects, while LS reflects a cognitive evaluation of an individual's life status. Whereas age, sex, race, and income have no influence on LS, factors as personality traits, close relationships, a positive interpretation of daily events, being engaged in work and leisure do affect satisfaction with life (Myers and Diener, 1995). Do health factors play a part in LS? Intuitively one would assume that individuals with a chronic illness would report less satisfaction with life. But research has shown that LS is hardly affected by medical conditions. For instance, healthy persons have only slightly higher LS scores than patients with injury to the spinal cord (Decker and Schultz, 1985). Also, no difference in LS was found between cancer patients and controls (Kreitler, Chaitnik, Rapoport, Kreitler and Algor, 1993; Van der Zee, Buunk, De Ruiter, Tempelaar, Van Sonderen and Sanderman, 1996). Taylor and Aspinwall (1993) have argued that people deal with stressful events like chronic illnesses by creating illusions and biases that represent themselves more positively than actually is the case. One of the strategies people use to cope with distress caused by their illness, is to compare one's situation, feelings, and responses with those of others who are worse off. This process is called downward comparison (Buunk, 1994). In a number of studies empirical evidence for the use of downward comparison in cancer patients – to keep an acceptable level of LS – was found (Wood, Taylor and Lichtman, 1995; Van der Zee *et al.*, 1996). Downward comparison, as

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a way of coping with disease, has also been observed in patients with rheumatoid arthritis (DeVellis, Blalock, Holt, Renner, Blanchard and Klotz, 1991) and patients recovering from major surgery (Kulik, Mahler and Moore, 1996).

Van Der Zee (1996) pointed out that downward comparison may have implications for patient education and counseling. For instance, it would be possible to teach distressed patients with chronic illness to engage in downward comparison to reduce stress levels.

The present study was conducted to investigate the effect of multiple chronic medical conditions on LS in the elderly. We reasoned that individuals generally are able to cope with one illness by downward comparison, but would have more difficulty using this strategy in case of multiple conditions. In case of two or more illnesses, it would become harder to find people who are worse off. Thus, we hypothesized that elderly with multiple chronic conditions would score lower on LS than more healthy seniors (i.e. those with one or zero conditions).

METHODS

We used data from the Groningen Longitudinal Ageing Study (GLAS). GLAS is a population-based prospective follow-up study of the determinants of health-related quality of life (Kempen, Ormel, Brilman and Relyveld, 1997). Its primary objective is to identify psychosocial factors affecting the trajectory of quality of life, independently, or in conjunction with disease-related factors.

Research Participants

The source population consists of older adults, living independently or in adapted housing for elderly people, in the northern parts of The Netherlands. The study population comprised 8723 persons aged 57 and up on January 1, 1993, who were in the patient panels of the 27 family physicians participating in the Morbidity Registration Network Groningen (RNG). In The Netherlands virtually all community-dwelling elderly are on a family physician's panel. By letter, family physicians asked all their patients aged 57 and above for permission to provide the GLAS research team with their names and addresses. A total of 1937 refused (22.2%). Of the remaining 6786, 1277 declined cooperation when contacted by the research team, and 152 had passed away or left the practice by the time contact was initiated. Another 78 participants were excluded because of severe cognitive impairments at the interview. Useful data were available for 5279 participants (62%; 5279/(8723-152)). Mean age was 69.57 (SD=8.04) yrs. There were 2967 females in our sample. The research participants were interviewed face-to-face in their homes ($N=4792$) or, due to financial restraints, by telephone ($N=487$).

Although our method of recruiting research participants is thought to be acceptable for psychological research on chronic illness (cf. Glasgow and Hampson, 1995), our sample may suffer from two potential biases: A family physician selection bias and a non-response bias. (1) Although the family physicians in the RNG do not constitute a random sample from the population of family physicians in the northern parts of the Netherlands, it seems unlikely that the selection of family physicians has caused any bias. The only difference between family physicians in the RNG and other family physicians is the former's involvement in medical training and research within the Department of Family Medicine of the University of Groningen. (2) There were only marginal differences in

chronic disease prevalences between older subjects in the Dutch General Health Surveys (CBS, 1989) and the participants in our baseline study. We assume, therefore, that our study was not seriously affected by a non-response bias.

Dependent Measure

LS was measured with the Seven Point Satisfaction Rating (Campbell, Converse and Rodgers, 1976). Research participants are asked "how satisfied are you nowadays with your life as a whole?" (1 = completely dissatisfied, 7 = completely satisfied).

Independent Measure

A checklist of 18 chronic medical conditions was used in the baseline data collection. The conditions were: asthma/chronic bronchitis, pulmonary emphysema, heart condition, hypertension, (consequences of) stroke, leg ulcer, stomach ulcer, liver disorder or gallstones, kidney disease, diabetes mellitus, thyroid gland disorder, back problems for at least three months or slipped disc, joint conditions or arthritis, migraine/chronic headache, serious dermatologic disorders as psoriasis or eczema, cancer, multiple sclerosis, and Parkinson's disease or epilepsy. Research participants were asked if they had a specific chronic medical condition in the last 12 months prior to the interview. The same procedure is used by the Central Office for Statistics in The Netherlands in their periodical Health Survey Interviews (CBS, 1989). To reduce a potential patient reporting bias, we included only current medical conditions which were under active treatment, either by a family physician or a medical specialist, or for which the research participant used physician-prescribed medication on a regular basis in the 12 months prior to the interview. Four groups were created: participants not suffering from a medical condition, those with one condition, two conditions, or three or more conditions.

Data-Analysis

We used a Kruskal-Wallis test to determine whether there were any differences in LS between the four groups. In case of significant differences, Mann-Whitney tests would be used to find out which groups differed from each other with respect to LS. We opted for nonparametrical tests because the data were ordinal. Given the large sample size, $p < 0.001$ was considered significant.

RESULTS AND DISCUSSION

There were 249 participants who either failed to fill out the checklist of medical conditions or did not rate their LS. The mean (SD) LS scores of the four groups are presented in Table 1. Table 1 shows that there were differences between the four groups with regard to LS. Mann-Whitney tests revealed that research participants who were not suffering from any medical condition, had higher LS scores than participants with either one, two, or three or more conditions. In addition, participants with one condition reported higher LS than those with either two or three or more conditions. Finally, participants with two conditions had higher LS scores than those with three or more conditions. We also conducted separate analyses for male and female participants; these analyses yielded the

Table 1 Mean (SD) life satisfaction scores of research participants with either zero, one, two, or three and more chronic medical conditions*

	0 conditions (n = 1763)	1 condition (n = 1666)	2 conditions (n = 921)	≥3 conditions (n = 684)
Life satisfaction	5.86 (1.28)	5.71 (1.33)	5.62 (1.26)	5.39 (1.28)

Note: Higher scores represent more satisfaction with life.

*Kruskal–Wallis Test (corrected for ties), chi-square = 108.6019, $p < 0.001$.

same results as males and females together. Moreover, Spearman correlation coefficients between LS and potential confounding variables age and social economic status were computed. These correlations were low (-0.01 and 0.03 respectively) and nonsignificant.

The present article does not focus on disease-specificity. One could argue that differences in disease characteristics, such as functional incapacitation and illness controllability, play a role in an individual's satisfaction with life (cf. Penninx *et al.*, 1996). Therefore, for the eight most prevailing conditions (hypertension, heart condition, arthritis, back problems, asthma/bronchitis, diabetes, dermatologic disorders, headache), LS scores of participants with a specific medical condition were compared with those not suffering from any condition using Mann–Whitney tests. With the exception of hypertension and diabetes, lower LS was found in participants suffering from any of the six other conditions ($p < 0.001$).

It seems that the more chronic medical conditions elderly people have, the lower their LS gets. Apparently, older people are only partly successful in adapting to chronic illness. Whereas younger persons with one chronic condition do not report lower LS than healthy individuals (cf. Kreitler *et al.*, 1993; Van der Zee *et al.*, 1996), our findings show that older people suffering from one illness have lower LS than "healthy" seniors. However, the fact that elderly people with one condition report higher LS than those with more conditions, and individuals with two conditions have higher LS than those with three or more conditions, demonstrates that some adaptation does take place.

The present findings can be interpreted in terms of downward comparison. In case of one condition, older people are able to compare themselves with people who are worse off, and restore their LS – at least to a certain degree. Persons with two conditions have more difficulty finding people who are in a more unfavourable situation, and hence are less able to use this coping strategy. Having three or more conditions means even less opportunity to compare oneself with people who are worse off.

Note that our study does have some limitations. Firstly, although our study is discussed from the viewpoint of social comparison, we did not measure downward comparison. However, based on the results of Van der Zee *et al.* (1996), who found strong evidence for downward comparison in cancer patients, we believe that people with chronic illnesses frequently use this coping strategy. Of course, other coping mechanisms may also be used by individuals to deal with chronic medical conditions (see Maes, Leventhal and De Ridder, 1996, for an overview). Secondly, we used self-reported medical conditions as an independent variable. It is possible that self-reports on chronic disease are susceptible to under or overreporting. Kriegsman, Penninx, Van Eijk, Boeke and Deeg (1996), however, compared self-reported chronic conditions of older adults with family physicians' information, and found that research participants' self-reports – with the exception of atherosclerosis and arthritis – were fairly accurate. Thirdly, by excluding conditions not

under active treatment an important group of chronic conditions could have been missed. Elderly participants with arthritis, for instance, may not be under active treatment but nevertheless suffer from psychological distress. Lastly, we used an instrument consisting of a single item to assess LS. There is controversy as to whether single-item measures of well-being have satisfactory psychometric properties (Kempen, 1992). Given this problem, we recommend the use of multiple-item scales in future research into the relation between chronic illnesses and LS (cf. Craig, Hancock and Craig, 1996).

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