

Older people's quality of life of the elderly – can it be measured?

Research reports of The Central Union for the Welfare of the Aged:

Huusko T, Strandberg T, Pitkälä K (ed.). Can quality of life of older people be measured? Research and development project on geriatric rehabilitation, report no 12 (In Finnish). The Central Union for the Welfare of the Aged. Gummerus, Saarijärvi 2006.

Strandberg T, Pitkälä K, Klippi A, Tilvis R, Huuskonen J, Sintonen H, Nuutila A, Korpijaakko-Huuhka AM. Rehabilitation and quality of life research on aphasia after acute stroke. Research and development project on geriatric rehabilitation, report no 9 (In Finnish). The Central Union for the Welfare of the Aged. Gummerus, Saarijärvi 2005.

Scientific articles:

Strandberg TE, Strandberg A, Rantanen K, Salomaa VV, Pitkälä K, Miettinen TA. Cholesterol, risk of death and quality of life in old age. A 39-year follow-up study on executive males in Helsinki (In Finnish). *Suom Lääkäril* 2005;60:4963-7.

Strandberg TE, Saks K, Soots A, Pitkälä KH, Sintonen H, Huusko T, Tilvis RS. Health and quality of life of community-dwelling older people living in the cities of Tallinn and Helsinki. Talsinki-research (In Finnish). *Suom Lääkäril* 2006;61:1615-19.

Strandberg TE, Strandberg A, Salomaa VV, Rantanen K, Pitkälä K, Miettinen TA. Systolic blood pressure, risk of death and quality of life in old age. A 39-year follow-up study on executive males in Helsinki (In Finnish). *Suom Lääkäril* 2006;61:2603-9.

Strandberg TE, Strandberg A, Salomaa VV, Pitkälä K, Miettinen TA. The impact of weight gain before middle-age on quality of life in old age (In Finnish). *Suom Lääkäril* 2006;61:4203-4207.

Strandberg TE, Strandberg A, Pitkälä K, Salomaa VV, Tilvis RS, Miettinen TA. Cardiovascular risk in midlife and psychological wellbeing among old men. Accepted by *Arch Intern Med*.

Background

The most essential aim in older people's rehabilitation should be improvement of quality of life. However, improvements in quality of life are difficult to measure, and showing effectiveness of rehabilitation on its basis may prove problematic. Quality of life has been studied for at least 40 years but to date there is no commonly accepted definition for the concept. At present, most of the quality of life researchers share the view that quality of life consists of both objectively measurable conditions and subjective aspects of good life. The WHO research group studying quality of life and its measurements defined it as an individual's understanding of his/her life situation with respect to his/her values and cultural context, as well as in relation to his/her goals, expectations and concerns. Material well-being (income, level of housing, availability of services, environment), close relationships (social

relationships, social well-being, support, societal involvement), health (physical health, fitness, ability to move, symptoms of illness, ability to work), emotional well-being (emotions, self-esteem, spirituality, cognitive functions) and productivity (satisfaction with ability to work, competence, autonomy, meaningful roles) have been viewed as essential dimensions of quality of life. Health-related quality of life (HRQOL) is used to imply an individual's experience of his or her health status and health-related well-being. HRQOL is usually examined in terms of impacts of illnesses on an individual, i.e. as negative deviations from health. However, the concept of health-related quality of life is value-laden and attached to social norms defined by healthy individuals, according to whom quality of life is always weakened when a person is sick. HRQOL measurements are usually used to examine the effectiveness of treatments.

Hundreds of measurements have been developed to measure quality of life. Yet using the measurements still involve problems, the most serious of which are the narrowness of the concept of health-related quality of life and the poor ability of the measurements to take into account disabled and older people's capability of adapting to their changed life situation. In addition, the poor sensitivity to change of general quality of life measurements is problematic.

There are only few measurements developed to measure older people's quality of life, and the existing quality of life measurements have not been commonly validated for older people. However, the meaningful aspects of quality of life differ for older people and younger people, which should be taken into account when examining older people's quality of life.

Objectives

The objectives of the study were to examine

1. to examine reviewing previous literature how quality of life in older people's has been studied and what are considered as important dimensions of quality of life for older people
2. the usability, discriminatory power and prognostic value of 15D Quality of Life Measurement in older populations as well as comparing these results to results gained with RAND-36 and WHOQOL-BREF
3. the quality of life of older people living in Helsinki and Tallinn using 15D
4. the effects of risk factors on mortality and quality of life as measured by RAND-36 in a 40-year follow-up study
5. the possibilities of aphasia rehabilitation and the ability of SAQOL-39 to measure the quality of life of people suffering from aphasia as compared to 15D.

Methods

The research methods included a literature review as well as an evaluation (content validity), comparison (criteria validity, discriminant validity) and predictive value (predictive validity) of measurements made by different quality-of-life measures carried out by surveys to different older populations at various stages of physical fitness and by. Participants were gathered from several different older populations. They were for example heart and vascular disease patients, brain stroke patients, who suffered from the aphasia caused by the stroke, delirium patients needing hospital care, nursing home residents, older people suffering from loneliness, and from family carers that took care of their spouse suffering from dementia. In addition, the data was obtained from Helsinki Executive Male Research participants and from older people living in Helsinki and in Tallinn. The quality of life measurements used were 15D, RAND-36 and WHOQOL-BREF.

According to the original plan, the objective of the aphasia project was to explore with a randomised controlled trial design the effectiveness of speech therapy and group rehabilitation of people suffering from aphasia after an acute stroke. However, the number of people likely to benefit from speech therapy and rehabilitation was found to be so small even

in the large region of Southern Finland that only 23 persons could have been recruited to the intervention research instead of the desired 90. Because of this, the intervention research was terminated prematurely and only the quality of life of stroke patients was measured and studied. The interview study involved 88 people whose health-related quality of life was examined using the so-called SAQOL-39 and 15 measurements.

Results and discussion

1. The concept of quality of life is still inadequately defined and the measures exploring it have been studied insufficiently among elderly people. With the existing health-related quality of life measurements, the meaningful aspects of quality of life for older people cannot be measured comprehensively. For example, effects of environment on older people's well-being and functional status, meanings of social network and adaptation to changing situations, and effects of meaningful roles on quality of life or health are insufficiently covered by RAND-36 and 15D. Our research of lonely older people's group rehabilitation, however, indicated that these issues are significant for an individual's health, well-being and prognosis. WHOQOL-BREF has a more extensive coverage of these issues but (like the measures mentioned before) it does not deal with autonomy and importance of control over one's life, feeling of being needed, or the possibility of making choices. In the Family Care Project of our Research and Development Project on Geriatric Rehabilitation, these issues were shown to be very important for the well-being and continuity of care in families in which one of the spouses cared for his or her demented partner at home.

2. In measuring the quality of life of older people, the weaknesses and possibilities of the measurements should be recognized. The health-related quality of life measurements involve only few, if any, positive aspects of well-being (e.g. satisfaction with life) in relation to which older people could actually acquire better results than younger respondents. WHOQOL-BREF is probably the most comprehensive measurement, and it also showed some sensitivity to change with respect to the intervention effects in our Family Care as Collaboration research.

3. Groups with special requirements, such as demented persons or frail older people living in institutions, need their own measurements since other people cannot "objectively" define their quality of life on the basis of their own values.

4. The 15D measurement discriminates very well older people in various levels of health and social care with different functional status or need of help (community-dwelling, hospital and nursing home patients). It can predict mortality and need of hospital care to a moderate extent. A great benefit is its ability to show change as a result of an intervention. In addition, its ability to show quality of life in the form of one single index number is an advantage compared to several other quality of life measurements. However, its limitations – such as the absence of certain aspects of quality of life important for older people – should be considered when interpreting the results.

5. The RAND-36 and 15D health-related quality of life measurements seem to explore the quality of life and well-being of lonely older people from different perspectives. RAND-36 takes better into account an individual's subjective opinion of his or her health status and the related quality of life. It is also better in measuring psychological and social well-being. The disadvantage of RAND-36 is that older people may have difficulties in understanding the measurement items. In several international studies, the degree of filled items in the measurement has been low. The same applies to some extent also 15D. In 15D degree of filling of item concerning sexuality is 50% among community-dwelling older Finnish people and only 2% among older people living in institutions.

6. The advantage of the WHOQOL-BREF seems to be that it measures quality of life more comprehensively than 15D. It also covers well aspects related to psychological well-

being and environmental effects on quality of life which 15D and RAND-36, for example, seem to cover poorly.

7. In our research, subjective health status, psychological well-being and health-related quality of life as a whole, and several aspects of health-related quality of life were consistently and clearly better among older people living in Helsinki than among older people living in Tallinn. The difference can be described by the mean score of health-related quality of life, which among 80-86 year-old Estonians was much closer to the respective score of 90-95 year-old Finns than 80-86 year-old Finns.

8. In the Helsinki Executive Male Research, risk factors for vascular diseases and RAND-36 results measured 30-40 years earlier were re-examined in the 21st century [or year 2000?] in different risk level groups in old age. Results of RAND-36 were logically in line with the mortality of respective risk groups. Health-related quality of life thus reflects the way life is lived, as well as the risk factors for vascular diseases. The degree of filling the RAND-36 form was very good in this educated older population.

9. Some existing forms of rehabilitation are so strongly integrated into the service system that studying their effectiveness is no longer possible. It would be unethical to randomly assign patients entitled to a service to a “placebo” group. Even in the large region of Southern Finland, it was not possible to carry out the aphasia rehabilitation study because there were too few people who would have benefited from speech therapy or group rehabilitation. SAQOL-39 and 15D measurements correlated strongly among aphasia patients ($r=0.75$), and both correlated well with measurements of functioning and depression.

Conclusion

Quality of life is an important proof of the effectiveness of older people’s rehabilitation. However, measurements are mainly developed for people at working age and are insufficiently validated for older people. 15D, RAND-36 and WHOQOL-BREF measurements each have their strengths and weaknesses that should be known before using them. WHOQOL-BREF is the most comprehensive measurement by its coverage and seems to be moderately sensitive to change caused by an intervention. There is no evidence of its predictive value, though. 15D is the narrowest measurement but has the advantage of a single index that describes the quality of life in the form of a single number. With the index, the effectiveness of a treatment can be evaluated. RAND-36 is the most widely used measurement in the world. Its advantage is that the results can be compared with different populations in international studies.