Results of Subjective Quality of Life Research Using SQUALA Standardized Questionnaire

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ABSTRACT

Aim: Main aim is to present actual information in using SQUALA standardized questionnaire (next „SQUALA” only) in area of assessing subjective quality of life. Article presents description and analytical work with results of research (mainly focusing on full texts) connected with subjective quality of life in which SQUALA was used.

Methods: Methodics of systematic work was based on research problem and research questions. Content analysis and concept of EBP were used. Searching was made in wide area of information sources – databases of Palacký University Olomouc, archives of on-line journals, database Medvik (National Medical Library) and in archives of qualification thesis.

Results: In area of somatopedics, which is focusing on chronic illnesses area, subjective quality of life was assessed in individuals with idiopathic scoliosis, paraplegia, multiple sclerosis, brain injuries, cardiovascular diseases, post-traumatic spinal cord lesions, diabetes, oncology diagnoses or chronic obstructive pulmonary disease. For each target group, specific chronic illnesses assessed by SQUALA were also defined. For its abundance, chronic illnesses were especially diabetes mellitus, chronic obstructive pulmonary disease, oncological diseases, schizophrenia, psychosis, chronic bronchitis or HIV/AIDS positive in clients.

Conclusion: SQUALA is widely applicable simple tool/questionnaire to assess subjective quality of life. It is used in a wide range of clients/care recipients, including people suffering from chronic illnesses. However, exploitation shall also be at a „healthy”, i. e. intact (not including medical or other problem/limitation) population.

KEY WORDS

SQUALA, Subjective Quality of Life Analysis, quality of life, chronic illness, disability, content analysis, evaluation

INTRODUCTION

Quality of life is a very complex phenomenon of postmodern society. It is a very conceptually and professionally extensive area, which deserves proper attention, precision of methodological approaches as well as the appropriate implementation in daily support and care not only in nursing sciences (Gurková, Žiaková, 2009). During about the last twenty years may be seen an increase in scientific focusing (also on independent scientific research) on quality of life in the so called auxiliary professions. In this area, quality care is viewed also as an integral part or one of the many outputs or targeting of holistically conceived comprehensive care. Quality of life assessment becomes an integral part of both planning and implementation, and in particular the evaluation of effectiveness of health and social interventions (Kalová et al., 2004, p. 1). The concept of „quality of life” is not always clearly defined, equally understood and used. Authors Cohen et al. (2006, p. 625) and Peters (2006, p. 525) understand the quality of life as „Dynamic and subjective indicators for assessing an individual's life“. The element of dynamism and multidimensionality is also observed by author Davidová et al. (2008, p. 165), defining the quality of life as a result of the mutual interaction of social, health, economic and environmental conditions, concerning individual human and social life. From the perspective of a holistic understanding of the individual, it is possible to define quality of life as
SQUALA can be sorted as a so-called self-registration, interpretation of the acquired data, as well as indisputable benefit is the simplicity of its administration, examination of the impact of the illness on the patient’s life and to investigate the effect of socio-economic conditions on population health (Dragomirecká, Bartoňová, 2006, p. 69). Subjective quality of life concerns human emotionality and general satisfaction with life (Payne et al., 2005, p. 207). Subjective viewpoint seems to be more substantial, as regards the assessment of the client (man) itself, as he sees his illness (disability, health problem) (Musil, Filip, 2011, p. 95–96). In our socio-cultural context a number of authors devote to quality of life and its research, let us mention eg authors Dragomirecká et al. (see above), Gurková (2009, 2011), Payne et al. (2005), Pyšný (2008), Vaďurová, Mühlpachr (2005) and others. Extensive publishing activity and implemented investigations in relation to quality of life in nursing and caring reality (of close person) is elaborated eg. by Šerfelová (2008, 2011 etc.).

SQUALA STANDARDIZED QUESTIONNAIRE

Standardized questionnaires are frequently used measurement tools for assessing the quality of life. One of them is also a standardized questionnaire Subjective Quality of Life Analysis (hereinafter „SQUALA”). The choice of instrument is based on its availability in the Czech Republic, realized standardization in the Czech socio-cultural context, its possible use both for healthy population and for persons with different types of ailments or other disabilities (Dragomirecká, Bartoňová, 2006). An indisputable benefit is the simplicity of its administration, interpretation of the acquired data, as well as evaluation of applied instrument. SQUALA is a tool constructed in abroad, but yet it is also available in our socio-cultural conditions and used in the Czech Republic. The author of SQUALA is M. Zanotti (Nice, France). He understands the quality of life as all perception of satisfaction or dissatisfaction of an individual throughout his life, while satisfaction with various aspects also has different importance. The original form of SQUALA was constructed in 1992. SQUALA can be sorted as a so-called self-report questionnaire, while being compiled according to clear, targeted and methodically properly grasped criteria. SQUALA is in its original focused on 23 areas. These identify external and internal reality of ordinary, everyday life. The original French version of the questionnaire was tested on a sample of 51 outpatient treated persons with a medical diagnosis of schizophrenia. It was also tested in 15 patients hospitalized in the department of child psychiatry. As Dragomirecká et al. (2006, p. 9) states, „Czech SQUALA is much more used and better known than the French original". The key concepts here are then „satisfaction” and „importance”. Satisfaction is rated on a five point scale from 1 = very disappointed to 5 = completely satisfied. Importance is also evaluated at the scale, where 0 = irrelevant to 4 = essential. It can be stated that SQUALA is widely applicable. Its use can be found e.g. „In the areas of medical, social, psychological and pedagogical, primarily for the purpose of diagnosis or improvement of care and services.“ (Mühlpachr, 2005, p. 63).

As already mentioned, SQUALA captures subjective view of humans to their living situation, and so that it assesses the extent to which a person is satisfied or dissatisfied with the areas of life, which he considers important. Czech version (and in the Czech Republic commercially available) was prepared by E. Dragomirecká et al. (2006). When processing the acquired data it is carried out with so-called scores. Gross score is assigned in connection with the acquisition of a subjective assessment (satisfaction) of individual life areas. Partial score is dependent on the given areas of life (eg. health area = QOL 1 is product of score of importance D01 and satisfaction score S01 – altogether it becomes a summary value 0–20. Partial scores are displayed in the form of quality of life profile; total score is the sum of all partial scores (Dragomirecká et al., 2006, p. 11). If the participant of survey evaluates any area of life as meaningless, it does not matter how he evaluates his satisfaction with this area. This means that the partial score is 0. Maximum score (i.e. 20) is present when a participant is „completely satisfied” with the area evaluated as „necessary”. The results may be processed in the form of a profile of partial scores, providing an overview of which areas of life are violated among a group of persons, respectively to what extent. (Dragomirecká, Škoda, 1997). Furthermore, as the same authors suggest, it is also interesting a comparison of profile of gross scores of importance ratings, which reflects the hierarchy of values of the reference subjects, as well as the comparison of profiles of satisfaction. The total score of...
QOL-CZ is given by the sum of all partial scores (ie. QOL 01–QOL 21) (cf. ibidem). Interviewed person has to fill in a questionnaire in about 15 minutes. It is recommended that the respondents had the opportunity to ask questions during filling (questionnaire was originally designed for patients with a psychotic disorder), but the responses towards the respondent should be open – e.g. „Justice means what does that mean to you“ (Dragomirecká et al., 2006, p. 29).

Concept of SQUALA is based on Maslow’s theory of human needs, thus we can work with values such as the experience of freedom, truth and justice. Author of original version M. Zanotti elected in constructing the instrument the factor analysis as a method of data processing. This, among other things, allows the expression of the relationship between individual items. Czech version of the questionnaire was validated by the project GaČR 313/95/1084 „Quality of life QOL-CZ. Validation of the Czech instrument“ in 1995–1996 and others (including the IGAs grants of Czech Ministry of Health).

In some cases SQUALA is also used for improvement of service and provided care, not only as a diagnostic tool (Vadurová, Mühlpachr, 2005). As mentioned above, SQUALA in its original „French“ version contained 23 areas assessed, Czech version of SQUALA works with 21 items. Omitted (after testing) were „Be interested in politics“ and „Have faith (eg. religion)“. The previously mentioned gross scores are related to each dimension of SQUALA – Abstract values; Health; Close relationships; Leisure; The basic needs.

Validation of the Czech version of SQUALA was realized eg. in 11 patients hospitalized with a diagnosis of alcohol addiction or other psychoactive substances (Dragomirecká et al., 2006, p. 12). Initial testing revealed the fact that SQUALA is applicable both to patients and to people without health problems (cf. ibidem, p. 12). Subsequent testing is summarized by the same team of authors (2006, p. 14) as follows: „Pilot testing led to the following conclusions: Quality of Life Questionnaire SQUALA can be used for persons with psychiatric disorders, including hospitalized patients, and is also suitable for a healthy population, or population with another type of health problems.“

SQUALA is also applicable in the evaluation (of effectiveness and success) of therapeutic processes. As already stated, the original questionnaire was created in 1992. The original intention of the questionnaire was its use in the target group of psychiatric patients (in particular schizophrenia), but the author himself has already suggested the possibility of widespread use in the general population. Dragomirecká (2006, p. 16) adds that SQUALA „is able to capture changes in the health and mental state of a wide range of diagnoses, but is not suitable for patients/clients, where changes occur exclusively in the field of social adaptation and functioning.”

**METHODOLOGY AND DESCRIPTION OF SEARCH STRATEGY**

Aims of the study were related to primarily set of the research problem: „Quality of life (and its assessment) of individuals with chronic illnesses and/or disabilities/handicaps through the SQUALA standardized questionnaire“, which, when converted into research question „How is it assessed the quality of life of individuals with chronic illnesses and/or disabilities/handicaps through SQUALA standardized questionnaire?“ provided a framework for the fulfillment of project aims.

Within the research approach there was chosen Evidence Based Practice (EBP) design. Content analysis was chosen as the research method. The aim of this work was to fulfill the first component of mentioned EBP approach in its first stage: finding the evidence (in relation to the research objectives). The main method used to fulfill the objectives of the work was the content analysis. It was focused on categorizing (according to the search strategy), it had a clearly defined goal and purpose and it was done according to clear and reproducible methodology (Greenhalgh, 2003, p. 123). The above approach consisted of two separate, consecutive parts: precise systematic search activities according to the search strategy + analytical and comparative activity according to criteria (work with found sources of data).

The following criteria were determined for analysis of content:

- a) document type,
- b) external features of the document: external evaluation of the document was made (main observed phenomenon: key word),
- c) internal features of the document (content) – so called internal evaluation of the document was carried out (consistency of title and content, use of topic in the content, ie. processing of the empirical part of results),
- d) intentionality of the document (ie. a deliberate, reasoned use of SQUALA),
- e) the origin of the document (according to individual sources).

The basic sample consisted of found studies and works that were written in the context of the pass-
age „methodology“ using SQUALA. Studies and works were searched based on key words. The sample selected from the population consisted of such studies, which met the basic criteria, which was use of SQUALA in their methodology, ie. empirical research or empirical part of the final theses (and also the criteria of entry; see above). Implementation of content analysis was realized by a descriptive approach. Search activities were implemented in the available databases, which Palacký University in Olomouc has prepaid under license. Research was carried out by the team of authors using the search strategy. Access to databases was conducted through EZDROJE UPOL – http://www.ezdroje.upol.cz; available peer-reviewed journals (substantively correct), portals of final theses (ie. BA, MA, Ph.D.) of Palacký University in Olomouc and Masaryk University in Brno; BMČ portal Medvik (National Medical Library of the Czech Republic).

To search activities there were purposely chosen the years 1992–2013 (inclusive). Year 1992 was chosen deliberately, because this year was SQUALA constructed in its original. The used scientific databases included the following: SCOPUS, Academic Search Complete, SPORTDiscus with Full Text, Web of Knowledge (previously „Web of Science”), PsycINFO, SociINDEX with Full Text, Wiley Online Library.

Individual searches took place in these sources of sought sources of information: Abstract („AB”), Title („TI”), Subject Terms („SU”), Source („SO”). At all stages of search activities were used these key words (and their combinations): SQUALA; Subjective Quality of Life Analysis; S-QUAL-A; squala; S-QUAL-A; squala questionnaire; SQUALA questionnaire; SQUALA measurement.

RESULTS

In the analysis there were excluded the studies of theoretical orientation, studies referring to different results, duplications and posters (links) to the active participation in conferences. For the very work aim fulfillment, we finally worked with the sources separated from the basic set. In the Web of Science database (which we consider to be most relevant) a total of 6 references were found, five of which were valid for their content. SQUALA was used in the article „Irrational convictions and life satisfaction: A correlation study“ (Ivanovičová, Gröpel, 2009). The sample consisted of 172 respondents in productive age (teachers and managers) and SQUALA was used in combination with two other questionnaires for assessment of life satisfaction. Another article was „Perception of everyday life by schizophrenic patients and nurses: content analysis of patients’ speech on different domains of quality of life“ (Kohl, Nadalet, Pringuey, 2007). The research sample were patients with schizophrenia and also nurses, providing comprehensive care. The third article was „A brief mental health outcomes measure: Translation and validation of the Czech version of the Schwartz Outcomes Scale-10“ from team of authors Dragomirecká et al. (2006). SQUALA was used here in the context of confirmation of significant correlation between the above two measuring instruments. In the journal Československá psychologie there was published an article entitled „Comparison of quality of life before and one year after the liver transplantation“ (Ptačková, 1999), which compared the quality of life of patients before and after liver transplantation. SQUALA was used in combination with COQP/WONCA Charts measuring tool. The study was carried out in 1997–1998 with 75 participants. Statistically significant improvements were found in these areas: „health, well-being, self-care, recreation, physical fitness, daily activities and social activities“. The last relevant entry refers to „Quality of life (QOL-CZ). Validation of the Czech version of SQUALA“ from team of authors Dragomirecká and Škoda.

Apart from the results retrieved in the Web of Science database, further valid outcomes were those that were searched in databases subscribed by Palacký University in Olomouc:

a) Schizophrenia and quality of life: Patient-reported outcomes on group family psychoeducation (Motlová et al., 2004). In this study, SQUALA was administered to 39 patients with schizophrenia before using psycho-educational program and 3 months after this activity. Combining method of data collection was Psychoeducation Outcomes Questionnaire. Compared to the control group of healthy individuals, a significantly lower quality of life was declared in patients with schizophrenia.

b) Family psychoeducation in schizophrenia and quality of life in patients and their relatives (Motlová et al., 2002). The aim of this 3-month follow-up study was to determine the influence of family psycho-educational program on quality of life of respondents. A total of 25 patients and 42 of their relatives were randomly divided into two types of program. While the quality of life of relatives remained stable for three months, patients were significantly more satisfied with domains „physical autonomy, mental well-being and family“.

c) Differences in opinions to selected quality of life indicators between elderly men and women (Nemček, 2011). This study involved a total of
102 respondents (35 men, 37 women) aged over 60 years. Irrespective of gender, this target group consistently reported „health” as the most important area, the least important areas were „politics” and „sex life”. Significant differences were observed in the domain of „social relations” (children, relatives and friends are more important for women than men).

d) Perception of everyday life by schizophrenic patients and nurses: Content analysis of patients’ speech on different domains of quality of life (Kohl, Nadalet, Pringuey, 2007). The target group includes patients with schizophrenia and members of the nursing team that provides care for this target group. The individual domains of SQUALA were assessed item by item with using content analysis.

e) Personalized computer rehabilitation of cognitive functions: The results of the study with Cognifit program (Cimermanová, Preiss, Čermáková, 2011). The study summarizes the results of Cognifit subjective evaluation program among the target group of patients (N = 19) with affective disorders (according to ICD-10 medical diagnoses F31, F32 a F33) “educated” at home for at least 8 weeks (24 sessions). The control group was comprised by 17 patients. The following methods were used: DEX, CFQ, EMQ, SQUALA standardized questionnaire, also questionnaires SOS-10, BDI-II, and two questionnaires for relatives (DEX-SO, CFQ-SO).

f) Evaluation of psychopathology in patients suffering from paroxysmal supraventricular tachycardia one year after radiofrequency catheterization ablation (Kitzlerová et al., 2005). This study assessed the condition of 16 patients with paroxysmal supraventricular tachycardia. Psychopathology and quality of life was assessed / measured using BECK, ZUNG-SDS, SCL-90 and SQUALA questionnaires. There was no evidence of the presence of depressive and anxiety symptoms, either before or after treatment. Quality of life of patients after treatment was evaluated using SQUALA and statistically significant improvements were found in only two of 23 domains of questionnaire – „sleep” and „beauty and art”.

g) Quality of life of HIV/AIDS patients in comparison with a control group (Potřibná, Dragomirecká, 2001). In this study, quality of life was assessed in 38 patients treated at AIDS centers in the Czech Republic. Control group consisted of the same number of healthy individuals. Techniques used for data collection were SQUALA and Global Assessment Form. Patients with HIV/AIDS have achieved significantly lower scores in physical and mental health, parental and sexual role, and also a lower overall quality of life score. A positive finding was that HIV/AIDS patients monitored group did not exhibit disruption in interpersonal relations or work and leisure activities.

h) Quality of life in the Czech Republic (Dzúrová, Dragomirecká, 2000). A total of 1246 participants in this study, ranging in age from 15–76 years from several areas of the Czech Republic completed SQUALA. Data of respondents with low and high quality of life were analyzed using factor analysis. The results showed that their negative economic situation has a major impact on their quality of life. „Diagnosis of mental health disorders” was ranked as the second most important influencing factor.

i) Quality of life of men with posttraumatic spinal cord injury (Šrámková et al., 1999). Participants of this empirical study consisted of 32 men with paraplegia, who were given SQUALA. The control group consisted of 167 men. In the area of satisfaction rating, there was significantly lower result in paraplegics (compared with control group) in the categories of health – physical self-sufficiency – sex – politics – work. The results show that for improvement (of quality) of life of people with post-traumatic spinal cord lesion is absolutely essential and necessary the cooperation of medical and non-medical professionals.

The above objectives towards research content are summarized in the following table (Table 1).

CONCLUSION

We can conclude that SQUALA standardized questionnaire is actually a widely applicable instrument for assessing (measurement) of quality of life in a broad spectrum of possible target groups. This argument is based both on domestic and foreign information. The most frequent target groups (which may be implemented in psychopedically acceptable clientele) were primarily schizophrenia, depression, psychosis, anxiety disorders, affective disorders, and severe mental retardation.

From the area of somatopedically acceptable clientele, the subjective quality of life was assessed e.g. in patients with idiopathic scoliosis, paraplegia, multiple sclerosis, brain injury, cardiovascular illnesses, posttraumatic spinal cord lesions, diabetes, diagnoses of cancer or chronic obstructive pulmonary disease. Smaller representation had also the target group of ethopedically acceptable (roma, ethopedic devices, dependencies, aftercare programs, crime victimiza-
tion, ex clientele from orphanages) or logopaedically acceptable clientele (patients after laryngectomy). For each of the target groups there were also defined specific chronic illnesses. We mention, due to its frequency, especially diabetes mellitus, chronic obstructive pulmonary disease, oncological diagnoses, schizophrenia, psychosis, chronic bronchitis or HIV/AIDS positive.

Finally, we can point to the possible usefulness of SQUALA standardized questionnaire also in scientific research projects in special education, special educational diagnostics and planning/evaluation of comprehensively conceived services with various specializations. In all of them (both input and output), the degree of quality of life of the target group of individuals (people, clients, patients) with disabilities (physical disability or chronic illness) will play a certain role. We also confirmed the statement that SQUALA is already a commonly used research tool to assess the quality of life of the different target groups in the Czech Republic.

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Table 1  Information summary – researches using SQUALA questionnaire

| Target group                                                                 | Czech | Foreign | Ch.D. | "-pedia" |
|------------------------------------------------------------------------------|-------|---------|-------|----------|
| „Port wine stain“ (capillary malformation)                                  | X     | X       |       |          |
| Adolescents (quality of life of adolescents); secondary school students      | X     |         |       |          |
| (quality of life secondary school students)                                  |       |         |       |          |
| Adolescent idiopathic scoliosis                                             | X     | X       | SOMA  |          |
| Depression (including depression during remission)                          | X     | X       | PSYCHO|          |
| Type 1 diabetes                                                             | X     | X       | SOMA  |          |
| Former clients of orphanages                                                | X     |         | ETO   |          |
| HIV / AIDS patients                                                         | X     | X       | SOMA  | PSYCHO   |
| Chronic bronchitis                                                          |       | X       | SOMA  |          |
| Chronic obstructive pulmonary disease                                       |       | X       | SOMA  |          |
| Patients with cardiovascular disease after total hip arthroplasty            | X     | X       | SOMA  |          |
| People (more than 1,000) aged 15-76 years                                   |       |         |       |          |
| Drug addicts in therapeutic communities                                     |       |         |       | ETO      |
| Persons with mental disorder in social enterprise                           |       | X       | PSYCHO|          |
| Persons with physical disabilities in adulthood                            |       |         | SOMA  |          |
| Persons with congenital and acquired disabilities in the Social Care Institute for the Physically Disabled Kociánka (unspecified) | X |   | SOMA  |          |
| Persons with visual and physical disabilities (in Czech and Slovak Republics) |       | X       | TYFLO |          |
| Patients whose life was threatened, and for that reason were hospitalized at ARO |       | X       |       |          |
| Patients with paroxysmal ventricular tachycardia supraventrici (psychopathology) |       | X       | SOMA  |          |
| Patients after laryngectomy                                                  |       |         |       | LOGO     |
| Patients after organ transplantation                                         |       | X       | SOMA  |          |
| Patients with affective disorders (according to ICD-10 medical diagnosis F31, F32 and F33) | X |     | PSYCHO|          |
| Paraplegia                                                                   |       |         | SOMA  |          |
| Pathological addictions                                                     |       | X       | ETO   |          |
| Educators in ethopedy institutions                                          |       | X       | ETO   |          |
| Brain Injury                                                                 |       |         | SOMA  | PSYCHO   |
| Psychoses                                                                    |       | X       | X     | PSYCHO   |
| Psychoses (presence of apathy)                                              |       | X       | PSYCHO|          |
| Multiple sclerosis                                                          |       | X       | X     | SOMA PSYCHO|
| Seniors (quality of life, religiosity, with varying degrees of self-sufficiency in homes for the elderly, elderly people living in homes for the elderly in combination with a control group of seniors living in their home or in boarding houses) | X |   | X | SOMA PSYCHO|
| Schizophrenia                                                               |       | X       | X     | PSYCHO   |
| Spirituality in young people                                                |       |         |       |          |
| Middle Hospital medical staff (women only)                                  |       |         |       |          |
| Severe mental retardation                                                   |       |         |       | PSYCHO   |
| Liver transplantation (before and after)                                    |       |         |       | SOMA     |
| Teachers (quality of life of teachers)                                       |       |         |       |          |
| Teachers and managers in the productive age                                  |       |         |       |          |
| Director and staff of the direct care of non-profit organizations that provide their services to people with mental disorders and multiple disorders |       |         |       | X        |
| Acquired handicap – Paraplegia                                              |       |         | SOMA  | X        |
| Pupils of Roma nationality                                                  |       |         | ETO   | X        |
| Women with premenopausal breast cancer                                      |       |         |       | X        |

Legend: Czech = study carried out in the Czech Republic; Foreign = study carried out abroad; Ch. D. = status of chronic disease; "-pedia" – possible implementation in special education reality: somatopaedia – etopaedia – psychopaedia – typhlopaedia – logopaedia).
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