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Original Article

Better Mental Component of Quality of Life in Amputee

GR Karami [1], [*]Kh Ahmadi [1], V Nejati [2], M Masumi [3]

1. *Behavioral Sciences Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran*
2. *Psychology Department, Shahid Beheshti University, Tehran, Iran*
3. *Bonyad Shahid Organization, Tehran, Iran*

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Abstract

Background: Assessment of quality of life can promote health services. The purpose of this study was evaluation of health related quality of life in lower limbs amputee veterans of Iran.

Methods: In the present cross sectional study, we compared 38 lower limbs amputee veterans with 50 normal healthy subjects with SF36 questioner in face-to-face interview.

Results: Amputees had significantly lower grade than normal subject did in role physical ($P < 0.01$) and were better than normal subjects in vitality ($P < 0.001$) and mental health ($P < 0.01$). As a whole, amputees have higher in mental summary component of quality of life ($P < 0.05$) and lower in physical component of quality of life ($P < 0.01$).

Conclusion: Diminishing the demand and improving social support of amputee veterans might be considered as high grade in mental summary component of their quality of life.

Keywords: Health, Quality of Life, Lower Limb Amputee, Veterans

Introduction

Amputation causes a variety of physical and psychosocial challenges including alterations in body image and lifestyle, changes in self-concept, impairments in physical functioning, using prosthesis, and feeling pain (1, 2, 3).

It is well documented that stressors which are associated with amputation may challenge the individual's ability to maintain emotional well-being and, in some instances, may promote maladaptive reactions leading to poor psychosocial adjustment (4,5). Furthermore, the well-being of amputee should be considered as the main goal of rehabilitation rather than biomechanical or physiological factor. We can consider quality of life as an umbrella, covering all aspect of medical services that is presented to an amputee. The concept of quality of life extends beyond traditional symptoms to include patients' subjective well-being, satisfaction, functioning, and impairments (6).

The quality of life contains several determinant factors such as health, personal development, physical environment, natural resource, and security (7). In health care services, quality of life is considered as an endpoint in clinical trials and in intervention studies (8). Additionally, quality of life is often viewed negatively as the person's ability to perform activities of daily living (8). It seems important to balance this view by focusing on people's own view of quality of life. Quality of life is an interaction between the external conditions of an individual's life and the internal perception of those conditions (9). It is considered as a main goal for medical care and may be an equally important goal as health and welfare (6).

***Corresponding Author:** E-mail: Kh_Ahmady@yahoo.com

The term Health Related Quality of Life (HRQOL), refers the value assigned to duration of life as modified by the impairments, functional states, perceptions and social opportunities influenced by disease, injury, treatment or policy (7). Recently, there has been a growing interest in the research literature to assess quality of life impairments in many psychiatric disorders. The main issue in treatment and medical care of this kind of patients is shifting away from a focus on symptom severity to include the broader impact of psychiatric disorders on patients' lives and their perceptions of their quality of life (10). In other hand, quality of life concept is a controversial issue (10), so that some researchers assess quality of life in relation to functional impairment (11) and others consider it as subjective perception of their lives (12).

In this study, it seems that the subjective experience of quality of life is more determinative than objective factors are (13). Measuring quality of life in terms of functional impairment provides little more than a health status rating (14). Quality of life is set apart from other indicators of mental health precisely, because it takes into account an individual's perception of their own well-being, rather than solely relying on an objective assessment. Subjective measures of quality of life offer a rich alternative to traditional mental health assessments by allowing individuals to express their own insights and values regarding their lives. Indeed, the multidimensional nature of the quality of life concept makes it appropriate to be considered in evaluations of comprehensive programs involving people with serious and persistent mental illness (15). In other hand, if mental health services wish to strive to be consumer- oriented and holistic in their deliverance of treatment and resources, quality of life assessment provides a means of so doing. Accurate assessment of the needs and views of consumer simplicity requires consumer involvement, and quality of life assessments can provide a complex and differentiated way of carrying out that evaluation. Quality of life assessment can provide important information about individual priorities concerning domains of personal functioning in addition to self-assessment of current life circumstances (16). This information can be vital to allocate resources within service systems in a way that is based on patients' priorities.

In the present study, we assessed quality of life of Iranian veterans with lower limbs amputations. The purpose of this study was determining the aspects of their life that should be promoted.

Materials and Methods

This was a cross-sectional study for evaluating health related quality of life in lower limbs amputation veterans of Iran. In the present study, data collected from 38 lower limbs amputation veterans and 50 normal healthy controls that live in all provinces of Iran with face-to-face interview. The control group is matched in gender, education, and age with amputee group. All participants were male. Mean age for amputee group were 43.91 (± 6.21) and for normal healthy subjects were 43.66 (± 6.07). The duration of amputation was 24.55 (± 2.61) years.

HRQOL was assessed by means of the Medical Outcomes Research 36-item Short-Form Health Survey (SF-36), which has been validated in the Iranian population (17). The SF-36 consists of 36 questions integrating eight multi item scales: physical functioning (PF); role limitations caused by physical problems (RP); bodily pain (BP); general health perceptions (GH); vitality, energy, or fatigue (VT); social functioning (SF); role limitations caused by emotional problems (RE), and general mental health (MH). Based on these scales, component summary scores were calculated to provide a global measure of physical and mental functioning; the Physical Component Summary (PCS) and the Mental Component Summary (MCS) were derived from the eight multi-item scales. The scales and summary components ranged from 0 to 100, where higher values denote better functioning and fewer limitations. For each question basis on number of item in Lickert scale, each item pointed from 0 to 100. The SF- 36 derived scores did not have a cutoff point to differentiate between good or poor HRQOL. This questionnaire had been translated

to Persian and validated for Iranian population. The internal consistency (to test reliability) showed that all eight SF-36 scales met the minimum reliability standard, the Cronbach's alpha coefficients ranging from 0.77 to 0.90 with the exception of the vitality scale (alpha = 0.65) (18). Inclusion criteria were amputation of lower limbs veterans based on observation. Veterans were excluded, as were severely mentally handicapped and subjects unable to understand Persian language.
The soft ware of SPSS18 was used for performing the data analysis. Descriptive statistics were used to analyze data.

Results

The socio demographic characteristics of participants are shown in Table 1.
The means of SF-36 by groups are presented in table 2. Mean score of quality of life for dimension of quality of life in orderly RP, PF, BP, VT, MH, RE, SF, GH for amputee were 32.57, 45.86, 40.74, 67.05, 68.24, 50, 59.12 and 50.32 and for normal healthy subjects were 58.23, 55.32, 58.72, 43.55, 41.29, 41.29, 60.30 and 58.71. Only role physical and physical functioning were lower than mean Likert score in amputee group and vitality and mental health were lower than mean Likert score in matched healthy subjects.

Table 1: Some demographic characteristics of lower limbs amputation veterans of Iran

	Amputee number	Healthy number
Age group		
20-29 years	1	2
30-30 years	2	3
40-49 years	32	40
50-59 years	2	3
60-69 years	1	2
Marital Status		
Married	34	43
Single	0	4
Divorced	1	1
Widowed	0	2
Educational Level		
Illiterate	0	2
Primary school	0	1
Secondary school	6	7
High school	13	47
University	15	1

Amputees were significantly lower grade than normal subject in role physical was ($P < 0.01$) and were better than normal subjects in vitality ($P < 0.001$) and mental health ($P < 0.01$). As a whole amputees were higher in mental summary component of quality of life ($P < 0.05$) and lower in physical component of quality of life ($P < 0.01$).

Table 2: Scores of dimensions of quality of life in study groups

Score	Amputee Mean(SD) (n=38)	Healthy Control Mean(SD) (n=50)	T Ratio	*P* Value
Role Physical (RP)	32.57 (35.62)	58.23 (25.30)	3.64	0.000
Physical Functioning (PF)	45.86 (23.94)	55.32 (26.13)	1.52	0.133
Bodily Pain (BP)	40.74 (22.12)	58.72 (25.52)	3.33	0.001
Energy/ Fatigue/Vitality (VT)	67.05 (14.09)	43.55 (13.60)	7.24	0.000
Mental Health (MH)	68.24 (11.77)	41.29 (16.23)	7.75	0.000
Role Emotional (RE)	50.00 (38.79)	60.30 (27.50)	1.33	0.185
Social Functioning (SF)	59.12 (22.37)	58.71 (26.04)	0.07	0.944
General Health (GH)	50.32 (13.71)	53.80 (19.21)	0.07	0.400
Physical Component Summary (PCS)	44.40 (13.56)	55.65 (17.85)	0.84	0.012
Mental Component Summary (MCS)	61.21 (14.76)	50.49 (12.25)	2.59	0.004

Discussion

The aim of our study was comparing quality of life in lower limbs amputee veterans with age and gender matched healthy normal population. Results show that amputees have significantly lower grade than normal subject does in role physical. So physical functioning is lower in amputees than normal healthy subjects are but role physical is better in amputees. We can consider these findings as paucity of physical role and demand of patient from his body during the period of amputation.

Quality of life could be defined as "the gap between a person's expectations and achievements". This gap can be kept small in two ways: living up to one's expectations or lowering these expectations. Lowering one's expectations is an adaptation psychological process (19). we can conclude that long time period of life with amputation (more than 20 years) caused our subjects expect lower physical role for their bodies and this factor reflected in results as higher physical role performance than normal healthy subjects.

Results show that amputees were significantly better than normal subjects in vitality and mental health were. As a whole, amputees have higher grade in mental summary component of quality of life.

The first cause of this finding is psychosocial adaptation to lower limb amputation in our population. Living with amputee lower limb more than two decade has adapted them with new situations.

The extent to which this occurs may be partly dependent on the coping strategies or styles individuals adopt to manage experiences associated with their illness or injury (4, 20). Investigation of the role of coping strategies in adjustment to lower limb amputation, consistent with the wider coping literature, suggests that active/task-oriented strategies such as problem solving and perceiving control over the disability are conducive to positive psychosocial adjustment (21). In contrast, emotion-focused and passive strategies such as cognitive disengagement, avoidance, and catastrophic situations have been associated with poor psychosocial outcomes (21). For example, Researches show that greater active problem solving was negatively associated with depression and internalized anger and positively associated with adjustment and acceptance of disability. In contrast, emotion-focused coping and cognitive disengagement were positively associated with depression, externalized hostility, and lack of acceptance of disability.

In other hand, it is well documented that quality of life is deteriorated by mental illness rather than physical dysfunction. Lowlife satisfaction is one finding in a wide range of psychiatric disorders (22). Lower everyday functioning capacity and greater severity of positive, negative, and depressive symptoms have been associated with lower grade of QOL (23-26).

Another factor that should be considered as determinant criteria in increasing quality of life in our population is social support of them. Our population have extended network in whole country that is supported by veteran affair organization and this organization has financial support for them. We can consider this factor as one determinant factor that prevent sever fallacy in quality of life in double lower limb amputee veteran.

Previous studies have demonstrate significant associations between greater social support and better functioning (27), higher quality of life (28), and lower rates of depressive symptomatology (21) in a variety of patient groups, consistent with most cross-sectional studies (29). Research showed that poor social networks are associated with worse physical health and mental well-being. Other factors such as living in poor housing, inadequate finances, and inadequate social relationships were also important factors leading to deterioration of quality of life in late life (30). So, good health, good social relationship, having social activities, good financial circumstances, and being independent significantly would increase quality of life. Some other researches show that older adults with greater emotional support from their network of social relationships tend to have better cognitive

functioning (31) and better health (32), although the correlated nature of such findings suggests that social support may be both a cause and a result of social connection.

Evidence for the health benefits of social support may be clearer. Social support has been associated, for example, with better blood pressure regulation in patients with hypertension (33) and with better immune functioning (34). A pathway connecting social support to perceptions of stress through physiological functioning (e.g., cardiovascular, immune) and ending in physical health outcomes has been suggested (33). Low-income patients have twice the rate of functional limitations, and are less than half as likely to report good or very good health status compared with those of higher income (35). Low income, and difficulties meeting basic needs such as paying for food and medical bills, have been shown to be most consistently associated with increased mortality (35).

Mental component of quality of life is distinct from physical component so that some individuals with sever handicap and physical impairment can achieve acceptable grade in mental component of quality of life. We can conclude that for physical handicaps mental health improvement may be enhanced quality of life of them.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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References

1. Kooijman CM, Dijkstra PU, Geertzen JHB, Elzinga A, van der Schans CP (2000). Phantom pain and phantom sensations in upper limb amputees: an epidemiological study. *Pain*, 87: 33– 41.
2. Dudkiewicz I, Gabrielov R, Seiv-Ner I, Zelig G, Heim M (2004). Evaluation of prosthetic usage in upper limb amputees. *Disabil Rehabil*, 26: 60–3.
3. Stlie K, Franklin RJ, Skjeldal OH, Skrondal A,Magnus *P* (2011). Musculoskeletal Pain and Overuse Syndromes in Adult Acquired Major Upper-Limb Amputees. *Arch Phys Med Rehabil*, 92(12): 1967-1973.
4. Endler, NS, Corace KM, Summerfeldt LJ, Johnson JM, Rothbart *P* (2003). Coping with chronic pain. *Pers Individ Dif*, 34: 323–46.
5. Williams LH, Miller DR, Raugi GJ, Etzioni R, Maynard C, Reiber GE (2011). Depression and incident lower limb amputation in veterans. *J Diab Its Compli*, 25: 175–182.
6. Hope ML, Page AC, Hooke GR (2009). The value of adding the Quality of Life Enjoyment and Satisfaction Questionnaire to outcome assessments of psychiatric inpatients with mood and affective disorders. *Qual Life Res*, 18: 647-55.
7. Lee Y, Choi K, Lee YK (2001). Association of comorbidity with depressive symptoms in community-dwelling older persons. *Gerontol*, 47:254–62.
8. Bowling A, & Windsor J (2001). Towards the good life: A population survey of dimensions of quality of life. *J Happ Stud*, 2: 55–81.
9. Bourland SL, Stanley MA, Synder AG, Novy DM, Beck JG, Averill PM, & et al. (2000). Quality of life in older adults with generalized anxiety disorder. *Aging Ment Heal*, 4: 315–323.
10. Browne, J.P., O'Boyle, C.A., McGee, H.M., Joyce, C.R.B., McDonald, N.J., O'Malley, K. and Hiltbrunner, B., (1994). 'Individual quality of life in the healthy elderly.' *Qual Life Res*, 3: 235-244.
11. Lochner C, Mogotsi M, du Toit PL, Kaminer D, Niehaus DJ, Stein DJ (2003)**.**Quality of life in anxiety disorders: a comparison of obsessive-compulsive disorder, social anxiety disorder, and panic disorder**.** *Psychopath.* 36(5):255-62**.**
12. Eng W, Coles ME, Heimberg RG, Safren SA. Domains of life satisfaction in social anxiety disorder: Relation to symptoms and response to cognitive-behavioral therapy. *J Anx Disord*, 2005;19:143–156.
13. Mendlowicz MV, Stein MB. Quality of life in individuals with anxiety disorders. *Am J Psych*. 2000;157:669–682.

14. Gill TM, & Feinstein AR (1994). A critical appraisal of the quality of quality-of-life measures. *J Am Med Assoc*, 272: 619–626.
15. Pamela N, Christopher R (2001). Subjective quality of life in the evaluation of the programs for people with serious and persistent mental illness. *Clinical Psychology Review*, 21(7): 1005–1036.
16. Lehman AF (1997). Instruments for measuring quality of life. In: H. Katschnig, H. Freeman, & N. Sartorius (Eds.), *Quality of life in mental disorders* , pp.: 79–94.
17. Vahdaninia M, Goshtasebi A, Montazeri A, Maftoon F (2005). Health related quality of life in an elderly population in Iran: a population- based study. *Payesh*, 4:113-120. [in Persian].
18. Montazeri A, Goshtasebi A, Vahdaninia M, Gandek B (2005). The Short Form Health Survey (SF-36): translation and validation study of the Iranian version. *Qual Life Res*, 14(3):875-82.
19. Calman KC (1984). Quality of life in cancer patients - a hypothesis. *Med Ethics*, 10:124-7.
20. Livneh H (2000). Psychosocial Adaptation to Cancer: The Role of Coping Strategies, *J of Rehabi*, 66: 110-117.
21. Desmond DM, MacLachlan M (2006). Coping strategies as predictors of psychosocial adaptation in a sample of elderly veterans with acquired lower limb amputations. *Soc Sci Med*, 62: 208– 16.
22. Nickel S, Thiedemann B, Knesebeck OVD (2010). The effects of integrated inpatient health care on patient satisfaction and health-related quality of life: Results of a survey among heart disease patients in Germany. *Health Policy*,98 (2-3): 156-163.
23. Hofer A, Baumgartner S, Bodner T, Edlinger M, Hummer M, Kemmler G, Rettenbacher MA, Fleischhacker WW (2005). Patient outcomes in schizophrenia II: the impact of cognition. *Eur Psychiat*, 20(5–6): 395–402.
24. Sciolla A, Patterson TL, Wetherell JL, McAdams LA, Jeste DV (2003). Functioning and well-being of middleaged and older patients with schizophrenia: measurement with the 36-item short-form (SF-36) health survey. *Am J Geriatr Psychiat*, 11(6):629–637.
25. Ruggeri M, Nosè M, Bonetto C, Cristofalo D, Lasalvia A, Salvi G, Stefani B, Malchiodi F, Tansella M (2005). Changes and predictors of change in objective and subjective quality of life: multiwave follow-up study in community psychiatric practice. *Br J Psychiat*, 187(2): 121–130.
26. Ina K, Hayashi T, Nomura H, Ishitsuka A, Hirai H, Iguchi A (2010). Depression, quality of life (QoL) and will to live of community-dwelling postmenopausal women in three Asian countries: Korea, China and Japan. *Arch of Gerontol and Geriat*, In Press.
27. Scharloo M, Kaptein AA, Weinman J, Hazes JM, Willems LNA, Bergman W, et al (1998). Illness perceptions, coping and functioning in patients with rheumatoid arthritis, chronic obstructive pulmonary disease and psoriasis. *J Psychosom Res*, 44:573– 85.
28. Hopman-Rock M, Kraaimaat, FW, Bijlsma JW (1997). Quality of life in elderly subjects with pain in the hip or knee. *Qual Life Res*, 6: 67-76.
29. Penley JA, Tomaka J, Wiebe JS (2002). The association of coping to physical and psychological health outcomes: a meta-analytic review. *J Behav Med*, 25:551– 603.
30. Bowling, A. (2005) *Ageing Well: Quality of Life in Old Age*, Open University Press, Maidenhead, UK.
31. Seeman TE, Lusignolo TM, Albert M. and Berkman L (2001). Social relationships, social support, and patterns of cognitive aging in healthy, high-functioning older adults: MacArthur studies of successful aging. *Health Psychol*, 20: 243-255.
32. DiMatteo MR, & Haskard KB (2006). Further challenges in adherence research: Measurements, methodologies, and mental health care. *Med Care*, 44(4): 297-299.
33. Uchino BN, Cacioppo JT, Kiecolt-Glaser JK (1996). The relationship between, social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psycl Bullt*,119(3): 488-531.
34. Baron RS, Cutrona CE, Hicklin D (1990). Social support and immune function among spouses of cancer patients. *J Pers Soc Psychol*, 59(2):344–52.
35. Chen H, Landefeld SC (2007). The hidden poor: Care of the elderly. In: King WM, editor. *Medical management of vulnerable and Underserved patients*. McGraw-Hill; New York, 199–209.