SUBJECTIVE PERCEPTION OF LIFE QUALITY AMONG MEN WITH PHYSICAL DISABILITIES WITH DIFFERENT SPORT PARTICIPATION LEVEL

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Summary: The objective of the study was to analyse subjective perception of the quality of life (QOL) among men with physical disabilities with different sport participation level throughout quality of life indicators/domains satisfaction and overall QOL. Three groups of men with physical disabilities (n = 130) categorised by the level of sport participation were recruited for the study: elite athletes (n=26), recreational athletes (n = 45) and non-athletes (n = 59). The Subjective Quality of Life Analysis questionnaire and the WHOQOL User Manual were used as a primary research method. The highest subjective perception of life quality declares men elite athletes and the lowest non-athletes. Elite athletes are significantly more satisfied in their lives with domains Physical health/level of independence and Environment, indicators Sleep, Work, Leisure activities, Safety and overall QOL than non-athletes. No significant differences were found in subjective perception of life quality between men recreational athletes and non-athletes.

Key words: quality of life, indicators and domains, men, physical disability, elite and recreational athletes, non-athletes.

Introduction

The quality of life (QOL) construct has increasingly become a focus for psychological research. According to World health organisation approach QOL is “the individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad-ranging concept

affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, and their relationship to salient features in their environment" (WHOQOL Group 1995). This definition emphasizes not only the subjective nature of QOL, but also its cultural and environmental context as well as personal goals and values. At the same time, personal identity formation implies identification with specific values and choice of life goals and, moreover, this process is deeply rooted in socio-cultural context (Oleś 2016).

Physical disability affects the satisfaction with health, the ability of independent functioning, ability to work and earn for a living, the ability to have and raise children, and achieving partnerships (Bakula et al. 2011; Bendíková & Dobay, 2018). Own body image, self-concept and self-esteem can be significantly altered as a result of a disability (Janeković 2003). All these factors may contribute to a lower QOL for people with disabilities. Some studies have shown poor QOL for people with physical disability (Dijkers 1997). Others have shown disabled people to be more satisfied in some aspects of life, while less satisfied in others than people without disabilities (Post et al. 1998).

Participation in sports, whether competitive or non-competitive, is one way for people with disabilities to increase their QOL. Crnković & Rukavina (2013) argue that impact of kinetic activities of persons with disabilities is manifested through positive effect on motoric and functional capabilities, morphological characteristics, psychological, sociological and cognitive features and contributes to greater independence of people with disabilities, which is a predictor to better QOL. Some other studies have argued that people with physical disabilities who participate in sports and recreational activities improve self-confidence, self-esteem, and QOL, as well as performance of activities of daily living (Jackson & Davis 1983; Slater & Meade 2004; Ginis, Jorgensen & Stapleton 2012; Bendíková et al., 2018). Reviews of adults with various disabilities have described the physical, psychological, social, and economic benefits of participation in sports and recreational activities (Klapwijk 1987; Shephard 1991; Hutzler & Bar-Eli 1993; Richter, Gaebler-Spira & Mushett 1996; Vanderstraeten & Oomen 2010).

Many other scientific papers suggest that participation in sports and recreational activities is beneficial to people with disabilities (Gioia et al. 2006; Rimmer et al. 2010; Nemček 2017; Marko & Bendíková, 2019). Tasiemski et al. (2005) performed a very large questionnaire-based study, including almost 1 000 participants, in which about half were physically active or participated in organized sports. The participants were all wheelchair users. Those who participated in sports had a higher level of life satisfaction, along with a decreased

depression and anxiety level. The overall conclusion was that the participants were satisfied with life in general, especially in social domains, but with the lowest satisfaction in sexual life and vocational situation. Another study presents, that people with spinal cord injury who participate actively in sports display increased community integration, life satisfaction, employment, and extraversion, as well as decreased levels of anxiety and depression (Sahlin & Lexell 2015).

Aim of the study

The objective of the study was to analyse subjective perception of the quality of life among men with physical disabilities with different sport participation level throughout quality of life indicators/domains satisfaction and overall quality of life. Concretely; this study had deepened the knowledge by the subjective quality of life comparison among men elite athletes, recreational athletes and non-athletes with physical disabilities.

Methods

Participants and procedure

Three groups of men with physical disabilities (PDs; $n = 130$) categorised by the level of sport participation were recruited for the study: elite athletes ($n = 26$; mean age 24.4 ± 1.9 years), recreational athletes ($n = 45$; mean age 27.1 ± 2.2 years) and non-athletes ($n = 59$; mean age 29.3 ± 1.7 years). Men with PDs included individuals with following disabilities: 28.5 % cerebral palsy, 28.2 % amputees, 18.8 % progressive muscular dystrophy, 17.9 % spine cord injury (quadriplegia and paraplegia), 5.3 % sclerosis multiplex and 1.3 % myelomeningocele. Most of the elite athletes competed in boccia Paralympic sports discipline. Participants were contacted through representatives of national regular/sport organisations/associations all around Slovakia unifying people with special needs. Some questionnaires were sent electronically by representatives of the organisations and some were passed out at the different meetings organised by national organisations. All data were collected for two years period (2018 – 2019). All participants with PDs agreed participate in the study and gave their written informed consent. The Ethics Committee of the Faculty of Physical Education and Sports, Comenius University in Bratislava (ref. no. 10/2019) had approved this research.

The Subjective Quality of Life Analysis (S.QUA.L.A) and The World Health Organisation Quality Of Life (WHOQOL)

S.QUA.L.A. is a multidimensional instrument. This multidimensional self-assessment method was created by Mathieu Zannotti in 1992 (Zannotti & Pringuey 1992). This scale includes 23 quality of life indicators (indicators). It covers traditional areas (food, family relation etc), and more abstract aspects of life (politic, justice, freedom, truth, beauty and art, love). We used second part of S.QUA.L.A. where for each indicator, participants were asked to evaluate their degree of satisfaction using the 5-point rating scale. Score 1 (high satisfaction) meant the highest satisfaction and in the same time the highest level and score 5 (total disappointment) expressed the absolute insignificance of the indicator in men life. The lower mean point score meant higher satisfaction with indicator. We unified all 23 indicators into four quality of life domains (domains) following WHOQOL (WHO 1998): Physical Health and the Level of Independence (PH/LI); Psychological Health and Spirituality (PH/S); Social Relationships (SR) and Environment (E) domain. Overall QOL (OQOL) was calculated by summarizing all indicators. In this study a Slovak version of the S.QUA.L.A. was used (Nemček et al. 2011).

Data analyses

The program IBM SPSS Statistics version 23.0 was used for data processing. Quantitative variables are presented as mean and standard deviation ($\pm$ SD). The Kolmogorov-Smirnov test was used to evaluate data normality, Kruskal Wallis test was used to assess differences in subjective perception of life quality among three groups of people with PDs according to their sport participation level and non-parametric Mann Whitney *U*-test between two independent samples. In the current study, only one measurement has been made and three main groups of people with PDs formed the study. The significance level was set at $\alpha \leq 0.05$ (*) and $\alpha \leq 0.01$ (**).

Results

The analyses of the indicators' mean point scores of the Physical health/ Level of independence (PH/LI) domain shows that elite athletes with PDs are the most satisfied in their lives with sleep, recreational athletes and non-athletes present the highest satisfaction with food (Table 1). All evaluated groups of men with PDs according to their sport participation level are the most dissatisfied with physical well-being among all assessed indicators of the domain PH/LI. Significant differences in satisfaction within three groups of people with PDs according to their sport participation level was shown in indicators sleep (Chi = 7.005, $p = 0.030$) and work/study (Chi = 7.005, $p = 0.030$) (Table 1). Subsequent pair comparison revealed

significantly the highest satisfaction with sleep indicator in the group of elite athletes compare recreational athletes ($U = 385$, $p = 0.011$) and non-athletes ($U = 542$, $p = 0.029$) (Figure 1). Pair comparison further revealed significantly higher satisfaction with work/study indicator in the group of elite athletes compare non-athletes ($U = 448$, $p = 0.018$) (Figure 1).

Table 1
Differences in subjective perception of life quality within three samples

Indicators/domains Overall QOL	Elite athletes N = 26	Recreational athletes N = 45	Non-athletes N = 59	Kruskal Wallis Test	
				Chi- square	<i>p</i>
Physical wellbeing	2.577±0.902	2.511±0.944	2.797±0.886	3.189	0.203
Sleep	1.808±0.749	2.444±1.013	2.310±0.959	7.005*	0.030
Self-care	2.120±0.927	2.273±0.845	2.414±0.750	3.576	0.167
Rest in leisure	2.192±0.801	2.133±1.013	2.339±0.939	2.413	0.299
Work/Study	2.167±1.090	2.425±1.196	2.746±1.058	5.867*	0.053
Food	1.961±0.528	2.067±0.939	2.118±0.892	0.290	0.865
Physical health/ Level of independence	2.129±0.485	2.302±0.670	2.446±0.602	5.364	0.068
Psychological wellbeing	2.077±0.744	2.178±0.886	2.203±0.886	0.552	0.759
Love	2.577±1.137	2.465±1.221	2.483±1.127	0.295	0.863
Religion	2.538±0.948	2.477±0.999	2.754±1.005	2.145	0.342
Justice	3.440±0.768	3.568±0.974	3.464±0.873	0.710	0.701
Beauty and art	2.462±0.582	2.512±0.869	2.554±0.807	0.832	0.660
Truth	2.615±0.803	3.000±1.069	2.965±0.981	2.552	0.279
Psychological health/ Spirituality	2.608±0.457	2.692±0.610	2.719±0.531	1.113	0.573
Family relations	1.846±0.881	2.023±1.023	2.051±1.024	0.564	0.754
Relations with others	1.885±0.816	2.067±0.751	2.085±0.772	1.570	0.456
Children	2.000±0.707	2.304±1.105	2.117±0.913	0.397	0.820
Sexual life	3.040±1.136	2.850±1.312	2.981±1.212	0.547	0.761
Social relations	2.234±0.593	2.265±0.717	2.325±0.719	0.356	0.837
Home environment	1.692±0.618	2.156±0.878	2.068±0.907	4.630	0.099
Political situation	4.167±0.816	3.841±1.010	3.897±1.003	1.479	0.477
Leisure activities	1.461±0.582	2.267±1.053	2.586±1.009	23.69**	0.000
Safety	2.154±0.834	2.489±0.895	2.759±1.014	6.780*	0.034
Freedom	2.461±0.948	2.682±0.983	2.732±0.981	1.255	0.534
Finances	2.708±1.160	3.067±1.053	3.000±1.169	1.662	0.436
Environment	2.391±0.531	2.737±0.573	2.830±0.667	7.776*	0.020
Overall QOL	2.335±0.388	2.539±0.546	2.643±0.503	6.606*	0.037

Note: Lower mean score indicates higher satisfaction with indicator/domain/Overall QOL level; Chi-Square = Kruskal Wallis Test statistics; p =statistical significance (p -values * ≤ 0.05 , ** ≤ 0.01)

The highest satisfaction with PH/LI domain shows the group of elite athletes with PDs achieving the lowest mean point score (2.129 ± 0.485 points) and the highest dissatisfaction

with this domain declare men non-athletes with PDs achieving the highest mean point score (2.446 ± 0.602 points). Even no significant differences were found in satisfaction with domain PH/LI among three groups of men with PDs according to their sport participation level (Table 1), subsequent pair comparison revealed significantly higher satisfaction with PH/LI domain in the group of elite athletes compare non-athletes ($U = 549, p = 0.037$) (Figure 1).

The analyses of the indicators' mean point scores of the Psychological health/Spirituality (PH/S) domain shows that all assessed groups of men with PDs according to their sport participation level are the most satisfied in their lives with psychological well-being and the most dissatisfied with justice (Table 1). Achieved mean point score of PH/S domain further show the highest satisfaction with this domain in the group of elite athletes with PDs achieving the lowest mean point score (2.608 ± 0.457 point) and the highest dissatisfaction in the group of men non-athletes with PDs achieving the highest mean point score (2.719 ± 0.531 points). No significant differences were found in satisfaction with indicators of the PH/S domain nor with PH/S domain among three nor two groups of men with PDs according to their sport participation level (Table 1).

The analyses of the indicators' mean point scores of the Social relations (SR) domain shows that all assessed groups of men with PDs according to their sport participation level are the most satisfied in their lives with family relations and the most dissatisfied with sexual life (Table 1). Achieved mean point score of SR domain further show the highest satisfaction with this domain in the group of elite athletes with PDs (2.234 ± 0.593 point) and the highest dissatisfaction in the group of men non-athletes with PDs (2.325 ± 0.719 points). No significant differences were found in satisfaction with indicators of the SR domain nor with SR domain among three nor two groups of men with PDs according to their sport participation level (Table 1).

The analyses of the indicators' mean point scores of the Environment (E) domain shows that elite athletes with PDs are the most satisfied in their lives with leisure activities, recreational athletes and non-athletes present the highest satisfaction with home environment (Table 1). All evaluated groups of men with PDs according to their sport participation level are the most dissatisfied with political situation among all assessed indicators of the domain E. Significant differences in satisfaction within three groups of men with PDs according to their sport participation level was shown in indicators leisure activities ($\chi^2 = 23.69, p = 0.000$) and safety ($\chi^2 = 6.780, p = 0.034$) (Table 1). Pair comparison revealed significantly the highest satisfaction with leisure activities indicator declared by the group of elite athletes compare recreational athletes ($U = 321, p = 0.001$) and non-athletes ($U = 276, p = 0.000$) (Figure 2). Pair

comparison further revealed significantly higher satisfaction with safety indicator in the group of elite athletes compare non-athletes ($U = 507$, $p = 0.011$) (Figure 2). Even in the indicator home environment was not shown significant differences among three samples of men with PDs according to their sport participation level, subsequent pair comparison revealed significantly higher satisfaction with this indicator in the group of men elite athletes compare men recreational athletes with PDs ($U = 420$, $p = 0.029$) (Figure 2). Significant differences among three samples of men with PDs is displayed in the E domain ($\chi^2 = 7.776$, $p = 0.020$) (Table 1), where the most satisfied with this domain from all evaluated samples are elite athletes compare recreational athletes ($U = 378$, $p = 0.013$) and non-athletes ($U = 498$, $p = 0.010$) (Figure 2).

The analyses of the mean point scores of Overall quality of life (OQOL) show the highest OQOL in the group of men elite athletes with PDs (2.335 ± 0.388 points) and the lowest in the group of non-athletes (2.643 ± 0.503 points). These differences in the level of OQOL among three samples of men with PDs according to sport participation level were statistically significant ($\chi^2 = 6.606$, $p = 0.037$) (Table 1). Subsequent pair comparison revealed significant differences only between elite athletes with PDs and non-athletes, where men elite athletes presented significantly higher OQOL compare men non-athletes with PDs ($U = 494$, $p = 0.009$). No significant differences in OQOL were present between elite and recreational men athletes with PDs nor between men recreational athletes and men non-athletes with PDs.

Figure 1
Differences in satisfaction with indicators of the PH/LI domain between two samples

Figure 2
Differences in satisfaction with indicators of the E domain between two samples

Discussion

Individuals with higher levels of athletic competence show more enhanced self-concept and subjective perception of life quality (Kye & Park, 2014). The objective of the present study was to analyse subjective perception of the quality of life among men with physical disabilities with different sport participation level throughout quality of life indicators/domains satisfaction and overall quality of life. Concretely; this study had deepened the knowledge by the subjective quality of life comparison among men elite athletes, recreational athletes and non-athletes with physical disabilities. Results of many scientific papers confirmed, that elite athletes declare greater subjective perception of life quality than non-elite athletes (Marsh et al. 1997; Nemček, Kraček & Peráčková 2017) and non-athletes (Mahoney 1989; Kamal et al. 1995). The results of the present study corresponding with the results of above-mentioned studies, when elite men athletes with PDs show higher level of subjective perception of life quality than recreational athletes and non-athletes. Concretely elite athletes present significantly higher satisfaction with two domains (Physical health/level of independence and Environment) and four indicators (sleep, work, leisure activities and safety) than non-athletes and significantly higher satisfaction with one domain (Environment) and three indicators (sleep, home environment and leisure activities) than men recreational athletes with PDs. Surprisingly, no significant differences were found in satisfaction with indicators/domains nor overall QOL between men recreational athletes with PDs and men non-athletes with PDs. In accordance of the results of Crnković & Rukavina (2013), the effect of engagement in sports has significant positive correlation in all life domains of people with disabilities, regardless of the category to which they belong.

Position of sport plays a significant role in life quality of people with disabilities. The results of Nemček & Mokušová (2020) study revealed the highest position of sport among other life domains in elite and recreational deaf and hard of hearing athletes compare deaf and hard of hearing non-athletes. Another investigation of subjective perception of life quality among people with disabilities presented significantly higher level of overall quality of life (Nemček 2016a) as well as higher life satisfaction (Nemček 2016b) in the group of people with PDs, who participated in sport at elite and recreational level comparing inactive group of respondents with PDs. Related to these investigations, the results of the present study revealed significantly higher subjective perception of life quality through the overall QOL in men elite athletes with PDs than men non-athletes with PDs, but as we already above-mentioned, no significant differences were found in overall QOL between men elite and recreational athletes with PDs, nor between men recreational and non-athletes with PDs in this study.

Even many studies show the highest level of subjective perception of life quality in the group of elite athletes, no significant differences were reported in domains satisfaction nor in overall QOL between male and female elite athletes (Nemček 2020). Similarly, King et al.'s (1993) study showed the lack of difference in subjective perception of life quality scores between disabled and healthy individuals and based on their results suggested that clinical care approach not to be determined assuming that disabled people have lower subjective perception of life quality level.

Conclusion

Differences in subjective perception of life quality among three groups of men with PDs according to their sport participation level are significant. On the basis of the present study's results, the highest subjective perception of life quality declares men elite athletes and the lowest subjective perception of life quality men non-athletes. According to quality of life indicators/domains satisfaction and overall quality of life: (1) men elite athletes present significantly higher satisfaction in their lives with life domains Physical health/level of independence and Environment and indicators Sleep, Work, Leisure activities and Safety compare non-athletes; (2) men elite athletes further present significantly higher satisfaction in their lives with domain Environment and life indicators Sleep, Home environment and Leisure activities compare men recreational athletes with PDs; (3) and men elite athletes also presented significantly higher overall QOL compare men non-athletes with PDs. No significant

differences were found in subjective perception of life quality between men recreational athletes with PDs and men non-athletes.

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