

AGE CATEGORIES DIFFERENCES IN SUBJECTIVE QUALITY OF LIFE OF WOMEN WITH PHYSICAL DISABILITIES

RAZLIKE V SUBJEKTIVNI KAKOVOSTI ŽIVLJENJA ŽENSK S FIZIČNIMI OVIRAMI MED STAROSTNIMI KATEGORIJAMI

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ABSTRACT

Keywords:

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Objective: The objective of the study was to analyse and compare the subjective quality of life (S-QoL) of women with physical disabilities (PDs) through satisfaction with the quality of life domains and the overall quality of life assessment.

Methods: The sample comprised of women with PDs (n=137), divided into 4 age categories: 19-29 yrs. (n=53); 30-44 yrs. (n=25); 45-59 yrs. (n=24) and over 60 yrs. (n=35). The Subjective Quality of Life Analyses questionnaire and the WHO User Manual were used as a primary research method. The Wilcoxon Signed Rank Test was used to assess the differences between QoLs, Kruskal Wallis test to assess differences in S-QoL among four independent groups and Mann Whitney U-test between two age categories.

Results: The highest satisfaction in all age categories of women was found in the social relations domain, and in the 19-29 yr-old women equally in the social relations and physical health domains. The highest dissatisfaction was reported with the psychological health and environment domains. The key finding is that the main differences are between the youngest category (aged 19-29 yrs) and the three older categories with regard to physical health, environment and overall QoL.

Conclusions: It is necessary to continue this line of research with a greater focus on exploring the ways in which the psychological health domain can be improved as an integral part of S-QoL, and to also focus on the QoL indicators that make up the environment domain and search for ways to enhance these.

IZVLEČEK

Ključne besede:

področja kakovosti življenja, splošna kakovost življenja, fizične ovire, starostne kategorije, ženske

Cilj: Cilj študije je bil analizirati in primerjati subjektivno kakovost življenja (S-QoL) žensk s fizičnimi ovirami na podlagi zadovoljstva s področji kakovosti življenja in ocene splošne kakovosti življenja.

Metode: Vzorec je bil sestavljen iz žensk s fizičnimi ovirami (n = 137), ki so bile razdeljene v štiri starostne kategorije: 19-29 let (n = 53); 30-44 let (n = 25); 45-59 let (n = 24) in nad 60 let (n = 35). Kot primarna raziskovalna metoda sta bila uporabljena vprašalnik za analize subjektivne kakovosti življenja in priložnik za uporabnike SZO. Za ocenjevanje razlik med področji kakovosti življenja je bil uporabljen Wilcoxonov test predznačenih rangov, za ocenjevanje razlik v subjektivni kakovosti življenja med štirimi neodvisnimi skupinami je bil uporabljen Kruskal-Wallisov test, za ocenjevanje razlik med dvema starostnima kategorijama pa je bil uporabljen Mann-Whitneyjev U test.

Rezultati: Največje zadovoljstvo v vseh starostnih kategorijah žensk je bilo ugotovljeno na področju družbenih odnosov, pri ženskah v starosti 19-29 let pa je bilo ugotovljeno enako zadovoljstvo z družbenimi odnosi in telesnim zdravjem. Največje nezadovoljstvo je bilo ugotovljeno večinoma na področju psihičnega zdravja in okolja. Ta razlika obstaja samo med starostno mejo najmlajše kategorije (19-29 let) in preostalimi tremi starostnimi kategorijami na področju telesnega zdravja, okolja in splošne kakovosti življenja.

Zaključki: Treba je nadaljevati raziskave na tem področju s poudarkom na preučevanju načinov povečanja področja psihičnega zdravja kot sestavnega dela subjektivne kakovosti življenja in se osredotočiti na kazalnike kakovosti življenja, ki zapolnjujejo področje okolja, ter poiskati načine, da bi pozitivno vplivali na te kazalnike v življenjih žensk.

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1 INTRODUCTION

The World Health Organization (WHO) reports that there are more than one billion people with a disability globally, and of this between 110 million and 190 million adults experience significant difficulties in functioning (1). Disability disproportionately affects women, older people, and poor people. Women and girls with a disability are likely to experience “double discrimination”, which includes gender-based violence, abuse and marginalization. As a result, women with a disability often face additional disadvantages when compared with men with a disability and women without a disability (1). Individuals with disabilities, like all people, have varied and dynamic feelings and thoughts about their lives which contribute to their quality of life (QoL) (2).

In many countries, women with disabilities face barriers to social integration, employment and productivity, healthcare, and adequate access to community resources and support services, all of which significantly decrease their QoL (3). Being a woman and having a disability often results in double discrimination and consideration as a second-class citizen (4). Research also reveals that the health-related quality of life of women with disabilities is related to their educational level, marital status, type of residence, cause of acquired disability and disability of a spouse. Activities of daily life, self-esteem and health-promoting behaviours are significant predictors to explain the quality of life in disabled women (5). In Tate et al. (6) women with traumatic conditions (amputation, spinal cord injury) reported poorer physical functioning and well-being, whereas women in the nontraumatic (post-polio, breast cancer) group reported poorer health status. Age is another important factor that can negatively influence the QoL of a person with a disability, such as through an increasing incidence of pain (7-8). The research objective of the current study was thus to identify any age-based differences in the subjective quality of life of women with physical disabilities through assessing their satisfaction with various quality of life domains (physical health and independence level, psychological health and spirituality, social relations, environment) and an overall quality of life assessment.

2 METHODS

2.1 Participants and data collection

Women with physical disabilities (PDs; $n=137$) were recruited for the study and out into four age groups: 19-29 years of age ($n=53$), 30-44 ($n=25$), 45-59 age ($n=24$) and over 60 ($n=35$). Women with PDs were contacted through representatives of national organizations/associations all around Slovakia that bring together people with special needs. Some questionnaires were sent electronically by representatives of the organizations and some

were passed out in person at the different meetings organized by various national organizations. The basic sociodemographic characteristics and compensatory technology (CT) use of the sample are presented in Table 1. All data was collected in 2019 and 2020.

2.2 The Subjective Quality of Life Analysis (S.QUA.L.A) and The World Health Organization’s Quality Of Life User Manual (WHOQoL User Manual)

S.QUA.L.A. is a multidimensional self-assessment method that was created by Mathieu Zannotti in 1992 (9). This scale includes 22 indicators of quality of life, and covers traditional areas (food, family relations, etc.), and more abstract aspects of life (politic, justice, freedom, truth, beauty and art, love). Participants are asked to evaluate their degree of satisfaction using a 5-point rating scale. A score of 1 (high satisfaction) means the highest levels of satisfaction and S-QoL, while a score of 5 (total disappointment) expresses the lowest degree of satisfaction and S-QoL with regard to this aspect of life. We group all 22 S.QUA.L.A. indicators into four quality of life domains (QoLDs) following the WHOQoL User Manual (10): the physical health/independence level (physical health/IL; including six S.QUA.L.A. indicators: physical well-being, sleep, self-care, rest in leisure, work/study, and food); psychological health/spirituality (psychological health/S; including six S.QUA.L.A. indicators: psychological well-being, love, religion, justice, beauty/art, and truth); social relationships (including four S.QUA.L.A. indicators: family relations, relations with others, children and sexual life) and environment (including six S.QUA.L.A. indicators: home environment, political situation, leisure activities, safety, freedom, finances). Overall QoL was calculated by summarizing the scores of all 22 QoL indicators. A lower mean point score meant higher satisfaction with QoLD as well as higher overall QoL. Due to the research setting, a Slovak version of the S.QUA.L.A. was used in this study (11).

2.3 Data analyses

The program IBM SPSS Statistics version 23.0 was used for data processing. The data was described using absolute and relative frequencies, including the mean (\bar{x}) and standard deviation ($\pm SD$). The Kolmogorov-Smirnov test was used to evaluate data normality. The non-parametric Kruskal Wallis test was used to assess differences in QoLDs and overall QoL among four independent groups of women with PDs according to age categories. Mann Whitney U-test was used to assess differences in QoLDs and overall QoL between two age categories of women with PDs. The Wilcoxon Signed Rank Test was used to assess the differences between QoLDs for four age categories of women with PDs. The significance level was set at $\alpha \leq 0.05$ (*) and $\alpha \leq 0.01$ (**). Only one measurement was made in the current study, and the sample was comprised of women with PDs put in four groups according to age.

3 RESULTS

Table 1. Sociodemographic characteristics and compensatory technology use.

Sociodemographic factors and CT use	19-29 yrs. (n=53)	30-44 yrs. (n=25)	45-59 yrs. (n=24)	60+ yrs. (n=35)
	N (%)			
Education level				
Primary/secondary	33 (62.3)	6 (24.0)	1 (4.2)	12 (34.3)
Higher education	14 (26.4)	12 (48.0)	10 (41.7)	18 (51.4)
University	6 (11.3)	7 (28.0)	13 (54.1)	5 (14.3)
Employment status				
Employed	2 (3.7)	11 (44.0)	17 (70.8)	0 (0)
Unemployed	3 (5.7)	4 (16.0)	2 (8.4)	0 (0)
Student	47 (88.7)	1 (4.0)	0 (0)	0 (0)
(Invalid) Pensioner	1 (1.9)	9 (36.0)	5 (20.8)	35 (100.0)
Marital status				
Single	51 (96.2)	14 (56.0)	4 (16.7)	1 (2.9)
Married	2 (3.8)	9 (36.0)	13 (54.2)	9 (25.7)
Divorced	0 (0)	2 (8.0)	5 (20.8)	5 (14.3)
Widow	0 (0)	0 (0)	2 (8.3)	20 (57.1)
CT use				
Wheelchair	21 (39.6)	15 (60.0)	8 (33.3)	5 (14.3)
Other CT	13 (24.5)	7 (28.0)	8 (33.3)	26 (74.3)
Without CT	19 (35.8)	3 (12.0)	8 (33.3)	4 (11.4)

Almost all of the youngest group of women with PDs (19-29 years) were single (96.2%) and still studying (88.7%), while for daily movement the majority used an electric or manual wheelchair (39.6%). Women in the age category of 30-44 years had mostly finished higher education (48.0%), were single (56.0%), employed (44.0%) and for daily movement also used a wheelchair (60.0%). The older age category of women with PDs (45-59 years) mostly had a university level of education (54.1%), were married (54.2%), employed full-time (70.8%), and one third used a wheelchair (33.3%). All women with PDs in the oldest age category (60+ years) were pensioners or invalid pensioners (100%) and widows (57.1%), more than half of them had a higher education level (51.4%) and used other CTs (74.3%) for daily movement (Table 1).

Analysis of the mean point scores in QoLDs shows the highest satisfaction with the social relations domain in all groups of women with PDs, no matter what age category (Table 2). The mean point scores also show a high level of satisfaction with the domain physical health/IL for all four groups of women with PDs, coming in second place after the social relations domain. The results of the Wilcoxon Signed Rank test revealed the highest satisfaction with the social relations domain in the three older age categories of women with PDs (30-44, 45-59 and over 60), and in these

women significant differences were found between the social relations domain (as the leading domain with regard to satisfaction) and the physical health/IL domain (as the second-placed domain), although this was not the case for the youngest women with PDs. Because there were no significant differences between the first two domains for the younger women, the results of the present study can confirm that 19-29 yr-old women with PDs are equally satisfied with the social relations and the physical health/IL domains (Table 3).

On the other hand, the highest levels of dissatisfaction were reported for the psychological health/S and environment domains for all age groups of women with PDs (Table 2). More specifically, the youngest group of women (19-29) and women aged 45-59 expressed the highest dissatisfaction in their lives with regard to psychological health/S. The 30-44 yr-old women and the oldest group (60+ years) showed the highest dissatisfaction with the environment domain, with the highest mean point scores among all the analysed QoLDs. However, the Wilcoxon Signed Rank test revealed different results. While the group of 19-29 yr-old women showed the highest dissatisfaction with psychological health/S, because there were significant differences ($Z=-2.091$, $p=0.037$) between this domain and the environment domain, the three older age groups all reported the highest

Table 2. Differences in S-QoL among women with PDs according to age.

QoL domains/ Overall QoL	Age categories (years)				Kruskal Wallis test	
	19-29	30-44	45-59	60 +	Chi-square	p
	$\bar{x}/\pm SD$ (mean point score)					
Physical health/IL	2.213±0.513	2.524±0.472	2.500±0.417	2.509±0.661	9.91*	0.019
Psychological health/S	2.499±0.629	2.668±0.463	2.720±0.528	2.669±0.420	3.27	0.351
Social relations	2.147±0.679	2.080±0.727	2.295±0.616	2.073±0.640	1.55	0.671
Environment	2.370±0.490	2.773±0.311	2.670±0.460	2.728±0.567	16.2**	0.001
Overall QoL	2.350±0.429	2.603±0.370	2.626±0.408	2.588±0.433	8.05*	0.045

Note: A lower mean score indicates higher satisfaction with QoLD and higher overall QoL level; Chi-Square= Kruskal Wallis Test statistics; p=statistical significance (p-values * \leq .05, ** \leq .01).

dissatisfaction with both the psychological health/S and environment domains, although significant differences were not found between these two areas (Table 3).

The satisfaction with QoLDs among four age categories of women with PDs revealed significant differences in two domains, those of physical health/IL (Chi=9.91, p=0.019) and the environment (Chi=16.2, p=0.001) (Table 2). The highest satisfaction with the domain physical health/IL from among all the age categories of women with PDs was expressed by the youngest women (2.213±0.513 mean points). Similar results were found with regard to the differences in satisfaction with the environment domain, when the highest satisfaction with this was again expressed by the youngest women with PDs (2.370±0.490 mean points). With regard to the analyses of overall QoL, the results of the present study revealed significant differences among the four groups of women with PDs according to age (Chi=8.05, p=0.045) (Table 2). Specifically, the highest overall QoL was reported by the youngest group of women with PDs (2.350±0.429 mean points).

Table 3. Differences between QoLDs for the different age categories of women with PDs.

Age category / QoLDs	Psychological health/S	Social relations	Environment
19-29 years			
Physical health/IL	-2.939**	-0.830	-2.468**
Psychological health/S	0.003	0.407	0.014
Social relations	1	-3.352**	-2.091*
		0.001	0.037
		1	-2.564**
			0.010
30-44 years			
Physical health/IL	-1.360	-2.717**	-2.534**
Psychological health/S	0.174	0.007	0.011
Social relations	1	-3.188**	-1.297
		0.001	0.195
		1	-3.664**
			0.000
45-59 years			
Physical health/IL	-2.325*	-2.359*	-1.620
Psychological health/S	0.020	0.018	0.105
Social relations	1	-3.394**	-0.620
		0.001	0.536
		1	-2.879**
			0.004
60+ years			
Physical health/IL	-1.478	-2.967**	-2.022*
Psychological health/S	0.139	0.003	0.043
Social relations	1	-4.376**	-0.762
		0.000	0.446
		1	-4.398**
			0.000

Note: Wilcoxon Signed Ranks Test statistics include Z scores and p=statistical significance (p-values * \leq .05, ** \leq .01)

Table 4. Differences in S-QoL between two age categories of women with PDs.

QoL domains/ Overall QoL	Age categories (years)					
	19-29 vs 30-44		19-29 vs 45-59		19-29 vs 60 +	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Physical health/Independence level	429**	0.012	423*	0.018	669*	0.027
Psychological health/Spirituality	548	0.218	504	0.144	780	0.207
Social relations	607	0.550	591	0.618	851	0.512
Environment	326**	0.000	425*	0.020	601**	0.005
Overall QoL	435*	0.019	418*	0.021	604*	0.036

Note: *U* = Mann-Whitney U-test statistics; *p*=statistical significance (p-values * \leq .05, ** \leq .01).

Application of the Mann Whitney U test did not reveal any significant differences in QoLs' satisfaction nor in overall QoL between the following two age groups of women with PDs: 30-44 versus 45-59, 30-44 versus 60+, and 45-59. versus 60+. Moreover, the youngest women with PDs (19-29 yrs) reported significantly higher satisfaction with the physical health/IL and environment domains, as well as significantly higher overall QoL, compared to the three older groups (Table 4).

4 DISCUSSION

Measuring the quality of life of adults with disabilities is multi-dimensional and must go beyond health-related quality of life measurement tools (12). The objective of the present study was to identify any differences based on age in the subjective quality of life of women with physical disabilities, by measuring satisfaction with the WHO quality of life domains and an overall quality of life assessment. The highest satisfaction with the domain of social relations was found in the three older groups of women with PDs (30-44, 45-59 and over 60), while for the women aged 19-29 two domains had equal highest satisfaction, namely social relations and physical health/IL. On the other hand, the group of 19-29 yr-old women show the highest dissatisfaction with psychological health/S, while the three older groups expressed the highest dissatisfaction for two domains, psychological health/S and environment. In Tate et al. (6), women with traumatic conditions (amputation, spinal cord injury) reported significantly lower physical functioning and physical well-being compared with women with nontraumatic conditions (breast cancer and post-polio). Women with nontraumatic conditions, however, reported significantly lower levels of well-being with respect to their health status during the previous year compared with their traumatic condition counterparts (6). Our results partially correspond with the results of Nemček's (13) study, when both groups of people with physical disabilities and deaf and hard of hearing

people were the most satisfied with social relations in their lives, while the highest dissatisfaction was reported for the domain psychological health/spirituality (14). Women with disabilities experience the double impact of being female and disabled. As women, they have greater risks of psychosocial health problems than men, and compared to women in general those with disabilities report higher rates of depression and stress (15). One study found that feeling depressed or anxious and experiencing major depression in the past 12 months was a serious problem among younger women with more severe disabilities (16). At especially high risk are those women with physical disabilities who are limited by pain, lack of social support, and/or have experience with recent abuse (17). The highest levels of depression and anxiety were discovered for those women suffering back pain and the lowest for headache (18). Earlier authors thus recommend that stress management interventions for women with physical disabilities should consider incorporating components addressing pain, social support, and abuse (17). Other authors suggest that women with physical disabilities may also benefit from a self-esteem group intervention, which has been shown to provide significant improvements to psychological health by increasing self-esteem and self-efficacy, and decreasing depression (19).

In the present study no significant differences were found in S-QoL between the women aged 30-44 and 45-59, 30-44 and over 60, nor between those aged 45-59 and over 60. Young women with physical disabilities aged 19-29, as reported in Ladecká, Nemček and Harčáriková (20), had significantly lower levels of physical and psychological health compared to young men with physical disabilities in the same age category. On the other hand, a study that examined elderly people who were deaf and hard of hearing found significant differences between men and women in changes in the QoL domains of sensory abilities, social participation and intimacy, with women reporting significant improvements in these (21).

With advancing age the S-QoL is expected to decrease in all populations, based on the different health statuses (22, 23). However, the results of the present study did not confirm decreasing S-QoL along with rising age in women with PDs, although the highest overall QoL was reported by the youngest age category of women (19-29 yrs), while the three older age groups (30-44, 45-59 and over 60 yrs.) expressed similar levels of S-QoL. Ellert, Lampert and Ravens-Sieberer (24) found that with increasing age the quality of life for both men and women decreased in the physical dimensions, while increasing in the mental health ones. On the other hand, Brenes et al. (25) indicated that worse psychological health is associated with higher levels of disability, and that different effects are seen according to age. Older adults with any symptoms that negatively affect their psychological health tend to report higher levels of disability than younger adults. Harris et al. (26) reported significant gaps in service provision in the community, and stated that more work was needed on such issues to examine the short- and long-term effects on maturation and ageing, reproductive and sexual health, mental health and life satisfaction in girls and women with PDs. With regard to the results of the present study, S-QoL decreases in the physical dimension as age increases. Barker et al. (27) revealed that the poorer quality of life of people with PDs compared people without PDs is associated with secondary impairments, activity limitations and restrictions on participation in daily activities, but not with neurological level, age, or time since injury (27). For example, body weight control, as a part of the physical health as well as psychological health domains, is indeed a problem among women with disabilities in middle age, with 42% of women with three or more limitations being overweight (16). Hypertension increases substantially with age and severity of impairment, which may be related to the physical and emotional stress associated with living with a disability (16). The social relation domain in the present study remains relatively stable for all age groups of women with PDs, staying the most satisfying domain, while the psychological health/S domain stays as one of the least satisfying domains.

4.1 Study limitations

The limitations of the present study should be mentioned when evaluating the results, and also need to be addressed in subsequent research. The sociodemographic data used in this work do not include information about the level of physical disability of the women (lower/mild/heavy) nor conditions (congenital or acquired), other medical conditions, or income, which would all significantly affect S-QoL. Furthermore, the results for certain QoLDs may have been influenced by the varied categories applying to each age group, such as education level, employment status and marital status, or even use of compensatory technology. Further research is needed to explore the

comparison between the S-QoL of women with and without disabilities, and for hard of hearing / visually impaired women.

5 CONCLUSION

The findings of this study confirm that there are differences in S-QoL in some QoLDs as well as in an overall QoL among the four age groups of women with PDs. Significant differences were revealed between the youngest age women and the three older age group in terms of satisfaction with the domains of physical health/IL, environment and overall QoL. The women aged 19-29 showed significantly higher levels of satisfaction with the physical health/IL and environment domains and significantly higher levels of overall QoL compared to the older women. There were no significant differences found in S-QoL among the other three older age groups. The results further revealed the highest satisfaction in the three older age groups of women was with the social relations domain, while the 19-29 yr-old women were equally satisfied with the social relations and physical health/IL domains. For the youngest women the highest dissatisfaction was reported for the psychological health/S domain, while the three older groups were least satisfied with the psychological health/S and environment domains. However, the existing research on age-related differences in S-QoL in people with various kinds of disabilities is very limited. It is thus necessary to continue this line of research, and also to explore the ways in which psychological health increases as an integral part of S-QoL in women with PDs. It is also necessary to focus on the QoL indicators that make up the environment domain and search for ways to enhance these and thus improve the lives of women with PDs.

CONFLICTS OF INTERESTS

There are no conflicts of interest associated with this manuscript, financial or otherwise.

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ETHICAL APPROVAL

The study was approved by the Ethics Committee of the Faculty of Physical Education and Sports, Comenius University in Bratislava, Slovakia (ref. no. 10/2019).

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