Pertanika J. Soc. Sci. & Hum. 26 (2): 689 - 704 (2018)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

A Comparative Study on Quality of Life among Youths with and without Disabilities

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ABSTRACT

The objective of this paper is to compare the self-perceived Quality of Life (QoL) between disabled and non-disabled youths in Malaysia using the WHOQOL-BREF (World Health Organisation Quality of Life - Abbreviated version) instrument. A cross-sectional questionnaire-based survey of 300 disabled students and a control group comprising 523 non-disabled students from Malaysian higher learning institutions were the subjects for this study. The score for each domain was computed using the formula outlined by WHOQOL-BREF. Descriptive analysis was used to analyse the characteristics of the respondents. Due to the non-normality of the score distribution, nonparametric Mann-Whitney and Kruskal-Wallis tests were used to compare the mean scores of each domain across selected demographic variables. The mean age of the disabled students was 21.7 years old (SD=1.9), while that of the non-disabled students was 22.3 years old (SD=2.6). As expected, the mean total QoL score (TotQoL) of the non-disabled students was higher than that of the students with disabilities. Except for the social relationships domain, the disabled students had significantly higher mean scores for the physical health, psychological health and environment domains compared with the control group. For the disabled group, no significant difference was observed between males and females in the mean TotQoL as well as in the four domains. Hearing-impaired students were found

ARTICLE INFO

Article history:
Received: 16 June 2016
Accepted: 06 March 2018

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ISSN: 0128-7702

to score the lowest TotQoL among the categories of disabled students. They also scored the lowest for the social relationships domain, with a mean score of 5.91 compared with 16.26 and 15.98 for visually- and mobility-impaired students, respectively. In conclusion, WHOQOL-BREF is a useful instrument for assessing QoL for various groups of people. Accessing the QoL of youth including PWDs could assist relevant policy-makers and stakeholders in identifying problems faced by PWDs and in designing relevant intervention programmes.

Keywords: WHOQOL-BREF, disabilities, university students, quality of life, comparative study

INTRODUCTION

Quality of life (QoL) can be viewed from various perspectives, and can be defined in various ways in different contexts. Therefore, quality of life cannot be specifically defined, as the concept covers many aspects of life and researchers agree that the definition of quality of life is a multidimensional character definition (Dučinskienė, Kalėdienė, & Petrauskienė, 2003; Kane, 2003; Taillefer, Dupuis, Roberge, & LeMay, 2003). In fact, many studies have been carried out to reflect quality of life, but different researchers have given the term different definitions. This is because the definition given is aligned to the purpose of the specific research. The literature provides 107 definitions for quality of life that have been proposed by different researchers (Andelman et al., 1998). This indicates that there is no single precise definition that can best describe the concept, quality of life.

The World Health Organisation Quality of Life (WHOQOL) Group defined quality of life as "An 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" (WHO, 1996, p. 5). This definition relates to a person's physical well-being, which incorporates physical health, psychological health, level of independence, social relationships, personal beliefs and his or her relationship to salient features of the environment. WHOQOL-BREF is an instrument developed by WHO that has been used by many researchers to evaluate the quality of life of students at higher learning institutions (Dučinskienė et al., 2003; Li, Kay, & Nokkaew, 2009; Min, Shin, Kim, Chung, & Kim, 2000). WHOQOL-BREF was developed by WHO based on data collected from respondents of various cultural backgrounds from 23 different countries. According to Chen, Wu and Yao (2006), WHOQOL-BREF is able to assess the quality of life of people from different cultures and different age groups. WHOQOL-BREF is also widely used to assess quality of life among youth, including students at higher learning institution. In addition, this instrument has also been tested for its effectiveness and reliability by many researchers, specifically for investigating the quality of life of youth and university students from countries like Lithuania, Taiwan, Iran and Thailand (Chen et al.,

2006; Dučinskienė et al., 2003; Krägeloh et al., 2011; Li et al., 2009).

Improving quality of life (QoL) is a central issue in the care and support of Persons with Disabilities (PWDs). The quality of life for PWDs has not been studied extensively in Malaysia because priority have been given to QoL of other target groups with specific illnesses like cancer (Sharifa Ezat, Syed, & Paul, 2009), schizophrenia (Mubarak, 2005) and asthma (Sararaks, Rugayah, Azman, Karuthan, & Low, 2001). This study, therefore, is a major step towards enhancing the QoL of PWDs in Malaysia. The focus must be on nurturing and developing the internal resources of the selected target groups over their lifetime within a supportive social environment with a stable economy. The degree of QoL of society reflects the level of national prosperity and the quality of its society. This underlines the importance of policies prioritising economic development without omitting the need for welfare and social standards. Poor quality of life particularly affects socially disadvantaged groups such as people with disabilities, the unemployed, the poor, the socially isolated and the elderly as well as unskilled workers. This clearly endorses the need for policy intervention that can help these segments of the population.

While several studies on QoL have been conducted in Malaysia by other researchers, little has been written about it particularly the QoL of PWDs compared with that of non-PWDs. In view of the prevailing gap, the objective of the paper was to examine QoL of the disabled and non-disabled youth in Malaysia. The focus of the study was primarily on comparing their self-perceived QoL in four domains, social relationships, physical health, psychological health and environment measured using the WHOQOL-BREF instrument. This study will add to existing knowledge that will help in understanding the QoL of disabled and non-disabled youth in the Malaysian context.

MATERIALS AND METHOD

Participants

A cross-sectional study design was used in this study. A total of 300 disabled students and 523 non-disabled students (controls) from Malaysian higher learning institutions were invited to participate in the study. Data were collected through face-to-face interviews using the WHOQOL-BREF instrument Version in Bahasa Malaysia (Hasanah, Naing, & Rahman, 2003). Stratified sampling methods were used in selecting the participants; the disabled students were stratified according to their type of disability i.e. hearing impairment, visual impairment and physical impairment. Non-disabled students were stratified according to their field of study i.e. Arts, Science and Technical. The group of youths without disabilities were interviewed as a control group. The survey was conducted after a broad briefing for the participants on the aim of the survey. Their consent to take part in the survey was obtained during the briefing.

Instrument

The WHOQOL-BREF model developed by WHO consists of four domains and 26 items. The domains are physical health (seven items), psychological health (six items), social relationships (three items) and environment (eight items). There are also two global items, overall quality of life and general health. The physical health domain includes items on pain and discomfort, energy and fatigue, sleep and rest, dependence on medication, mobility, activities of daily living and working capacity. The psychological health domain measures positive feeling, spirituality, thinking and learning, body image, self-esteem and negative feeling. The social relationships domain contains questions on personal relationships, sexual relationships and social support. The environment domain covers issues related to physical safety and security, home environment, financial resources, access to health and social care, information skills, recreation and leisure, physical environment and transport.

However, one item from social relationships was excluded from this study since that item refers to matters related to sexual behaviour and this was incompatible with the culture of students in higher learning institutions in Malaysia. The item on sex read, ''Are you satisfied with your sex life?'' According to a study conducted by Chen et al. (2006) the sex item can be excluded from the model to suit the rationality of younger respondents. Therefore, only 25 items were used to measure the QoL of the respondents in this study.

Internal Consistency

The internal consistency of WHOQOL-BREF was measured using Cronbach's alpha scores. Internal consistency less than 0.6 is considered poor as scores greater than or equal to 0.6 are considered acceptable and adequate in terms of internal consistency. A reliability value above 0.8 is considered good. Therefore, the closer the Cronbach's alpha gets to 1.0, the better is the reliability (Serakan & Bougie, 2003). The findings of the study, shown in Table 1, indicated satisfactory alpha coefficients in all domains. Lower reliability for the social relationships domain among non-disabled person (control) has also been reported in others studies (Bredemeier, Wagner, Agranonik, Perez, & Fleck, 2014; Lucas-Carrasco et al., 2010; Skevington, Lotfy, & O'Connell, 2004).

Table 1
Internal consistency of WHOQOL-BREF domains measured using Cronbach's Alpha

The WHOQOL-BREF domain	No of Items	Cronbach's Alpha	
		Disabled Students	Control
Physical health	7	0.600	0.612
Psychological health	6	0.763	0.870
Social relationships	2	0.953	0.684
Environment	8	0.786	0.788

Statistical Analysis

The statistical analyses were performed using the Statistical Package for the Social Sciences, Version 18.0. The four domain scores were calculated by summing up the scores of the corresponding items in each domain. The calculation of the mean score of each domain was done using computational methods provided by WHO in the WHOQOL-BREF manual. All scores were transformed to reflect the 4-20 for each domain. Thus, the mean score was calculated on the minimum scale, 4, while the maximum value was 20. The total QoL mean score was the summation of all mean scores in the domains with the mean score of the two global items (overall quality of life and general health). Descriptive analysis (means and standard deviations or frequencies) was used to analyse the characteristics of the respondents. Due to the non-normality of data distribution, the nonparametric techniques, the Mann-Whitney test and the Kruskal-Wallis test, were used to compare the mean scores of each domain with selected socio-demographics. The finding was considered statistically significant if the p-value <0.05.

RESULTS

Socio-Demographic Characteristics

Out of the total 823 respondents, 300 were disabled students and 523 were non-disabled students who were used as the control (Table 2). The majority of the disabled students were hearing-impaired (52.7%), while in the control group, the majority were Arts students (27.5%). More than 80% of the students from both groups were in the age range of 20-24 years old. Most of the disabled students were male (61.7%), whereas most of the students in the control group were female (84.5%). Distribution of living arrangement showed that more than 60% of students of both groups stayed with friends. When asked about financial resources, the majority of the disabled students (65.3%) replied that they received scholarships. The second highest type of funding was self-finance at 20.7%. In contrast, the majority of the students in the control group (35.6%) were self-financed or on scholarship.

Table 2
Socio-demographic profile of study subjects

Socio-Demographic Characteristics	Students with Disabilities n (%)	Non-Disabled Students (Control) n (%)
Type of disabilities		
Hearing-Impaired	158 (52.7)	
Visually-Impaired	39 (13.0)	N/A
Physically-Impaired	103 (34.3)	
Age (Years)		
18-19	19 (6.3)	22 (4.2)
20-24	269 (89.7)	430 (82.2)
25-29	9 (3.0)	60 (11.5)
30-34	2 (0.7)	7 (1.3)
35-39	1 (0.3)	4 (0.8)
Gender		
Male	185 (61.7)	195 (37.3)
Female	115 (38.3)	328 (62.7)

Table 2 *(continue)*

Socio-Demographic Characteristics	Students with Disabilities n (%)	Non-Disabled Students (Control) n (%)
Living Arrangement		
Living alone	27 (9.0)	75 (14.3)
Spouse	2 (0.7)	30 (5.8)
Friends	198 (66.0)	316 (60.4)
Parents	73 (24.3)	102 (19.5)
Financial Resources		
Self-Financing	62 (20.7)	186 (35.6)
Parents	17 (5.7)	126 (24.1)
Scholarship	196 (65.3)	170 (32.5)
Loan	25 (8.3)	41 (7.8)

Comparative Analysis of QoL

The mean score for the disabled students and the control group for each domain is indicated in Table 3. The total QoL of the control group shows a significantly higher mean score compared with the total QoL of the disabled students. However, except in the social relationships domain, the disabled students had a significantly higher score in domains such as physical health, psychological health and environment compared with the students in the control group. This indicated that other than the social relationships domain, disabled students also had a low score on the two global items, overall quality of life and general health.

Although in this study the control group obtained a lower score in the psychological health and environment domains compared with the disabled students, the scores are considered similar or slightly higher than those obtained in previous research (Chen et al., 2006; Dučinskienė et al., 2003; Li et al., 2009). This low score was more prevalent in the physical health domain of the control group, as the score was only 13.61 out of 20 and did not show a huge demarcation in comparison with other similar research that had been conducted using the same instrument and a similar group of respondents (Chen et al., 2006; Li et al., 2009). The general consensus was that good physical health may have favourable effects on students' academic achievement (Sallis et al., 1999). However, research conducted by Fatima and Shafique (2015) among 181 undergraduate students found that physical health was not related to the academic performance of university students. Therefore, further research needs to be carried out in Malaysia to examine whether physical health influences academic achievement.

The mean score for the social relationships domain showed a very big difference between the disabled students and the non-disabled students in the control group. The mean score for the control group was 15.92, while the mean score for the disabled students was only 10.71 out of the maximum value of 20.00, indicating that the two facets in the social relationships domain, social support and personal relationships, were not favourable and should have been given serious attention for identification of the reasons behind this predicament. This is because previous studies have found that social support was a positive predictor on QoL (Caron, Lecomte, Stip, & Renaud, 2005).

Table 3
Mean QoL scores by domain

QoL by domain	PWDs (n=300)		Control (n=523)		**p-value
	Mean scores	SD	Mean scores	SD	
TotQoL	14.85	1.817	15.17	1.938	0.001*
Physical health	15.28	2.712	13.61	2.077	0.001*
Psychological health	16.49	2.712	15.43	2.325	0.001*
Social relationships	10.71	6.123	15.92	3.072	0.001*
Environment	15.90	2.212	14.55	2.265	0.003*

The score for visually-impaired students was significantly higher for total QoL compared with the score for the hearing-impaired and the physically-impaired students (Table 4). Also, there were significantly different mean scores between the type of disability in the social relationships and environment domains. Surprisingly, hearing-impaired students had extremely significant lower mean scores (5.91) in social relationships compared with the visually-impaired and physically-impaired students. Physically-impaired students recorded a significantly higher mean score in the environment domain compared with the visually-impaired and hearing-impaired students.

Table 4
Mean QoL scores by types of disability

Quality of Life Assessed by Domain	Hearing-Impaired		Visually-Impaired		Physically-Impaired		p-value
	Mean Scores	SD	Mean Scores	SD	Mean Scores	SD	
TotQoL	14.08	1.64	15.75	1.737	15.70	1.56	0.001*
Physical health	15.47	2.26	14.55	2.31	15.27	1.74	0.077
Psychological health	16.29	2.79	16.48	2.84	16.80	2.53	0.475
Social relationships	5.91	3.67	16.26	3.50	15.98	3.02	0.001*
Environment	15.56	2.01	15.83	2.65	16.30	2.28	0.045

*p<0.05 = There are significant differences. © Kruskal-Wallis test

Comparison by age group between disabled students and controls are shown in Table 5. There were two domains for the disabled students, physical health and social relationships, and they showed significant differences. Disabled students in the range of 18-19 years old had a higher score for the physical health domain than disabled students aged 20 years old and above for the same domain. However, in terms of social relationships, disabled students aged 20 and above had a higher score for social relationships compared with the disabled students who were between the ages of

18 and 19 years. As for the control group, none of the domains showed any significant differences. This means that age did not influence the score for quality of life of the control group.

Table 5
Mean QoL by age group

Quality of Life Assessed by Domain	PWDs (n=300)			Controls (n=523)		
	18-19±SD	20 & Above±SD	**p-value	18-19±SD	20 & Above±SD	**p-value
Total QOL	14.18±1.79	14.90±1.81	0.142	15.32±2.29	15.17±1.92	0.885
Physical health	16.24±2.03	15.22±2.11	0.044*	13.77±2.67	13.60±2.05	0.858
Psychological health	16.49±2.91	16.49±2.70	0.782	15.45±2.37	15.43±2.32	0.857
Social relationships	6.84±5.51	10.98±6.08	0.008*	16.09±3.23	15.92±3.06	0.906
Environment	16.24±2.20	15.87±2.21	0.660	14.59±2.55	14.55±2.25	0.726

*p<0.05 = There are significant differences. ** Mann-Whitney test

The comparison made on the quality of life of disabled students based on gender showed that none of the domains showed any significant difference. This suggested that gender was not an important factor that differentiated between the QoL of male and female. However, the control group (non-disabled students) showed significant differences across gender for physical health and social relationships, with significantly higher mean score for female students than for male students (Table 6).

Table 6
Mean QoL by gender

Quality of Life Assessed by Domain	PWDs (n=300)			Control (n=523)		
	Male±SD	Female±SD	**p-value	Male±SD	Female±SD	**p-value
Total QOL	14.97±1.74	14.68±1.92	0.233	14.91±1.99	15.33±1.89	0.013*
Physical health	15.13±2.22	15.52±1.93	0.126	13.29±2.17	13.79±1.99	0.006*
Psychological health	16.52±2.63	16.44±2.84	0.943	15.31±2.47	15.51±2.22	0.424
Social relationships	11.11±5.93	10.07±6.38	0.171	15.47±3.30	16.20±2.89	0.020*
Environment	15.85±2.29	15.97±2.07	0.863	14.36±2.26	14.67±2.26	0.054

*p<0.05 = There are significant differences. ** Mann-Whitney test

Based on Table 7, there were no significant differences in total QoL and the QoL domains based on all living arrangements for the control group. However, for the disabled students, there were significant differences in the mean scores for the total QoL, psychological health, social relationships and environment domains. Disabled students who lived alone had the highest total QoL, followed by other indicators like staying with friends, couples and staying with parents, which showed the lowest total QoL mean score. This could be because many disabled students who have health issues choose to live with their parents. General health is another evaluating item in measuring the mean score of total QoL.

As for the psychological health domain, disabled students who lived alone had the highest mean score in contrast with those who lived with their spouse, which was the indicator that showed the lowest mean score. In the social relationships domain, disabled students who lived with their parents had the lowest mean score compared with disabled students who lived with their spouse, which was the indicator that showed the highest mean score for social relationships. Disabled students who lived alone had the highest mean score in the environment domain compared with the other two categories of students.

Table 7
Mean QoL by living arrangement

Quality of Life Assessed by Domain	PWDs (n=300)					Control (n=523)				
	Alone±SD	Spouse±SD	Friends±SD	Parents±SD	©p-value	Alone±SD	Spouse±SD	Friends±SD	Parents±SD	©p-value
Total QOL	15.94±1.93	14.75±1.09	14.90±1.74	14.32±1.80	0.004*	15.05±1.91	15.51±2.01	15.11±1.89	15.35±2.07	0.350
Physical health	15.49±2.22	12.57±2.42	15.13±2.13	15.70±1.99	0.054	13.56±1.87	13.75±2.34	13.56±2.04	13.75±2.24	0.724
Psychological health	17.85±2.00	13.67±2.35	16.26±2.70	16.68±2.80	0.008	15.24±2.39	15.60±2.14	15.48±2.25	15.40±2.65	0.776
Social relationships	13.04±6.59	14.00±2.82	11.35±5.90	8.03±5.80	0.001*	15.68±3.35	17.13±2.27	15.89±3.06	15.84±3.05	0.157
Environment	16.81±2.03	14.25±1.76	15.77±2.32	15.95±1.88	0.047	14.65±2.35	14.95±2.29	14.43±2.27	14.75±2.17	0.474

*p<0.05 = There were significant differences © Kruskal-Wallis test

The results in Table 8 shows that all domains and total QoL for the disabled students were significant in the analysis of financial resources. Disabled students who were self-financed had the highest mean score for total QoL as well as all other domains except for the social relationships domain. Disabled students obtained the highest score in getting loans, an indicator of social relationships. The control group showed significant differences in mean scores in the environment domain.

Table 8
Mean QoL by financial resources

Quality of Life Assessed by Domain	PWDs (n=300)					Control (n=523)				
	Self-Finance±SD	Parents±SD	Sholarship±SD	Loan±SD	©p-value	Self-Finance±SD	Parents±SD	Sholarship±SD	Loan±SD	©p-value
Total QoL	15.53±1.91	14.23±1.89	14.67±1.74	15.06±1.74	0.017*	15.26±1.96	15.22±1.99	14.95±1.88	15.54±1.83	0.230
Physical health	15.85±1.96	14.29±1.94	15.27±2.16	14.63±1.97	0.006*	13.80±1.96	13.43±2.05	13.42±2.20	14.06±1.98	0.083
Psychological health	17.58±2.39	16.31±2.13	16.28±2.73	15.57±2.96	0.003*	15.42±2.36	15.67±2.27	15.13±2.32	16.05±2.19	0.072
Social relationships	12.87±6.82	9.29±6.20	9.73±5.84	14.00±3.60	0.001*	16.04±3.04	15.92±3.26	15.64±3.01	16.59±2.80	0.277
Environment	16.55±2.18	16.29±1.93	15.76±2.12	15.10±2.73	0.037*	14.68±2.28	14.81±2.33	14.15±2.16	14.85±2.25	0.035*

*p<0.05 = There were significant differences © Kruskal-Wallis test

Correlation Analysis

The correlation between the domains for disabled students is shown in Table 9. Negative correlation can be seen only between the social relationships and physical health domain, despite very weak correlation (r=-0.071) which is also not significant (p>0.05). Among the four domains, the correlation between the environment and physical health domains was the highest (r=0.572), followed by the correlation between the environment and psychological health domains (r=0.519).

Table 9
Correlation between the domains for disabled students

Quality of Life Assessed by Domain	Physical health Domain	Psychological Health Domain	Social Relationships Domain	Environment Domain
Physical health	1			
Psychological health	0.412*	1		
Social relationships	-0.071	0.125*	1	
Environment	0.572*	0.519*	0.178*	1

*p<0.05 = Correlation was significant

However, compared with the controls as shown in Table 10, all the domains showed significant positive correlation between them. The highest correlation between the domains for the control was also between the environment and the physical health domains (r=0.648), followed by the correlation between the environment and psychological health domains (0.637).

Table 10
Correlation between domains for control group

Quality of Life Assessed by Domain	Physical Health Domain	Psychological Health Domain	Social Relationships Domain	Environment Domain
Physical health	1			
Psychological health	0.511*	1		
Social relationships	0.503*	0.498*	1	
Environment	0.648*	0.637*	0.531*	1

*p<0.05 = Correlation was significant

DISCUSSION

Over the recent years, the number of studies on the quality of life has gradually increased. However, in Malaysia there are still very few studies conducted on the quality of life of disabled people. This initiative to measure the quality of life of the disabled population enables researchers and policy-makers to study the trends in the well-being of a population at all levels of society. The WHOQOL-BREF was used as the instrument, as it allows the monitoring of policy changes and the assessment of the quality of life in different situations and population groups, including disabled people.

The present study revealed that the mean score for total QoL of disabled students was significantly lower compared with that of the control, non-disabled students. This result was similar to that of a study conducted by Edwards, Patrick and Topolski (2003) among 2,801 students, of whom 220 were disabled students. In this present study, four items were identified as factors contributing to lower total QoL of the disabled students compared with total QoL of the control group. Two of the four items were from the social relationships domain i.e. personal relationships and social support, while the other two were global items i.e. total quality of life and general health. According to Edwards et al. (2003), people with disabilities might be expected to experience a lower health status as they are members of a medically underserved minority group.

Significant differences in the mean QoL score were observed in each domain among the disabled students and the control group. However, three domains, physical health, psychological health and environment, showed that disabled students had higher mean scores compared with the control group. It came as a surprise that the mean score of disabled students was higher in the physical health domain compared with the control, since other studies had found otherwise (Akvardar et al., 2006; Edwards et al., 2003). This finding showed that students with disability in higher learning institutions have a positive attitude towards life despite their disability. Their physical health did not hinder them from leading a normal life. Nonetheless, a study conducted by Lin et al. (2009) among 157 students with physical disabilities and 855 non-disabled students found no significant difference in the total QoL score between the two groups.

Lower scores obtained by disabled students, especially hearing-impaired students, were for the social relationships domain, suggesting that more studies must be conducted to examine the problems they face in personal relationships and social support. Social support that can buidt social connectivity, such as casual conversation with family members or others outside the home can be an important influence on the QoL of disabled persons (Edwards et al., 2003; Emond, Fortin, & Picard, 1998; Wallander & Varni, 1998). These findings suggested the importance of social relationships for disabled students, regardless of their mainstreaming or

inclusion. Therefore, it is clear there are dire consequences in not encouraging disabled students to participate in university/college activities. In light of this, attendance and priority should be given to activities, as there are many benefits to building social relationships among all students.

Universities have an important role in ensuring that the quality of life of disabled students is accommodated based on their respective limitations. For example, hearing-impaired students are known to have the lowest number of social relationships in comparison with students with other types of disability. In consideration of this fact, universities should organise social activities that bring together disabled students and their non-disabled peers to promote communication and interaction between the two groups. In order to ensure the sustainability of such interaction, sign language can even be offered as a course for university students. This would bring awareness to non-disabled students of the difficulties faced by their disabled friends. Such awareness would inculcate more empathy among non-disabled students for their disabled peers, facilitating improved communication between the two groups, especially between non-disabled students and students who are hard of hearing. Non-disabled students would also then be able to build their own strategies for better communication with their disabled peers. The overall result of such an endeavour by universities would be the gradual removal of discomfort among students who are hearing-impaired, who would then feel more able to blend into society as they would begin to feel received and welcomed.

Public policy is another important factor in addressing the needs of physically disabled students. Educational buildings should be equipped with lecture rooms that are conducive for disabled students in terms of having suitable chairs and tables, transport to and from lectures as well as the services of a personal assistant for students who may need some help. In addition, the number of volunteers to help disabled students, such as readers for the visually-disabled, should be increased to allow disabled students to feel comfortable and independent. The environment should recognise their needs and respond by providing the help they need. This will help improve the quality of life of disabled students tremendously.

CONCLUSION

In conclusion, this study found that WHOQOL-BREF is a useful instrument for assessing QoL for various groups of people. Improving quality of life of PWDs is a central issue for Malaysia in ensuring that PWDs in this country have equal rights and opportunities for full participation in society. Hence, QoL assessment has become an important indicator for programmes that support the improvement of the general well-being of PWDs. It is also useful for benchmarking using the current values of QoL. This QoL indicator is an essential measurement for assisting relevant policy-makers and stakeholders in identifying any problems faced by PWDs and in designing suitable intervention programmes for

PWDs. This in turn would enable PWDs in Malaysia to lead a happier and more fulfilling life alongside other Malaysian citizens.

ACKNOWLEDGEMENT

This research was supported financially by University Malaya through the University Malaya Research Grant (UMRG) with the grant number RP013A-13SBS, SAGA Project no: 6004932.

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