

**UNIVERSITI SAINS MALAYSIA
GERAN PENYELIDIKAN UNIVERSITI PENYELIDIKAN
LAPORAN AKHIR**

**IMPROVING THE QUALITY LIFE, FAMILY IMPACT AND
TEACHER'S JOB SATISFACTION OF DISABLED
CHILDREN AND ADOLESCENTS REGISTERED WITH
PUSAT PEMULIHAN DALAM KOMUNITI (PDK), JABATAN
KEBAJIKAN MASYARAKAT (JKM), KELANTAN THROUGH
TRAINING OF PDK TEACHERS**

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2015

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A.	PARTICULARS OF RESEARCH / MAKLUMAT PENYELIDIKAN:
(i)	Title of Research: 1. <i>Tajuk Penyelidikan:</i> Improving The Quality Life, Family Impact And Teacher's Job Satisfaction Of Disabled Children And Adolescents Registered With Pusat Pemulihan Dalam Komuniti (PDK), Jabatan Kebajikan Masyarakat (JKM), Kelantan Through Training Of PDK Teachers
(ii)	2. <i>Account Number:</i> ; 1001/PPSP/812049 <i>Nombor Akaun:</i>
B.	PERSONAL PARTICULARS OF RESEARCHER / MAKLUMAT PENYELIDIK:
(i)	Name of Research Leader: <i>Nama Ketua Penyelidik:</i> DR AZRIANI AB. RAHMAN
	Name of Co-Researcher: <i>Nama Penyelidik Bersama:</i> PROF ZABIDI AZHAR BIN HUSIN @ MOHD HUSSIN PROF HANS AMIN VAN ROSTENBERGHE PROF DINSUHAIMI SIDEK PROF MADYA AZIZAH BINTI YUSOFF PROF MADYA NORMASTURA BT. ABD. RAHMAN DR AMINAH BEE MOHD KASSIM DR ANIZA BINTI ABD. AZIZ DR AZIAH BINTI DAUD DR AZIZAH BINTI OTHMAN DR MOHD ISMAIL B. IBRAHIM DR KAMARUL IMRAN BIN MUSA DR MOHD NAZRI BIN SHAFEI DR NOORIZAN BINTI H A MAJID DR NORSARWANY BINTI MOHAMAD DR SAKINAH BINTI HARITH DR WAN PAUZI BIN WAN IBRAHIM
(ii)	School/Institute/Centre/Unit: <i>Pusat Pengajian /Institut/Pusat/Unit:</i> SCHOOL OF MEDICAL SCIENCES

D. Duration of this research:

Tempoh masa penyelidikan ini:

*Duration :36 months.....

Tempoh :

From : 1 / 5 / 2010 To : 30 / 4 / 2013 Dari: Ke:

a) Revised Date (if any) : 31 /10/2013

ABSTRACT OF RESEARCH

(An abstract of between 100 and 200 words must be prepared in Bahasa Malaysia and in English. This abstract will be included in the Annual Report of the Research and Innovation Section at a later date as a means of presenting the project findings of the researcher/s to the University and the community at large)

Abstrak Penyelidikan

(Perlu disediakan di antara 100 - 200 perkataan di dalam Bahasa Malaysia dan juga Bahasa Inggeris.

Abstrak ini akan dimuatkan dalam Laporan Tahunan Bahagian Penyelidikan & Inovasi sebagai satu cara untuk menyampaikan dapatan projek tuan/puan kepada pihak Universiti & masyarakat luar).

Objective: The objectives of this study were to determine the effect of a one and a half year educational intervention on the job dissatisfaction of teachers, quality of life of parents and the disabled children in 30 Community Based Rehabilitation (CBR) centres in Kelantan. **Method:** Ten educational modules were administered to the teachers. A validated Malay version of Job Content Questionnaire (JCQ), PedsQL™ FIM21 and the Malay Version of the Pediatric Quality of Life Inventory™ Version 4.0 (PedsQL) Generic Core Scales were used pre intervention, mid intervention and post intervention **Results:** Repeated Measure ANOVA revealed there was a statistically significant reduction in the mean of job dissatisfaction ($p = 0.048$). Paired t test showed significant change only in family relationship and physical functioning among children aged two to four years. **Conclusion:** The intervention program elicited improvement mainly in job satisfaction of teachers. Efforts should be made to sustain the effect by continuous support visits to CBR centres. An intervention which focuses on the parents/caregivers needs to be carried out in the future so that a significant impact could be observed among them.

Objektif:Kajian ini bertujuan untuk menentukan kesan intervensi pendidikan selama satu setengah tahun keatas ketidakpuasan kerja guru, kualiti kehidupan ibu bapa dan kanak-kanak kurang upaya di 30 pusat pemulihan dalam komuniti (PDK) di Kelantan. **Kaedah:** Sepuluh modul pendidikan diberi kepada guru-guru PDK. Borang soal selidik versi Melayu Job Content Questionnaire (JCQ), PedsQL™ dan Pediatric Quality of Life Inventory™ Version 4.0 (PedsQL) Generic Core Scales digunakan sebelum dan selepas intervensi. **Keputusan:** Repeated Measure ANOVA menunjukkan penurunan yang signifikan kepada ketidakpuasan kerja guru ($p = 0.048$). Paired t test menunjukkan perubahan signifikan hanya kepada hubungan kekeluargaan dan fungsi fizikal dikalangan kanak-kanak berusia 2 hingga 4 tahun. **Kesimpulan:**Program intervensi ini dapat memulihkan kepuasan kerja guru. Usaha diperlukan untuk mengekalkan perubahan ini dengan lawatan berterusan ke PDK. Intervensi yang fokus kepada ibu bapa/penjaga perlu dilakukan pada masa hadapan untuk melihat impak kepada mereka.

<p>F.</p>	<p>SUMMARY OF RESEARCH FINDINGS <i>Ringkasan dapatan Projek Penyelidikan</i></p> <ul style="list-style-type: none"> • The intervention program elicited improvement mainly in job satisfaction of the teachers evidenced by a statistically significant reduction in job dissatisfaction score among CBR teachers following the intervention. Efforts should be made to sustain the effect by continuous support visits to CBR centres. • There was no significant improvement in the quality of life of parents following the intervention. An intervention which focuses on the parents/caregivers needs to be carried out in the future so that a significant impact could be observed among them. • There was only an improvement in the physical functioning of the disabled children aged two four years after the intervention A longer period of time as well as a sustainable intervention program is required to observe a significant impact on the children. 								
<p>G.</p>	<p>COMPREHENSIVE TECHNICAL REPORT <i>Laporan Teknikal Lengkap</i> Applicants are required to prepare a comprehensive technical report explaining the project. (This report must be attached separately) Sila sediakan laporan teknikal lengkap yang menerangkan keseluruhan projek ini. [Laporan ini mesti dikepilkan]</p> <p>attached List the key words that reflect our research: <i>Senaraikan kata kunci yang mencerminkan penyelidikan anda:</i></p> <table border="1" data-bbox="177 980 1455 1239"> <thead> <tr> <th data-bbox="177 980 808 1013">English</th> <th data-bbox="808 980 1455 1013">Bahasa Malaysia</th> </tr> </thead> <tbody> <tr> <td data-bbox="177 1013 808 1088">Educational intervention</td> <td data-bbox="808 1013 1455 1088">Intervensi pendidikan</td> </tr> <tr> <td data-bbox="177 1088 808 1164">Teachers of children with disabilities</td> <td data-bbox="808 1088 1455 1164">Guru kanak-kanak kurang upaya</td> </tr> <tr> <td data-bbox="177 1164 808 1239">Quality of life children and parents</td> <td data-bbox="808 1164 1455 1239">Kualiti hidup kanak-kanak, ibu bapa</td> </tr> </tbody> </table>	English	Bahasa Malaysia	Educational intervention	Intervensi pendidikan	Teachers of children with disabilities	Guru kanak-kanak kurang upaya	Quality of life children and parents	Kualiti hidup kanak-kanak, ibu bapa
English	Bahasa Malaysia								
Educational intervention	Intervensi pendidikan								
Teachers of children with disabilities	Guru kanak-kanak kurang upaya								
Quality of life children and parents	Kualiti hidup kanak-kanak, ibu bapa								

a) Results/Benefits of this research
Hasil Penyelidikan

No. <i>Bil:</i>	Category/Number: <i>Kategori/ Bilangan:</i>	Promised	Achieved
1.	Research Publications (Specify target journals) <i>Penerbitan Penyelidikan</i> (<i>Nyatakan sasaran jurnal</i>)		7 (journals) 7 (thesis/dissertations)
2.	Human Capital Development		
	a. Ph. D Students		1
	b. Masters Students		6
	c. Undergraduates (Final Year Project)		1
	d. Research Officers		
	e. Research Assisstants		1
	f. Other: Please specify		
3.	Patents <i>Paten</i>		5 modules
4.	Specific / Potential Applications <i>Spesifik/Potensi aplikasin</i>		
5.	Networking & Linkages <i>Jaringan & Jalinan</i>		4 (MINISTRY OF HEALTH, DEPARTMENT OF SOCIAL WELFARE, YAYASAN ORANG KURANG UPAYA KELANTAN, NATIONAL AUTISME SOCIETY)
6.	Possible External Research Grants to be Acquired <i>Jangkaan Geran Penyelidikan Luar Diperoleh</i>		

General Comments:

Ulasan Umum:

Penghasilan penyelidikan yg amat cemerlang menghasilkan
7 manuskrip dan 9 sumber manusi (1 PhD, 6 master, 1
pelajar swazali + 1 pes. penyelidikan).

Penghasilan modul & jangan merelakan bahan bukti
walau bagaimanapun kedua hasil penyelidikan ini
amat berpotensi.

Diperakui utk tetap giat ke ini.



PROFESOR (DR) ROSLINE HASSAN
Chairman Of Research committee
School Of Medical Sciences
Health Campus
Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan.

Signature and Stamp of Chairperson of PTJ's Evaluation Committee
Tandatangan dan Cop Pengerusi Jawatankuasa Penilaian PTJ

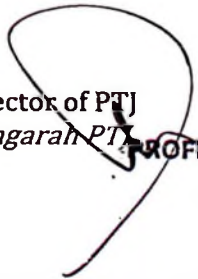
Date :

Tarikh :

Signature and Stamp of Dean/ Director of PTJ
Tandatangan dan Cop Dekan/ Pengarah PTJ

Date : 8/7/2015

Tarikh :



PROFESOR (DR) AHMAD SUKARI HALIM
Dekan
Pusat Pengajian Sains Perubatan
Kampus Kesihatan
Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan.

UNIVERSITI SAINS MALAYSIA
JABATAN BENDAHARI
KUMPULAN WANG UNIVERSITI PENYELIDIKAN (RU)
PENYATA PERBELANJAAN SEHINGGA 31 MEI 2015

Jumlah Geran :	RM	164,306.00	Ketua Projek :	DR. AZRIANI AB RAHMAN
Peruntukan MEI 2010 :	48,984.00		Tajuk Projek: Improving The Quality Life, Family Impact And Teacher's Satisfaction Of Disabled Children And Adolescents Registered With f Pemulihan Dalam Komuniti (Pdk), Jabatan Kebajikan Masyarakat (Jk Through Training Of Pdk Teacher	
(Tahun 1)				
Peruntukan MEI 2011 :	79,009.00		Tempoh :	3 Tahun (01/05/2010-30/04/2013)
(Tahun 2)			Lanjut Tempoh:	6 Bulan (01/05/2013-31/10/2013)
Peruntukan MEI 2012 :	36,313.00		No. Akaun :	1001/PPSP/812049
(Tahun 3)				

Kwgan	Akaun	PTJ	Projek	Peruntukan		Peruntukan Semasa	Tanggunan		Bayaran Tahun Semasa
				Projek	Perbelanjaan Terkumpul		Semasa	Semasa	
1001	11000	PPSP	812049	68,154.00	71,465.81	(3,311.81)	-	-	-
1001	14000	PPSP	812049	-	-	-	-	-	-
1001	15000	PPSP	812049	-	1,000.00	(1,000.00)	-	-	-
1001	21000	PPSP	812049	27,582.00	15,402.81	12,179.19	312.80	-	-
1001	22000	PPSP	812049	-	-	-	-	-	-
1001	23000	PPSP	812049	-	131.00	(131.00)	-	-	-
1001	24000	PPSP	812049	160.00	-	160.00	-	-	-
1001	25000	PPSP	812049	-	273.75	(273.75)	-	-	-
1001	26000	PPSP	812049	-	-	-	-	-	-
1001	27000	PPSP	812049	2,160.00	7,076.38	(4,916.38)	-	-	-
1001	28000	PPSP	812049	-	-	-	-	-	-
1001	29000	PPSP	812049	63,750.00	65,861.03	(2,111.03)	250.00	-	-
1001	32000	PPSP	812049	-	-	-	-	-	-
1001	35000	PPSP	812049	2,500.00	2,500.00	-	-	-	-
				164,306.00	163,710.78	595.22	562.80	-	-

: Job
pusat
(m), Kelantan

Belanja Tahun Semasa	Baki Projek
-	(3,311.81)
-	-
-	(1,000.00)
312.80	11,866.39
-	-
-	(131.00)
-	160.00
-	(273.75)
-	-
-	(4,916.38)
-	-
250.00	(2,361.03)
-	-
-	-
562.80	32.42



Effect of Education Modules on the Job Dissatisfaction of Teachers in Community-Based Rehabilitation Centres in Kelantan, Malaysia

Shazlin Umar¹, Azriani Ab Rahman¹; Aziah Daud¹, Azizah Othman², Normastura Abd Rahman⁵, Azizah Yusoff⁶, Sakinah Harith⁴, Jane Susan Churme⁶, Aminah Bee Mohd Kassim⁷, Zabidi Azhar Mohd Hussin², Din Suhaimi Sidek³, Ramiza Ramza Ramli³, Wan Pauzi Wan Ibrahim⁸, Mohd Ismail Ibrahim¹, Mohd Nazri Shafei¹, Hans Van Rostenberghe²

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KEYWORD

Job dissatisfaction
Educational intervention
Teachers of children with disabilities

ABSTRACT

Objective: The objectives of this study were to determine the effect of a one and a half year educational intervention on the job dissatisfaction of teachers in 30 Community Based Rehabilitation (CBR) centres in Kelantan, Malaysia, and to identify the factors influencing changes in job dissatisfaction following the intervention. **Method:** Ten educational modules were administered to the teachers. A validated Malay version of Job Content Questionnaire (JCQ) was used pre intervention, mid intervention and post intervention. **Result:** Repeated Measure ANOVA revealed there was a statistically significant reduction in the mean of job dissatisfaction ($p = 0.048$). Multiple Linear Regression revealed that co-worker support ($\beta = 0.034$ (95% CI = 0.009, 0.059)), having less decision authority ($\beta = -0.023$; 95% CI: -0.036, -0.01) and being single ($\beta = -0.107$; 95% CI: -0.176, -0.038) were significantly associated with decreases in job dissatisfaction. **Conclusion:** The intervention program elicited improvement in job satisfaction. Efforts should be made to sustain the effect of the intervention in reducing job dissatisfaction by continuous support visits to CBR centres.

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Introduction

Job dissatisfaction among teachers may result in frequent absenteeism, aggressive behaviour towards colleagues and learners, early exits from the teaching profession and psychological withdrawal from the work (1). It also affects the teacher's morale causing poor student's attitude

and learning. Teachers of students in special education programs were found to have high levels of job dissatisfaction resulting in high attrition rates (2, 3). Teachers' belief on their self-efficacy is related with their working performance and positively influenced their job satisfaction (4). A lack of knowledge and skills

We acknowledge some limitations in this study despite the apparent improvement in job satisfaction. The findings may not portray the true effectiveness of the intervention program as there was no controls (CBR teachers who did not participate in the intervention program) involved for comparison.

Conclusion

In conclusion, the intervention program elicited improvement in job satisfaction evidenced by a statistically significant reduction in job dissatisfaction score among CBR teachers following the intervention. Efforts should be made to sustain the effect of the intervention in reducing job dissatisfaction by continuous support visits to CBR centres.

Acknowledgement

We would like to acknowledge, with gratitude, the financial support from Universiti Sains Malaysia Research University Grant No. 1001/PPSP/812049, all teachers at CBR centers, and those involved in the study.

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The Impact of Children with Disabilities on Parent Health-related Quality of Life and Family Functioning in Kelantan and Its Associated Factors

Siti Nor Ismalina Isa, MSc,* Aniza Abd. Aziz, MCommMed,* Azriani Ab Rahman, MCommMed,† Mohd Ismail Ibrahim, MCommMed,† Wan Pauzi Wan Ibrahim, MMed,‡ Norsarwany Mohamad, MMed,‡ Azizah Othman, PhD,‡ Normastura Abd. Rahman, MCommMed,§ Sakinah Harith, PhD,|| Hans Van Rostenberghe, MD‡

ABSTRACT: *Objectives:* Caring for children with disabilities brings about a significant impact on the parents and families. The purposes of this study were to determine the impact of having children with disabilities on parents' health-related quality of life (HRQOL), family functioning, and total family impact and to identify the associated factors. *Method:* A total of 425 parents/caregivers of children with disabilities who were registered to community-based rehabilitation centers in 5 districts in Kelantan, Malaysia, participated in this study. The Malay version of PedsQL Family Impact Module was used as research instrument. General linear regression was applied to analyze the association between family impact scores (Total Impact, Parent HRQOL Summary, and Family Functioning Summary) and study factors using Stata/SE 11 software. *Results:* The mean (SD) Total Impact Score and Parent HRQOL Summary Score of the parents/caregivers was 75.1 (16.85) and 75.0 (18.74) respectively, and the median (IQR) of Family Functioning Summary Score was 84.4 (28.13). Mothers, non-Malays, and widowed parents/caregivers, parents/caregivers having male children with disabilities, and children with more complex disability had significantly lower parent HRQOL and family functioning. *Conclusions:* Both parents/caregivers' characteristics and children's characteristics contributed to family impact in local setting. Results of this study emphasize the importance of the whole family involvement as the focus of services and supports by health care providers.

(*J Dev Behav Pediatr* 34:262–268, 2013) **Index terms:** family impact, family quality of life, parent functioning, family functioning, children with disabilities.

Physically, intellectually, or emotionally disabled individuals comprise a significant portion of the current world population. United Nations agencies roughly estimated 10% of the world's population (600 million people) experience some form of disability in which 150 to 250 million are children.¹ In Malaysia, the number of children with disability is captured and recorded by the Department of Social Welfare. There was an increasing number of registered disabled people from almost 249 thousand in 2008 to more than 283 thousand in 2009.² However, local experience has shown that a significant number of children referred to the De-

partment of Social Welfare do not get on the national register and an even larger number were undetected, resulting in underestimation of the true rate of children and adults with disability in Malaysia.³

Disabilities affect significantly the children's independence. Consequently, the lives of their family members are also affected, especially for parents who are their long-term caregivers. The difficulties such as care and the psychological, social, and economic burdens experienced by family members during the process of adaptation toward living with the disabled child can lead to conflict and changes in individual roles and functions within the family. Thus, the family who has a disabled child is likely to be exposed to crisis situations, which lead to stress.^{4–8}

There is a growing body of evidence that parenting a child with special needs or with a chronic condition affects the health of caregivers and family functioning. Several studies indicated that parents of children with disabilities experienced deep sadness and feelings of being overwhelmed,⁴ anxiety,⁹ depression,^{9,10} worry,¹¹ and lower quality of life.^{9,12} In addition, mothers of children with intellectual disabilities were at increased risk of psychosomatic health problems, child-related stress, and weakened family relationships.⁷ Caregivers of

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Disclosure: The authors declare no conflict of interest.

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This study has certain limitations. The generalizability of the findings was limited by certain factors. Even though the sample size was relatively large, the parents or caregivers in this study were drawn from the list of children with disabilities registered with community-based rehabilitation centers and predominantly belonged to the Malay population. The unique demographics of our study population such as majority were unemployed and married would also limit the external validity to other parts of the world. Without a comparison or control group of parents without children with disabilities in this study, it is difficult to draw firm conclusions about the level of family impact among this group of caregivers. Furthermore, although this study showed a comparable score of parent and family functioning than the past studies,^{21,23,24} the interpretation of family impact level in different settings need to consider the local family demographics and sociocultural aspects.

CONCLUSIONS

The present study provides crucial and important insights into the impact of disability on family in Malaysia and its associated factors. The present study suggested that the parent health-related quality of life and family functioning of the study population were less disturbed. Nevertheless, the risk of worse parent and family functioning should be viewed as a severe matter that needs to be handled as it impacts not only family's quality of life but also success of their children's development and rehabilitation.


Both the parents/caregivers' characteristics and the children's characteristics contributed to family impact in local setting. The findings in this study could be used to guide individualized intervention measures that are sensitive to the needs of family with children with disabilities based on related parents' and children's characteristics. The current research indicates directions for further exploration to confirm other potential factors and draws implications for improving the family quality of life among families of children with disabilities in Malaysian culture.

ACKNOWLEDGMENTS

We would like to acknowledge, with gratitude, the financial support from Universiti Sains Malaysia Research University Grant No. 1001/PPSP/812049, all caregivers, teachers at community-based rehabilitation centers, and those involved in the study.

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A Preliminary Study on the Reliability of the Malay Version of the Quality of Life Inventory™ Version 4.0 (PEDSQL) Generic Core Scales among Children with Disabilities in Kelantan, Malaysia: Parent-Proxy Report

Azriani Ab Rahman, Nor Hashimah Ariffin, Kamarul Imran Musa, Wan Pauzi Wan Ibrahim, Mohd Ismail Ibrahim, Azizah Othman, Aniza Abd Aziz, Sakinah Harith, Normastura Abd Rahman, Hans Van Rostenberghe

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A Preliminary Study on the Reliability of the Malay Version of the Quality of Life Inventory™ Version 4.0 (PEDSQL) Generic Core Scales among Children with Disabilities in Kelantan, Malaysia: Parent-Proxy Report

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ABSTRACT

Introduction: Little is known about the quality of life of children with disabilities (CWD). To the best of our knowledge, there is no validated instrument to measure the quality of life of CWD in Malaysia.

Objective: The objective of this cross sectional study was to determine the reliability of the Malay version of the Quality of Life Inventory™ Version 4.0 (PedsQL) Generic Core Scales among CWD in Kelantan.

Methods: A cross sectional study was conducted in September 2009 among CWD aged between two to eighteen years old, registered with the Kelantan Foundation for the disabled. Parent-proxy report was used. The test for Cronbach's alpha was performed to determine the internal consistency reliability

Results: There were a total of 78 CWD involved in this study. The internal consistency reliability was good as the Cronbach's alpha of all domains were above 0.6, ranging from 0.65 to 0.85.

Conclusions: The Malay Version of the Pediatric Quality of Life Inventory™ Version 4.0 (PedsQL) Generic Core Scales shows good internal consistency reliability. However, future study with bigger sample size is necessary before it may be recommended to be used as a tool to measure the quality of life of CWD whose parents understand the Malay language.

Keywords: Reliability, Malay version, PEDSQL, quality of life, children with disabilities

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Vol. 3 No. 8 (2011)

was 0.140). [4, 9] found that all items met or exceeded the 0.4 standard for the corrected item-total correlation.

The HRQOL among children in our study was poorer as compared to those reported by [4, 7, 8], indicated by lower mean score of all domains. Healthy children were included in the prior studies [4, 7, 8]. Better quality of care and support provided in more developed countries might explain the better quality of life. In addition, half of our respondents were from poor socioeconomic background (monthly income was RM 1000 or less). The mean score of most of the domains in our study was higher than those reported by [9] except for social functioning. The need for regular blood transfusion and the presence of medical complications among children with Thalassaemia in the prior study [9] might affect their physical health, emotional functioning and school functioning.

The present findings in this preliminary study have several potential limitations. Test-retest reliability was not performed. No comparison was analyzed between normal children and CWD as well as between different types of disability. The correlation between children and parent-proxy report was not reported. The consistency between children and parent-proxy reports was also not tested. A proxy rater's estimate may be insufficiently accurate [4]. In addition, the sample size in this study was relatively small compared to prior studies [4, 7, and 8]. Non-probability sampling technique and small sample size might affect the external validity of the findings. Therefore, we recommend future study with larger samples comparing the findings with normal healthy control as well as among different types of disability and test retest analysis to be carried out.

Since the caregivers were all coming from a single state within Peninsular Malaysia, it is

not certain that the findings may be generalized to the rest of Malaysia. However, the standard Malay language was used and it is likely that there are no major differences with other states in Malaysia. The Malay language is also used in other countries in Southeast Asia (Indonesia, Brunei and Singapore). Therefore, this Malay version may benefit a large number of CWD in this region.

Conclusion

In conclusion, the Malay Version of the Pediatric Quality of Life Inventory™ Version 4.0 (PedsQL) Generic Core Scales shows good internal consistency reliability. However, future study with bigger sample size is necessary before it may be recommended to be used as a tool to measure the HRQOL of CWD whose parents understand the Malay language.

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We would like to acknowledge all children and caregivers involved in this study as well as the Universiti Sains Malaysia (USM) research university grant.

A Preliminary Study on the Reliability of the Malay Version of PedsQL™ Family Impact Module among Caregivers of Children with Disabilities in Kelantan, Malaysia

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Abstract

Background: No previous study has assessed the impact of childhood disability on parents and family in the context of Malaysia, and no instrument to measure this impact has previously been available. The objective of this cross-sectional study was to determine the reliability of a Malay version of the PedsQL™ Family Impact Module that measures the impact of children with disabilities (CWD) on their parents and family in a Malaysian context.

Methods: The study was conducted in 2009. The questionnaire was translated forward and backward before it was administered to 44 caregivers of CWD to determine the internal consistency reliability. The test for Cronbach's alpha was performed.

Results: The internal consistency reliability was good. The Cronbach's alpha for all domains was above 0.7, ranging from 0.73 to 0.895.

Conclusion: The Malay version of the PedsQL™ Family Impact Module showed evidence of good internal consistency reliability. However, future studies with a larger sample size are necessary before the module can be recommended as a tool to measure the impact of disability on Malay-speaking Malaysian families.

Keywords: caregivers, disabled children, public health, psychometrics, quality of life, questionnaires, reliability and validity

Introduction

With the advancement of treatment modalities, more children survive severe acute illnesses but, often, not without sequelae causing some form of chronic morbidity or disability. The care of chronically ill and disabled children is complex. Follow-up by a multidisciplinary team is often desirable, but in many places in Malaysia, such services are not available. The need for multiple visits to medical care facilities and the problems faced by these children in carrying out their daily activities may have a significant impact on the family.

Several studies evaluating the impact of children's chronic morbidity and disability on the family have shown the presence of negative outcomes. Problems include social stigma, altered family dynamics, emotional disturbance (1), and psychosocial impact (2). However, the patient's characteristics and family structure and the disability services available in Malaysia may differ from the countries where these studies were conducted; as such, the impact on the families may differ in nature and magnitude.

For English-speaking populations, there are various instruments available to measure the impact of a child's disability on parents

Discussion

This study demonstrates the preliminary reliability of the translated Malay version of the PedsQL™ Family Impact Module for measuring the impact of CWD on the parents and family. The results showed good internal consistency, with Cronbach's alpha values ranging from 0.730 to 0.895 across 6 domains. It is suggested that a Cronbach's alpha of 0.7 or 0.8 indicates excellent internal consistency (6–8). Varni et al. (4) found that all scales exceeded the minimum reliability standard of 0.7. This finding is similar to the findings of a study conducted among 97 parents of children with sickle cell disease in Wisconsin in the United States (9). However, a similar study conducted among 66 Brazilian families of outpatient children diagnosed with malignant neoplasm and receiving chemotherapy found that the internal consistency for some items (emotional, communication, and worry) was less than 0.7 (10).

Our study showed that the highest Cronbach's alpha was for the family relationship domain (0.895). Similarly, Varni et al. (4) and Panepinto et al. (9) found that the Cronbach's alpha for the family relationship domain had the highest score (Cronbach's alphas of 0.97 and 0.96, respectively). Our findings also concur with other studies (9,10) that found the lowest Cronbach's alpha value for the communication domain. In general, the corrected item-total correlation for all domains was acceptable, with the exception of the item "do not understand my family situation". This finding could be explained by the difference between this item and the other 2 items in the communication domain, which directly indicate communicable words such as "talk" and "tell".

The mean score of all functions in our study was higher than those reported by Varni et al. (4) for the outpatient samples, except for the cognitive function. This finding indicates that the caregivers in our study functioned better than those in the previous study. This finding might be explained by a possibly higher acceptance among the Malay population of the fate of having children with chronic illnesses, although the facilities available in Malaysia are relatively limited.

A limitation of this cross-sectional study with no comparison group is that it may not be sufficient to fully demonstrate the external validity

of the questionnaire. Because the caregivers were all from a single state within Peninsular Malaysia, it is uncertain whether the findings can be generalised to the rest of Malaysia. However, the standard Malay language was used, and it is likely that there are no major differences with other states in Malaysia. The Malay language is also used in other countries in Southeast Asia (Indonesia, Brunei, and Singapore). Therefore, this Malay version may benefit a large number of children and caregivers in this region. Due to time constraints, the test-retest, which demonstrates the stability of the information, was not conducted. Therefore, we recommend that future studies compare the findings with normal, healthy controls and among different types of disabilities, and that a test-retest analysis be conducted with a larger sample size.

Conclusion

The Malay version of the PedsQL™ Family Impact Module has excellent internal consistency. However, future studies with a larger sample size are necessary before it can be recommended as a tool to measure the impact of disabilities on Malay-speaking Malaysian families.

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Authors' Contributions

Conception and design: AAR, AAA
Obtaining of funding: AAR, WPWI, MII
Collection and assembly of the data: AAR, SH, NHA, MII, AO
Analysis and interpretation of the data: AAR, KIM
Drafting of the article: AAR, NM
Critical revision and final approval of the article: HYR
Statistical expertise: KIM
Administrative, technical, or logistic support: AAR, WPWI, MII



Nutrition Knowledge, Attitude and Practice of Teachers in Rehabilitation Centres in Northern Malaysia

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ABSTRACT

Introduction: Persons with disabilities (PWD) are susceptible to malnutrition. Caregivers or teachers in rehabilitation centres may not be adequately trained in nutrition management of PWD. The aims of this study were (i) to assess the nutrition knowledge, attitude and practice among teachers in community-based rehabilitation centres for PWD; and (ii) to evaluate changes in the nutrition knowledge and attitude of the teachers before and after exposure to a training workshop on nutrition management for PWD. **Methods:** A cross-sectional survey was conducted using a guided self-administered Nutrition Knowledge, Attitude and Practice Questionnaire on Persons with Disabilities (KAP-nOKU), among a convenience sample of 210 teachers. Forty-five of them further participated in a nutrition training workshop and completed the post-test evaluation on knowledge and attitude of the same measures. **Results:** At baseline, the teachers' average knowledge, attitude and practice scores were 13.80±3.73 for knowledge (below 50th percentile); 51.49±4.08 for attitude (above 75th percentile); and 48.08±3.61 for practice (between 50th and 75th percentile). There was significant positive correlations between knowledge and attitude ($r=0.343$, $p<0.05$), as well as between attitude and practice ($r=0.147$, $p<0.05$). After exposure to a 3-day nutrition workshop, significant improvements in the teachers' knowledge and attitude were observed, whereby teachers' knowledge score increased from 14.20±3.80 to 25.38±2.36 and from 51.16±3.97 to 55.20±4.41 for attitude ($p<0.001$). **Conclusion:** Nutrition intervention was associated with improvement in short term knowledge and attitude of the teachers. Sustainable interventional strategies are needed to enhance the nutrition knowledge and skills of teachers of PWD.

Keywords: Knowledge, attitude and practice (KAP), nutrition, persons with disabilities, teachers

INTRODUCTION

The World Health Organization (WHO) recently reported that around 15% of the

world population, or one billion people, live with disabilities (WHO, 2011). Government of Malaysia estimates indicate a figure of about 1.3 million people with various forms

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into appropriate behaviours and implementation in the CBR centres. Besides, it is recommended that research funding be sought to conduct the intervention studies in the state of Perlis, Pulau Pinang and Perak as the nutrition knowledge scores of the CBR teachers in the respective states were also not satisfactory. A proper sampling method should be adopted in such studies instead of convenient sampling in order to reduce selection bias.

In conclusion, nutrition knowledge among teachers in community-based rehabilitation centres in the Northern region of Peninsular Malaysia on management for persons with disabilities was below average; however, they had a positive attitude and reported fairly good practice in the centres. Nutrition education and intervention are associated with an improvement in knowledge and attitude of the teachers. Hence, multidisciplinary healthcare teams can target more specific interventional strategies to this group which can further improve the overall quality of life of the unfortunate.

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Development and Pilot Testing of Nutrition Knowledge, Attitude and Practice Questionnaire in Persons with Disabilities (KAP-nOKU) among Trainers in Rehabilitation Centres, Malaysia

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Abstract: Malnutrition and growth failure are prevalent among Persons with Disabilities (PWD) and most trainers or care givers in the Community-based Rehabilitation (CBR) centres had limited knowledge in nutrition management for this vulnerable population. The purpose of this study was to develop and examine the validity and reliability of an evaluation instrument, Nutrition Knowledge, Attitude and Practice Questionnaire in Persons with Disabilities (KAP-nOKU) among trainers in CBR centres, Malaysia. KAP-nOKU was a guided self-administered questionnaire and consisted of 30 knowledge, 15 attitude and 15 practice items. After items generation, it was assessed the content validity by an expert panel; and face validity by nine care givers for spastic children. The revised questionnaire was further pre-tested. This pilot study was a cross-sectional survey and recruited 165 trainers from CBR centres in Perlis, Pulau Pinang and Perak, Malaysia. Item analysis or construct validity, internal consistency and test-retest reliability of KAP-nOKU were examined. Five sub-domains were constructed for knowledge domain and three factor-solutions emerged for attitude and practice domains, respectively. Items with low factor loading and correlation were removed. Internal consistency was good-to-excellent for knowledge (KR20 = 0.63), attitude (CA = 0.67) and practice (CA = 0.82) domains. Test-retest reliability- the intraclass correlation coefficients for knowledge, attitude and practice domains were 0.59, 0.73 and 0.91 ($p < 0.05$). The finalized KAP-nOKU after analysis contained 57 items-29 knowledge, 13 attitude and 15 practice items. KAP-nOKU was an adequately valid and reliable questionnaire which can serve as an assessment tool to evaluate the effectiveness of nutrition education among trainers or care givers in rehabilitation centres, Malaysia.

Key words: Nutrition, knowledge, attitude, practice, disability

INTRODUCTION

"Disability" is defined as the interaction between persons with disabilities and the attitudinal and environmental barriers that prevents their effective participation in the society on an equal basis with the persons without disabilities (Laws of Malaysia, 2008). Persons with Disabilities (PWD) are more commonly known as *Orang Kurang Upaya* (OKU) in Malaysian context. An estimation of 1.3 million Malaysians live with various forms of disabilities in 2009 (Zulkiple, 2009); till 2010, there were only 280,000 of them who have registered with the social welfare department (Roslee, 2011).

Persons with Disabilities (PWD) are susceptible to nutritional impairment which eventually results in abnormal body composition and growth failure. The impact of malnutrition as the most frequent cause of growth impairment, particularly among the severely affected people, raised major public concerns.

International studies have been documented that under-nutrition was found in almost 50% of children with cerebral palsy (Sánchez-Lastres *et al.*, 2003; Marchand *et al.*, 2006). In spite of this, a remarkable prevalence of PWD whom are overweight and obese was also reported (Bertoli *et al.*, 2006; Melville *et al.*, 2007). Additionally, a local cross-sectional survey of nutritional assessment among 462 PWD in Community-Based Rehabilitation (CBR) centres in Kelantan, Malaysia reported almost 50% of the total PWD suffered from malnutrition; 20.3% of them were underweight while another 22.8% were overweight or obese (Chen, Unpublished data, 2010). Both of these nutritional concerns can further worsening their residual functional status and increasing the risk of co-morbidities.

Community-based Rehabilitation (CBR) is a governmental public health notion that aims to empower the PWD to access and benefit from the health, education, social and employment services. It enables

to appropriate food culture and habits so that it can be adopted in other countries.

Conclusion: The KAP-nOKU developed to assess the knowledge, attitude and practice of the trainers in their nutrition management for the PWD at CBR centres, Malaysia, was found to have satisfactory validity and reliability. The nutrition knowledge, attitude and practice scores may help in determining the level of knowledge and readiness to change among the care givers. Additionally, identification of the low- or high-scoring sub-domains can contribute to developing effective nutrition intervention for the target group. Furthermore, the KAP-nOKU can serve as an evaluation tool for descriptive (to provide baseline data), prospective and intervention research among trainers in CBR centres in Malaysia.

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The Impact of Disabled Children on Family Functioning in Kelantan

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ABSTRACT

Disability places a set of extra demands or challenges on the family system. Having disability brings about different hardness for children and their family members, especially parents who are their long-term caregivers. The purpose of this cross sectional study was to assess the impact of having a disabled child on family functioning in Kelantan. The 36-item PedsQLTM Family Impact Module was administered to a sample of 429 parents/caregivers of disabled children who were registered to Pusat Pemulihan Dalam Komuniti (PDK) in five districts in Kelantan. Higher scores indicate better functioning. The data were analyzed by using PASW Version 18. The participants had mean age of 44.9 years old (SD=8.96 years old), of whom 95.5% were fathers or mothers. 92.0% of them were married, majority was Malays (97.2%), 64.2% had secondary school education and 52.7% were unemployed or housewives. Their median monthly household income was RM 500 (IQR=RM 400). The majority of them had one disabled child (86.8%). The mean age of their disabled children was 10.3 years old (SD=4.58 years old). The median and inter-quartile range (IQR) Family Functioning Summary Score was 84.38 (IQR=28.13). The median score for family relationships subscale was 95.00 (IQR=25.00), while the median score for daily activities subscale was 75.00 (IQR=50.00). The median score of two functions in the parent-reported family functioning was higher as compared to study reported in other countries, reflecting better family functioning in families of children with disability in Kelantan.

Keywords: disabled children, family functioning, family impact

INTRODUCTION

Today, physically, intellectually or emotionally disabled individuals comprise a significant portion of the world population. It is estimated 10% of the world's population (650 million people) experience some form of disability. Of this 650 million, UNICEF has estimated 150 to 250 million are children (UNICEF, 2003). An estimated 5% of 36 million disabled people in the U.S. population were children ages 5 to 17 years old (U.S. Census Bureau, 2011). In Malaysia, there are increasing in number of disabled people from 248, 858 in 2008 to 283, 512 in 2009. The new case registration for disabled people in 2009 is 14, 487 out of 34, 654 were from age group of 18 years old and below (41.8%) (Jabatan Kebajikan Masyarakat (JKM), 2011). The statistics retrieved from JKM (2011) also showed that number of disabled persons in the state of Kelantan increased from 22, 229 in 2008 to 24, 893 in 2009.



Most of Malaysian parents of disabled children used religious coping as their coping style besides acceptance, optimist and active coping (Norizan and Shamsuddin, 2010), although the facilities and services available for disabled peoples in this country are relatively limited (Lim and Wong, 2009).

This study has certain limitations that should be recognized. The generalizability of the findings is limited by certain factors. Even though the sample size was relatively large, the parents or caregivers in this study were drawn from the list of disabled children registered with PDK and confined to only Malay population, therefore did not adequately generalize the whole population in the state. Without a comparison or control group, it is difficult to draw any conclusion about the level of family functioning among this group of caregivers. It would have been better if further study could be conducted involving a group of families with normal children or different illness, thus comparison will be made from the findings between different groups. It is also important to note that assessment of the current study was based upon caregivers' self-report and some of them who were illiterate were guided, which the results may be biased by individual response styles. Future studies, therefore, should seek to include assessments that do not rely exclusively on caregivers' self-report, for example interviews should also be included.

CONCLUSION

Despite its limitations, the researchers believe the present study provides crucial and important insights into the impact of disability on family functioning in Malaysia. The finding indicates that the families of disabled children in Kelantan function better. Nevertheless, the risk of worse family functioning should be viewed as a severe matter that needs to be handled as it impacts not only family's quality of life but also success of their children's development and rehabilitation. Financial resources, medical services and social supports provided by government and non-governmental organizations to the disabled people should be improved to assist the parents or caregivers of children with disability in encountering their obstacles.

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