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Kertas Asli/*Original Article*s

Development and Validation of a Personal Care Modules for Older Adults with More Significant Disabilities

Pembangunan dan Kesahan Modul Penjagaan Peribadi Warga Tua yang Mempunyai Pelbagai Ketidakupayaan

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ABSTRACT

Older adults residing in community, as well as those who are residing in institutional or care home may experience various cognitive, health and physical impairments that may affect their independence. Continuous supports are needed to manage most of their personal care activities which are usually managed by their family members, often without proper training or guidance. To date, there is no personal care module that can be used as a guideline by family members and paid caretakers. Therefore, this study aims to develop and validate a personal care module as a guideline in assisting older adults with more significant disabilities. This study was a three-phase study, involving (1) development of the personal care module, (2) focus group discussion with healthcare experts and (3) face and content validity by the expert reviewers. A total of 10 older adults participated in semi structured interview in phase one and 13 occupational therapists were involved as experts in evaluating the module in phase two and three, having between 5 to 25 years of working experiences. The finding reported a high content validity in the developed module ranging from 0.88 to 1.00 on six domains of personal hygiene, bathing, dressing, feeding, bed mobility and stairs climbing. This study provides a preliminary support for the developed personal care module as a valid instrument to be used as a guideline in managing personal care activities of older adults with more significant disabilities.

Keywords: Community; independence; occupational therapy; content validity; instrument

ABSTRAK

Warga emas yang tinggal di komuniti mahupun di institusi atau rumah penjagaan berkemungkinan mempunyai perlbagai masalah sama ada kognitif, kesihatan dan fizikal yang boleh mempengaruhi ketidakbergantungan mereka. Sokongan berterusan diperlukan bagi menguruskan aktiviti pengjagaan diri yang kebiasaanya diuruskan oleh ahli keluarga mereka dan kebiasaannya bantuan ini adalah tanpa latihan atau panduan yang betul. Sehingga kini, tiada modul penjagaan yang boleh digunakan sebagai panduan oleh anggota keluarga dan penjaga. Oleh itu, kajian ini bertujuan untuk membangun dan mengesahkan modul penjagaan peribadi sebagai panduan dalam membantu warga tua yang mempunyai pelbagai perkembangan ketidakupayaan. Kajian ini melibatkan tiga fasa, (1) pembangunan modul penjagaan, (2) perbincangan kumpulan fokus dengan pakar penjagaan kesihatan dan (3) kesahan muka dan kandungan sah oleh pengulas pakar. Seramai 10 orang warga emas terlibat dalam sesi temubual separa berstruktur di dalam fasa satu dan 13 ahli terapi carakerja terlibat sebagai pakar dalam menilai modul ***ini di dalam fasa dua dan tiga*** *dengan pengalaman bekerja antara 5 hingga 25 tahun. Dapatan menunjukkan kesahan kandungan yang tinggi dalam modul yang dibangunkan dari 0.88 hingga 1.00 pada kesemua enam bidang iaitu kebersihan diri, mandi, berpakaian, makan, mobiliti tidur dan mendaki tangga. Kajian ini menunjukkan kajian sokongan awal bahawa modul penjagaan yang dibangunkan sebagai instrumen yang sah untuk digunakan sebagai garis panduan dalam menguruskan aktiviti penjagaan warga emas yang mempunyai perkembangan ketidakupayaan.*

Kata kunci: Komuniti; ketidakbergantungan; terapi carakeja; kesahan kandungan; instrumen

INTRODUCTION

According to the Department of Statistic Malaysia (DOSM), Malaysian population was estimated at 32.73 million in the first quarter in year 2020 increased from 0.5% as compared to the first quarter in 2019. This may increase the demand on family members to care for them in managing their personal care in daily activities, as well as increasing the demand for institution of older adults in care home as seen in the Western countries (McGinnis & Moore 2006).

Often, most of the residents in these care homes are very ill and have complex medical conditions whilst the limited staff and facilities in such institutions, unfortunately, restricts provision of focused and individualized care for the older adults (Moore et al., 2012). Indeed, most institutionalized older adult require continuous assistance in daily activities and are heavily dependent on the support staff for their daily needs (Chang et al. 2006; Dorner et al. 2013). These are expected to affect their life goals and motivation whereby the choices made in daily activities shape the content and structure of the person's entire life (Horgas et al. 1998).

Previous study stated that restoring the personal care ability such as bathing, dressing and undressing will improve the self-esteem and autonomy among the older adults whilst saving the manpower in these institutions (Rinke et al. 1978). If the older adults remained inactive, there is a significant risk for decline in their cognitive function (Venturelli et al. 2010), and this effect cycle may also affect the older adults residing with their family members in community if proper care and supports are unavailable for them.

Previous study showed that proper guidance and supports could help the older adults improving their physical abilities, social and mental wellbeing as well as improving their independent in performing selfcare skills such as feeding (Dorner et al. 2013). Doner et al. (2013) reported on the effectiveness of 'buddy system' in improving nutritional status among malnourished frail community-dwelling older adult. It is a system that pairs up two persons that can help each other or pairs up the more independent person (mentor) with the person with more significant disabilities (mentee).

A few previous studies involved volunteers or the residents itself as mentors instead of institution's staff themselves (Cohen et al. 1999; Kosbab & Kosbab 1962; McCorkle et al. 2008). This buddy system has been practiced as early as in 1962 as reported in a study published by Kosbab and Kosbab (1962) among hospitalized geriatric patients. The mentors were trained or given courses to help their mentee. Besides the positive benefits experienced by mentee, mentors were also reported to gain some positive effects in the aspects of emotion, thoughts, intelligence and social skills (Kosbab & Kosbab 1962). In addition, according to Bizub and Davidson (2011), involving people in the buddy system could help to reduce the stigma towards the psychiatric patients and this could enhance the understanding, tolerance and empathy among general public. The existence of such module not only will benefit the mentee or the older adults with more significant disabilities, but might also help in increasing understanding among family members and/or paid caretakers on knowledge to deliver appropriate care as well as proper techniques to avoid injury to themselves. Injuries may happen owing to improper handling and lifting techniques that may be dangerous to both parties.

Few issues however have emerged in the process including the content of a personal care module for the buddy system. Most of the personal care training modules are written in English or Mandarin and exhibit different cultural aspects (Chang et al. 2006, Toomey & Coote 2013). Therefore, the aim of this study was to develop and validate a personal care module in a Malay version as a guideline for family members as well as paid career of older adults in Malaysia.

METHOD

ETHICAL APPROVAL AND STUDY DESIGN

Ethics approval was granted by The Medical Research and Innovation Secretariat, Universiti Kebangsaan Malaysia - UKM PPI/111/8/JEP-2017-389 (project number: NN-2017-163). Ethical standards were carefully maintained throughout the study and experts who agreed to participate in this study were given verbal and written explanations of the study and were asked to sign consent forms. The experts were also advised that they could withdraw from the study at any time during the study process. The content of the study was kept confidential and can only be accessed by the researchers.

This study was divided into three phases, involving (1) Phase one of the study - the development of the personal care module, (2) Phase two of the study - focus group discussion (FGD) and (3) Phase three of the study - the face and content validation process of the personal care module by experts in the related field. All these phases were explained further as follow.

PHASE ONE OF THE STUDY

The initial information of the older adult personal care module was developed by researchers involved in this study based on literature review on peer-reviewed published

articles , relevant occupational therapy and healthcare textbooks, and other academic sources (Atchison & Dirette 2016; Burggraf et a. 2014) including conference material (Asmuri et al. 2019). Deeper exploration by using semi-structured interviews were conducted with 10 older adults in two selected residential aged care homes to identify the knowledge and the importance of daily living activities. The inclusion criteria were respondents aged 45 years and above, able to understand and speak in a Malay language and residing in the residential aged care homes for more than six months. All interviews were audio-recorded, performed in a quiet room and conducted by the student researcher (fourth author) in the Malay language. A qualitative content analysis was used to analyze the data and elucidate theme (Vaismoradi et al. 2016). Themes emerged from the transcription were used to develop the daily living activities of the personal care module. These activities included in the module: personal hygiene, bathing, dressing, feeding, bed mobility and stair use. Some items considered relevant and unique to the Malaysian population such as putting on headscarf (tudung) and putting on sarong were also included under the subtopic of dressing in the module. All the information from these resources were discussed among the researchers, i.e. all the authors of this study, to come into conclusion of the suitable and relevant personal care activity among older adults in Malaysia and were constructed into a personal care module format. This module was then further evaluated and presented to experts panel in the phase two of the study.

PHASE TWO OF THE STUDY

In the phase two of the study, occupational therapy practitioners were invited to review the module in a focus group discussion session (FGD) and purposive sampling was used in this phase. This FGD was held at xx room at Occupational Therapy Unit, Hospital Cancelor Tuanku Mukhriz. Those considered as eligible as experts must fulfil the following criteria: (1) having a minimum of three years working experience as an occupational therapy, (2) able to comprehend Malay and English languages, and (3) must be a Malaysian citizen. Considering the needs to evaluate on the personal care activities and its related tasks among older adults, occupational therapy practitioners were considered as legitimate informants that could provide valuable information most appropriately for that purposes.

The number of experts involved in the FGD session is important as this could ensure adequate information gained for the quality of the personal care module constructed and to ensure that every expert could voice out their opinions spontaneously (Wong 2008). There are 13 expert reviewers involved in the FGD session for this study. According to Siti Farhah and Saedah (2015), there were few requirements that can be fulfilled as an expert reviewer such as; (1) a person who has experience in relation to the recent research; (2) willingness to participate in the study and (3) good communication skill. Expert is considered to be an expert when he/she has a high level of knowledge and skills in particular field (Bourne et al. 2014). Each expert was given the printed personal care module ahead of the FGD session, i.e. 2 weeks prior to the FGD session. This is to provide them ample time to review the module beforehand. To ensure accurate interpretation of experts' perspective, the FGD session was fully recorded audio-visually. Permission for the recording was obtained from all experts prior to the FDG session.

Two moderators (2nd and 3rd author) were assigned to facilitate the FGD session and the 4th author was assigned as the minute's writer. A list of questions was prepared to steer the FGD session and also to ensure smooth information extraction process. At the end of the FGD session, upon information saturation, the key-points of suggestions as discussed were grouped together and were verbally summarized to the experts for them to agree on. This form of member-checking is vital to ensure accurate interpretations were made and to allow the experts in correcting the information if there were any misinterpretations from their input (Liamputtong 2009). Data were then transcribed, and thematic data analysis was employed to extract relevant themes emerged from the discussion (Braun & Clarke 2012). All opinions and suggestions from the experts were discussed among researchers to consider for their suitability and appropriateness. To ensure accuracy, the emerged themes were discussed among researchers to reach final conclusion. The personal care module was then revised accordingly to further improve its appearance and content. Explanation on content validation index, rating and scoring was given during phase three.

PHASE THREE OF THE STUDY

Once completed, the validation process was conducted by distributing the improved personal care module to the experts together with a questionnaire for them to rate on its content validity email (Kadar et al. 2018; Polit & Beck 2006; Zamanzadeh et al. 2014). Information on the content validity index (CVI) were asked on four questions consists of (1) relevance of the items in the module, (2) clarity of instruction/information delivery in the module, (3) simplicity of the instruction/information delivery in the module and (4) if there are any ambiguity of meanings in the instruction/information in the module (Kadar et al., 2018).

Only one answer was allowed for each question for each item. The experts were asked to indicate their rating based on the Likert-4-point scale, i.e., 1 being very weak/not suitable to 4 being very strong/highly suitable. Only a rating of 3 and 4 were considered as valid, thus were included in the analysis process. The formula used to calculate for Item-Content Validity Index (I-CVI) and Scale-Content Validity Index (S-CVI) (Polit & Beck 2006) were as below:

$$\text{I-CVI} = \frac{\textit{Total number of experts rated score 3 or 4}}{\textit{Total number of experts}}$$

$$\text{S-CVI} = \frac{\textit{Total items with } I-CVI = 1.00}{\textit{Total items}}$$

According to Sirajudeen et al. (2012) the degree of agreement can be considered as excellent agreement at the value of 0.90-1.00, high agreement at the value of 0.80-0.89 and moderate agreement at the value of 0.70-0.79 (Sirajudeen et al. 2012). These suggested degrees of agreements were used in this study.

RESULTS

DEMOGRAPHIC CHARACTERISTICS OF THE OLDER ADULTS

Ten older people from two residential aged care homes were agreed to participate in this study. The older adults were equally distributed by gender and Malays represent the highest percentage of the population. For the marital status, the highest percentage for older adults were widow/widower (40.0%), and the highest level of education was secondary school (60.0%). Details of the demographic data for the older adults are shown in Table 1.

DEMOGRAPHIC CHARACTERISTICS OF THE EXPERTS

A total of 13 experts consists of occupational therapy practitioners who were eligible for the study were voluntarily involved in the FGD session. Three males (33.0%) and ten females (77.0%) aged between 27 to 49 years old were involved with six (46.0%) of them holding a bachelor's degree in occupational therapy. Seven of them reported to have at least between 6 months to 10 years of working experience in older adult care. For de-identification purposes, each expert was coded with alphabets (A-M), genders (F-female/M-male), age, education qualification (I-bachelor degree/D-diploma), overall working experience and experience with older adult care. For example: B, F, 34, I, 11, 2 means expert B who is a female, aged 34 that obtained a Bachelor Degree with 11 years working experience and 2 years of experience in older adult care. Details of demographic characteristics of the experts are shown in Table 2.

FINDINGS FROM THE SEMI-STRUCTURED INTERVIEW

The qualitative data from the semi-structured interview were transcribed into full transcriptions. Codes were developed manually using the highlighters. The themes emerged from these interviews were based from the

TABLE 1. Demographic data of the older adults (n=10)

Variables	Older adult (n=10) Total % (n)	
Gender	Male	Female
	50.0(5)	50.0(5)
Age (years)		
60-69	20.0(2)	30.0(3)
70 and above	30.0(3)	20.0(2)
Ethnicity		
Malay	40.0(4)	40.0(4)
Non-Malay	10.0(1)	10.0(1)
Marital status		
Single	30.0(3)	0.0(0)
Married	20.0(2)	10.0(1)
Widow/Widower	0.0(0)	40.0(4)
Level of education		
No schooling	0.0(0)	10.0(1)
Primary school	10.0(1)	20.0(2)
Secondary school	60.0(6)	0.0(0)

TABLE 2. Demographic characteristics of the expert reviewers

ID	Gender	Age (Years)	Level of education	Working experience (years)	Experience in older adult care	Subjects' code
A	M	29	Bachelor Degree	8	-	A,M,29,I,8,-
B	F	34	Bachelor Degree	11	2 years	B,F,34,I,11,2
C	F	30	Diploma	5	-	C,F,30,D,5,-
D	M	27	Diploma	5	6 months	D,M,27,D,5,0.5
E	F	33	Bachelor Degree	9	5 years	E,F,33,I,9,5
F	F	31	Bachelor Degree	10	-	F,F,31,I,10,-
G	F	31	Diploma	9	-	G,F,31,D,9,-
H	F	30	Diploma	9	-	H,F,30,D,9,-
I	F	30	Diploma	6	-	I,F,30,D,6,-
J	F	28	Diploma	5	2 years	J,F,28,D,5,2
K	M	31	Diploma	10	4 years	K,M,31,D,10,4
L	F	49	Bachelor Degree	25	5 years	L,F,49,I,25,5
M	F	48	Bachelor Degree	24	10 years	M,F,48,I,24,10

M-Male, F-Female, I-Degree, D-Diploma

combination of concept-based categories following by the data-based categories. Two major themes were; (1) the knowledge in daily living activities and (2) the importance of the engagement of daily living activities in their daily life. The knowledge in daily living activities include religious activity, personal hygiene, bathing, feeding, dressing, morning exercise/jogging, socialization and rest and sleep. While, the importance of engagement in their daily living activities were to be able to perform their daily activities independently, provide a sense of enjoyment and being able to interact with the other residents in the residential aged care homes.

FINDINGS FROM THE FGD SESSION

Five major themes emerged from the FGD session consists of (1) physical appearance of the module, (2) module's slogan, (3) content arrangement of the module, (4) content and description of each subtopic, and (5) type and location of pictures used. The relevant excerpts from the experts' related suggestion are presented.

PHYSICAL APPEARANCE OF THE MANUAL

A total of 13 experts agreed on using green color as the theme of the module as green can be considered as a global colour used by the profession. Suggestion were also given to use bigger font size. For the type of font, expert suggested to change the alphabet "a" into the handwriting form of "ɑ" as not to confuse some readers. Experts expressed as follows:

"Did you take any references about size of words? I think it's not so clear and not that visible, I think the size of the words doesn't suite that well. Better to refer for any suitable word size for older adult, may be larger than 13 [font size]…" (M, F, 48, I, 24, 10).

"I'm not sure with geriatric, but for me, I prefer "ɑ" as how we usually write and use as it will be easier for the older adult [to read and understand the word easily]…" (G, P, 31, D, 9,-).

Module were printed on 70 gsm A4 papers and were bound with ring binding. An expert suggested making the manual in smaller to A5 papers so that older adult can keep it in their bag but this might make the size of the pictures shrink as concerned by some experts. Besides, there were suggestions on making the module into laminated files where every laminated page can be taken out for quick and easy references.

The slogan used for the module was, "You Can Help Them, Be Their Buddy". The experts suggested inverting the sentence. For example:

"It's a bit weird. I think you can use "Be Their Buddy, You Can Help Them" (A, M, 29, I, 8, -).

CONTENT ARRANGEMENT OF THE MANUAL

There were suggestions on starting the introduction with positive words about aging and followed by types of older adult's daily activities, introduction of buddy system and adding in content outline in the form of a flow chart. From the discussion, a subtopic on "Bed Mobility" was added into the module. The comments were:

"In my opinion, we need to priorities the activities in term of Occupational Therapy's area such as feeding skills should be arrange among the first activities. For me, the arrangement of the activities in this module should started from feeding, dressing, bathing and then followed by personal hygiene" (B,F,34,I,11,2)

"..instead of putting the numbers, I think it would be better if you change o arrow to show the flow of the pictures" (C,F,30,D,5,-)

CONTENT AND DESCRIPTION OF EACH SUBTOPIC

One expert suggested excluding the entire introduction for every subtopic in the module. The expression was as follow:

"If you give this as a hand-out, you would need to simplify it, straight to the activity, do not need any introduction, for me, we just want to do the activity right" (G, P, 31, D, 9, -).

Items suggested to be included were safety precautions, steps for every activities and introduction of correct position during activities. A few experts suggested simplifying and using layman term in point form as well as instructional wordings for item descriptions to make it easy for the older adults to understand them as stated below:

"Change sentences to instruction. Such as 'take the soap' or 'hold hands' and make in a point form" (I,F,30,D,6,-)

"I think the word 'kemandian' is difficult to understand by the patient. This module is suitable for the therapist, not the patient. You have to simplify the words. The term 'ergonomic' change to the layman term" (H,F,30,D,9,-)

"The older adults did not know what is 'mentor and mentee'. Please provide definition that easier to understand or layman term" (J,F,28,D,5,2)

TYPES AND LOCATION OF PICTURES USED

Experts commented on including assistive device that can be easily bought from the market if it cannot be provided for the older adult. Besides, the pictures should be in demonstrative form instead of showing the assistive tools alone with the expression below:

"Visually, how would you explain on how to use that [assistive] devices? like how you explain this picture? It would be better if the pictures were showing or demonstrating it used." (E, F, 33, I, 9, 5).

Comments about the pictures were to use older adult models, enlarging the picture, reducing pictures in one page and arrange it into a flowchart with arrow and numbers to make the steps more understandable.

"Enlarge the pictures. Instead of using too much words, please change to pictures. Pictures on how to use the thing (assistive device), how you demonstrate" (K,M,31,D,10,4).

"This picture (young woman hold the assistive device) need to change the person to older adults" (L,F,49,I,25,5).

FACE VALIDITY

Table 3 shows the results for face validity of the self-care manual which include the percentage of agreement among expert reviewers. The results showed high face validity for the developed personal care module in Malay Version for older adults.

CONTENT VALIDITY

As shown in Table 4, the results showed excellent content validity for Bathing, Dressing and Bed Mobility subtopics whereby both the I-CVI and S-CVI score was 1.00. The pictures of each subtopic showed excellent content validity, where the I-CVI was scored full (1.00). Content and description for Personal Hygiene, Feeding and Stairs Climbing subtopics obtained a excellent degree of agreement among experts except on the relevance criteria for Stairs Climbing, which scored high degree of agreement (0.85).

DISCUSSION

The current study focused on developing a valid personal care module in Malay version for use with older adult in Malaysia. The findings showed some modification was required for the module as suggested by experts panel.

TABLE 3. Face validity of the personal care module

Expert opinion	Yes		No	
	(No. of expert)	(%)	(No. of expert)	(%)
Suitability of the font size	13	100	0	0
Topic and subtopic arrangement and tidiness	12	92.3	1	7.7
Theme colour	13	100	0	0
Slogan	13	100	0	0

TABLE 4 Content validity for I-CVI and S-CVI score for each subtopic

SUBTOPIC		I-CVI				S-CVI/ UA
		Relevance	Clarity	Simplicity	Ambiguity	
Personal Hygiene	a	1.00	1.00	0.92	1.00	0.88
	b	1.00	1.00	1.00	1.00	
Bathing	a	1.00	1.00	1.00	1.00	1.00
	b	1.00	1.00	1.00	1.00	
Dressing	a	1.00	1.00	1.00	1.00	1.00
	b	1.00	1.00	1.00	1.00	
Feeding	a	1.00	0.92	1.00	1.00	0.88
	b	1.00	1.00	1.00	1.00	
Bed Mobility	a	1.00	1.00	1.00	1.00	1.00
	b	1.00	1.00	1.00	1.00	
Stairs Climbing	a	0.85	1.00	1.00	1.00	1.00
	b	1.00	1.00	1.00	1.00	

a-Content and Description, b-Pictures I-CVI = item content validity index, S-CVI/UA = scale content validity index/universal agreement

Modifications made include the wording in the module and the overall appearance of the module as suggested by the experts during the focus group discussion. A study by Bernard et al. (2001) reported that older adult preferred a larger point font size. Similar study by Sagawa and Kurakata (2013) stated that size of words suitable for the older adults must be at least 12-point and above. Therefore, the size of words in the finalized developed module were enlarged to 16-18 point adapted as the font of the module.

Gloss lamination was reported as suitable for printed material as it is more durable by repelling dust, dirt and fingerprints besides providing a good contrast to the pictures (Brennan, 2017). Taking in the suggestions regarding the design of the module, pages with instructions and steps of activities will be made into a laminated file. Thus, every mentor will get one copy of personal care module and a laminated file of instructions.

Staircase is one of the most common locations for falls among older adults (LaStayo et al. 2003). This led to the decision that stair climbing need to be added as one of the subtopics in the module. For each domain, the task analysis of steps and position during performing activities were included in every subtopic (Chalmers 2000). In addition, for easier understanding among the family members and/ or paid caretakers of the older adults, all sentences were changed to be more concise and instructional using more layman terms. Pictures of assistive devices/tools were changed to pictures on demonstration on the use of that devices/tools (Shim & Paik 2004). This is to enable better understanding on the proper and correct use of those devices/tools. As suggested, the selected assistive tools included in the module were those that can easily be found in the market. Other changes such as a caption and explanation were also inserted for each picture. Numbers and arrows were also used to ensure the clarity of the steps and instructions for each activity with demonstration by the models (Witek 2009). The models in the activities were changed to the older adults, thus making it culturally relevant and the pictures were enlarged but reduced in number per page.

In terms of content validity index, the module showed high agreement among experts panel that ranged between of 0.88 to 1.00 (Sirajudeen et al. 2012). The developed personal care module consists of all aspects of basic activities of daily living and is suitable for older adults in general, where the mentors, such as family members or paid caretakers, can choose the suitable activities and method to help the older adults (Chang et al. 2006; Dorner et al. 2013).

In conclusion, the developed personal care module in Malay version has high face and content validity. It is suitable to be used for feasibility or pilot study among older adults population in the next phase of its development.

STUDY IMPACT AND FUTURE RECOMMENDATION

Many studies have been done in the Western countries showing the positive effects of implementing buddy system. Due to the lack of studies in developing a validated module of personal care for older adults in Malaysia, it was the aimed of this current study to develop a personal care module in Malay version which can be used in helping to manage the older adults' daily needs. This study provides

a validated personal care module as guideline for family members and /or paid caretakers in order to help managing daily activities of older adults.

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