Jurnal Sains Kesihatan Malaysia 20 (2) 2022: 129 - 137
DOI : http://dx.doi.org/10.17576/JSKM-2022-2002-12

Kertas Asli/*Original Articles*

Driving Rehabilitation by Occupational Therapists in Malaysia: What are the Current Practices?

(Pemulihan Pemanduan oleh Ahli Terapi Cara Kerja di Malaysia: Apakah Amalan Semasa?)

YUN XUN CHANG, HANIF FARHAN MOHD RASDI, DZALANI HARUN, HUI YUAN LAU, WEN XIN LIM

ABSTRACT

Occupational therapists have a significant role in driving rehabilitation by helping clients with disabilities to return to driving. To date, the services for driving rehabilitation are still limited in Malaysia. Furthermore, the current practice of driving rehabilitation in Malaysia is still underreported. Therefore, this study aims to assess occupational therapists' challenges, attitudes, and skills towards driving rehabilitation, the sociodemographic differences, and associations between the developed constructs. A cross-sectional study was conducted from June to September 2020. A convenience sampling method was used to recruit 177 occupational therapists with at least one year of working experience in Malaysia. The questionnaire consists of three constructs: the challenges, attitudes, and skills related to driving rehabilitation. The content validity of the questionnaire was good (S-CVI/Ave= 0.992; S-CVI/UA= 0.950; modified kappa= 0.812 to 1.000). Based on the Exploratory Factor Analysis (EFA), three items had been deleted due to low communalities. The Cronbach's alpha for all constructs was acceptable (Cronbach's alpha > 0.7). Experience in practicing driving rehabilitation, workplace settings, and educational level had significant differences in at least one of the constructs. Age and years graduated had a significant positive correlation with skills. This questionnaire proved to be a tool with good content validity and reliability to assess occupational therapists' challenges, attitudes, and skills related to driving rehabilitation. In the future, qualitative studies are recommended to better understand the occupational therapists towards driving rehabilitation, especially from their personal experience.

Keywords: Occupational therapy; driving rehabilitation; off-road driving evaluation; return to driving; psychometrics; validity; reliability

ABSTRAK

Ahli terapi cara kerja memainkan peranan yang penting dalam rehabilitasi pemanduan untuk membantu klien yang kurang upaya supaya kembali memandu. Setakat ini, perkhidmatan yang berkaitan dengan rehabilitasi pemanduan masih terhad di Malaysia. Tambahan pula, amalan rehabilitasi pemanduan kurang dilaporkan di Malaysia. Oleh itu, kajian ini bertujuan untuk menilai cabaran, sikap dan kemahiran ahli terapi cara kerja terhadap pemulihan pemanduan, serta perbezaan dan perkaitan sosiodemografi antara konstruk. Kajian keratan rentas telah dijalankan dari Jun hingga September 2020. Teknik pensampelan mudah telah digunakan untuk mendapatkan 177 orang ahli terapi cara kerja yang mempunyai sekurang-kurangnya setahun pengalaman bekerja di Malaysia. Terdapat tiga konstruk, iaitu cabaran, sikap dan kebolehan dalam soal selidik ini untuk mengakses sampel terhadap bidang rehabilitasi pemanduan. Kesahan kandungan soal selidik adalah baik (S-CVI / Ave = 0.992; S-CVI / UA = 0.950; kappa diubah suai = 0.812 hingga 1.000). Berdasarkan Analisis Faktor Eksploratori (EFA), tiga item telah dihapus kerana komuniti yang rendah. Cronbach's alpha untuk semua konstruk juga boleh diterima (Cronbach's alpha> 0.7). Pengalaman mempraktikkan pemulihan pemanduan, persekitaran tempat kerja dan tahap pendidikan mempunyai perbezaan yang signifikan dalam sekurang-kurangnya salah satu konstruk. Umur dan tahun selepas graduasi mempunyai korelasi positif yang signifikan dengan kebolehan. Soal selidik ini terbukti sebagai alat yang mempunyai kesahan kandungan dan kebolehpercayaan yang baik untuk menilai cabaran, sikap dan kemahiran ahli terapi cara kerja yang berkaitan dengan rehabilitasi memandu. Pada masa depan, kajian kualitatif adalah dicadangkan untuk lebih lanjut memahami peranan ahli terapi cara kerja terhadap rehabilitasi pemanduan, khususnya meneliti pengalaman mereka dalam rehabilitasi pemanduan pada masa depan.

Kata Kunci: Terapi cara kerja; rehabilitasi pemanduan; penilaian pemanduan luar jalan raya; kembali kepada memandu; kesahan; kebolehpercayaan

INTRODUCTION

Driving is one of the most valuable Instrumental Activity Daily Living (IADL) in life, but it can become increasingly challenging with age and coexisting medical conditions (Dickerson et al. 2018). Undeniably, incapability of driving may lead to a troublesome life such as difficulties making daily purchases, doing banking, participating in any other kind of activities, and accessing a hospital or clinic. Nevertheless, driving is a critical issue, as it is an IADL that affects both personal and public safety (Dickerson et al. 2018). Clients with stroke, elderly, Parkinson's disease, Alzheimer's disease, traumatic brain, or spinal cord injury might have problems with physical, cognitive, psychological, or behavioral disabilities. These issues may cause the ability to drive to decrease (Jones et al. 2016; Unsworth et al. 2019). Therefore, occupational therapists play a symbolic role in measuring fitness-to-drive and developing intervention strategies (Al-Hassani & Alotaibi 2014).

The driving assessment process typically begins when a client is referred to a driving evaluation service, where a trained occupational therapist or other health professional performs the evaluation (Dickerson et al. 2018; Korner-Bitensky et al. 2006). However, several significant driving rehabilitation challenges include unclear formal comprehensive guidelines, lack of specialized training for occupational therapists, and legislation to support occupational therapists' role in driving rehabilitation (Classen et al. 2018; Di Stefano et al. 2012). Occupational therapists in Malaysia face significant challenges in deciding on appropriate assessment tools due to availability and administrative issues. For example, therapists often refer to the only guideline issued by the Occupational Health Unit, Disease Control Division, Ministry of Health, Malaysia. 2.5, 2.8, and 3.1 were the only ones highlighted in the document as entitled medical examination standards for clients with disabilities driver's licensing (Masuri et al. 2020).

Besides, regarding Lau et al. (2022), barriers to implementing a driving program are the difficulty obtaining support within the organization, the difficulty in obtaining funds to purchase appropriate equipment, and the limited staffing to maintain the driving rehabilitation program. The general hospital in Malaysia was not equipped with expensive tools like the driving simulator, Motor-Free Visual Perception Test, and others. Driving simulators and road assessment tools provided by some rehabilitation centers such as Social Security Organization (SOCSO) Rehabilitation Center and Cheras Hospital Rehabilitation Center are assessment tools that are mostly not available in general hospitals. Besides, many types of pre-driving assessments are used, and they vary by facility (Lau et al. 2022).

Regarding Unsworth et al. (2012), the occupational therapist in Australia can choose any standardized or non-standardized pre-driving assessment tools. This may cause a lack of consistency in the assessment tools used and potential client outcomes and also cause a lack of validity and reliability in the results obtained from non-standardized assessments. On the other hand, occupational therapists in the United States who specialize as driving rehabilitation specialists have a good attitude and enthusiastic commitment to their role. This is because they have a sense of responsibility towards helping their clients. However, it is time-consuming and there is a lack of driving rehabilitation specialists (DRS) in the country (Jones et al. 2016). In Sweden, most occupational therapists do not have sufficient information, knowledge, or education in driving evaluation (Larsson et al. 2007). Similarly, although Korea shows an excellent attitude toward driving rehabilitation education (Shin 2011), the occupational therapists have reportedly lacked knowledge of the driving rehabilitation system (Song & Jang 2013). Contrarily to the United States and Canada, 75% indicate that they have received some proper training in the field (Korner-Bitensky et al. 2006).

In general, because of various factors, studies show that most occupational therapists (83%) do not seem to have adequate knowledge to do the driving evaluation (Dickerson et al. 2018; Larsson & Falkmer 2007). Regarding Dickerson (2013), a study to understand how much time occupational therapists spent doing driving rehabilitation has been carried out. Based on the identified results, there are a total number of 186 respondents who answered the questionnaires. There are 53 (29%) of them spend most of their time, 28 (15%) of them use more than half of their time, 35 (19%) use half of their time, and 65 (36%) use less than half of their time in doing driving rehabilitation. This is because there are no clear studies regarding the current driving rehabilitation system, the off-road and on-road evaluation method, the practice of occupational therapists, and the guidelines to perform the driving rehabilitation. Time is also another contributing factor that affects driving rehabilitations.

The studies regarding driving rehabilitation in Malaysia are still limited. To enhance cultural-related driving rehabilitation services, it is recommended to conduct local studies to meet each country's trends and environmental needs (Kim et al. 2014). Therefore, the opinions and suggestions of occupational therapists driving

rehabilitation should be identified. This study aims to assess occupational therapists' challenges, attitudes, and skills towards driving rehabilitation, the sociodemographic differences, and associations between the constructs.

METHODS

STUDY DESIGN AND LOCATION

A cross-sectional study design was utilized to investigate the occupational therapist's challenges, attitudes, and skills towards driving rehabilitation in Malaysia. Ethical approval for this study was obtained from the Centre for Research and Instrumentation Management, The National University of Malaysia (*Universiti Kebangsaan Malaysia*, UKM) with the reference number JEP-2019-753.

SAMPLE

A total of 177 occupational therapists with at least one year of experience in the clinical field possess at least a diploma, graduated from a university in Malaysia, and work in Malaysia after graduation completed this study's questionnaire. All the participants were screened for eligibility before answering the questionnaire and voluntarily agreed to sign the digital consent to participate in the online survey.

INSTRUMENT

The instrument was a newly developed questionnaire, which consists of two sections. The first section is the sociodemographic and work-related factors form. The second section instrument is a questionnaire developed by the researcher to measure occupational therapists' challenges, attitudes, and skills towards driving rehabilitation in Malaysia. The second section consists of three constructs, which were the challenges (four items), attitudes (six items), and skills (six items) related to driving rehabilitation. The agreement of the participants was rated using the Likert's scale ranging from one (1) to ten (10), in which one (1) was the lowest indicating "totally disagree" and ten (10) was the highest indicating "totally agree." Participants were required to rate the questionnaire for their agreement on the items, from a score of 1 to 10. The higher the score, the more positive the perception from the occupational therapists. The score was not interpreted based on good or poor categories; thus, no cut-off point.

PROCEDURE

The questionnaire was developed by referring to literature reviews and discussions with researchers. Content validity, face validity, construct validity, internal consistency, and face validity were tested. The content validity was obtained by recruiting six experts; among the six experts, three of them worked as a clinician, and another three worked as a lecturer in the Occupational Therapy Programme, The National University of Malaysia (UKM). Besides, for the face validity phase, three experts were the occupational therapists who worked in a hospital located in Klang Valley were recruited. Then, their comments were taken into the modification of the questionnaires. After the last version of the questionnaire was finalized, these questionnaires were distributed online to eligible occupational therapists via google form and a consent form was attached. Lastly, occupational therapists' differences in the challenges, attitudes, and skills based on sociodemographic factors (age, educational level) and work-related factors (workplace setting, work experience in driving rehabilitation, years graduated) towards the driving rehabilitation in Malaysia were also analyzed.

DATA COLLECTION

The online survey form consists of the participant information section, the informed consent form, and the questionnaire (main section). The survey link was distributed via Whatsapp and Facebook groups to reach potential respondents. After reading the participant information section of the survey, a consent statement was made available to allow the participants to indicate their consent. The data and responses from the respondents were assured to be private and confidential.. If the consent is given, the participants will proceed to the main section of the questionnaire.

DATA ANALYSIS

The statistical analyses were performed using the IBM SPSS Statistics (SPSS) version 26 for Windows. The validity and reliability of the constructs were measured. The content validity index (CVI) and Modified Kappa have been conducted to measure the content validity of the questionnaire. Besides, to measure the construct validity, exploratory factor analysis was conducted. Any items with communalities < 0.40 were excluded (Stevens 2012). In this study, Cronbach's alpha was used to measure internal consistency. The Cronbach's alpha of > 0.70 is considered to achieve its satisfactory internal validity (Bland & Altman 1997). Moreover, the differences in the challenges, attitudes, and skills of occupational therapists based on the sociodemographic factors (age, educational level) and work-related factors (workplace setting, work experience in driving rehabilitation, years graduated) towards the driving rehabilitation in Malaysia were also analyzed using

either independent sample t-test or one-way independent ANOVA. Besides that, Pearson's correlation test was utilized to identify the associations between the challenges, attitudes, and skills related to driving rehabilitation.

RESULTS

SOCIODEMOGRAPHIC CHARACTERISTICS

A total number of 197 respondents had answered the questionnaires through the Google forms. However, only 177 respondents who fulfilled the inclusion criteria were eligible to participate in the study. From the N = 177, most of the respondents were female (n = 126; 71.2%), have diploma and advance diploma (n=99, 55.9%). Besides, most respondents (n = 90; 50.8%) work in the government hospital setting. Nonetheless, 29.9% of therapists (n=53) have experience practicing driving rehabilitation, while the rest have no experience. Their educational background, the age of the respondents, years after graduation, and years of practicing driving rehabilitation have been summarized in Table 1. The youngest is 22 years old for the age of respondents and the oldest therapist is 57 years old. Some young therapists just started their work-life for one year and some older therapists have already worked for 32 years in the occupational therapy field. The average age for the N = 177 respondents is (31.8 ± 7.13). The mean value for occupational therapists' years in driving rehabilitation is (1.1 ± 3.03). The therapist with great knowledge in the driving rehabilitation field (up to 25 years); however, some rate 0, meaning they have no experience practicing. The years that therapists practice driving rehabilitation also play an important factor in the study.

Table 1. Profile of Respondents

Socio-demographic/ work-related factors	Frequency	Percent (%)
Gender		
Female	126	71.2
Male	51	28.8
Education		
Diploma and advance diploma	63	35.6
Bachelor's degree	99	55.9
Postgraduate (master and doctorate)	15	8.5
Place of work		
Government Hospital	90	50.8
Rehabilitation Centre	70	39.6
Others (including University, Self-employed)	17	9.6
Experienced in practising driving rehabilitation		
No	124	70.1
Yes	53	29.9
Age/Experience	Mean	S.D.
Age of respondents	31.8	7.13
Years after graduation	8.7	6.84
Years practising driving rehabilitation	1.1	3.03

EXPLORATORY FACTOR ANALYSIS (EFA) OF CONSTRUCTS

An exploratory factor analysis (EFA) was used in this study to identify the underlying relationship between the items (Norris & Lecavalier 2010). A Principal Component Analysis (PCA) was conducted with the Varimax rotation method to test its construct validity to arrange all items into the appropriate construct. Three items had been deleted based on their low communalities, which were < 0.40 (Guadagnoli & Velicer 1988). At last, the first construct clustered with six items, the second construct also with six items, and the third construct had four items. Cronbach's alpha was measured to test the internal consistency. All constructs had achieved acceptable internal consistency (challenges = 0.723, attitudes = 0.922, and skills = 0.874) (Taber 2018). In conclusion, the questionnaire is a valid and reliable tool. Table 2 summarized the results of the Exploratory Factor Analysis (EFA).

Table 2. Exploratory Factor Analysis (EFA) of Constructs

Factor Loading	#1	#2	#3
Bc2. I know how to conduct the off-road driving evaluation.	0.890		
Bc3. I know how to conduct the on-road driving evaluation.	0.869		
Bc4. I am able to make the right decision regarding fitness to drive.	0.850		
Bc5. I have good clinical reasoning to apply driving rehabilitation.	0.808		
Bc6. I have received specific training/s related to driving rehabilitation.	0.769		
Bc1. My knowledge is sufficient to practice driving rehabilitation.	0.741		
Bb4. I am willing to spend time to learn about driving rehabilitation.		0.876	
Bb3. I like to help patients to be able to drive.		0.846	
Bb1. I am interested to do driving rehabilitation.		0.844	
Bb6. Spending my own money to go for driving rehabilitation-related workshops is worthy.		0.703	
Bb5. Occupational therapy has a bright future in driving rehabilitation.		0.609	
Bb2. I am confident to practice driving rehabilitation		0.571	
Ba7. The practice guideline to guide driving rehabilitation in Malaysia is limited (e.g. standard operating procedure & clinical practice guideline).			0.797
Ba6. Facilities that support driving rehabilitation are limited in Malaysia (e.g. parking lot, driving school & accessibility).			0.766
Ba5. There is an insufficient number of occupational therapists who can practice driving rehabilitation.			0.736
Ba1. Public awareness of the occupational therapist's roles in driving rehabilitation is minimal.			0.669

Noted: Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
A Rotation converged in 5 iterations.

Table 3 Comparison of Constructs Based On Sociodemographic Characteristics and Work-Related Factors

Variables	Attitudes[I]	Skills[II]	Challenges[III]	*p-value*
Workplace setting				
Gov Hosp (n=90)	7.53 ± 1.770	4.83 ± 2.049	8.08 ± 1.491	0.638[I], 0.036*[II], 0.936[III]
Rehab Centre (n=70)	7.66 ± 1.718	4.10 ± 2.294	8.09 ± 1.275	
Experiences				
With Exp (n=53)	8.26 ± 1.434	6.13 ± 1.933	7.59 ± 1.482	<0.001*[I, II, III]
Without Exp (n=124)	7.26 ± 1.748	3.75 ± 1.889	8.38 ± 1.270	

VALIDITY OF THE QUESTIONNAIRES

The statistical analyses were performed using the IBM SPSS Statistics (SPSS) version 26 for Windows. The validity of the constructs had been measured. The content validity index (CVI) and Modified Kappa have been conducted to measure the content validity of the questionnaire. The final version of the questionnaire had a high content validity index (CVI) for clarity and relevancy; the I-CVI score was 1 for every item, except one scored 0.83. The S-CVI/Ave was 0.992 and S-CVI/UA was 0.95. Furthermore, the modified kappa score min value was 0.812 and the maximum value was 1.

COMPARISONS OF CONSTRUCTS BASED ON SOCIODEMOGRAPHIC CHARACTERISTICS AND WORK-RELATED FACTORS

Independent sample t-tests and one-way independent ANOVA were used to analyze the differences in the challenges, attitudes, and skills related to driving rehabilitation according to sociodemographic and work-related factors, namely workplace settings, working experiences, and educational level (Table 3). The therapists who worked in the government hospital (4.83 ± 2.049) attained a higher skill score than those in rehabilitation centers (4.10 ± 2.294). There were significant differences

Table 4. Comparison of Constructs Based on Educational Level

Educational Level	Mean score ± SD			*F*	*p-value*
Attitudes				0.843	0.432
Diploma (n=63)	7.34 ± 1.715				
Bachelor's degree (n=99)	7.70 ± 1.708				
Master & Doctorate (n=15)	7.60 ± 1.834				
Skills				3.755	0.025
Diploma (n=63)	3.94 ± 1.838	*p*=0.114	*p*<0.05*		
Bachelor's degree (n=99)	4.64 ± 2.251				
Master & Doctorate (n=15)	5.46 ± 2.712	*p*=0.360			
Challenges				1.932	0.148
Diploma (n=63)	7.96 ± 1.486				
Bachelor's degree (n=99)	8.16 ± 1.347				
Master & Doctorate (n=15)	8.73 ± 0.966				

in all skills, attitudes, and challenges according to work experiences. The therapists with experience (8.26 ± 1.434) had a significantly higher score than those without experience (7.26 ± 1.748). For skills, therapists with experience (6.13 ± 1.933) were also higher than therapists without experience (3.75 ± 1.889). For challenges, the therapists with experience (7.59 ± 1.482) had a significantly lower score than therapists without experience (8.38 ± 1.270).

For the educational level, there was a significant difference in skills related to driving rehabilitation between the three categories ($p<0.05$) (Table 4). Since the ANOVA is an omnibus test, a *post-hoc* test was conducted for pairwise comparison. The *post-hoc* test results indicated that the skills of a therapist with a master's and doctorate (5.46 ± 2.712) were significantly higher than a therapist with a bachelor's degree (4.64 ± 2.251).

DISCUSSION

This study aimed to assess occupational therapists' challenges, attitudes, and skills towards driving rehabilitation, the sociodemographic differences, and associations between the constructs. The questionnaires used in this survey have just been newly developed; therefore, exploratory factor analysis is a crucial tool to enable researchers to understand better constructs containing the minimum number of items required in the survey (Burton & Mazerolle 2011). In addition, after establishing content validity, construct validation is needed to investigate whether the survey items genuinely measure the constructs of a study (Burton & Mazerolle 2011). Therefore, a principal component analysis (PCA) was conducted with the varimax rotation method to arrange all items into the appropriate construct, such as challenges, attitude, and skills containing 16 items with three items excluded. In this study, the principal component analysis assesses and excludes items that do not contribute to understanding the factor to maximize all variance in the items (Burton & Mazerolle 2011). The Cronbach's alpha of all constructs had also achieved an acceptable level of internal consistency as the reliability measure (Taber 2018). Therefore, both analyses confirm that this questionnaire is valid and reliable to be used for further analysis.

The findings in this study specifically highlight workplace settings in which therapists who worked in the government hospital (4.83 ± 2.049) attained a higher skill score than the therapists who worked in rehabilitation centers (4.10 ± 2.294). Thus, by comparing the workplace settings, the therapists who work in the government hospital may have obtained more skills in handling clients who wish to return to driving. This is because the therapists may have consulted many clients every day. More services

are available and provided in the hospital than in the rehabilitation centers. Moreover, doctors may also refer clients to the rehabilitation department for those who have the potential to return to driving. Clients may also prefer government hospitals due to their financial circumstances, and the government subsidizes government hospitals.

Furthermore, rotation of clinical areas happened in the government hospital (Khan et al. 2017). Therefore, the findings from this study indicate that respondents who work as government therapists may have a higher chance to rotate to different practice areas, including driving rehabilitation. Contrarily, in South Africa, driving rehabilitation is recommended in both private health and public health sectors as these two sectors function independently (Classen et al. 2018). Therefore, if more service providers are available for driving rehabilitation, the client with needs can have more options or opportunities to obtain the services.

This study found that the therapists with experience in driving rehabilitation show better attitudes and skills than therapists without experience in this field. As supported in the previous study, the therapist equipped with experience in driving rehabilitation will feel less tense while handling the cases. This is because an experienced therapist is more flexible, communicative, skillful, and confident in the treatment plan and producing information; more competent to associate the current case with past evidence and theory (Šuc & Bratun 2020). Expert therapists consider experience has made the task less complicated by identifying priorities (Gibson et al. 2000). Work experience is generally viewed as an essential attribute of any employee that can influence professional skills and confidence (Rouse et al. 2015). The previous study found that increasing experience produces better emotional control over complex problems and allows therapists to explore these more deeply and systematically (Borghi et al. 2016). However, without experience, the therapists tend to feel more difficulties and have more challenges than those with experience as they are not familiar with what they could do to help the clients. The intense feeling of shock, confusion, stress, anxiety, and insecurity have been experienced by most novice occupational therapists (Fitzpatrick & Gripshover 2016). Novices often expressed more directness in getting to know the client and collaborating with other professionals, possibly because they did not feel completely confident in themselves (Šuc & Bratun 2020). Findings of this study have been reported that younger occupational therapists who have less working experience tend to use more time to adapt to a new working job scope of the workplace. Novices required six months to two years to feel competent as an occupational therapist (Hodgetts et al. 2007). In contrary, senior therapists with more experience can optimize the rules of organization and grant autonomy leading to more positive attitudes (Lee & Bang 2015).

This study also found that respondents with master's and doctorate educational levels have better driving rehabilitation skills, followed by a bachelor's degree, than those with only a diploma. Despite being weakly correlated, previous findings showed that a higher level of education seems to positively influence some work-related matters that need specific skills (Cameron et al. 2005). Hence, therapists are encouraged to familiarize themselves with the latest state of research as possible. This will integrate with the professional approach available to them into multiple decision models, which can help in improving driving rehabilitation (Hopewell 2002). In addition, the postgraduate holders may have more knowledge and equip with the theoretical and research-based approach to assisting clients in returning to drive. Thus, the postgraduate qualification therapists may have more confidence in their skills as they utilize more evidence-based knowledge (Mccluskey 2003). However, in Malaysia, those with diploma therapists rarely can deal with the driving rehabilitation cases due to their job position in the hospital. In government hospital settings, the driving rehabilitation cases are assigned to therapists with undergraduate or postgraduate holders who had a working post at a management level of U41 and above. In other words, not all therapist has the opportunity to practice in this field.

This study has several recommendations to improve driving rehabilitation in Malaysia further. The occupational therapist must ensure the responsibility of helping the clients with disabilities overcome their disability status to the optimum independence level returns to driving. The Ministry of Health has developed a medical examination format to standardize the application for driver's licenses for clients with disabilities. The challenges associated with the medical examination format are probably due to a lack of standardization and coordination among the Malaysia Ministry of Health, driving instructors, and the Road Safety department, indicating that the clients are fit to drive. Therefore, the medical examination standards for clients with disabilities licensing must accurately assess clients not to endanger the rest of the road users. Brochures regarding driving rehabilitation services can be made and distributed to the right target population via doctors and the road safety department of licensing authorities. They will be the first people the clients with disabilities meet in making the referral letter or license application. There is also a need to educate diploma holders in Malaysia by providing professional training, continuing higher-level education, evidence-based practice, and training material resources. According to Harries & Unsworth (2013), expert agreement standards promote evidence-based practice in driving assessment, allow best practice globally and form

a sufficient workforce (Harries & Unsworth 2013). The diploma holder should also be encouraged to maximize driving rehabilitation service delivery.

CONCLUSION

In this study, the researcher investigated the differences in challenges, attitudes, and skills toward driving rehabilitation according to age, educational level, workplace setting, work experience in driving rehabilitation, and years graduated based on a valid and reliable questionnaire. Through the findings, experience in driving rehabilitation was the primary determining factor for all three constructs. Lastly, workplace setting, educational level, age, and years graduated were the factors in practicing driving rehabilitation skills. Previous research has shown that driving decisions should be based on functional abilities (Dickerson et al. 2007). However, an occupational therapist can be skillful in driving rehabilitation but still requires a valid and reliable assessment to evaluate and decide the capabilities of a disabled driver returning to driving. Therefore, a Malaysian occupational therapist should immediately provide a simple, culturally practical, and cost-effective local standardized assessment equipped with standardized procedures to suit Malaysian practices. The use of standardized assessments is essential in helping to improve the quality and quantity of information for making an accurate decision (Masuri et al. 2015).

ACKNOWLEDMENT

This work was supported by the Malaysian Ministry of Higher Education (MHE) Fundamental Research Grant Scheme (FRGS) No. FRGS/1/2020/SS0/UKM/03/4. The authors would like to thank the participants for their time and effort in the study.

REFERENCES

Al-Hassani, S. B. & Alotaibi, N. M. 2014. The Impact of Driving Cessation on Older Kuwaiti Adults: Implications to Occupational Therapy. *Occupational Therapy in Health Care* 28(3): 264-276.

Bland, J. M. & Altman, D. G. 1997. Statistics Notes: Cronbach's Alpha. *British Medical Journal* 314(7080): 572.

Borghi, L., Johnson, I., Barlascini, L., Moja, E. A. & Vegni, E. 2016. Do Occupational Therapists' Communication Behaviours Change with Experience? *Scandinavian Journal of Occupational Therapy* 23(1): 50-56.

Burton, L. J. & Mazerolle, S. M. 2011. Survey Instrument Validity Part I: Principles of Survey Instrument Development and Validation in Athletic Training Education Research. *Athletic Training Education Journal* 6(1): 27-35.

Cameron, K. A., Ballantyne, S., Kulbitsky, A., Margolis-Gal, M., Daugherty, T. & Ludwig, F. 2005. Utilization of Evidence-Based Practice by Registered Occupational Therapists. *Occupational Therapy International* 12(3): 123-136.

Classen, S., Groenewald, R., Kolling, J., Norval, H., Rule, C. & Swanepoel, L. 2018. Occupational Therapy Association of South Africa (Otasa) Position Statement. Enabling Community Mobility through Driver Evaluation and Rehabilitation: The Role of Occupational Therapists. *South African Journal of Occupational Therapy* 48: 62-63.

Di Stefano, M., Stuckey, R. & Lovell, R. 2012. Promotion of Safe Community Mobility: Challenges and Opportunities for Occupational Therapy Practice. *Australian Occupational Therapy Journal* 59(1): 98-102.

Dickerson, A., Schold Davis, E. & Carr, D. B. 2018. Driving Decisions: Distinguishing Evaluations, Providers and Outcomes. *Geriatrics* 3(2): 25.

Dickerson, A. E. 2013. Driving Assessment Tools Used by Driver Rehabilitation Specialists: Survey of Use and Implications for Practice. *American Journal of Occupational Therapy* 67(5): 564-573.

Dickerson, A. E., Molnar, L. J., Eby, D. W., Adler, G., Bédard, M., Berg-Weger, M., Classen, S., Foley, D., Horowitz, A., Kerschner, H., Page, O., Silverstein, N. M., Staplin, L. & Trujillo, L. 2007. Transportation and Aging: A Research Agenda for Advancing Safe Mobility. *Gerontologist* 47(5): 578-590.

Fitzpatrick, S. & Gripshover, J. 2016. Expert Nurse to Novice Nurse Practitioner: The Journey and How to Improve the Process. *The Journal for Nurse Practitioners* 12(10): e419-e421.

Gibson, D., Velde, B., Hoff, T., Kvashay, D., Manross, P. L. & Moreau, V. 2000. Clinical Reasoning of a Novice Versus an Experienced Occupational Therapist: A Qualitative Study. *Occupational Therapy in Health Care* 12(4): 15-31.

Guadagnoli, E. & Velicer, W. 1988. Relation of Sample Size to the Stability of Component Patterns. *Psychological bulletin* 103: 265-275.

Harries, P. A. & Unsworth, C. A. 2013. Clinical Assessment of Fitness-to-Drive: Positioning Occupational Therapy for Workforce Development. *British Journal of Occupational Therapy* 76(7): 299-299.

Hodgetts, S., Hollis, V., Triska, O., Dennis, S., Madill, H. & Taylor, E. 2007. Occupational Therapy Students' and Graduates' Satisfaction with Professional Education and Preparedness for Practice. *Canadian*

Journal of Occupational Therapy 74(3): 148-160.
Hopewell, C. A. 2002. Driving Assessment Issues for Practicing Clinicians. *The Journal of Head Trauma Rehabilitation* 17(1): 48-61.
Jones, F., Gage, H., Drummond, A., Bhalla, A., Grant, R., Lennon, S., Mckevitt, C., Riazi, A. & Liston, M. 2016. Feasibility Study of an Integrated Stroke Self-Management Programme: A Cluster-Randomised Controlled Trial. *British Medical Journal Open* 6(1): e008900.

Jones, J., Dickerson, A., Flaten, H. K., Belmashkan, S. & Betz, M. E. 2016. Driving Rehabilitation Specialists' Perspectives on Older Driver Evaluations. *The American Journal of Occupational Therapy: official publication of the American Occupational Therapy Association* 70(2): 1-7.
Khan, F., Khan, Q., Naz, A., Khan, N., Khyber, P. & Pakistan. 2017. Job Rotation on Job Burnout, Organizational Commitment: A Quantitative Study on Medical Staffs Khyber Pakhtunkhwa Pakistan. 3: 11-18.
Kim, B. & Lee, H. 2014. A Study of Research on Related Driving Rehabilitation. *Journal of Korean Society of Integrative Medicine* 2(3): 23-30.
Korner-Bitensky, N., Bitensky, J., Sofer, S., Man-Son-Hing, M. & Gélinas, I. 2006. Driving Evaluation Practices of Clinicians Working in the United States and Canada. *The American Journal of Occupational Therapy: official publication of the American Occupational Therapy Association* 60(4): 428-434.
Larsson, H. & Falkmer, T. 2007. Off-Road and On-Road Driving Assessments Methods, What Do They Say? A Clinical Sample. *International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design, University of Iowa, Public Policy Center*: 335-342.
Larsson, H., Lundberg, C., Falkmer, T. & Johansson, K. 2007. A Swedish Survey of Occupational Therapists' Involvement and Performance in Driving Assessments. *Scandinavian Journal of Occupational Therapy* 14(4): 215-220.
Lau, Y. H., Farhan, R. M. H., Dzalani, H. B. & Chang, X. Y. 2022. Challenges, Attitudes and Skills of Occupational Therapists Towards Pre-Driving Assessments Practices in Malaysia. *Malaysian Journal of Health Sciences/Jurnal Sains Kesihatan Malaysia* 20(1).
Lee, S.-H. & Bang, Y.-S. 2015. The Effect of Emotional Labor and Burnout on the Job Attitude of Occupational Therapists. *Journal of Korean Society of Occupational Therapy* 23: 95-108.
Masuri, M., Dahlan, A., Anuar, K. & Hashim, G. 2020. The Development and Validation of Pre-Driving Assessment: Attitude Towards Safe Driving Scale. *Environment-Behaviour Proceedings:* 5(13): 337-342.
Masuri, M. G., Dahlan, A., Danis, A. & Isa, K. a. M. 2015. Public Participation in Shaping Better Road Users in Malaysia. *Procedia - Social and Behavioral Sciences* 168: 341-348.
Mccluskey, A. 2003. Occupational Therapists Report a Low Level of Knowledge, Skill and Involvement in Evidence-Based Practice. *Australian Occupational Therapy Journal* 50(1): 3-12.
Norris, M. & Lecavalier, L. 2010. Evaluating the Use of Exploratory Factor Analysis in Developmental Disability Psychological Research. *Journal of autism and developmental disorders* 40(1): 8-20.
Rouse, A., Armstrong, J. & Mcleod, J. 2015. Enabling Connections: Counsellor Creativity and Therapeutic Practice. *Counselling and Psychotherapy Research* 15(3): 171-179.
Shin, J.-I. 2011. Perception of Occupational Therapists on Driving Rehabilitation. *The Journal of the Korea Contents Association* 11.
Song, M.-O. J., Chel. 2013. Study on the Degree of Perceptions and Needs Regarding the Driving Rehabilitation of the Students of Occupational Therapy in Busan and Gyeongnam. *The Journal of Korean Society of Community Based Occupational Therapy* 3(2): 85-95.
Stevens, J. P. 2012. *Applied Multivariate Statistics for the Social Sciences.* Routledge.
Šuc, L., Švajger, A. & Bratun, U. 2020. Goal Setting among Experienced and Novice Occupational Therapists in a Rehabilitation Center. *Canadian Journal of Occupational Therapy* 87(4): 287-297.
Taber, K. S. 2018. The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education* 48(6): 1273-1296.
Unsworth, C. A., Baker, A., Lannin, N., Harries, P., Strahan, J. & Browne, M. 2019. Predicting Fitness-to-Drive Following Stroke Using the Occupational Therapy – Driver Off Road Assessment Battery. *Disability and Rehabilitation* 41(15): 1797-1802.
Unsworth, C. A., Baker, A., Taitz, C., Chan, S. P., Pallant, J. F., Russell, K. J. & Odell, M. 2012. Development of a Standardised Occupational Therapy--Driver Off-Road Assessment Battery to Assess Older and/or Functionally Impaired Drivers. *Australian Occupational Therapy Journal* 59(1): 23-36.

Yun Xun Chang
Occupational Therapy Department, SOCSO Tun Razak Rehabilitation Centre, 75450, Bemban, Melaka, Malaysia

Hanif Farhan Mohd Rasdi,
Dzalani Harun
Wen Xin Lim
Occupational Therapy Programme,
Center for Rehabilitation & Special Needs
Faculty of Health Sciences,
Universiti Kebangsaan Malaysia, UKM

Hui Yuan Lau
Occupational Therapy Department,
Tengku Ampuan Rahimah Hospital,
Jalan Langat, 41200 Klang, Malaysia

Corresponding author: Hanif Farhan Mohd Rasdi
Email: hanif_ot@ukm.edu.my