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Evaluating the WeCare Program: Acceptability, appropriateness, and feasibility

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Abstract
Malaysia anticipates its elderly population will reach 15% by 2030, posing a significant challenge. Despite the worldwide and national emphasis on health and well-being, a gap exists in structured activities for elderly. The WeCare Program addresses this by offering an occupation-based, culturally tailored approach aimed at improving the engagement and well-being of older Malaysians. Conducted by occupational therapists across six districts in Kelantan, this program involved 30 elderly participants and was evaluated over six weeks. The results indicate that the program was highly accepted (M=4.94; SD=0.22), appropriate (M=4.85; SD= 0.20), and feasible (M=4.88; SD=0.33) for implementation among the target population.

Keywords: Community-Dwelling Older People; Cultural Adaptation; Occupation-Based; WeCare Program.

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1.0 Introduction

Occupation-based intervention represents a cornerstone in the field of occupational therapy (Christiansen & Haertl, 2023), focusing on engaging individuals in meaningful activities (occupations) that are part of their daily lives. This approach is crucial for promoting health and well-being, especially among older people (Christiansen & Haertl, 2023). As people age, their engagement in various activities may shift due to changes in health, social roles, and environment (Elder & Johnson, 2018). For older people, participating in meaningful occupations can enhance physical, mental, and social health (Ibrahim et al., 2021) leading to a more satisfying and independent lifestyle.

These interventions are customised to reflect the personalised factor, cultural background, contextual and environmental settings of each individual (Christiansen & Haertl, 2023). This customisation is essential in occupational therapy, viewing occupation as a unique expression of personal factors. The significance of cultural and contextual alignment in these interventions is paramount. Ensuring cultural relevance in therapy makes the activities meaningful and congruent with the individual's cultural identity and personal values. In Malaysia, with its diverse culture and social norms that highly value family, community, and respect for elders, this aspect is particularly crucial.

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Therefore, Malaysia benefits from a specialised program for its elderly, the WeCare Program, an occupation-based intervention aimed at promoting their active participation in culturally significant occupations. This program is designed with a deep understanding of Malaysia's unique cultural and social landscape, ensuring that activities resonate with the older peoples' values and contribute to their physical, mental, and social well-being. By incorporating meaningful, culturally relevant occupations, the WeCare Program seeks to improve the quality of life (QoL) for older Malaysians, enhancing their sense of purpose and community connection and leading to a more active and engaging aging experience.

The WeCare Program is a six-week initiative designed to improve the life quality, health, and social involvement of older adults in communities using occupational therapy techniques. It advocates for active participation in meaningful activities, recommending groups of five to eight with Occupational Therapists (OTs), ensuring personalised and impactful interventions. The program emphasises cultural sensitivity in its activities, detailed in Table 1.

Table 1: The components of WeCare Program and its cultural relevance

Components	Description	Cultural Relevance
Self-Exploration	Activities that encourage personal reflection and understanding, fostering self-awareness.	Tailored to reflect Malaysian values and beliefs.
Physical Activity	Exercises and movements designed to maintain or improve physical health and mobility.	Incorporates traditional Malaysian exercises and practices.
Activities of Daily Living	Training in everyday tasks to promote independence and self-care.	Customised to the typical daily routines in Malaysian culture.
Mental Health Management	Strategies and activities to support emotional and psychological well-being.	Aligns with Malaysian perspectives on mental health and wellness.
Leisure Activity	Engaging in enjoyable and relaxing activities for pleasure and recreation.	Includes traditional and popular leisure activities in Malaysia.
Rest & Sleep	Education and strategies to improve sleep quality and rest periods.	Adapts sleep hygiene practices to local cultural norms.
Health Education	Providing information on health, wellness, and disease prevention.	Content is culturally sensitive and relevant to the Malaysian elderly.
Cognitive Stimulation Activity	Tasks designed to enhance cognitive function and mental acuity.	Utilises culturally familiar themes and cognitive challenges.
Work	Involvement in productive activities that give a sense of accomplishment and purpose.	Reflects the Malaysian ethos of hard work and productivity.
Technology Communication	Training and use of technology for communication and information.	Addresses the growing digital trend of communication preferences.
Social Activity	Opportunities for socialising and engaging with the community.	Incorporates traditional Malaysian social customs and gatherings.

This study aims to assess the WeCare Program's acceptability, appropriateness, and feasibility in Malaysia, focusing on its implementation by OTs and its alignment with elderly participants' needs and cultural contexts. Addressing research gaps in culturally appropriate health interventions, this research could influence Malaysian healthcare policies and underscore personalised approaches in elderly care, potentially enhancing elderly QoL in culturally diverse settings.

2.0 Literature Review

The concept of occupation-based interventions for older people has been extensively studied and documented in occupational therapy literature. Research consistently highlights the positive impact of these interventions on various aspects of older people's lives, including physical health, mental well-being, and social engagement. Studies by Reitz, Scaffa, and Dorsey (2020) have shown that when older people engage in meaningful activities, especially those tailored to their cultural background, there is a notable improvement in their overall QoL. These activities range from physical exercises to cognitive and social tasks, each playing a crucial role in maintaining and enhancing the day-to-day life of the elderly. The significance of integrating cultural elements into these activities is further emphasised in studies focusing on diverse populations, illustrating that culturally relevant interventions yield higher levels of engagement and satisfaction among older adults (Kim et al., 2021).

In the Malaysian context, the importance of culturally tailored programs for the elderly is particularly pronounced. The Malaysian society, with its rich cultural heritage and strong community values, necessitates interventions that are sensitive to these aspects. Research by Tengku Makhtar et al. (2023) underscores the need for occupation-based interventions that align with the cultural practices, beliefs, and values of Malaysian seniors. These studies suggest that activities reflecting traditional Malaysian customs and practices not only foster a sense of belonging and identity among older people but also encourage their active participation. Moreover, the integration of technology and modern health education (Park et al., 2020) in a way that respects and incorporates traditional Malaysian values has been identified as a key factor in the success of these programs.

Furthermore, the literature also sheds light on the multidimensional benefits of occupation-based interventions in improving the mental and physical health of the elderly. Mental health benefits, including the reduction of symptoms related to anxiety, depression, and cognitive decline, are particularly highlighted in studies focused on occupation-based activities. Physical benefits, such as improved mobility, strength, and balance, are also documented. For instance, research by Travers et al. (2016), Kim, Kim, and Oh (2017), and Pozzi et al. (2020) demonstrates how occupation-based programs significantly contribute to the prevention of age-related illnesses such

as dementia and chronic physical conditions. These findings collectively affirm the efficacy of occupation-based interventions in not only maintaining but also enhancing the QoL for the elderly, especially when these interventions are culturally and contextually aligned.

Occupation-based programs are essential in occupational therapy, providing customised interventions that enhance QoL and functionality for people at different stages of life and with varying health conditions. This overview highlights three unique occupation-based intervention programs includes (1) Lifestyle Redesign (Clark et al., 2012), (2) Cognitive Stimulation Therapy (CST) for Dementia (Spector et al., 2003), and (3) the Lively Later Life Program (3LP) (Dahlan & Ibrahim, 2015). Each with its specialised approach and focus, these programs demonstrate the broad spectrum of how occupation-based principles can meet the specific needs of diverse groups. From improving daily routines and cognitive functions in dementia patients to promoting active engagement in older adults, these programs showcase the adaptability and effectiveness of occupation-based interventions in fostering better health and well-being. Based on the above explanation, the comprehensive table in Table 2 provides a comprehensive comparison of Lifestyle Redesign, CST for Dementia, and 3LP, highlighting their differences.

Table 2: Comprehensive comparison of Lifestyle Redesign, CST, and 3LP Program

Feature	Lifestyle Redesign	CST for Dementia	3LP
Primary Focus	Improving daily habits and routines	Enhancing cognitive function and slowing dementia progression	Promoting active, engaged living among older adults
Key Activities	Goal setting, lifestyle changes, health, and wellness activities	Group discussions, memory recall activities, problem-solving, language exercises	Institution involvement, creative pursuits, physical exercise, skills development
Target Populations	Individuals seeking health improvement, the elderly, those with chronic conditions	Individuals with mild to moderate dementia	Older people
Program Structure	Individualised sessions based on personal goals	Structured group sessions	Varied activities tailored to interests and abilities
Relations to occupation-based interventions	Tailor's activities to individual's interests, needs, and environments	Engages participants in meaningful cognitive activities	Focuses on maintaining and enhancing engagement in meaningful occupations

The literature review on occupation-based interventions underscores their significant impact on enhancing well-being and QoL among the elderly. The WeCare Program, informed by this evidence, exemplifies a successful application of occupation-based principles within the Malaysian cultural setting. By integrating culturally relevant activities, the program adheres to occupational therapy's core values and addresses the specific needs and preferences of older Malaysians. This synthesis of literature and program application highlights the importance of culturally tailored approaches in occupational therapy, offering valuable insights for future practice and research in the field.

3.0 Methodology

After WeCare was validated by experts and approved for use, the study moved to the evaluation phase. This initial testing phase focused on three key psychometric properties: acceptability, appropriateness, and feasibility. This early study phase is crucial for ironing out any kinks in participant recruitment, the ability to carry out the intervention, and the accuracy of the intervention's protocol, setting the stage for broader research (Arain et al., 2010; Tickle-Degnen, 2013).

3.1 Study Design

This quantitative cross-sectional study was conducted in six major districts of Negeri Kelantan. It drew from a diverse pool of participants from the following *Pusat Aktiviti Warga Emas* (PAWE): PAWE Kemumin, PAWE Tumpat, PAWE Bachok, PAWE Pasir Puteh, PAWE Pasir Mas, and PAWE Machang. The study was carried out by trained OTs over a six-week period at these sites, engaging elderly participants from each PAWE who agreed to participate. After the six-week program, participants were asked about the acceptability, appropriateness, and feasibility of the program. This study received approval from the Human Research Ethics Committee (HREC) at Universiti Sains Malaysia, Health Campus (Approval No: USM/JEPeM/21080547), and the Jabatan Kebajikan Masyarakat (JKMM 100/12/5/2:2021/231).

3.2 Selection of Participants

For this preliminary study, participants were recruited from the six PAWE locations previously mentioned, with each location providing five participants, resulting in a total of 30 participants. The study was organised into six groups, with the group size intentionally kept to five to facilitate effective group interaction and ensure personal attention for each participant. This arrangement also helped OTs manage the group dynamics efficiently. Participant selection was guided by specific inclusion and exclusion criteria below, with OTs responsible for conducting the necessary screenings to meet the criteria.

Inclusion Criteria:
1. Aged 60 years or above.

2. Fluent in either the Malay or English language to facilitate effective communication during the interviews.
3. Scored above 26 on the Montreal-Cognitive Assessment (MOCA) (Nasreddine et al., 2005).
4. Scored below 7 on the modified Malay version of the Geriatric Depression Scale (M-GDS) (Yesavage et al., 1982).
5. Demonstrated at least mild dependency level in activity of daily living (ADLs) with scores above 75 on the Modified Barthel Index (MBI) (Mohaney & Barthel, 1965; Yucus et al., 2016).

Exclusion Criteria:
1. Older people with blindness, severe hearing impairment and speech impediment.
2. Totally bedridden.
3. Elderly with Behavior Psychotic Symptoms of Dementia (BPSD) such as hallucination, delusion or sundowning syndrome.

3.3 Procedure of Data Collection and Analysis

This study utilises standardised outcome measures by AIM, 2020, which are Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM). The AIM focused on evaluating participants' satisfaction and positive response towards WeCare, including their approval and enjoyment of the program. The IAM aimed to determine the program's relevance and suitability for the elderly, ensuring it met their specific needs and preferences. Lastly, the FIM examined the practicality of WeCare's implementation, evaluating its ease of use and integration into current care practices. This comprehensive approach was pivotal for understanding WeCare's overall effectiveness and its potential integration into care settings, addressing the key dimensions of its implementation and impact.

The data analysis for the study was conducted using a quantitative approach to assess the WeCare program's effectiveness. This involved statistically analysing the scores from standardised questionnaires to measure participants' approval of the program and the ease of its practical implementation. By focusing solely on quantitative data, the analysis provided objective, measurable insights into the acceptability, appropriateness, and feasibility of WeCare, facilitating a clear evaluation of its impact and identifying areas for potential refinement to better meet the needs of its target users.

4.0 Findings

4.1 Demographic Characteristics

The socio-demographic characteristics of the participants are presented in Table 3. The ages of participants span from 60 to 78 years, with an average age of 67.5 years (SD = 4.07). Out of the total participants (n=30), 20 are female (66.67%), and 27 participants identify as Malay (90.00%). Additionally, 17 participants have attained a higher education level, representing 56.67% of the study population.

Table 3: The summary of socio-demographic characteristics of the participants

No		Demographic	N (%)
1	Age (Years old)	60 – 65 years old	7 (23.33)
		66 – 70 years old	17 (56.67)
		71 – 75 years old	5 (16.67)
		76 – 80 years old	1 (3.33)
		Mean (SD) = 67.5 (4.07)	
2	Gender:	Male	10 (33.33)
		Female	20 (66.67)
3	Ethnicity	Malay	27 (90.00)
		Chinese	1 (3.33)
		Indian	2 (6.67)
4	Educational background	Higher Education	17 (56.67)
		Secondary School	12 (40.00)
		Primary School	0 (0)
		No Formal Education	1 (3.33)

4.2 Results of the evaluation of the WeCare Program

The evaluation of the WeCare program measurement consisted of multiple questions rated on a Likert scale, with the results in Table 4 presenting both mean *(M)* scores and standard deviations (SD) alongside 95% confidence intervals (CI). The error bar of SD was presented in Illustration 1.

4.2.1 Acceptability

The mean acceptability score across questions Q1 to Q4 was high, indicating a strong approval of the program among participants. The overall mean score was 4.94, with a narrow standard deviation of 0.22, suggesting a consensus in the participants' positive reception. The 95% CI ranged from 4.86 to 5.03, demonstrating high confidence in the program's acceptability.

4.2.2 Appropriateness

For appropriateness, questions Q5 to Q8 showed a similarly high level of suitability, with an overall mean score of 4.85 and a standard deviation of 0.20. This reflects the participants' agreement that the program was fitting and relevant to their needs. The 95% CI for appropriateness was between 4.87 and 5.03, indicating a reliable estimation of the program's suitability.

4.2.3 Feasibility

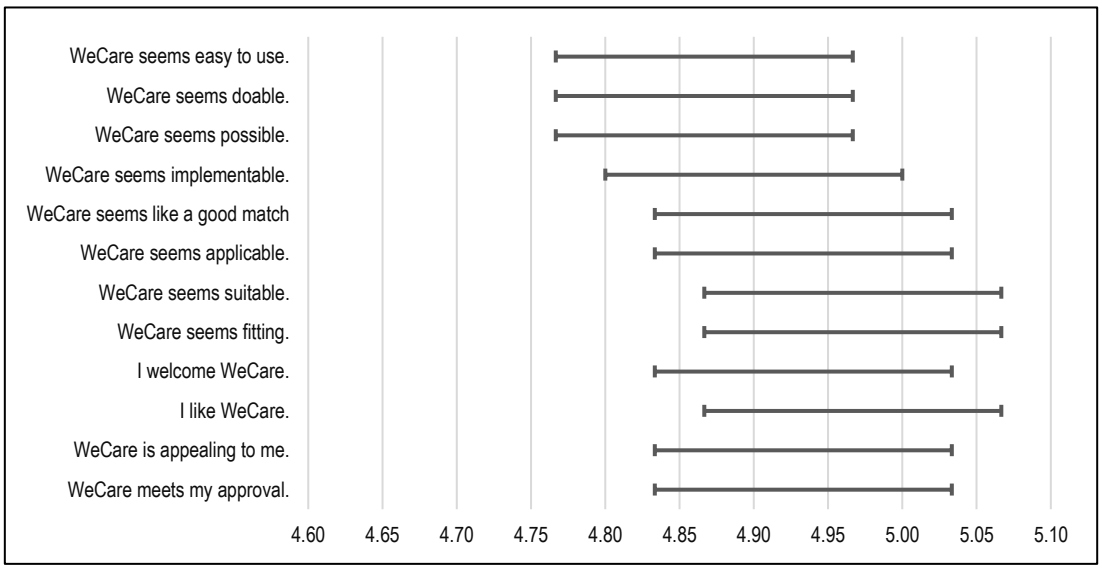
Feasibility scores from questions Q9 to Q12 also suggested that the program was considered practical and doable, with an overall mean score of 4.88 and a standard deviation of 0.33. The 95% CI of [4.75:4.99] points to a slightly broader range of opinions regarding feasibility, yet still within a high scoring range.

The evaluation data indicate that the WeCare program is highly accepted, appropriate, and feasible for implementation among the target population, as evidenced by the consistently high mean scores and tight confidence intervals. These findings support the program's potential effectiveness and alignment with its intended users' needs and conditions. By analysing the mean scores, standard deviations, and confidence intervals, this study determines the degree of consensus among them.

Table 4: The results of the evaluation of WeCare Program

EVALUATION MEASURE	QUESTION	M	SD	M	SD	95% CI
ACCEPTABILITY	Q1	4.93	0.25	4.94	0.22	[4.86:5.03]
	Q2	4.93	0.25			
	Q3	4.97	0.18			
	Q4	4.93	0.25			
APPROPRIATENESS	Q5	4.97	0.18	4.85	0.20	[4.87:5.03]
	Q6	4.97	0.18			
	Q7	4.93	0.25			
	Q8	4.93	0.25			
FEASIBILITY	Q9	4.90	0.31	4.88	0.33	[4.75:4.99]
	Q10	4.87	0.35			
	Q11	4.87	0.35			
	Q12	4.87	0.35			

Illustration 1: The error bar graph showing the SD in the evaluation of the WeCare Program



5.0 Discussion

In evaluating the WeCare program, participants' responses across measures of acceptability, appropriateness, and feasibility consistently indicated a favourable reception. This reflects the program's alignment with the principles of occupation-based intervention (Christiansen & Haertl, 2023), which underscores the importance of meaningful activities in enhancing the well-being of older people.

The high acceptability of the program suggests that it successfully integrates culturally resonant activities into the daily lives of its participants, fostering a sense of purpose and community (Turcotte et al., 2018). Such engagement is known to improve health outcomes (Dahlan et al., 2023), as active participation in meaningful activities is linked to better physical, cognitive, and social health (Smallfield & Molitor, 2018). The WeCare Program, by promoting independence and self-efficacy through these activities, is likely to see sustained participant involvement, continuously benefiting their QoL (Dahlan et al., 2023; Tengku Makhtar et al., 2016).

The appropriateness of WeCare is evident in its personalised and contextually relevant therapeutic activities, which resonate with the elderly participants' cultural identities and daily routines. By offering familiar and valued activities, the program provides comfort and enhances its therapeutic outcomes (Calkins, 2018). As older people often face the risk of disengagement due to age-related changes, the program's relevance is crucial in maintaining their autonomy and active participation (Reitz, Scaffa & Dorsey, 2020; Toledano-González, Labajos-Manzanares & Romero-Ayus, 2019), which contributes to their overall QoL.

Feasibility analysis revealed a positive outlook, although with some variability, suggesting that while the program is practical, individual and logistical considerations must be addressed for effective implementation (Baniasadi et al., 2020). The WeCare Program's potential to be effectively carried out is critical, as the success of occupation-based interventions depends on their integration into daily life without overburdening the participants. The feasibility of the program is indicative of its thoughtful design, ensuring that activities are not only enjoyable but also a sustainable part of the participants' routines, fostering continued engagement in meaningful occupations and enhancing the independence of older people (Andersen, Ottesen & Thing, 2019).

In sum, the WeCare Program stands out as a well-received, suitable, and feasible intervention that embodies the core goals of occupation-based interventions, indicating its potential to significantly improve the lives of older individuals through active and meaningful engagement in their daily activities.

6.0 Conclusion and Recommendation

In conclusion, the WeCare Program demonstrates significant potential in enhancing the lives of older people through occupation-based interventions tailored to cultural relevance and daily activities. The findings have significant implications for OTs, which provide a proven framework for engaging the elderly in meaningful activities. At the policy level, it underscores the potential of occupation-based programs in elderly care, advocating for further investment and support. For the elderly community, WeCare represents a valuable opportunity for enhanced health, social engagement, and overall quality of life, leading towards a healthier, more active ageing population in Malaysia.

However, The WeCare Program, while promising, does face certain limitations that must be acknowledged. The program scope is limited to specific districts in Kelantan, Malaysia, which may not fully represent the diverse cultural and socio-economic backgrounds of the entire Malaysian elderly population. This geographical limitation can affect the generalizability of the program's outcomes to other regions. Then, the initial evaluation of the WeCare Program is based on a relatively small sample size of 30 participants. While valuable insights have been gained, the findings might not capture the full spectrum of potential responses among the wider elderly population, limiting the statistical power to detect significant differences or nuances in program effectiveness.

It is recommended that a rigorous experimental study be conducted, comparing two groups across varied Malaysian settings to robustly determine its effectiveness and inform national implementation strategies. Such research could provide solid evidence of the program's benefits, guiding the development of effective national policies for elderly care. Additionally, expanding this program to include a broader range of activities and incorporating technology could further enhance its accessibility and appeal. Engaging community leaders and healthcare professionals in promoting and supporting the program can also ensure its sustainability and wider acceptance. Ultimately, the goal is to establish the WeCare Program as a cornerstone of elderly care in Malaysia, setting a precedent for culturally sensitive health interventions globally.

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Paper Contribution to Related Field of Study

This manuscript contributes to geriatric studies by providing evidence-based insights, strategies, and significant findings for decision-makers, healthcare professionals, and scholars in medical and health sciences, gerontology, health promotion, and elderly rehabilitation.

References

Andersen, M. H., Ottesen, L., & Thing, L. F. (2019). The social and psychological health outcomes of team sport participation in adults: An integrative review of research. *Scandinavian journal of public health*, 47(8), 832-850.

Baniasadi, T., Ayyoubzadeh, S. M., & Mohammadzadeh, N. (2020). Challenges and practical considerations in applying virtual reality in medical education and treatment. *Oman Medical Journal*, 35(3), e125.

Calkins, M. P. (2018). From research to application: Supportive and therapeutic environments for people living with dementia. *The Gerontologist, 58(suppl_1),* S114-S128.

Christiansen, C., & Haertl, K. (2023). *Essential Concepts of Occupation for Occupational Therapy: A Guide to Practice.* Taylor & Francis.

Clark, F., Jackson, J., Carlson, M., Chou, C. P., Cherry, B. J., Jordan-Marsh, M., ... & Azen, S. P. (2012). Effectiveness of a lifestyle intervention in promoting the well-being of independently living older people: results of the Well Elderly 2 Randomised Controlled Trial. J Epidemiol Community Health, 66(9), 782–790.

Dahlan, A., & Ibrahim, S. A. S. (2015). Effect of Lively Later Life Programme (3LP) on quality of life amongst older people in institutions. *Procedia-Social and Behavioral Sciences,* 202, 252-262.

Dahlan, A., Ibrahim, S. A. S., Masuri, M. G., Poot, E. F. M., Azman, N. A., Tengku Makhtar, T. M. A., ... & Hamid, N. (2023). A 10-Year Scoping Review of Participation In Social Activities Among Healthy Older Adults: Received 2023-07-07; Accepted 2023-09-08; Published 2023-09-15. *Journal of Health and Translational Medicine (JUMMEC),* 254-268.

Elder, G. H., & Johnson, M. K. (2018). *The life course and aging: Challenges, lessons, and new directions. In Invitation to the life course* (pp. 49–81). Routledge.

IAM, I. (2020). Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), & Feasibility of Intervention Measure. ictp. fpg. unc. edu.

Ibrahim, S. A. S., Dahlan, A., & Daud, A. Z. C. (2021). Effects of occupation-based intervention for older people with mild dementia in the institution. *Environment-Behaviour Proceedings Journal*, 6(16), 119-125.

Kim, A. C. H., Ryu, J., Lee, C., Kim, K. M., & Heo, J. (2021). Sport participation and happiness among older adults: A mediating role of social capital. *Journal of Happiness Studies*, 22, 1623–1641.

Kim, K. U., Kim, S. H., & Oh, H. W. (2017). The effects of occupation-centered activity program on fall-related factors and quality of life in patients with dementia. *Journal of Physical Therapy Science,* 29(7), 1188-1191.

Mahoney FI, Barthel DW: Functional evaluation: The Barthel Index. *Maryland State Medical Journal,* 14, 61-65.

Nasreddine, Z. S., Phillips, N. A., Bédirian, V., Charbonneau, S., Whitehead, V., Collin, I., ... & Chertkow, H. (2005). The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. *Journal of the American Geriatrics Society*, 53(4), 695–699.

Park, J. H., Liao, Y., Kim, D. R., Song, S., Lim, J. H., Park, H., ... & Park, K. W. (2020). Feasibility and tolerability of a culture-based virtual reality (VR) training program in patients with mild cognitive impairment: A randomised controlled pilot study. *International journal of environmental research and public health*, 17(9), 3030.

Pozzi, C., Lanzoni, A., Lucchi, E., Salimbeni, I., DeVreese, L. P., Bellelli, G., ... & Morandi, A. (2020). Activity-based occupational therapy intervention for delirium superimposed on dementia in nursing home setting: a feasibility study. *Aging clinical and experimental research*, 32, 827-833.

Reitz, S. M., Scaffa, M. E., & Dorsey, J. (2020). Occupational Therapy in the Promotion of Health and Well-Being. *American Journal of Occupational Therapy*, 74(3).

Smallfield, S., & Molitor, W. L. (2018). Occupational therapy interventions supporting social participation and leisure engagement for community-dwelling older adults: A systematic review. *The American Journal of Occupational Therapy*, 72(4), 7204190020p1-7204190020p8.

Spector, A., Thorgrimsen, L., Woods, B. O. B., Royan, L., Davies, S., Butterworth, M., & Orrell, M. (2003). Efficacy of an evidence-based cognitive stimulation therapy programme for people with dementia: randomised controlled trial. *The British Journal of Psychiatry,* 183(3), 248-254.

Tengku Makhtar, T.M.A, Dahlan, A., Masuri, M.G., & Danis, A. (2016), "Interdependence in Malay older people who live in the institutions: an interpretative phenomenological analysis." *Procedia-Social and Behavioral Sciences* 234, 98-105.

Tengku Makhtar, T.M.A., Abdul Rahim, M. Z., Dahlan, A., Shamsuddin, S., & Mohd Nawi, S. N. (2023). Exploring Type of Leisure Activities Among the Elderly In Community: An Ideographic Study Of Malaysia Context: Received 2023-07-08; Accepted 2023-09-09; Published 2023-09-15. *Journal of Health and Translational Medicine (JUMMEC)*, 278-285.

Toledano-González, A., Labajos-Manzanares, T., & Romero-Ayuso, D. (2019). Well-being, self-efficacy and independence in older adults: a randomised trial of occupational therapy. *Archives of gerontology and geriatrics*, 83, 277-284.

Travers, C., Brooks, D., Hines, S., O'Reilly, M., McMaster, M., He, W., ... & Beattie, E. (2016). Effectiveness of meaningful occupation interventions for people living with dementia in residential aged care: a systematic review. *JBI Evidence Synthesis*, 14(12), 163–225.

Turcotte, P. L., Carrier, A., Roy, V., & Levasseur, M. (2018). Occupational therapists' contributions to fostering older adults' social participation: A scoping review. *British journal of occupational therapy*, 81(8), 427-449.

Yesavage, J. A., Brink, T. L., Rose, T. L., Lum, O., Huang, V., Adey, M., & Leirer, V. O. (1982). Development and validation of a geriatric depression screening scale: a preliminary report. *Journal of psychiatric research*, 17(1), 37–49.

Yucus, C. J., Castle, J., Walters, S., Garduno, L., Frigerio, R., & Maraganore, D. M. (2016). P1-398: Structured Clinical Documentation for Patient Care and Practice-Based Research in MCI and Dementia. *Alzheimer's & Dementia*, 12, P586-P586.