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RESEARCH ARTICLE

Comparison between Elderly Attenders and Non-Attenders of *Pusat Aktiviti Warga Emas* in Sarawak

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ABSTRACT

Malaysia is not left behind as it is going towards becoming an aging nation. Currently, there are 10.7% of the population who are above 60 years old which is equivalent to 3.5 million of elderly people and this is expected to rise in the near future. The objective of this research is to compare the quality of life, activities of daily living, cognitive function and depression between elderly attenders and non-attenders of *Pusat Aktiviti Warga Emas* (PAWE). In this cross-sectional study, a total of 735 elderly participated where 101 elderly who attended PAWE and the remaining 634 elderly did not attend PAWE. Older People's Quality of Life (OPQOL), Prospective Retrospective Memory Questionnaire (PRMQ), Geriatric Depression Scale (GDS), Katz Activities of Daily Living and Lawton Instrumental Activities of Daily Living were used as study instruments. The statistical analysis involved were Pearson's correlation, independent t-test, Partial Least Square Structural Equation Modeling (PLS-SEM) and multiple group analysis. Household income and activities of daily living have shown positive correlation with quality of life. Cognitive function and depression correlated negatively with quality of life. Based on PLS-SEM, there was better quality of life, activities of daily living, cognitive function, and lesser depressive symptoms among elderly PAWE attenders. The findings obtained from this study will be able to support the planning and future programs of expanding senior activity centres such as PAWE as it promotes healthy ageing among elderly people.

Contribution/Originality: This study contributes to the existing literature on elderly health particularly about elderly population in Sarawak and provides evidence that supports the importance of senior citizen's activity centre on the well-being of elderly people.

1. Introduction

The world's population is going towards an aging population (World Health Organization, 2017). This is evident by the doubling of aging population from 12% to 20% within the span of 5 years (World Health Organization, 2018). The global situation of becoming an aging nation is also seen in the demographic picture of Malaysia where the Department of Statistics Malaysia (DOSM) have estimated that by the year 2030, 15% of the total population constitute older generation who are above 60 years old. Currently, there has been an increased in the ageing population in Malaysia from 2.2 million in 2010 to 3.5 million elderly people above 60 years old and this is equivalent to 10.7% of the population (Department of Statistics Malaysia, 2020). An aging population is a consequent of the increased in life expectancy and with increased life expectancy comes multiple issues related to ageing. The problems that arise due to ageing are multi-faceted such as cognitive function, mental health, physical function and health problems such as acute and chronic diseases (Mafauzy, 2000). Efforts have been taken by the government of Malaysia to reduce the problems related to ageing such as developing senior citizen's activity centre or *Pusat Aktiviti Warga Emas*, PAWE (Kementerian Pembangunan Wanita Keluarga dan Masyarakat, 2011). The rationale of this study is that we will be able to identify the possible effects that *Pusat Aktiviti Warga Emas* (PAWE) has on the quality of life, activities of daily living, cognitive function, and depressive symptoms among elderly people in Sarawak. This study will be valuable to the well-being of elderly population in the state because the findings from this study can be applied to support the establishment of more senior citizen activity centre in Sarawak.

1.1. Research Objectives

The objective of this study is to compare the quality of life, activities of daily living, depression and cognitive function between elderly attenders and non-attenders of *Pusat Aktiviti Warga Emas* (PAWE) and to determine if activities of daily living, depression and cognitive function predict the quality of life among elderly people in Sarawak.

2. Literature Review

2.1. Global situation of elderly population

Aware of the consequences that would occur among the growing elderly population and the challenges that they currently face in order to have a healthy ageing process, the WHO as an international health organization which represents many countries have identified measures that could be done within these countries (World Health Organization, 2015). For instance, strong and united leadership is needed within the institution in order to implement policies that is age-friendly and could benefit the elderly population. A systematic guidance and tools which are evidence-based need to be applied by these leaders to ensure that the policies are effective. Furthermore, in order to ensure that efforts are done in sync at different level of organization in a country, being well-informed of the existing regional and international frameworks on healthy ageing will be an added advantage (World Health Organization, 2015). WHO has been known to collaborate with several parties to ensure that policies on ageing health is being developed appropriately to benefit the elderly population. For instance, these collaborations are used to provide technical support and guidance for developing evidence-based policies and facilitate in building on the understanding among various stakeholders on the concept of healthy ageing at multiple levels in the country. Other than collaboration with other parties, an

initiative by WHO is by creating Global Network for Age-friendly Cities and Communities (World Health Organization, 2020).

2.2. Initiatives at national level to improve elderly health

In Malaysia, based on the population census third quarter of 2020, there are 2.32 million of elderly age 65 years old and above (Department of Statistics Malaysia, 2020). This is an increment from 2.22 million during the same period in 2019. As our nation is growing towards an aging country, Malaysia has taken a few initiatives as recommended by the WHO to ensure that this growing population of elderly are being taken care of and allow them to have healthy ageing process. For instance, there is a guideline that has been developed for the health services that cater for senior citizens (Bahagian Pembangunan Kesihatan Keluarga, 2015). This guideline on senior citizens health services outlines the objectives and strategies to implement health services for the elderly at the district and health clinics levels. This guideline is also focused on community empowerment in the health care among elderly and this is translated into the designing of a community-centred program which is also known as *Kelab Warga Emas* (KWE) (Bahagian Pembangunan Kesihatan Keluarga, 2015).

2.3. Impact of senior citizen activity centre on the quality of life

Senior citizen activity centre or known as PAWE in Malaysia has been established under the National Senior Citizen Policy since 2011. This policy has been developed with references from other existing national policy pertaining to the welfare of elderly population (Kementerian Pembangunan Wanita Keluarga dan Masyarakat, 2011). Since then, the senior citizen activity centre has been increasing in number due to the exceptional acceptance and involvement from the elderly population in the country. Parallel with the growing elderly population in the nation, government has shown its commitment by allocating a considerable amount of budget to allow for the expansion and addition of more senior citizen activity centre throughout the country (BERNAMA, 2019). In the similar newspaper article, the elderly had been reported to benefit from the activities and services provided by the senior citizen activity centre and suggested that more of such activity centre to be built for the utilization of elderly people (BERNAMA, 2019). However, there has been lack of study that is looking into the impact of such senior citizen activity centre to the well-being of elderly population.

3. METHODOLOGY

3.1. Settings and participants

The setting for this quantitative, cross-sectional study included seven districts in Sarawak which were Kuching, Lundu, Samarahan, Simunjan, Betong, Sibu and Miri districts. This setting covers the southern, central and northern zones in Sarawak. There were two groups of participants in this study which were elderly attenders in PAWE and elderly who did not attend PAWE and resided in the community. The inclusion criteria were elderly who were 60 years old and above, able to understand Bahasa Melayu or English, and they were not involved in other studies. There was a total of 735 elderly participants who had been included in this study. Single stage cluster sampling method had been employed in this study. Out of 735 elderly, 645 elderly people were recruited from the community and 101 elderly participants were recruited from *Pusat Aktiviti Warga Emas* (PAWE).

3.2. Instrument development and data collection procedure

All the instruments that were used in this study has been validated in earlier studies. Instruments that assessed the cognitive function and quality of life of elderly people had been validated in this current study prior to the data collection. Furthermore, permission has been granted from the Social Welfare Department to collect data from elderly attenders of PAWE. For elderly participants who resided in the community, permission was obtained from the village head. A thorough explanation and instructions will be given to the respondents before distributing the study instruments. The data was collected using self-administered questionnaire. Alternatively, for elderly respondents who were illiterate, answering the questionnaire were guided through interview. In order to obtain a good response rate, the respondents were informed that there was no right or wrong answers to the questionnaire, their response were kept strictly confidential and it was solely for the purpose of the research.

3.3. Measurement of cognitive function, depression, activities of daily living and quality of life

The instruments used in this study were the Prospective and Retrospective Memory Questionnaire (PRMQ) which measured the cognitive function (Smith et al., 2000) and the Older People Quality of Life (OPQOL) which measured the quality of life among elderly people (Bilotta et al., 2011). PRMQ has a total of 16 items and these items can either be prospective memory or retrospective memory. The responses for PRMQ are being measured on a 5-point Likert scale: Very Often, Quite Often, Sometimes, Rarely and Never. A higher total score indicated that there was higher impairment of cognitive function. Meanwhile, brief OPQOL has a total of 14 items which included a preliminary single item that measured the quality of life. It was also measured using a five-point Likert scale: Very good, Good, Alright, Bad and Very Bad. Similarly, for OPQOL, a higher total score indicated a better quality of life. There were several themes in OPQOL which were life overall, health, social relationships, independence, home and neighbourhood, psychological, and financial circumstances.

Meanwhile, Geriatric Depression Scale (GDS) was an instrument that was used to assess depressive symptoms among elderly (Sheikh & Yesavage, 1986). GDS consisted of 15 items with yes or no responses. A score of more than 5 indicated that the elderly respondent had depression. Activities of daily living (ADL) was measured using two different instruments which were Lawton Instrumental ADL (Lawton IADL) and Katz ADL. Lawton IADL was applied to measure an elderly's ability to do eight different types of instrumental activities such as using the telephone, doing laundry, preparing food and handling finances (Graf, 2007). Whereas, Katz ADL was used to measure the basic activities such as bathing, transferring, feeding, dressing, toileting, and bladder and bowel continence (Wallace & Shelkey, 2007). For Lawton IADL, a score of 8 or more indicates independence for female respondent and a score of 5 or more for male respondents. For Katz ADL, a score of 6 indicates ADL independent.

3.4. Data extraction, cleaning, analysis plan and analysis

The data was manually checked for missing data and outliers and entered in the Microsoft Excel. After this had been done, data cleaning was performed using IBM SPSS and proceeded with univariate analysis of the data which was presented as descriptive statistics that includes frequency tables, mean and standard deviation. For inferential

statistics, mean scores from the instruments of Katz Index, Lawton IADL Scale, Prospective and Retrospective Memory Questionnaire (PRMQ), Geriatric Depression Scale and HRQOL was analysed further and correlation analysis was performed (Schober et al., 2018). Furthermore, independent T-test was applied to compare means of the variables between PAWE attenders and non-PAWE attenders (Hinkle et al., 2003). In-depth analysis for the comparison of attenders and non-attenders of PAWE was performed using Partial Least Squares Structural Equation Modeling (PLS-SEM) and multiple group analysis (Hair et al., 2019). Dependent variable in this study was the quality of life among elderly. Meanwhile, the independent variables were the ability to perform the activities of daily living, cognitive function, and depression among elderly.

3.5. Ethical issue

This study has obtained ethical clearance from the Ethical Committee of University Malaysia Sarawak. Prior to data collection, an informed consent will be obtained from the respondents. As part of the procedure in data collection, the respondents will be informed regarding:

i. The objectives of this study.
ii. Benefits of this research to the respondents and the community.
iii. Confidentiality of the information is preserved.
iv. The right to withdraw from the study at any time.

4. Results

4.1. Sociodemographic characteristics

The total participants for this study were 735 elderly people. Out of 735 elderly people, 55.9% of them are female. Nearly half of the respondents (44.5%) were between the age of 60 to 65 years old and majority of them (64.9%) were Malay. Majority of the respondents (89.9%) of these elderly people were married and most of the elderly respondents only had primary education (34.9%). 68.4% of these elderly people were not employed and 97.2% of the participants have household income of RM3000 and below. More than half (85.1%) of the elderly people have a healthy life style habits and they do not have smoking and alcohol drinking habits. 57.5% of these elderly people are still living with family and the spouse and 78.7% of them have medical comorbidities. The sociodemographic characteristics of the respondents are summarized in Table 1.

Table 1: Sociodemographic characteristics of the elderly participants (n=735)

		PAWE attenders, n=101(%)	Non-PAWE attenders, n=63(%)	Total (%)
Gender	Female	67 (66.3)	346 (54.6)	413 (56.2)
	Male	34 (33.6)	288 (45.4)	322 (43.8)
Race	Bidayuh	2 (1.9)	21 (3.3)	23 (3.1)
	Chinese	6 (5.9)	41 (40.5)	47 (6.4)
	Iban	9 (8.9)	150 (23.6)	159 (21.6)
	Malay	77 (76.2)	400 (63.1)	477 (64.8)
	Melanau	5 (4.9)	9 (1.4)	14 (1.9)
	Others	2 (1.9)	13 (2.1)	15 (2.0)
Age	60 until 65	42 (41.5)	284 (44.7)	326 (44.3)
	66 until 70	27 (26.7)	147 (23.2)	174 (23.6)

	71 until 75	21 (20.7)	85 (13.4)	106 (14.4)
	more than 75	11 (10.8)	118 (18.6)	129 (17.5)
Marital status	Divorce	6 (7.1)	23 (3.6)	29 (3.9)
	Married	85 (84.2)	577 (91)	662 (90)
	Single	10 (9.9)	34 (5.4)	44 (5.9)
Education level	No formal education	13 (12.8)	219 (34.5)	232 (47.3)
	Primary education	32 (31.6)	224 (35.3)	256 (66.9)
	Complete secondary education	30 (29.7)	115 (18.1)	145 (47.8)
	Incomplete secondary education	20 (19.8)	68 (10.7)	88 (30.5)
	Tertiary educatio n	6 (5.9)	8 (1.3)	14 (7.2)
Employment status	Currently employ ed	7 (6.9)	72 (11.4)	79 (10.7)
	Pensioner	37 (36.6)	118 (18.6)	155 (21.1)
	Unemployed	57 (56.4)	444 (70)	501 (68.1)
Income Category	Below RM3000	97 (96.0)	618 (97.5)	715 (97.3)
	More than RM300 0	4 (4)	16 (2.5)	20 (2.7)
Lifestyle habits	Consume alcohol	0 (0)	14 (2.2)	14 (2.2)
	Not smoking and consume alcohol	99 (98)	526 (82.9)	625 (85.0)
	Smoking	2 (0.27)	72 (11.4)	74 (10)
	Smoking and cons ume alcohol	0 (0)	22 (3.5)	22 (2.9)
Living arrangements	Living alone	5 (4.9)	30 (4.1)	35 (9)
	Living with a spouse only	8 (7.9)	70 (11.04)	78 (18.94)
	Living with family including a spouse	57 (56.4)	366 (57.7)	423 (57.6)
	Living with family without a spouse	31 (30.6)	168 (22.8)	199 (53.4)
Comorbidities	Without medical comorbidities	16 (15.8)	140 (22.1)	156 (21.2)
	With medical comorbidities	85 (84.2)	494 (77.9)	579 (78.7)

4.2. Correlation analysis

Pearson correlation analysis was conducted to assess the relationship between sociodemographic characteristics (age and household income), activities of daily living, cognitive function and depression with quality of life among elderly people. Based on the analysis, there was a positive significant correlation between household income ($r=0.199$, $p<0.01$) and activities of daily living (Katz ADL, $r=0.351$, $p<0.01$, Lawton IADL, $r=0.159$, $p<0.01$) with the quality of life. This indicates that the higher household income will have

better quality of life. Similarly, a higher score of Katz ADL and Lawton IADL which signifies more independent elderly will have a better quality of life. A significant negative correlation was observed between age of the elderly participants (r= -0.284, p<0.01), cognitive function (r= -0.366, p<0.01) and depression (r= -0.561, p<0.01) with quality of life. This indicates that the older is the participant, the worse is the quality of life. Similarly, elderly with more impairment of the cognitive function and more depressive symptoms will have poorer quality of life.

4.3. Independent T-test

An independent samples t-test was conducted to compare quality of life, activities of daily living, cognitive function and depression between PAWE attenders and non-PAWE attenders and the results are summarized in Table 2. There was a significant difference in the scores for quality of life between PAWE attenders (M=59.17, SD=5.11) and non-PAWE attenders (M=54.53, SD=6.82); t (161.55) = 8.06, p<0.01. This result suggests that elderly people who have attended PAWE have better quality of life compare to those who do not attend PAWE.

Table 2: Comparison between PAWE attenders and non-PAWE attenders

	PAWE attenders *n*=101		**Non-PAWE attenders *n*=645**				
	M	SD	M	SD	df	t	Sig.
Quality of life	59.17	5.11	54.53	6.82	161.55	8.06	0.000
Activities of daily living							
Katz ADL	6.0	0.00	5.64	1.226	644.0	7.45	0.000
Lawton IADL	11.48	2.58	14.07	3.96	183.79	-8.62	0.000
Cognitive function	30.58	9.54	37.64	11.10	145.88	-6.75	0.000
Depression	2.91	2.36	4.27	3.01	156.09	-5.15	0.000

For activities of daily living, two different instruments were used which were Katz ADL and Lawton Instrumental ADL. Katz ADL measures activities of daily living for basic daily activities such as bathing, feeding, transferring, continence, dressing and toileting. There was a significant difference in the scores of Katz ADL between PAWE attenders (M=6.0, SD=0.00) and non-PAWE attenders (M=5.64, SD=1.226); t (644.0) = 7.45, p<0.01. This result suggests that PAWE attenders are ADL independent more than non-PAWE attenders. Meanwhile, Lawton IADL measures instrumental activities among elderly such as using the telephone, housekeeping and food preparation among others. There was significant difference in the scores of Lawton IADL between PAWE attenders (M=11.48, SD=2.58) and non-PAWE attenders (M=14.07, SD=3.96); t (183.79) = -8.62, p<0.01. This result suggests that non- PAWE attenders score better for instrumental ADL compare to PAWE-attenders. For cognitive function, there was a significant difference between elderly who attend PAWE (M=30.58, SD=9.54) and those who do not attend PAWE (M=37.64, SD=11.10); t (145.88) = -6.75, p<0.01. This result suggests that attenders of PAWE have better cognitive function compare to non-PAWE attenders. Meanwhile, there was also a significant difference for depression between PAWE attenders (M=2.91, SD= 2.36) and non-PAWE attenders (M=4.27, SD=3.01); t (156.09) = -5.15, p<0.01. This result suggests that PAWE attenders have lower depressive symptoms compare to non-PAWE attenders.

4.4. Partial Least Squares Structural Equation Modeling (PLS-SEM)

PLS-SEM was used in this study to determine factors that affect quality of life among elderly people in Sarawak. This method was chosen due to the non-normal distribution of data which was evident from Mardia's test for multivariate normality testing. The Mardia's test for this study has p value less than 0.05, thus null hypothesis is not accepted and non-normal distribution of sample is assumed. A PLS-SEM model that was showing the relationship between activities of daily living, cognitive function and depression with quality of life was developed. There were two models that need to be explained which were the measurement model and the structural model. For measurement model, the composite reliability and convergent validity were analysed. The composite reliability which measured the internal consistency for the items were ranging from 0.827 to 0.945. Meanwhile, convergent validity and discriminant validity assessed the construct validity of the instruments used. Convergent validity was measured using Average Variance Extracted (AVE). Composite reliability, AVE, Fornell and Larcker (1981) criterion are summarized in Table 3. The AVE for ADL and cognitive function were well above 0.5 but AVE for depression and QOL were below 0.5. This was considered as acceptable as the composite reliability for depression and QOL were more than 0.6 (Fornell & Larcker, 1981).

Table 3: Assessment of the composite reliability, convergent and discriminant validity of variable constructs

	Composite reliability	AVE	Fornell-Larcker criterion			
ADL	0.945	0.749	**0.866**			
Cognitive function	0.944	0.531	-0.208	**0.728**		
Depression	0.827	0.306	-0.368	0.459	**0.553**	
QOL	0.834	0.436	0.374	-0.412	-0.57	**0.66**

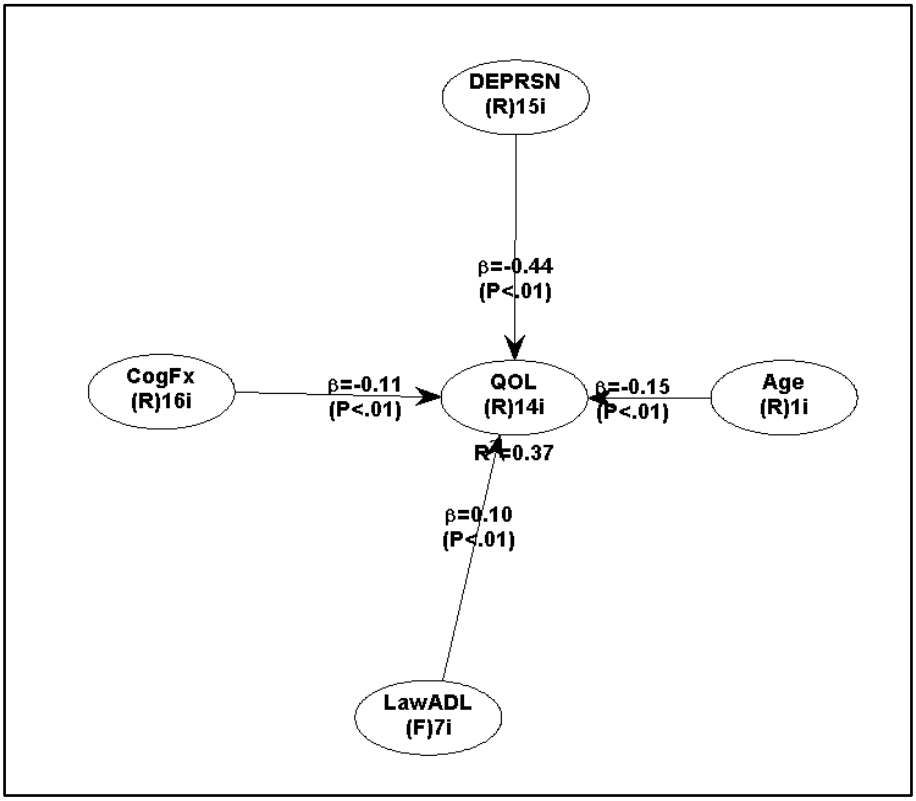
HTMT ratio of the constructs need to be below 0.9 to ensure good discriminant validity (Henseler et al., 2015). The HTMT ratio for all the variables which are below 0.9, thus indicating that the constructs in the model have sufficient discriminant validity. Before assessing the structural model of PLS-SEM, there must not be any collinearity which is assessed using VIF. In this case, VIF is less than 5 which means there is no collinearity between the constructs. For structural model assessment of the PLS-SEM, R^2 and path coefficients were being examined. The R^2 value for this model was 0.36 which meant that the constructs have moderate predictive power and the exogenous variable were able to explained the variance within endogenous construct moderately. Meanwhile, path coefficients for the predictor constructs are summarized in Table 4. The path coefficients were between -1 to +1 with significant p values <0.01 (Table 4).

Table 4: Path coefficients for the constructs

	Path coefficients	Standard errors	P values	Effect sizes for path coefficients
ADL -> Elderly QOL	0.096	0.037	<.01	0.030
Cognitive function -> Elderly QOL	-0.109	0.043	<.01	0.040
Depression -> Elderly QOL	-0.444	0.045	<.01	0.249

The final model of PLS-SEM which is depicted in Figure 1 takes into consideration the confounding effect of age which has been found to be a significant confounding factor to the quality of life among elderly. Based on the final model, activities of daily living, depression and cognitive function were significant predicting factors to quality of life while controlling for age. Overall, this model has good measurement model which means the items are able to measure the construct accurately. Moreover, this model also has good structural model which means that this model has identified the significant predicting factors to the dependent variable.

Figure 1: The final PLS-SEM model which is showing significant beta path coefficients and controlling for age



4.5. Multiple group analysis (MGA)

MGA was conducted to compare the similar models between two different samples which were elderly attenders and non-attenders of *Pusat Aktiviti Warga Emas* (PAWE). In MGA, the structural and measurement model were examined. In the structural model, it involved comparing the path coefficients. Table 5 is showing, the differences in path coefficients between the two different samples are almost zero which indicates that there is almost no difference between the two samples.

For measurement model, the absolute weight differences between the two samples were being analysed. The measurement model is important to exclude any artificial difference between path coefficients that was seen in structural model. In this case, there were no significant differences seen between the two samples which indicated that the differences seen in the path coefficients were not artificial difference in the two samples. The weight differences between the two samples were close to zero which signifies that there was almost no difference between the two samples of similar model. In conclusion, the items used in this study were able to measure the constructs similarly between the two samples

of PAWE attenders and PAWE non-attenders as there were no statistically significant difference seen in the path coefficients between them.

Table 5: Path coefficient differences between PAWE and non-PAWE groups

	Absolute path coefficient differences QOL	**Absolute differences in full collinearity VIFs**	**P values (two-tailed)** QOL
QOL		0.531	
Depression	0.27	0.617	0.041
Cognitive function	0.476	0.215	0.001
Lawton IADL	0.396	0.249	<0.001
Age	0.018	0.192	0.91

5. Discussion

The purpose of this study is to compare the quality of life, activities of daily living, cognitive function, and depression between PAWE attenders and non-PAWE attenders. Based on the results above, PAWE attenders have better quality of life, activities of daily living, cognitive function, and lesser depressive symptoms than the non-PAWE attenders. A study by Lin et al. (2016) has investigated the relationship between physical fitness and healthy aging among 378 elderly people in Northern Taiwan. In this study, elderly with physical activity had been found to have better ADL, IADL, cognitive function, quality of life and lesser depressive symptoms (Lin et al., 2016) which support the findings from the current study.

In another study by Araya et al. (2018), they had investigated regarding the effects of attending a day care centre on the social psychological and functional aspects of older people. Findings from this study showed that there was a significant improvement in terms of reduction in depressive symptoms and independence of activities of daily living among the elderly participants (Araya et al., 2018). These findings also support the findings from the current study where elderly people who attended PAWE had lesser depressive symptoms and better ADL compared to those who did not attend PAWE.

Rovner et al. (2012) in their study has investigated the possibilities of preserving cognitive function among elderly people through improving their activity levels. This case-control study has proven that the group with that had been subjected to behaviour activation had an incidence of only 1.2% of memory decline compared to the control group that only had supportive therapy had 9.3% incidence of memory decline (Rovner et al., 2018). This had suggested that behaviour activation which involves increased in activity levels had deterred further cognitive decline among elderly people.

Another study by de Oliveira et al. (2019) had been conducted in Brazil to determine the effects of physical activity among elderly people on their quality of life, anxiety, and depression. In this interventional study, elderly who were involved in physical activities had higher score of SF-36 which meant better quality of life and lower score for HADS-A and HADS-D which meant lower symptoms of anxiety and depression. Whereas, elderly who did not involve in physical activities had the reverse from the physically active group where they had poorer quality of life and more anxiety and depressive symptoms (de Oliveira et al., 2019). Therefore, these findings strongly supported the current study

where elderly who were involved with senior citizen activity centre such as PAWE had better quality of life, cognitive function and lesser depressive symptoms.

6. Study strength and limitations

The strength for this study was that this study had involved multiple study sites which had covered northern, central, and southern zone in Sarawak. Therefore, this had ensured there was a large and diverse sample with adequate statistical power (Swartz et al., 2019). This had contributed to a more accurate research findings and the findings will be more generalizable compared to studies that had involved only a single institution (Goodlett et al., 2020). The other strength was that the study objectives were achievable. PAWE attenders were being compared to the non-PAWE attenders and there were positive findings related to the relationship between PAWE attenders and their quality of life, cognitive function, activities of daily living and depression. Furthermore, activities of daily living, depression and cognitive function was successfully established as the predicting factors for quality of life among elderly people in Sarawak. The limitation for this study will be the racial composition of elderly participants was not equal where there were more Malays compared to other races. Thus, this might cause response bias because there is lack of variation in the sociodemographic characteristics, this might also affect the variability of responses among the participants (Palmer & Burchard, 2022). Thus, racial composition should be balanced to obtain a more accurate response.

7. Conclusion

This study has been able to compare the quality of life, activities of daily living, depression and cognitive function between attenders and non-attenders of PAWE. The study findings have successfully established that PAWE attenders have better QoL, ADL, cognitive function and lesser depression when compared to non-PAWE attenders. The predicting factors for QoL among elderly people in Sarawak are the ADL, cognitive function, and depression. Therefore, with these positive and significant findings, it will help to support the policy maker at the state and national level to develop and expand PAWE as it has been proven that such senior citizen activity centre promotes better QoL, ADL, cognitive function, and lesser depression among elderly. Therefore, as a nation that is going towards an aging nation, such policy will contribute to the development of healthy aging in the country.

Ethics Approval and Consent to Participate

The researchers used the research ethics provided by the Research Ethics Committee of Universiti Malaysia Sarawak. All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee. Informed consent was obtained from all participants according to the Declaration of Helsinki.

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Conflict of Interest

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