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REVIEW

The Effect Of Marital Status On The Independence Of The Elderly In Fulfilling Activities Of Daily Living (ADL): A Systematic Review And Meta-Analysis

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ABSTRACT

Background: Indonesia's population projection in 2045 the population pyramid is estimated to be stationary with a greater contribution of the very old population. Creating independent elderly starts with basic independence in fulfilling activities of daily living (ADL) for the elderly. The purpose of this study was to see the effect of marital status on the independence of elderly ADLs.

Method: The research study design used was a systematic review accompanied by a meta-analysis. Article search strategy through Pudmed electronic database and Google Schoolar. Data analysis using Refman 5.4.1.

Result: Forest plot shows negative results where statistical analysis shows highly significant results ($p < 0.00001$, Heterogeneity (I^2) = 96% with effect size (d = 0.44) CI (0.32 to 0.60) which indicates heterogeneous data distribution (random effect). Asymmetrical funnel plot means there is potential bias.

Conclusion: The results of the meta-analysis show that marital status has a significant influence on the independence of daily living activities of the elderly with a p-value <0.00001 effect size (d = 0.44) CI (0.32 to 0.60).

INTRODUCTION

The United Nations International Children Found survey shows that in the span of 1990 - 2025 the number of elderly people in Indonesia is the fastest growing in the world. Word Health Organization (WHO) estimates that by 2025 the elderly population will increase by 41.4%. This is the highest increase in the world. Even the UN organization estimates that by 2050 the number of elderly population in Indonesia will reach 60 million. This makes Indonesia ranked 41st in the world as the largest elderly population [1].

Indonesia's population projection in 2045 population pyramid is estimated to have

a larger population in the age group. In 2045 the peak of the pyramid will widen (stationary), indicating that the dominant population is in the old age structure group [2]. Since 2021 Indonesia has entered the ageing population, about 1 in 10 people are old age [3]. In 2016, the number of elderly people in Indonesia was 22.6 million. However, within 14 years, this number will increase to 41 million people so that in 2030, Indonesia will have an aging population [4].

Through the RPJMN 2020-2024 as an anticipatory strategy in welcoming Indonesia's condition entering the aging population. In Perpres 88/2021 about the National Strategy for the Elderly proves the seriousness and readiness in facing the conditions of the aging population [5]. The regulation ensures that the central and regional governments can determine synergized steps to ensure that the elderly can remain independent, prosperous and dignified.

Basic independence is the fulfillment of activity of daily living (ADL) for the elderly. ADL is a term used to refer to activities of daily living such as eating, bathing, dressing, transferring and mobilizing. The ability or inability to perform ADLs is used to measure the functional status of the elderly [6]. Several factors affect the independence of elderly ADLs including age, gender, BMI, education, income, including marital status [789]. By looking at this description, the purpose of this systematic review is to summarize the literature study data related to the influence of marital status on the fulfillment of elderly ADL independence.

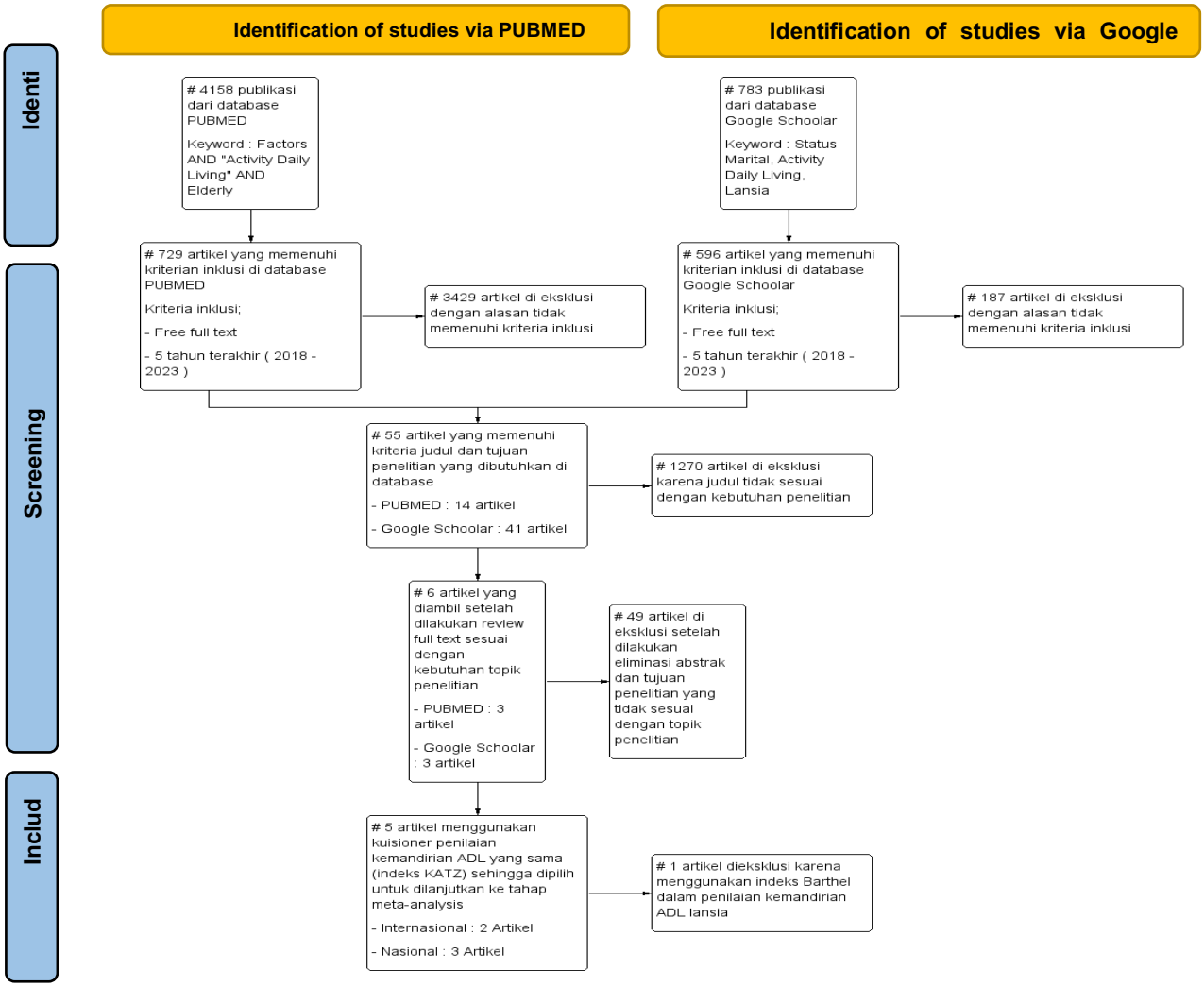

Figure 1. PRISMA

METHOD

The research study design used was a systematic review accompanied by a meta-analysis. The article search strategy used free fulltext filters and publications for the last 5 years (2018 - 2023) through Pudmed and Google Schoolar electronic databases. The document selection process was carried out by combining keywords: (factors OR "Marital Status") AND "Activity Daily Living" AND Elderly. The search results obtained a total of 729 articles in the Pudmed database and 596 articles in the Goggle Schoolar database. 55 articles were identified as related to the research topic. The process continued with fulltext review and obtained 6 articles that fit the objectives and research design needed. A total of 5 articles were analyzed for eligibility and five articles were selected to continue the meta-analysis test in Figure 1.

RESULT

Based on Table 1, there are 5 articles that have been adjusted to the inclusion and exclusion criteria based on the research needs. Data analysis used Refman 5.4.1 software to determine the heterogeneity of studies that had been combined. If the P-Value 0.05 used is the Fixed Effect Model. The effect of marital status on the independence of daily living activities of the elderly was found in 5 articles that used the same instrument in assessing the independence of elderly ADLs, namely the KATZ index.

Table 1. Article Characteristic

Author	Title	Year	Result Conclusion	Marital Status	(%)	N
Lisna Anisa Fitriana, Setiawan Setiawan, Kusnandar Anggadiredja, I Ketut Adnyana	**Hubungan Kemandirian (Basic And Instrumental Activity Of Daily Living) Dengan Pendidikan, Status Marital, Dan Demensia[6].**	2019	A total of 92.2% of the residents were not married or did not have a spouse. Statistical results showed a significant relationship between BADL and IADL with marital status (p=0.000)	Married Not Married	7.8 92.2	166
Susumu Satō1, Shinichi Demura2, Hidetsugu Kobayashi3	**The Relationship and Its Change with Aging between ADL and Daily Life Satisfaction Characteristics in Independent Japanese Elderly Living at Home[7]**	2022	The results of the statistical test of the relationship between marital status and ADL independence of the elderly obtained a p value = 0.914 OR value = 0.935, meaning that elderly people who are married have a 0.935 times chance of independence .	Married Not Married	88.5 11.4	87
Shobhit Srivastava, T Muhammad, Ronak Paul, Arya Rachel Thomas	**Multivariate Decomposition Analysis Of Sex Differences In Functional Difficulty Among Older Adults Based On Longitudinal Ageing Study In India, 2017–2018[8]**	2022	Most of the gender gap in ADL difficulties is explained by differences in formal education level (15% reduction), employment status (18% reduction), and marital status (13% reduction), respectively.	Currently Married Widowed Others	61.8 35.9 2.2	31.464
Hasim Asyari1, Indra Ruswadi2, Marsono Marsono	**The Relationship between Family Support and Levels of Depression with the Quality of Life of Elderly During the Pandemic Period in Pasekan Health Center, Indramayu District year 2022 [9]**	2022	Most of the gender gap in ADL difficulties is explained by differences in formal education level (15% reduction), employment status (18% reduction), and marital status (13% reduction), respectively.	Married Divorce life Death divorce	34.3 60.0 5.7	105

Skender Redzovic, Beatrix Vereijken and Tore Bonsaksen	**Aging At Home: Factors Associated With Independence In Activities Of Daily Living Among Older Adults In Norway—A Hunt Study[10]**	2023	These findings suggest that the health impact of marital status is largely related to inherent living arrangements, with people in unmarried couple living arrangements experiencing similar health benefits to those who are married. Our study shows that being married is associated with a higher likelihood of independence in activities of daily living (ADLs) among women, while the reverse is true for men. In contrast, another study showed that women living alone had a lower chance of experiencing a decline in functional status compared to those living with a spouse or significant other.	Married Not Married	18.7 21.9	22.504

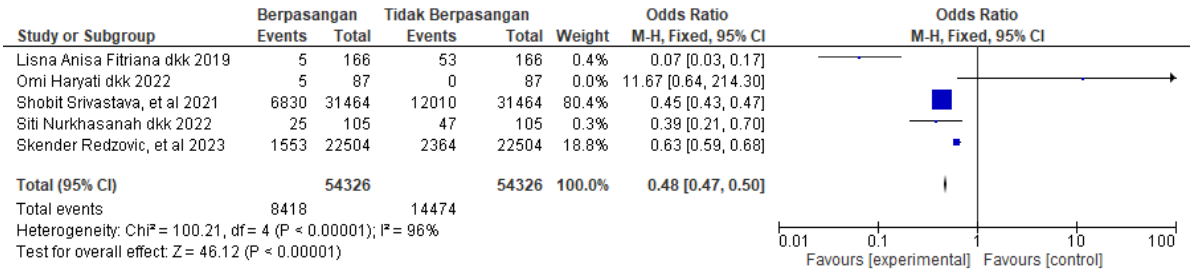

Figure 2. Effect of Marital Status on Elderly ADL Independence

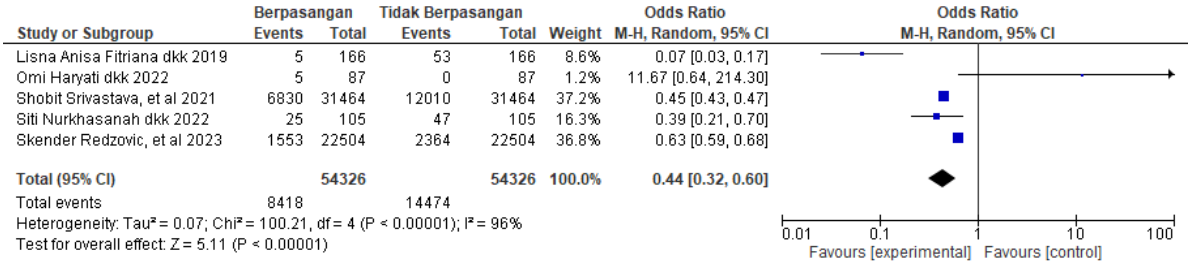

Figure 3. Forest Plot of the Effect of Marital Status on Elderly ADL Independence

In Figure 2 shows the meta-analysis of five articles of paired and unpaired marital status with ADL (Activity Daily Living) independence of the elderly. Figure 3 shows the forest plot of the effect of paired and unpaired status on the level of independence of ADL (Activity Daily Living) of the elderly with an effect size (d = 0.44) CI (0.32 to 0.60). Forest plot shows negative results where the results of statistical analysis are known to be highly significant ($p < 0.00001$, Heterogeneity (I^2) = 96% which indicates heterogeneous data distribution (random effect model).

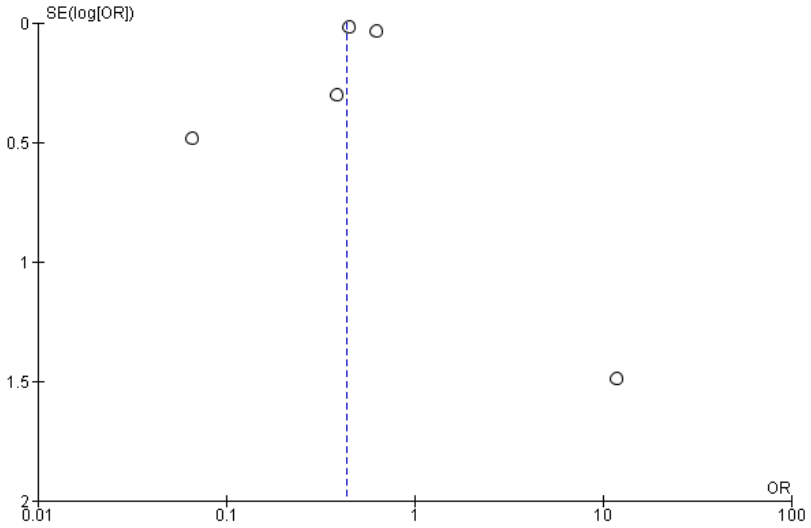

Figure 4. *Funnel Plots of the Effect of Marital Status on Elderly ADL Independence*

Figure 4 shows the forest plot of the effect of paired and unpaired status on the level of independence of ADL (Activity Daily Living) of the elderly with an effect size (d = 0.44) CI (0.32 to 0.60). Forest plot shows negative results where the results of statistical analysis are known to be highly significant (p < 0.00001, Heterogeneity (I^2) = 96% which indicates heterogeneous data distribution (random effect model).

DISCUSSION

Marital status is a person's marital condition, which includes being married, unmarried, divorced, or widowed. Marital status is conditional so it can change based on events in a person's life, such as marriage, divorce, or death of a spouse. Marital status can be relevant information in various contexts, such as registration forms, tax documents, or job applications.

Fitriana L. A., et al. (2019) states that there is a significant relationship between marital status and the independence of ADL (Activity Daily Living) of the elderly (p = 0.000)[6]. This is because there is motivation, support and a sense of responsibility in the elderly towards their partners. in activities. Marital status of the elderly is a significant factor in influencing the independence of the elderly[11].

Xiaofeng Xu, et al. (2020) explained in their research conducted a multivariate binary logistic regression analysis with the ability to perform ADL as the dependent variable. The risk of ADL limitations in the elderly without a partner is 1.616 times that of the elderly with a partner. Elderly who have a partner have better ADL skills than those who do not have a partner. The difference was statistically significant (P < 0.05) [12].

In contrast to the research perivious study show that marital status does not have a significant relationship with ADL (Activity Daily Living) independence with statistical test results p=0.914 and OR value =0.935[13]. In line with research from Reis (2018) which resulted in an insignificant relationship between marital status and the independence of elderly ADL with statistical results p=0.25114.

In the study, there were 5 journals that had been combined into a meta-analysis calculation of the effect of marital status on the independence of ADL (Activity Daily Living) of the elderly. The analysis was carried out based on the grouping of marital status in the form of paired and unpaired with the ADL dependence of the elderly. The results of the combined study analysis using the random effect model that of the 5 journals analyzed had a significant relationship with the

independence of the elderly ADL (P-Value = <0.00001, 95% CI).

The results of the combined study test showed a combined OR value of 0.44 [0.32,0.60]. So that the influence of marital status factors as a protective factor in influencing ADL independence in the elderly. This means that the marital status indicators used are not paired able to be a factor in increasing the independence of elderly ADLs. Redzovic. S., et al (2023) there are differences in the independence of elderly ADLs in women and men with married or partnered status. Surprisingly, married women tend to have higher levels of ADL independence than unmarried women, while married men are less likely to have ADL independence than unmarried men[15,16,17]. Therefore, in reviewing the relationship between ADL independence in married and unmarried elderly people, multivariate tests with gender are needed to see more specific influences[18].

AIADL is a valid and reliable instrument to assess older adults' ability in handling contemporary instrumental activities in their daily life. This instrument can serve as a reference in measuring individuals' ability of aging-in-place[19]. Encouraging older adults at home to actively participate in mutual assistance activities for older adults and care for themselves, so as to prevent and reduce the occurrence of depression in older adults[20].

CONCLUSIONS

The results of the meta-analysis show that marital status has a significant influence on the independence of daily living activities of the elderly with a p-value <0.00001 effect size (d = 0.44) CI (0.32 to 0.60). However, the effect of marital status needs to be included with gender factors in assessing the independence of elderly ADLs.

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