

*Research Article*

# The Association between Sociodemographic and Health Characteristics with the Attendance Rate of the Elderly School of Darun Najah, Sambak Village, Kajoran District

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**Abstract:** The United Nations states that the elderly population is increasing globally annually, from 771 million to 830 million people, accounting for 10 to 10,5% respectively. In Indonesia, the Central Bureau of Statistics reported the rise of the elderly population from 9,92% of the population in 2020 to 11,75% in 2023. Specifically in the Province of Central Java, the percentage of elderly population increases from 13,07% to 13,50% between 2022 and 2023. The rise of the elderly population could potentially pose a challenge to public development as they are often vulnerable and dependent, facing health and socioeconomic challenges. In order to combat this, the Government of Indonesia formed elderly schools, an educational and social program that aims to empower the elderly. This study aims to analyze the association between sociodemographic and health characteristic factors and the attendance rate of one of the elderly schools located in Central Java called The Elderly School of Darun Najah, Sambak Village, Kajoran District. This study uses an analytical observational quantitative approach with a cross-sectional design. Sampling is conducted using a total sampling design resulting in 40 respondents. Data analysis is conducted in univariate and bivariate (chi-square and fisher's exact test) methods. Significant factors ( $p\text{-value} < 0,05$ ) of the attendance rate of the elderly school include age, sex, marital status, and employment status, while blood pressure and body mass index are not significant ( $p\text{-value} > 0,05$ ). This study recommends that elderly school administrators provide personalized facilities and activities that cater to their participants' characteristics.

**Keywords:** Elderly School; Attendance; Participation; Sociodemographic; Body Mass Index; Blood Pressure.

## 1. Introduction

According to the Indonesian Law Number 13 of 1998, the elderly are defined as individuals who have reached the age of 60 years and over, and are characterised by the degenerative changes of physical and psychological capabilities [1].

The United Nations reported that the elderly population has been increasing annually globally, from 771 million to 830 million accounting for 10% and 10,5% of the world's population respectively [2][3]. The United Nations also projected that this number will continue to increase up to 1,6 billion or 16% of the world's total population in 2050 [4].

In Indonesia, the rise of the elderly population has seen a steady increase over the past five decades (1971-2020) [5]. The Indonesian Central Bureau of Statistics reported a rise in the elderly population from 9,92% of the population in 2020 to 11,75% in 2023 [6]. The Province of Central Java also follows the same trend, where the percentage of elderly population increases from 13,07% to 13,50% between 2022 and 2023, accounting for the province with the third largest population of the elderly [6].

Active participation of elderly schools is vital in determining the success of elderly school programs, as active participation will lead to an increase of the degree of public health among elderly, while low participation will cause it to falter and are the primary challenge that must be overcome. The participation, or in other words, the attendance of the elderly school itself

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is determined by several sociodemographic and health characteristic factors. As such, this study aims to analyze the association between sociodemographic and health characteristic factors and the attendance rate of one of the elderly schools located in Central Java, The Elderly School of Darun Najah, Sambak Village, Kajoran District.

## 2. Preliminaries

Based on the previous studies, the demographic structure of Indonesia has begun to shift into an aging population, with 10% or 1 in 10 individuals of its population considered elderly. The shift of the population's age can potentially become a challenge to public development as they are a part of a vulnerable group. According to Agteren et al. in 2021 as well as Singh and Misra in 2009, the elderly often face health and economic challenges, requiring dependencies on the younger generation, as well as experiencing psychological problems such as anxiety, loneliness, and social exclusion. Depression and anxiety often become frequent emotional problems experienced by the elderly, resulting in them becoming an economic burden due to serious physical and mental problems that affect their quality of life as well as increasing the risk of suicide and disability [7][8].

According to a study done in Shanghai by Júnior et al. in 2022 and Zhang et al. in 2023, loneliness is the prominent predicting factor of depression among the elderly. As such, an intervention must be effectively implemented to prevent social isolation and increase the quality of life for the elderly, be it physical or mental health, to ensure life satisfaction as they age [9][10]. In order to achieve prosperity amongst the elderly, the Government of Indonesia has formed elderly schools, an educational and social program that aims to empower the elderly.

According to Widyaningsih et al. in 2022, the elderly school program provides social inclusion, guarantees physical, psychological, social, and spiritual independence [11]. Several studies in South Korea have found that the elderly school program positively contributes to the prosperity and social support for the elderly. According to previous studies done by Agteren et al. in 2021, Jo et al. in 2018, and Setyowati et al. in 2023, the art-based communal program provides togetherness and is the primary reason for continued participation [7][12][13]. A research in the Institute Center for Aging done by Jin during 2017 in San Francisco finds that participation in educational programs affects the quality of life for elderly members [14].

## 3. Proposed Method

This study is quantitative observational analytic research with a cross-sectional design. The population of this study is the entire active participants of the Elderly School of Darun Najah in the Sambak Village, Kajoran District, amounting to 40 individuals. The sampling method is carried out using total sampling, designating all active participants of the Elderly School of Darun Najah as part of the sample for this study. The independent variable of this study consists of age, sex, marital status, level of education, employment status, blood pressure, and body mass index. The dependent variable in this study is the attendance rate of the participants in the Elderly School of Darun Najah, categorized as "high" if they attend  $\geq 16$  out of 20 gatherings (80%) and "low" if they attend  $<16$  gatherings.

## 4. Results and Discussion

This study utilizes SPSS Version 25 to analyze the data with a confidence level of 95 percent. Data is analyzed using univariate analysis and bivariate analysis conducted using the chi-square test, and its alternative, fisher's exact test.

### 4.1. Univariate Analysis

**Table 1.** Characteristics of participants of the Elderly School of Darun Najah

Characteristics	Frequency	Percentage
<b>Attendance Rate</b>		
Low ( $<80\%$ )	21	52,5
High ( $\geq 80\%$ )	19	47,5
<b>Age</b>		
Elderly	27	67,5
Pre-elderly	13	32,5
Characteristics	Frequency	Percentage

<b>Sex</b>		
Male	24	60
Female	16	40
<b>Marital Status</b>		
Married	21	52,5
Widowed	19	47,5
<b>Education Level</b>		
Low (Unschool - Junior High School)	26	65
High (Senior High School - Tertiary Education)	14	35
<b>Employment Status</b>		
Unemployed	17	42,5
Employed	23	57,5
<b>Blood Pressure</b>		
Abnormal	25	62,5
Normal	15	37,5
<b>Body Mass Index</b>		
Abnormal	8	20
Normal	32	80

Based on the table above (Table 1), the majority of the respondents are more than 60 years old, with 27 individuals accounting for 67,5% of the total respondents, and are male with 24 individuals composing 60% of the total respondents. Most of the individuals in this study have a low level of education, with 26 people having only an educational background up to junior high school or lower, comprising 65% of the total respondents. The participants' employment status is dominated by workers, with 23 (57,5%) individuals being workers who are employed, the majority of 25 people (62,5%) in this study had a history of noncommunicable disease, and most have normal nutritional status, with 32 people comprising 80% of the total respondent.

#### 4.2. Bivariate Analysis

**Table 2.** Bivariate analysis result for the association of the attendance rate of the Elderly School of Darun Najah

Variables	Attendance Rate		p-value
	Low (<80%)	High (≥80%)	
<b>Age</b>			
Elderly	18	9	0,025*
Pre-elderly	3	10	
<b>Sex</b>			
Male	9	15	0,045*
Female	12	4	
<b>Marital Status</b>			
Married	16	5	0,005*
Widowed	5	14	
<b>Education Level</b>			
Low (Unschool - Junior High School)	18	8	0,011*
High (Senior High School - Tertiary Education)	3	11	
<b>Employment Status</b>			
Unemployed	13	4	0,022*
Employed	8	15	

Variables	Attendance Rate		p-value
	Low (<80%)	High (≥80%)	
<b>Blood Pressure</b>			
Abnormal	13	12	1,000
Normal	8	7	
<b>Body Mass Index</b>			
Abnormal	5	3	0,689 <sup>1</sup>
Normal	16	16	

\*Statistically significant (p-value<0,05)

<sup>1</sup>Fisher's Exact Test

Based on the bivariate analysis shown in the table above (Table 2), this study shows a significant association (p-value<0,05) between several independent variables with the attendance in Elderly School of Darun Najah such as age (p-value=0,025), sex (p-value=0,045), marital status (p-value=0,005), level of education (p-value=0,011), and employment status (p-value=0,022). On the contrary, this study finds that blood pressure (p-value=1,000) and body mass index (p-value=0,698) have no significant association with the attendance of the elderly in the Elderly School of Darun Najah.

Based on the results of this study, it is known that there are several sociodemographic and health factors that are significantly related to the level of attendance among the elderly at the Darun Najah Elderly School, Sambak Village, Kajoran District.

The elderly who are in the pre-elderly age group (45-59 years) have a higher attendance rate than the elderly age group who are above 60 years old. This is due to the higher physical and psychological abilities among pre-elderly participants compared to those who are older. The pre-elderly group also tends to have higher learning motivation and suffer fewer diseases compared to the older group. This finding is in line with previous research conducted in Srumbung Village, Srumbung District, Magelang Regency by Oktaviani and Wahyono in 2022, which showed a significant relationship between age and elderly participation as evidenced by a p-value of <0.0001 (p <0.05) as they suffer fewer diseases and are more physically capable [15].

This study also finds that sex type has a significant association with the level of elderly attendance at the Elderly School of Darul Najah, where male participants tend to have a higher attendance rate than women. This is in line with a study done by Wahyuni et al. in 2016, where this tendency is due to female elderly often having to do housework and fulfill many household needs, as well as having a higher susceptibility of getting ill compared to males [16]. The findings of this study contradict the findings of Mardhyati et al. in 2019, where they found no significant association between sex and the attendance of the elderly in elderly schools [17].

Researchers argue that most elderly women work as housewives so they have great responsibility in taking care of household needs which makes elderly women prefer to complete housework rather than participate in social activities. Conflicting research results state that there is no relationship between gender and participation or attendance of the elderly in a social activity.

In addition, this study found that marital status has a significant relationship with the level of attendance of elderly school participants. Elderly people who no longer have a partner, in this case widows or widowers, tend to have a higher attendance rate due to the possibility that elderly people who have lost their partners are actively looking out for new social spaces and interactions, so they are more enthusiastic about participating in Elderly School activities as it can substitute for the role of the family or partner, they have lost. The findings in this study contrast Christy and Bacin in 2019, where elderly people who still have partners tend to participate more often in social activities [18].

The result in this study shows that education level significantly influences the attendance rate of elderly participants at the Elderly School of Darul Najah. Elderly people with higher education tend to be more active compared to elderly people with lower education, since higher education tends to increase their awareness of the importance of maintaining health and participating in educational activities as well as social activities. According to Hadrywinoto of 2007 in Henniwati of 2008, the higher the level of education a person can attain, the higher their capability to receive, understand, and retain information, as well as their awareness toward their own needs, including the need to be empowered as an elderly

individual. On the contrary, an individual with a lower level of education is often less capable to receive and understand information regarding health and the purpose of elderly empowerment [18].

This study also finds that employment status significantly affects the attendance rate in the Elderly School of Darul Najah. Elderly individuals who are still employed tend to have a higher attendance rate compared to those who are not. This might be due to differing levels of independence perceived in oneself, or the lower level of vigor and enthusiasm in life.

The result of this study shows that blood pressure and body mass index show no significant association with the attendance of participants at the Elderly School of Darul Najah. Descriptively, elderly people with normal blood pressure and normal body mass index tend to have a higher attendance rate than those who are not. This indicates that even though clinical factors do not directly affect the attendance rate of the elderly school, they are still important and must be considered a vital aspect in the promotive-preventive approach of elderly schools.

## 5. Conclusions

From the result of this study, it can be concluded that there is a significant association ( $p\text{-value} < 0,05$ ) between age, sex, marital status, and employment status to the attendance rate of the Elderly School of Darul Najah in Sambak Village, Kajoran District. Pre-elderly, male, married, highly educated, and employed individuals tend to be more active in attending the elderly school activities. On the contrary, blood pressure and body mass index have no significant association with the attendance rate of the Elderly School of Darul Najah, even though healthier elderly individuals usually show a higher attendance rate than those who are not.

Based on findings of this study, we recommend that elderly school administrators consider the characteristics of their participants to further increase their attendance rate, such as adjusting infographic materials based on their education levels, providing stronger social support to women and older elderly, and increasing accessibility for those who are unemployed or suffer physical limitations. An inclusive and personalized approach can encourage a more equitable and sustainable involvement of the elderly in our society.

## References

- [1] Republik Indonesia, Undang-Undang No. 13 Tahun 1998 tentang Kesejahteraan Lanjut Usia, 1998.
- [2] United Nations, World Population Prospects 2022: Summary of Results, 2022.
- [3] United Nations, World Population Prospects 2024: Summary of Results, 2024.
- [4] United Nations, World Population Ageing 2020 Highlights, 2020. [Online]. Available: <http://bit.ly/2SgEZSs>
- [5] Badan Pusat Statistik, Statistik Penduduk Lanjut Usia 2020, 2020.
- [6] Badan Pusat Statistik, Statistik Penduduk Lansia 2023, 2023.
- [7] J. Van Agteren et al., "A systematic review and meta-analysis of psychological interventions to improve mental wellbeing," *Nat. Hum. Behav.*, vol. 5, no. 5, pp. 631–653, 2021, doi: 10.1038/s41562-021-01093-w.
- [8] A. Singh and N. Misra, "Loneliness, depression and sociability in old age," *Ind. Psychiatry J.*, vol. 18, no. 1, 2009, doi: 10.4103/0972-6748.57861.
- [9] E. V. de S. Júnior et al., "Relationship between family functionality and the quality of life of the elderly," *Rev. Bras. Enferm.*, vol. 75, no. 2, pp. 1–8, 2022.
- [10] Y. Zhang et al., "Loneliness, social isolation, depression and anxiety among the elderly in Shanghai: Findings from a longitudinal study," *Arch. Gerontol. Geriatr.*, vol. 110, Feb. 2023, Art. no. 104980, doi: 10.1016/j.archger.2023.104980.
- [11] S. Widyarningsih et al., "Pengelolaan Well-being Lansia Melalui Program Integrasi Sekolah Lansia," *Buletin Ilmu Kebidanan Dan Keperawatan (BIKK)*, vol. 1, no. 02, pp. 69–78, 2022, doi: 10.56741/bikk.v1i02.147.
- [12] H. E. Jo, J. S. Jo, K. K. Veblen, and P. J. Potter, "Enoch Senior's College for Korean Immigrant Seniors: Quality of Life Effects," *Can. J. Aging*, vol. 37, no. 3, pp. 345–359, 2018, doi: 10.1017/S0714980818000211.
- [13] S. Setyowati, B. A. Rahayu, P. S. Purnomo, Supatmi, and E. Purwaningsih, "Hubungan Dukungan Keluarga dan Interaksi Sosial dengan Kualitas Hidup Lansia," *J. Keperawatan*, vol. 15, no. 4, pp. 25–32, 2023.

- [14] B. Jin, "The Impact of Participation in Educational Programs on Elderly's Life Satisfaction," in *Adult Education Research Conference*, 2017, pp. 1–11. [Online]. Available: <https://newprairiepress.org/aerc/2017/papers/30>
- [15] Y. Oktaviani and B. Wahyono, "Partisipasi Lansia pada Program Posbindu PTM dalam Masa Pandemi COVID-19," *Higeia J. Public Health*, vol. 6, no. 1, pp. 72–83, 2022.
- [16] I. D. Wahyuni, A. Ainy, and A. Rahmiwati, "Analysis of Elderly Participation in Health Promotion Activities at The Working Area of Puskesmas Sekar Jaya Ogan Komering Ulu Regency," *J. Ilmu Kesehat. Masy.*, vol. 7, no. 2, pp. 96–107, 2016, doi: 10.26553/jikm.2016.7.2.96-107.
- [17] I. Mardhiyati, A. Suryoputro, and Y. Fatmasari, "Faktor-faktor yang Berhubungan dengan Pemanfaatan Posbindu PTM di Puskesmas Rowosari Kota Semarang," *J. Kesehat. Masy.*, vol. 7, no. 3, 2019. [Online]. Available: <http://ejournal3.undip.ac.id/index.php/jkm>
- [18] J. Christy and L. J. Bacin, "Hubungan Karakteristik (Umur, Jenis Kelamin, Status Perkawinan) dengan Aktivitas Fisik dan Aktivitas Sosial Lansia di Wilayah Kerja Puskesmas Padangmatinggi Kota Padangsidempuan," in *Seminar Nasional Teknologi Informasi Komputer Dan Sains*, 2019, pp. 598–605. [Online]. Available: <http://sintaks.kitamenulis.id/index.php/Sintaks>