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RESEARCH

ATTITUDES TOWARD THE OLDER PERSONS AND AGEISM ATTITUDES OF HEALTHCARE ASSISTANTS WORKING IN NURSING HOMES

ABSTRACT

Introduction: Rapid increase in the older persons population and accompanying sociodemographic changes result in family caregiving problems, thereby impelling the older persons and their family to opt for nursing care institutions. Because of insufficient nurses working in nursing homes, healthcare assistants usually care for the older persons. This study assessed the attitudes of healthcare assistants toward the older persons and ageism.

Materials and Method: This descriptive study assessed the attitudes of 108 healthcare assistants working in a public nursing home using Kogan's Attitudes Toward Older People (KAOP) scale and Ageism Attitude Scale (AAS).

Results: The mean age of the 108 healthcare assistants was 40.1±7.7 years. These individuals are 58.3% male, 85% are married and 62% are primary school graduates. The mean duration of employment of the participants at the nursing home was 80.1±56.9 months, and 91.7% had caregiving certificates. Participants had positive attitudes based on their total KAOP and AAS scores and sub-dimension AAS scores. KAOP scores varied according to sex and living with an older persons from the family, whereas AAS scores varied according to sex, income status, living with an older persons from the family, considering training for senior care a necessity, and educational background. According to hierarchical regression analysis for determining the variability of the total AAS score, Model 1 (sociodemographic variables) predicted 25.6% and Model 2 (sociodemographic, caregiving certificate, duration of employment) predicted 28.4% of the AAS scores.

Conclusion: Attitudes of healthcare assistants toward the older persons and ageism are positive. Educational background, gender, and income level are predictive variables for ageism.

Keywords: Nursing home; Attitude; Aged; Ageism

ARAŞTIRMA

HUZUREVİNDE ÇALIŞAN BAKIM PERSONELİNİN YAŞLILARA KARŞI TUTUM VE AYRIMCILIK DÜZEYLERİ

ÖZ

Giriş: Yaşlı nüfusun artışı ve buna eşlik eden sosyo-demografik değişimler, ailede bakım sorunlarının yaşanmasına ve kurum bakımının yaşlı birey ve aileleri tarafından tercih edilmesine neden olmaktadır. Yaşlı için ilk kez karşılaştığı bir ortam olan huzurevinde bakım personelinin yaşlılara ve yaşlı ayrımcılığına karşı tutumları yaşlının kurum bakımına uyumu açısından önemlidir. Huzurevlerinde çalışan hemşire sayısının yetersizliği nedeniyle yaşlı bakımını bakım personeli yürütmektedir. Bu çalışma bakım personelinin yaşlılara ve yaşlı ayrımcılığına ilişkin tutumlarını belirlemek amacıyla yapılmıştır.

Gereç ve Yöntem: Kamuya ait bir huzurevinde çalışan 108 bakım personelinin yaşlılara ve yaşlı ayrımcılığına yönelik tutumlarını belirlemek amacıyla yaşlılara karşı tutum ve yaşlı ayrımcılığı ölçekleri kullanılarak yapılan tanımlayıcı bir araştırmadır.

Bulgular: Araştırmaya katılan bakım personelinin yaş ortalaması 40.1±7.7 olarak bulunmuştur. Bu bireylerin %58.3'ü erkek, %85'i evli, %62'si ilköğretim mezunudur. Bakım personelinin huzurevinde çalışma süre ortalaması 80.1±56.9 aydır ve %91.7'sinin yaşlı bakım sertifikası vardır. Katılımcıların yaşlılara karşı tutum, yaşlı ayrımcılığı ölçekleri ve alt boyutlarından alınan puanlara göre tutumlarının olumlu olduğu bulunmuştur. Yaşlılara karşı tutum ve yaşlı ayrımcılığı ölçekleri puanları cinsiyet, aileden bir yaşlı ile yaşama durumuna; Yaşlı ayrımcılığı ölçeği puanları cinsiyet, gelir durumu, aileden bir yaşlı ile yaşama, yaşlı bakımı eğitiminin gerekliliğini düşünme ve eğitim durumuna göre farklılaşmaktadır. Hiyerarşik regresyon analizi sonuçlarına göre; yaşlı ayrımcılığı ölçek toplam puanının değişkenliğinin belirlenmesinde Model 1'in (sosyodemografik değişkenler) % 25.6 ve Model 2'nin (sosyodemografik, bakım sertifikası ve çalışma süresi değişkenleri) % 28.4 yordayıcı olduğu bulunmuştur.

Sonuç: Sonuç olarak bakım personelinin yaşlılara ve yaşlı ayrımcılığına yönelik tutumları olumlu yöndedir. Ayrımcılık değişkeni için cinsiyet, eğitim ve gelir düzeyi yordayıcı değişkenlerdendir.

Anahtar sözcükler: Huzurevi; Tutum; Yaşlı; Yaşlı ayrımcılığı

INTRODUCTION

Current trends in demographic indicators reveal that the older persons population will increase both worldwide and in Turkey (1,2). The increase in the older persons population and accompanying sociodemographic changes result in family caregiving problems, which in turn impel the older persons and their family to opt for nursing care institutions (2). In Europe, healthcare services for the older persons are classified as institutional care, home care, and day care (3). In Turkey, healthcare services for the older persons are provided by nursing homes, nursing and rehabilitation centers, home care services, and 41 retirement homes that operate within the scope of the retirement home project (4). Because of insufficient nurses working in nursing homes, healthcare assistants usually care for the older persons. Healthcare assistants, as a professional group, are defined as assistive personnel for the older persons and individuals with disabilities; they are responsible for preliminary preparing older persons care, providing personal hygiene to individuals receiving the service, organizing living space, ensuring adequate and balanced nutrition, fostering mobilization and active participation of an individual in daily activities, and supporting healthcare personnel with the treatment process (5).

Nursing homes are places that the older persons encounter for the first time and in which they have to live with people coming from different cultures and backgrounds. Thus, the attitudes of nursing staff toward the older persons and ageism are crucial factors for the adaptation of older persons to nursing care institutions (6). Providing care to the older persons may negatively influence attitudes toward them because of the complicated nature of multiple diseases. In addition, age-old stereotypes of the older persons negatively affect attitudes toward the older persons. Negative attitudes toward the older persons arise from the lack of knowledge regarding the aging process and gerontology (7). Adequate knowledge and clinical experience on senility mitigates negative attitudes toward the older persons and prompts the development of positive attitudes concerning care for the older persons (8).

In the literature, age (9), sex (10), marital status (11), family type (12), educational level (13), and professional conditions positively, negatively, and neutrally affect attitudes toward the older persons.

Attitudes toward the older persons and those toward ageism would affect the care provided to the older persons. We think that the results of this study will be utilized especially in the hiring and supervision of healthcare assistants in the prevention of abuse and neglect towards older persons. This study aimed to investigate the attitudes toward the older persons and those toward ageism and to assess the association between these attitudes and sociodemographic and occupational characteristics. In addition, we believe that this study will contribute in improving the care provided to the older persons.

MATERIALS AND METHOD

Design and sample

This descriptive study included all 108 healthcare assistants working in a public nursing home rather than sampling and aimed to cover the entire research population. Complete count sampling methods used for sample recruitment (14). Criteria for inclusion in research is to be healthcare assistants working in a nursing home.

Ethical consideration

The Ethics Committee of Research on Non-Medicine and Non-Medical Devices (Approval no. 2016/486) and Ministry of Family and Social Policies, Department of Education and Publication approved the study. In addition, we obtained informed consent from all healthcare assistants who participated in the study.

Data collection method and instruments

The data were collected with using sociodemographic questionnaire, Kogan's attitudes toward older people, ageism attitude scale by first researcher between March-April 2016 in nursing home. The data collection phase was carried out in the nursing home and the elderly care personnel working at 7:00 am to 15:00 pm and 15:00 pm to

23:00 pm were informed by the researcher based on their own expression under supervision.

Sociodemographic questionnaire

The sociodemographic and occupational characteristics questionnaire that was constructed in line with a literature review (2,10,12,15) comprised 16 questions regarding parameters such as age, sex, educational status, marital status, family type, perceived income level, living with an older persons, duration of employment as a healthcare assistant for the older persons, job satisfaction with working in a nursing home, problems encountered when working as a healthcare assistant for the older persons, and having a senior care certification.

Kogan's Attitudes Toward Older People

Kogan's Attitudes Toward Older People (KAOP) scale, which was developed by Nathan Kogan in 1961, measures individuals' attitudes toward the older persons. The scale is used to determine the attitudes of healthcare professionals and societal attitudes toward the older persons. The scale comprises 34 social items that avoids medical terms and is scored using a 6-point Likert-type scale (16). In this study, we used the version adapted by Kılıç and Adıbelli (2011) (17), which was tested for its validity and reliability in the Turkish population. The scale was reduced to 26 items, with 13 positive and 13 negative statements in compliance with the validity test; Cronbach's alpha was calculated to be 0.82. The lowest total score that could be achieved was 26 and the highest score was 156 for items numbered 1–26 (17). Higher scores indicated positive attitudes toward the older persons (16). For this study, Cronbach's alpha was calculated to be 0.60.

Ageism Attitude Scale

Ageism Attitude Scale (AAS) was developed by Vefikuluçay Yılmaz and Terzioğlu (2011) (18) and comprised 23 items that were scored using a 5-point Likert-type scale; AAS was tested for its validity and reliability. In the validity and reliability test of the scale, Cronbach's alpha was found to be 0.80. The scale comprises the following three 3 sub-dimensions:

1. Restricting life of the older persons: Beliefs and perceptions of the society that limits the social life of the older persons.

2. Positive ageism: Positive beliefs and perceptions of the society for the older persons.

3. Negative ageism: Negative beliefs and perceptions of the society for the older persons.

The highest score that could be achieved of the scale was 115 and the lowest score was 23. Higher scores indicated positive attitudes toward ageism, whereas lower scores indicated negative attitudes toward ageism. The maximum score of the sub-dimension "restricting life of the older persons" is 45, and the minimum score is 9. The maximum score that can be obtained in the "positive ageism" sub-dimension is 40, whereas the minimum score is 8. The maximum score of the sub-dimension "negative ageism" is 30, and the minimum score is 6. Cronbach's alpha for this study was calculated to be 0.53.

Data analysis

Data are presented as percentage, mean, standard deviation, and median values. For analyzing normal distribution, quantitative variables of skewness and kurtosis $[(-1)–(+1)]$ were considered to be normally distributed. For analyzing dependent variables with regard to independent variables, t test was used for the normally distributed dependent variables in two independent groups, whereas Mann–Whitney U test was used for non-normally distributed variables. Kruskal–Wallis test was used for variables in three or more independent groups that did not show normal distribution. AAS predictors were analzed by hierarchical regression analysis. Model 1 included sociodemographic variables, such as age, educational level (years), gender (0=Female, 1=Male, dummy variable), and income level (0=Low, 1=Middle-High, dummy variable), whereas model 2 included caregiving certificate (0=Yes, 1=No, dummy variable) and duration of employment (months). The interpretation of the results was based on a confidence level of 95% and an error margin of 0.05.

Limitations of the study

There are limitations of our study. The fact that validity reliability studies of the scales were conducted with university students led to inadequate understanding of the scale items of participants with a low education level and Cronbach alpha coefficients were lower than the validity and reliability studies. This is an important limitation for research.

RESULTS

The mean age of the participants was 40.1±7.7 years. Of 108 participants, 58.3% were males, 78.7% were married, 62% were primary school graduates, 82.4% lived in a nuclear family, and 78.7% had upper middle income levels. Furthermore, 73.1% of participants replied yes to the question "Have you ever lived with an older persons individual?" The mean duration of living with older persons in the family was 11.1±8.9 years. The mean duration of healthcare assistants working at the nursing home was 80.1±56.9 months. Of 108 participants, 42.2% reported that they had communication problems while caring for the older persons. Moreover, 91.7% of the participants had caregiving certificates (Table 1).

The mean KAOP and AAS scores of the participants were 93.2±10.8 and 79.4±7.9, respectively. The mean scores of the AAS sub-dimensions "restricting life of the older persons," "positive ageism," and "negative ageism" were 32.9±4.3, 29.8±6.3, and 16.6±4.3, respectively (Table 2). Comparison of KAOP and AAS scores of healthcare assistants with regard to sociodemographic characteristics are given in Table 3. Total KAOP and AAS scores and total scores of sub-dimensions "restricting life of the older persons" and "positive ageism" were higher in females than in males, and the difference was statistically significant (p<0.05). The total score of the sub-dimension "negative ageism" was higher in males than in females; however, the difference was not statistically significant (p>0.05). The median AAS and "positive ageism" values were higher in participants with upper middle income levels than in those with low income levels, and the difference was statistically significant (p<0.05). The attitudes of the participants who found training for senior care a necessity were found to be positive with respect to the sub-dimension "positive ageism" (p<0.05).

When the distribution of KAOP and AAS scores were evaluated in terms of the educational level, there was a statistically significant difference in AAS scores and the sub-dimension "restricting life of the older persons." Post-hoc analysis, performed to determine variables that showed difference, revealed that the median values of AAS and sub-dimension "restricting life of the older persons" were significantly lower in primary school graduates than in high-school and university graduates. There was no statistically significant difference among KAOP, "negative ageism," and "positive ageism" scores with respect to the educational level (p>0.05).

No statistically significant difference was found among KAOP, AAS, and all sub-dimensions of AAS scores with respect to marital status, family type, perceived income level, place of residence, having a caregiving certificate, satisfaction with working at a nursing home, and problems encountered while caring for the older persons.

Table 4 presents the results of hierarchical regression analysis. Among the independent variables in Model 1, in the order of importance, educational level (ß=0.302; p=0.002) and income level (ß=0.184; p=0.038) were positive predictors, whereas gender was a negative predictor (ß=−0.319; p=0.001) for total AAS scores. Sociodemographic variables in Model 1 showed 25.6% variance. Among the independent variables in Model 2, in the order of importance, educational level (ß=0.317; p=0.001) was a positive predictor, whereas gender (ß=−0.296; p=0.002) was a negative predictor for total AAS scores. Sociodemographic variables, caregiving certificate, and duration of employment in Model 2 showed 28.4% variance. Thus, with respect to determining the variability of the total AAS score, Model 1 predicted 25.6% and Model 2 predicted 28.4% of the AAS scores.

Table 1. Sociodemographic and working characteristics of healthcare assistants.

Sociodemographic and working characteristics	$\bar{x}$	sd
Age	40.1	7.7
Duration of living with an older persons in the family (year)	11.1	8.9
Duration of healthcare assistants working at the nursing home (month)	80.1	56.9
Sociodemographic and working characteristics	**n**	**%**
Sex		
Female	45	41.7
Male	63	58.3
Marital status		
Married	85	78.7
Single	23	21.3
Educational background		
Primary education	67	62.0
High school	35	32.4
University	6	5.6
Family type		
Nuclear family	89	82.4
Extended family	19	17.6
Perceived income level		
Low income	23	21.3
Upper middle income	85	78.7
Living with an older persons in the family		
I have lived with an older persons in the family	79	73.1
I have never lived with an older persons in the family	29	26.9
Which problems do you have while caring for the older persons?		
Communication	38	42.2
Visitor	20	22.2
Teamwork	11	12.2
Care	10	11.1
Others	11	12.2
Caregiving certificate		
I have the caregiving certificate	99	91.7
I do not have the caregiving certificate	9	8.3
Training for senior care		
Necessary	56	51.9
Not necessary	52	48.1

Table 2. The mean KAOP and AAS scores of the healthcare assistants (n=108)..

Variable	$\overline{x}$±sd	Min	Max
Kogan's Attitudes Toward Older People Scale (KAOP)	93.2±10.8	66.0	124.0
Ageism Attitude Scale (AAS)	79.4±7.9	61.0	94.0
1. Subdimension: Restricting life of the older persons	32.9±4.3	22.0	42.0
2. Subdimension: Positive ageism	29.8±6.3	9.0	38.0
3. Subdimension: Negative ageism	16.6±4.3	8.0	29.0

DISCUSSION

This study demonstrated that the attitudes of healthcare assistants toward the older persons were positive with regard to ageism and the sub-dimensions "restricting life of the older persons," "positive ageism," and "negative ageism." In the literature review, we identified insufficient number study that specifically investigated healthcare assistants' attitudes toward and the ageism level who cared for the older persons.

This study revealed that the mean KAOP score of the participants was 93.2±10.8, showing that participants had a positive attitude toward the older persons. Coffey and Whitehead (2015) (19) assessed healthcare assistants who worked for a long period in a nursing home and reported that attitudes toward the older persons were positive. Strugala et al. (2016) (8) assessed nursing students and revealed that 63.1% of them had negative attitudes toward the older persons; thy also stated that negative attitudes toward the older persons reduced the quality of care provided to the older persons.

When KAOP scores were assessed according to sex, more positive attitudes toward the older persons were observed among females than among males. Afarigan and Abedi (2016) (20) supported our study result, whereas Ayoğlu et al. (2014) (12) reported that males had more positive attitudes toward the older persons. Because women usually perform the role of caregiver in the family in the Turkish population, it may be the reason for having compassion and developing positive attitudes toward the older persons.

This study found that participants who lived with older persons in the family had more positive attitudes toward the older persons than those who did not live with an older persons. Consistent with our study results, Kızılcı et al. (2013) (15) stated that people who lived with an older persons had more positive attitudes toward the older persons, whereas Seferoğlu et al. (2016) (21) stated that living with an older persons negatively influenced attitudes toward the older persons. It may be argued that it is easier for an individual who cares for an older persons in the family to develop empathy toward the older persons.

The mean AAS score of the participants was 79.4±7.9, showing that participants have positive attitudes toward ageism. When the mean scores obtained in the AAS sub-dimensions were evaluated, the scores in the sub-dimensions "restricting life of the older persons," "positive ageism," and "negative ageism" were 32.9±4.3, 29.8±6.3, and 16.6±4.3, respectively. Accordingly, participants had positive attitudes toward the older persons for all sub-dimensions. Arun and Pamuk (2014) (10) assessed healthcare personnel

in nursing homes and demonstrated that they had discriminatory attitudes against the older persons. In contrast, studies have reported the positive attitudes toward ageism (22,23). Although the majority of the sample population in these studies comprise healthcare students, they also include personnel in geriatric care centers (healthcare and administrative personnel), nurses, physicians, young adults, and students studying in different fields.

The total AAS score and the AAS sub-dimension "restricting life of the older persons" and "positive ageism" scores were significantly higher in females than in males (p<0.05). A previous study conducted with a similar group demonstrated that females rather than males had more positive attitudes toward the older persons with respect to ageism, "restricting life of the older persons," and "positive ageism;" this is in line with our findings (24). In addition, another study conducted with a similar group demonstrated that discriminatory attitudes toward the older persons were higher in females than in males (10). When the mean score on the sub-dimension "negative ageism" was evaluated, the mean scores of females and males were similar.

When AAS scores were assessed according to the educational level, the median AAS score and sub-dimension "restricting life of the older persons" scores were lower in primary school graduates than in high-school and university graduates. Consistent with our study results, Yılmaz et al. (2012) (25) and Bulut and Çilingir (2016) (13) reported that AAS scores increased with increased educational levels. Furthermore, Ünalan et al. (2012) (24) assessed on the personnel working in a geriatric center and showed that AAS scores of university graduates were lower than those of primary and high-school graduates. It may be argued that performing critical duties such as caring for the older persons by individuals with primary school education causes problems in caregiving. A caregiver must undergo a qualified training to be able to understand the physiological and psychological conditions of the older persons.

According to the results of the hierarchical regression analyses that evaluated the AAS scores in terms of educational level (0.30, positive), income level (0.18, positive), and gender (−0.32; negative), Model 1 predicted the variation in total AAS scores as follows: educational level (0.32, positive) and gender (−0.30; negative). Overall, Model 1 predicted 25.6% and Model 2 predicted 28.4% of the total AAS scores. Arun and Pamuk (2014) (10), who investigated the reasons of healthcare personnel's attitudes toward aging and ageism, revealed that according to logistic regression analysis, the duration of employment (0.26; positive) was the most important factor that influenced ageism, whereas age was not a predictor of attitudes toward the older persons. Gallagher et al. (2006) (26) compared the attitudes of acute and long-term healthcare personnel toward the older persons, and multiple regression analysis revealed that educational level predicted negative attitude scores (0.49; positive). In line with the abovementioned studies, we concluded that gender, educational level, and income level predicted the attitude toward older individuals. We did not identify any studies in the literature that compared AAS results using regression analysis. Therefore, comparison of regression analysis results of the current study with those of other studies is limited.

In general, all healthcare assistants, specifically male assistants, should undergo training to develop empathy for the older persons and to develop positive attitudes toward ageism; experimental research should be planned with such subjects. In addition, it should be ensured that individuals spend time with an older persons family member from childhood. A restriction should be introduced in the employment of healthcare assistants caring for the older persons for a minimum high-school education level. Special attention should be paid for healthcare assistants with low income levels, and on-the-job training that is oriented toward communication with the older persons should be encouraged.

Table 3. Comparison among total KAOP, total AAS, and sub-dimensions of AAS scores with regard to sociodemographic characteristics of healthcare assistants.

Characteristics (n)	Total KAOP score X±Sd/ [Q(Q₁–Q₃)]	Total AAS score X±Sd/ [Q(Q₁–Q₃)]	Restricting life of the older persons X±S/ [Q(Q1–Q3)]	Positive ageism X±Sd/ [Q(Q1–Q3)]	Negative ageism X±Sd/ [Q(Q1–Q3)]
Sex (n)					
Female (45)	95.6±12.5	83.1±7.7	34.6±3.7	[32.0(29.0–35.0)]	16.5±4.0
Male (63)	91.5±9.2	76.7±6.9	31.8±4.3	[30.0(27.0–33.0)]	16.7±4.6
Test value	t=2.005	t=4.514	t=3.623	z=−2.595	t=−0.222
p	**0.048**	**<0.001**	**<0.001**	**0.009**	0.825
Perceived income level (n)					
Low income (23)	88.0(82.0–93.0)]	[73.0(71.0–80.0)]	[31.0(29.0–35.0)]	[28.0(26.0–32.0)]	[15.0(12.0–21.0)]
Upper middle income (85)	[94.0(86.5–100.5)]	[80.0(76.0–85.0)]	[33.0(30.0–26.5)]	[32.0(29.0–34.0)]	[16.0(14.0–19.5)]
Test value	z=-1.874	z=-2.799	z=-0.858	z=-2.993	z=-0.501
p	0.061	**0.005**	0.391	**0.003**	0.617
Living with an older persons in the family (n)					
I have lived with an older persons in the family (79)	[94.0(87.0–101.0)]	[78.0(74.0–85.0)]	[32.0(30.0–36.0)]	[32.0(28.0–34.0)]	[16.0(14.0–19.0)]
I have never lived with an older persons in the family (29)	[87.0(82.0–95.0)]	[80.0(73.0–85.0)]	[33.0(30.5–36.5)]	[30.0(27.5–32.0)]	[17.0(13.5–20.5)]
Test value	z=−2.348	z=−0.349	z=−0.480	z=−1.273	z=−0.643
p	**0.019**	0.757	0.631	0.203	0.520
Caregiving certificate (n)					
I have a caregiving certificate (99)	[92.0(85.0–99.0)]	[79.0(74.0–85.0)]	[33.0(30.0–36.0)]	[31.0(28.0–34.0)]	[16.0(14.0–19.0)]
I don't have a caregiving certificate (9)	[93.0(88.0–105.0)]	[78.0(74.5–87.5)]	[33.0(27.5–36.0)]	[32.0(30.0–33.0)]	[18.0(14.5–20.0)]
Test value	z=−0.795	z=−0.028	z=−0.669	z=−0.307	z=−0.976
p	0.426	0.978	0.503	0.759	0.329
Educational background (n)					
Primary education (67)	[92.0(85.0–99.0)]	[77.0(72.0–84.0)]	[32.0(29.0–36.0)]	[31.0(27.0–33.0)]	[16.0(13.0–20.0)]
High school (35)	[91.0(86.0–102.0)]	[83.0(77.0–87.0)]	[36.0(30.0–38.0)]	[32.0(28.0–34.00)]	[16.0(14.0–19.0)]
University (6)	[94.5(90.5–106.0)]	[83.0(79.5–90.3)]	[35.5(32.8–38.5)]	[30.0(28.5–36.3)]	[17.5(15.0–18.8)]
Test value (Kw)	1.576	8.886	8.250	1.093	0.687
p	0.455	**0.012**[a]	**0.016**[a]	0.579	0.709
Training for senior care (n)					
Necessary (56)	93.6±11.1	80.0±7.7	32.7±4.5	[32.0(29.3–35.0)]	16.1±4.1
Not necessary (52)	92.8±10.7	78.6±8.1	33.2±4.0	[30.0(27.0–32.0)]	17.2±4.5
Test value	t=0.400	t=0.922	t=−0.558	z=−3.178	t=−1.245
p	0.690	0.358	0.578	**0.001**	0.216

t: Independent simple t test
z: Mann–Whitney U test
a: Primary school graduates are different from high-school and university graduates

Table 4. Results of linear regression analyses (hierarchical) of AAS scores with regard to predictors, such as sociodemographic variables, caregiving certificate, and duration of employment (n=108).

	β	t	p
Model 1 (Sociodemographic Predictors)			
Age	0.122	1.259	0.211
Educational level (years)	0.302	3.134	**0.002**
Gender (0 = Female, 1 = Male)	−0.319	−3.561	**0.001**
Income Level (0 = Low, 1 = Middle-High)	0.184	2.104	**0.038**
Model 2 (Predictors Related to Caregiving Certificate and Employment)			
Age	0.186	1.829	0.070
Educational level (years)	0.317	3.297	**0.001**
Gender (0 = Female, 1 = Male)	-0.296	−3.297	**0.002**
Income Level (0 = Low, 1 = Middle-High)	0.158	1.797	0.075
Caregiving certificate (0 = Yes, 1 = No)	0.033	0.346	0.730
Duration of employment (months)	−0.164	−1.612	0.110
Model 1	R=0.506	R^2=0.256	F=8.859, **p<0.001**
Model 2	R=0.533	R^2=0.284	F=6.673, **p<0.001**

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