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POPULATION STUDY

What does the public really know about dementia? A community-based cross-sectional survey in Turkiye

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[Correction added on 10 September 2024, after first online publication: In this version, Table1, Table 3 and Table 4 have been corrected.]

Abstract

Despite the increasing burden of dementia, there has been no evaluation of the level of dementia knowledge among the general public in Turkiye. Thus, this study aimed to evaluate the public's knowledge regarding dementia and the factors predicting this knowledge. This is a community-based cross-sectional study.

A survey was conducted with 1106 participants between April and August 2023.

The research tools were demographic characteristics form, a Turkish version of the dementia knowledge assessment scale (DKAS-T), and a form focusing on sociodemographic information and questions related to the degree of dementia knowledge. The data were analyzed using descriptive statistics, correlation, and multiple regression.

The mean score on the DKAS-T was 12.32 ± 6.05 (min: 0 points, max: 33 points) out of 34. The sample recorded an incorrect response for less than half of the items in the dementia knowledge scale. Adjusted R^2 was used as explanatory power. Moreover, the results of the multiple regression analysis identified various factors that significantly predicted dementia knowledge scores: age, prior education about dementia, experience of caring for a PwD, interaction with a PwD, and self-reported risk of being diagnosed with dementia in the future. These variables accounted for 18.1% of the total variance of dementia knowledge.

Dementia is not well known in the public. The finding underscores the need for targeted educational initiatives to enhance dementia knowledge in the Turkish population. Interventions should focus on addressing specific areas of deficiency identified in the DKAS-T.

KEYWORDS
dementia, knowledge, predictors, public

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1 | BACKGROUND

The World Health Organization (WHO) reported that the aging rate of the population worldwide is increasing rapidly and the incidence of dementia is increasing accordingly. Dementia is a geriatric syndrome characterized by a permanent and cumulative deterioration in cognitive functions that impairs the ability to perform daily living tasks, resulting in disability and loss of independence. Currently, more than 55 million people worldwide suffer from dementia, with approximately 10 million new cases diagnosed each year (WHO, 2023). Approximately 60% of recently diagnosed individuals presently reside in low- and middle-income nations like Turkiye, with the majority of future cases (71%) projected to emerge within these countries (WHO, 2017). In Turkiye, approximately 800 thousand people were living with dementia (PwD) in 2019, and this number is expected to increase to 3 million by 2050, that is, anticipated growth of approximately 277% between 2019 and 2050 (Nichols et al., 2022).

The WHO approved the global action plan on the public health response to dementia 2017–2025 in May 2017. Under this plan, all member nations are encouraged to implement campaigns to increase public and professional awareness of dementia and to promote the development of societies that are dementia-inclusive. For both current and future generations, it is essential to enhance the health and well-being of those affected by dementia and their caregivers. A dementia-friendly society, which is aware, accepting, and understanding of dementia, will allow PwD to be more involved in their communities, and have more independence through better social involvement (WHO, 2017).

Unfortunately, there is frequently a lack of awareness and understanding of dementia, resulting in stigmatization and barriers to diagnosis and care (WHO, 2023). Dementia is commonly perceived as a natural part of the aging process, often leading to misconceptions and a lack of knowledge regarding the influence of familial history and various factors on risk profiles (Cations et al., 2018; Öz et al., 2022). The general population continues to have relatively limited knowledge of dementia prognosis, care, the most beneficial communication strategies, and responses to behavioral changes demonstrated by PwD (Cahill et al., 2015). According to Öz et al. (2022), the general population in Turkiye, especially young adults, lacks awareness of dementia. This is unfortunate, because it is never too early or too late in life to takes steps for dementia prevention (Livingston et al., 2020). Considering that the level of dementia knowledge and awareness varies widely according to age, and considering that dementia is rare among young adults, it is of great importance for both younger and older adults to have accurate knowledge about dementia. It is therefore essential to raise awareness among all adults, regardless of age, about prevention and early diagnosis, and to enhance knowledge of dementia early detection and patient care (Korkmaz Yaylagül et al., 2024; Öz et al., 2022). According to a previous studies, dementia knowledge among the general population was associated with higher levels of competence in recognizing dementia-related behaviors (Sun et al., 2019), while lack of knowledge frequently causes problematic delays between the onset of symptoms and healthcare delivery (Arai et al., 2008). Dementia knowledge is correlated with a variety of demographic factors, including education, age, sex, income, ethnicity, and personal experience with dementia (Cahill et al., 2015; Cations et al., 2018).

Findings from a recent study conducted in Turkiye offer insight into the levels of dementia knowledge among nursing students, revealing both inadequate understanding (with a mean score of 13.01 out of 34) and moderately positive attitudes toward dementia (with a mean score of 82.53 out of 100) (Korkmaz Aslan et al., 2023). Another recent study focusing on family caregivers with Turkish or Moroccan immigrant backgrounds indicate no significant differences in dementia knowledge mean scores across various demographic and caregiving-related factors, including education level, frequency of caregiving, and cohabitation with PwD (Wezel et al., 2022). As seen, some studies examine the level of dementia knowledge in certain groups, but none examine the level of dementia knowledge or predictor factors of the knowledge using a validated tool at the national level. The results of this study can assist researchers in accurately identifying and comprehending factors contributing to dementia knowledge, and thus enable educators and policymakers to properly assess the need for education, and guide educational programs accordingly.

Hence, this paper addresses the following research questions:

1. What is the knowledge of dementia level of Turkiye's general public?
2. Do the demographic variables of Turkiye's general public affect their knowledge of dementia?
3. What are the other factors that influence the general public's knowledge of dementia in Turkiye?

2 | METHODS

2.1 | Design

A descriptive, cross-sectional, correlational, and predictive design was utilized to conduct this research.

2.2 | Sample and setting

The study was conducted with members of the general public in Turkiye between April and August 2023. Participants were 1106 people aged 18 years who were literate, had no dementia diagnosis (self-reported), were not health professionals (self-reported), and agreed to participate voluntarily in the study. They completed an anonymous online cross-sectional survey. By including adults from the age of 18, researchers can gain a comprehensive understanding of dementia knowledge and attitudes across different age groups, considering that the condition affects adults of all ages.

The data were collected solely based on the researchers' contacts through their personal WhatsApp, Instagram, and Facebook accounts, without using a specific online group or forum. After receiving the link to the online anonymous survey, participants were presented with the eligibility criteria and given the option to approve or decline

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participation. No incentives for participation in the study were given. A convenience and snowballing sampling approach was used. The initial number of people who gave consent was 1297, but after accounting for missing values, 1106 participants remained at the end, that is a dropout rate of approximately 14.72% (n = 191). According to the Lancet 2022 Commission Report, the number of individuals with dementia in Turkiye is estimated to be between 696.792 and 918.286. Accordingly, the rate of dementia in Turkish society varies between 0.09 and 6 0.1272 (Nichols et al., 2022). The sample size was determined to be 1105 individuals when these rates were inserted into the G Power 3.1.9.7 program and the study's power was specified as 95%.

2.3 | Data collection

The online form was designed by the researchers using the Qualtrics XM software (Qualtrics, Provo, UT). Qualtrics offers a robust platform and provides in-depth insights and reporting capabilities to help derive meaningful conclusions from the data. The landing page provided details regarding the purpose and rationale of the survey, in addition to ethical considerations regarding confidentiality and anonymity. The forms were completed in the enlisted order. There were no incomplete surveys received (response rate = completion rate) as the online data gathering system was designed to allow progression to the final submission only once all answers had been lodged in each section (forced choice design). The "User Agent" string, which online survey software such as Qualtrics extracts from the end user's browser, offers comprehensive insights into the manner in which participants arrive at the survey.

2.4 | Measures

Researchers prepared the descriptive characteristics form to collect information on sociodemographic traits. This consisted of questions about age, sex, educational level, place of residence, marital status, employment status, and income status.

The following sociodemographic factors are likely to affect dementia knowledge: prior education about dementia, prior experience of caring for a PwD (paid), prior experience of caring for a PwD (voluntary), prior contact with a PwD, and having a family history of dementia. These are represented by two-choice items: yes/no. Three other factors were evaluated with a visual analogue scale (VAS), ranging from 0 to 10: concern about future diagnosis of dementia, self-reported risk of being diagnosed with dementia in the future, and request for information on dementia.

2.5 | Dementia knowledge assessment scale (DKAS)

The 27-item DKAS was developed by Annear et al. in 2015 to determine the level of knowledge regarding dementia (Annear et al., 2015). The same scale was revised with a larger sample size in 2017, and reduced to 25 items after exploratory factor analysis. The sample group of the scale were physicians, nurses, health students, family members, professional care workers, other healthcare professionals, and the general population (n: 3649). This scale used a 5-point Likert-type scale, with the answers "False, probably false, probably true, true, I have no idea/I don't know." For true statements, the respondent scores 2 points for the "true" option, and 1 point for the "probably true" option. For false statements, the respondent scores 2 points for "false" option and 1 point for "probably false" option. The response "I have no idea/I don't know" scores 0 points. Higher scores reflect greater knowledge pertaining to dementia (Annear et al., 2017). The validity and reliability of the scale in Turkish version were tested by Akyol et al. (2021). The scale consists of 17 items and is one-dimensional. Total scores vary between 0 and 34 points. The scale has no cut-off point. Psychometric Properties: in confirmatory factor analysis, all fit indices are above 0.90. (CFI = 0.975, GFI = 0.983, NFI = 0.962) $\chi 2$/degrees of freedom ($\chi 2/df$) = 2.757, $p < .001$, and RMSEA = 0.033. Cronbach's α value is 0.836. The Cronbach's α value of the scale in this study is 0.82.

2.6 | Data analysis

The statistical analysis was conducted using IBM SPSS Statistics Premium Academic Pack-Concurrent User V 25. The descriptive data were analyzed using number and percentage distributions. Correlation and multiple regression analyses were employed to investigate the impact of the determined independent variables on the DKAS-T scores. The model incorporated independent variables that satisfied two conditions: a variance inflation factor (VIF) of less than 10, which indicates multicollinearity, and a tolerance of greater than 0.20. The significance level was accepted as < 0.05.

2.7 | Ethical considerations

The study obtained ethical approval from the Koç University Ethical Review Board on November 5, 2022 (approval number: 2022.370.IRB3.168). Before participating, all participants provided their informed consent after a briefing about the research.

3 | RESULTS

In total, 1106 respondents from Turkiye completed the dementia knowledge survey. 57.7% of the participants were between the ages of 18 and 44 (younger adults) and 72.2% in the sample were female. A total of 61.2% had a bachelor's degree, 67.2% were employed, 94.8% resided in urban areas, and 49.6% had a moderate income. A total of 13.6 % of the participants had previous experience of voluntary care for a PwD, and 2.9 % had previous experience of paid care. 34.6 % reported a PwD in their family (Table 1).

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TABLE 1 Descriptive characteristics of the participants (n=1106).

	n	(%)
Age		
18-44 (Young adults)	638	57.7
45-64 (Middle-aged adults)	407	36.8
65 and older (Older adults)	61	5.5
Sex		
Female	798	72.2
Male	308	27.8
Education level		
Primary education	43	3.9
High School	129	11.7
Bachelor's degree	677	61.2
Master's Degree	257	23.2
Place of residence		
Rural	58	5.2
Urban	1048	94.8
Marital status		
Marrie	708	64.0
Single	398	36.0
Employment status		
Working	743	67.2
Not working	363	32.8
Income status		
Income less than expenditure	246	22.3
Income equal to expenditure	549	49.6
Income more than expenditure	311	28.1
Prior education about dementia		
Yes	196	17.7
No	910	82.3
Prior experience of caring for a PwD (paid)		
Yes	32	2.9
No	1074	97.1
Prior experience of caring for a PwD (voluntary)		
Yes	150	13.6
No	956	86.4
Prior contact with a PwD		
Yes	503	45.5
No	603	54.5
Having family history of dementia		
Yes	383	34.6
No	723	65.4
	X±SD	**min-max**
Concern about future diagnosis of dementia	4.52±2.8	0-10 (VAS)
Self-reported risk of being diagnosis with dementia in the future	4.22±2.5	0-10 (VAS)
Request for information on dementia	6.09±2.9	0-10 (VAS)

Abbreviations: max, maximum; min, minimum; PwD, People with Dementia; SD, Standard deviation; VAS, Visual analog scale.

3.1 | Dementia knowledge

The mean score on the DKAS-T was 12.32 ± 6.05 (min: 0 point, max: 33 point) out of 34. The analysis of the mean scores revealed that it was below the scale mean score (min: 0, max: 34). This result shows a low level of dementia knowledge for the Turkish sample. At the item level, nine statements showed a comparatively low correct response rate. Table 2 presents a detailed overview of mean responses to the DKAS-T. In this study, 82.3 % of the sample stated that they had never previously received training or information about dementia. Participants who stated that they had previously received education or information about dementia stated that they generally accessed resources via the internet (other options given were newspaper, television, magazine, scientific article, family/relatives, physician, conference, pharmaceutical industry, and university/school).

3.2 | Results of multiple regression analysis

To examine the potential predictive power of the model, a multiple regression was undertaken using the 9 independent variables out of 14 variables that showed a significant correlation with the total DKAS-T score. Adjusted alpha level of 0.005 was used to account for multiple tests of significance. Before regression analysis Spearman correlation matrix was undertaken to explore potentially significant bivariate relationships between the primary outcome measure (DKAS-T total score) and continuous and categorical variables (Table 3). Evaluation of the statistics showed that the model explained 18.1% of the variance in DKAS-T scores, $F = 26.854$, $p = <.001$. The five variables that provided the greatest explanation of DKAS-T score were age, prior education about dementia, experience of caring for a PwD, interaction with a PwD, self-reported risk of being diagnosed with dementia in the future. The results of the multiple regression analysis are presented in Table 4.

4 | DISCUSSION

This cross-sectional study investigated dementia knowledge and its potential predictors in Turkiye. Determining dementia knowledge among the public and its predictors is potentially a key factor in guiding educational, policy, and sustainable dementia awareness programs. While recent studies have explored dementia knowledge in public, we aimed to determine dementia knowledge and its predictors with a DKAS-T-validated tool in a larger sample.

A total of 1106 respondents who completed the survey indicated a low level of dementia knowledge with a mean DKAS-T score of 12.32 ± 6.05 (range: 0–33) out of a possible 34 points, with nine items showing particularly low correct response rates. Mean scores are lower than those reported for other countries, including Australia (Eccleston et al., 2021), Asia (Liu et al., 2019), the United States, and Europe (Glynn et al., 2017; Lüdecke et al., 2016; Van Patten & Tremont, 2020). In the Turkish context, knowledge about dementia is insufficient in the wider society (Korkmaz Yaylagül et al., 2024; Öz et al., 2023), family caregivers with Turkish or Moroccan immigrant backgrounds (Wezel

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TABLE 2 Mean scores and domains for DKAS items ($n = 1106$).

DKAS items/2.00	*M*	SD	Responds answered incorrectly %
1. Alzheimer's disease is the most common form of dementia [TRUE]	0.97	0.78	32.2
2. Blood vessel disease (vascular dementia) is the most common form of dementia [FALSE]	0.20	0.52	85.6
3. Having high blood pressure increases a person's risk of developing dementia [TRUE]	0.46	0.70	66.2
4. Symptoms of depression can be mistaken for symptoms of dementia [TRUE]	0.80	0.76	40.8
5. Exercise is generally beneficial for people experiencing dementia [TRUE]	1.21	0.77	21.8
6. The sudden onset of cognitive problems is characteristic of common forms of dementia [FALSE]	0.17	0.48	87.5
7. It is impossible to communicate with a person who has advanced dementia [FALSE]	0.45	0.70	67.4
8. A person experiencing advanced dementia will not generally respond to changes in their physical environment [FALSE]	0.56	0.78	62.9
9. It is important to correct a person with dementia when they are confused [FALSE]	0.52	0.74	63.8
10. People experiencing advanced dementia often communicate through body language [TRUE]	0.43	0.67	67.8
11. Uncharacteristic behaviors in a person experiencing dementia are generally a response to unmet needs [TRUE]	0.62	0.73	53.3
12. Medications are the most effective way of treating behavioral symptoms of dementia [FALSE]	0.27	0.57	79.4
13. Movement is generally affected in the later stages of dementia [TRUE]	0.95	0.78	33.4
14. People with advanced dementia may have difficulty speaking [TRUE]	1.16	0.76	22.2
15. People experiencing dementia often have difficulty learning new skills [TRUE]	1.16	0.77	23.2
16. Difficulty eating and drinking generally occurs in the later stages of dementia [TRUE]	1.18	0.76	22.2
17. Daily care for a person with advanced dementia is effective when it focuses on providing comfort [TRUE]	1.21	0.77	21.8

Abbreviation: DKAS, dementia knowledge assessment scale.

et al., 2022) and nursing students in Turkiye (Korkmaz et al., 2023). Notably, 82.3% of participants reported never receiving training or information about dementia, and those who did primarily sourced their information from the Internet. A significant misconception among 87.5% of participants was that the sudden onset of cognitive problems is a clear sign of common forms of dementia. Additionally, 85.6% incorrectly identified vascular dementia as the most prevalent form of dementia, revealing a substantial lack of awareness about the actual prevalence of different types. Moreover, 79.4% of respondents believed that medications are the most effective treatment for behavioral symptoms of dementia, indicating a lack of understanding about the holistic and multidimensional approach required for dementia care. Knowledge about the causes and characteristics of dementia, as well as care considerations for people with dementia (PwD), was very limited, consistent with previous studies using the same tool (Eccleston et al., 2021; Van Patten and Tremont, 2020). The DKAS-T revealed widespread incorrect responses to items related to communication and behavior of PwD, such as the possibility of communicating with a person who has advanced dementia and the fact that people with advanced dementia often communicate through body language. These findings align with Pacifico et al. (2022) in Switzerland and Northern Italy, emphasizing the lack of knowledge about communicating with and caring for PwD. Nearly half of the sample believed it would be impossible to communicate with someone with severe dementia. This misunderstanding can exacerbate feelings of loneliness, isolation, and social exclusion among PwD (Neal et al., 1996). Developing a profound understanding of dementia, particularly in connecting with those experiencing it, is essential for creating a dementia-friendly society (Alzheimer's Disease International, 2016) and empowering PwD to engage and participate in society.

As the global population ages, Turkiye is experiencing a significant demographic shift, with a growing proportion of older adults. Turkiye's 65 and older population will more than triple by 2050, aging at the second-fastest pace among OECD countries (AARP International, 2024). Considering that dementia is seen especially in individuals aged 65 and over, it is thought that the number of PwD will increase at a similar rate in parallel with the rapid aging of society (WHO, 2023). The lower knowledge of dementia in Turkish society compared to developed countries may be linked to insufficient prioritization of public education on dementia care (Wezel et al., 2022). Comprehensive and context-specific policy interventions are essential. Governments should mandate the inclusion of dementia education in public health initiatives and allocate funding for developing and distributing educational materials, training programs for healthcare professionals, and

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TABLE 3 Correlation matrix for independent variables of dementia knowledge ($n = 1106$).

	DKAS	
Independent variables	***r***	***p****
Age	0.152	<.001*
Sex	−0.064	.032*
Education level	0.050	.095
Place of residence	0.37	.223
Marital status	−0.043	.156
Working status	−0.052	.082
Income status	0.008	.779
Prior education about dementia	−0.274	.001*
Prior experience of caring for a PwD	−0.290	.001*
Prior contact with a PwD	−0.348	.001*
Having family history of dementia	−0.240	.001*
Concern about future diagnosis of dementia	0.122	.001*
Self-reported risk of being diagnosed with dementia in the future	0.155	.001*
Self-reported level of dementia knowledge	0.390	.001*
Request for information on dementia	0.147	.001*

Abbreviations: DKAS, dementia knowlege assesment scale; PwD, people with dementia.
*$p < .05$.

community workshops, as seen in multidimensional national dementia strategies in countries like Australia (Dementia in Australia, 2024).

A multiple regression analysis, using an adjusted alpha level of 0.005, identified that 18.1% of the variance in DKAS-T scores could be explained by five key variables: age, prior education about dementia, experience of caring for a person with dementia (PwD), interaction with a PwD, and self-reported risk of future dementia diagnosis ($F = 26.854$, $p < .001$). While the current model provides some insights into the factors associated with dementia knowledge in Turkiye, its low explanatory power suggests that many relevant variables remain unexplored. This underscores the need for comprehensive educational interventions and further research to explore other potential predictors, such as cultural attitudes, health literacy, and socioeconomic factors, to better understand and improve dementia knowledge in Turkiye. We discussed the key variables that our model explains.

Age is one of the predictors of the level of dementia knowledge. According to Öz et al. (2023) the general population lacks awareness of dementia definitions, but young people (18–32 age group) had lower awareness than other age groups (33–59, 60 and older). In contrast, Korkmaz Yaylagül et al., 2024 found no statistically significant difference in the dementia knowledge level of young (20–39) and older adults (65 and older) (Korkmaz Yaylagül et al., 2024). These mixed results suggest that while age can influence dementia knowledge, other factors may also play a crucial role, and further research is needed to clarify these age-related differences. Having lower educational levels was associated with lower DKAS-T scores, which is congruent with findings from previous studies evincing the positive association between levels of education and dementia knowledge (Eccleston et al., 2021; Lüdecke et al., 2016). Older adults who had higher levels of knowledge about Alzheimer's disease and scored better on caregiving items were generally more knowledgeable, highlighting that understanding is influenced by both previous education and experience with PwD (Carpenter et al., 2011). Our study found that respondents with prior caregiving experience and contact with PwD had significantly better dementia knowledge, aligning with findings from other studies (Chang & Hsu, 2020; Eccleston et al., 2021; Liu et al., 2019; Lüdecke et al., 2016). Additionally, self-reported risk of being diagnosed with dementia in the future positively impacted dementia knowledge, as those perceiving a higher risk were more motivated to seek information (Ashworth et al., 2022). Enhanced motivation to acquire information has resulted in expanded knowledge across various health awareness domains (Rogith et al., 2016). These findings suggest that both personal experience with dementia and perceived risk are crucial factors in enhancing dementia knowledge.

Given these observations, it becomes pertinent to discuss potential public programs and interventions aimed at addressing gaps in dementia knowledge and promoting community awareness in Turkiye. This could include initiatives such as educational campaigns, public seminars or workshops, support groups for caregivers, and community outreach programs. Moreover, strategies to facilitate public exposure to real-life experiences through storytelling, testimonials, or case studies could be explored to enhance empathy and understanding surrounding dementia. Leveraging technology by investing in digital platforms offering interactive learning modules about dementia, including apps, online courses, and virtual reality experiences, can enhance education, drawing on evidence-based content from successful programs like the UK's Dementia Friends. Dementia Friends in the UK is a big initiative to change people's perceptions of dementia and transform the way the nation thinks, acts, and talks about dementia (Dementia Friends UK, 2024). Japan's approach to creating dementia-friendly communities has inspired worldwide for its innovation. In 2004, Japan's government started changing the word for "dementia" from "Chiho," which carried negative connotations, to "Ninchi-sho," meaning cognitive disorder (Dementia Friendly Communities, 2020). Considering all these best initiatives, we need to plan and carry out programs such as Dementia Friends and dementia-friendly communities in Turkiye. Thus, we can reduce the misconceptions and stigmas about dementia. Integrating comprehensive dementia care training into the curricula of medical and nursing schools and mandating ongoing professional development, using effective training models developed by organizations like the Alzheimer's Association, can improve knowledge and caregiving skills. Establishing community centers focused on dementia support and providing resources and information to caregivers and the general public can foster community engagement in dementia-friendly initiatives.

5 | LIMITATIONS

It is imperative to acknowledge the limitations of our study when interpreting the findings. One notable limitation of this study is the reliance

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TABLE 4 Factors Affecting the Correlated with DKAS Score: Multiple Regression Analysis (n=1106).

	Model	*B*	Std Error	*β*	*t*	*p**
DKAS-T	**Age** (ref:young adults)	.964	.341	.079	2.823	**.005***
	Sex (ref:female)	.488	.378	.036	1.290	.197
	Prior education about dementia (ref:yes)	2.443	.472	.154	5.180	**<.001***
	Prior experience of caring for a PwD (ref:yes)	2.159	.568	.122	3.798	**<.001***
	Prior contact with a PwD (ref:yes)	2.767	.432	.228	6.398	**<.001***
	Having family history of dementia (ref:yes)	−.306	.457	−.024	−.669	.503
	Concern about future diagnosis of dementia	−.142	.090	−.067	−1.557	.116
	Self-reported risk of being diagnosed with dementia in the future	.248	.101	.103	2.462	**.014***
	Request for information on dementia	.119	.064	.058	1.872	.061
	Constant	8.552	.489		17.476	**<.001***
R	.425					
Adjusted R^2	.181					
F	26.854					
DW	1.841					

β, Beta; DKAS, Dementia Knowlege Assesment Scale; DW, Durbin-Watson; PwD, People with Demetia; Ref, Reference value; Std Error, Standart Error.
*$p < 0.05$.

on online data collection methods. While this approach offers efficiency and accessibility, it may introduce selection bias, as participation is contingent on internet access and familiarity with online platforms. Engaging in an online survey necessitates basic computer skills and familiarity with internet navigation. This may inadvertently exclude individuals with lower digital literacy levels, particularly among older or less technologically savvy populations. A final limitation is that when knowledge items are included in an online survey, respondents are able to search for the correct responses rather than responding spontaneously from their own understanding. On the other hand, we deem this potential bias to be relatively insignificant because of the high number of uncertain responses, indicated by "probably wrong/true" and "don't know" choices.

6 | CONCLUSION

These results have many important implications. Knowledge regarding dementia influences the prevention, recognition, and management of the disease. It is crucial to increase individuals' and families' knowledge regarding dementia and its consequences, as it enables people to openly discuss their perspectives, desires, and concerns, hence facilitating better preparation for any future requirements and arrangements. The finding underscores the need for targeted educational initiatives to enhance dementia knowledge in the Turkish population. Interventions should focus on addressing specific areas of deficiency identified in the DKAS-T, leveraging digital platforms for knowledge dissemination, and considering the diverse range of factors that influence dementia knowledge. In light of the research findings, it is essential to enhance the knowledge levels of young people who lack education about dementia and experience of caring for, or even contact with, a PwD. These individuals exhibit a low level of knowledge regarding dementia, and efforts should be made to enhance their understanding. The results suggest that raising public awareness of their risk of developing dementia could be an appropriate strategy to promote understanding of the importance of disease burden and improve knowledge of the disease. By improving public awareness and understanding of dementia, it is possible to mitigate the impact of this growing public health challenge and enhance the quality of care and support for PwD and their families. The study represents an early attempt to understand dementia knowledge levels in Turkiye. The subsequent stages may involve enhancing the sample through advanced surveying methods, utilizing the findings to propose implications for education, policy, and research, and citing international standards pertinent to local knowledge.

AUTHOR CONTRIBUTIONS

All authors were involved in the conception and design of the study. Merve Aliye Akyol and Ecem Özgül performed the statistical analyses. Merve Aliye Akyol, Seda Güney, and Ecem Özgül wrote the first draft of the manuscript. All authors critically revised the manuscript for important intellectual content and approved the final version submitted.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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DATA AVAILABILITY STATEMENT

All data generated or analyzed during this study are included in this article. Further enquiries can be directed to the corresponding author.

ETHICS STATEMENT

The study obtained ethical approval from the Ethics Committee of Koc University on November 5th 2022 (approval number: 2022.370.IRB3.168).

INFORMED CONSENT

Before participating, all people were provided with details regarding the research and provided their informed consent.

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REFERENCES

Akyol, M. A., Gönen Şentürk, S., Akpınar Söylemez, B., & Küçükgüçlü, Ö. (2021). Assessment of dementia knowledge scale for the nursing profession and the general population: Cross-cultural adaptation and psychometric validation. *Dementia and Geriatric Cognitive Disorders*, *50*(2), 170–177. https://doi.org/10.1159/000517537

Alzheimer's Disease International. Dementia friendly communities: Key principals (2016). Retrieved June 10, 2024, from https://www.alzint.org/u/dfc-principals.pdf

Annear, M. J., Toye, C. M., Eccleston, C. E., McInerney, F. J., Elliott, K. E. J., Tranter, B. K., Hartley, T., & Robinson, A. L. (2015). Dementia knowledge assessment scale: Development and preliminary psychometric properties. *Journal of the American Geriatrics Society*, *63*(11), 2375–2381. https://doi.org/10.1111/jgs.13707

Annear, M. J., Toye, C., Elliott, K. E. J., McInerney, F., Eccleston, C., & Robinson, A. (2017). Dementia knowledge assessment scale (DKAS): Confirmatory factor analysis and comparative subscale scores among an international cohort. *BMC Geriatrics*, *17*(1), 168. https://doi.org/10.1186/s12877-017-0552-y

Arai, Y., Arai, A., & Zarit, S. H. (2008). What do we know about dementia?: A survey on knowledge about dementia in the general public of Japan. *International Journal of Geriatric Psychiatry: A Journal of the Psychiatry of Late Life and Allied Sciences*, *23*(4), 433–438. https://doi.org/10.1002/gps.1977

AARP International. (2024). Turkey. Retrieved on June 11, 2024 from https://www.aarpinternational.org/initiatives/aging-readiness-competitiveness-arc/turkey

Ashworth, R., Bassett, Z., Webb, J., & Savage, S. (2022). Risk, worry and motivation: How is public knowledge of dementia shaped? *Dementia*, *21*(3), 851–861. https://doi.org/10.1177/14713012211064740

Cahill, S., Pierce, M., Werner, P., Darley, A., & Bobersky, A. (2015). A systematic review of the public's knowledge and understanding of Alzheimer's disease and dementia. *Alzheimer Disease & Associated Disorders*, *29*(3), 255–275. https://doi.org/10.1097/WAD.0000000000000102

Carpenter, B. D., Zoller, S. M., Balsis, S., Otilingam, P. G., & Gatz, M. (2011). Demographic and contextual factors related to knowledge about Alzheimer's disease. *American Journal of Alzheimer's Disease & Other Dementias®*, *26*(2), 121–126. https://doi.org/10.1177/1533317510394157

Chang, C. Y., & Hsu, H. C. (2020). Relationship between knowledge and types of attitudes towards people living with dementia. *International Journal of Environmental Research and Public Health*, *17*(11), 3777. https://doi.org/10.3390/ijerph17113777

Cations, M., Radisic, G., Crotty, M., & Laver, K. E. (2018). What does the general public understand about prevention and treatment of dementia? A systematic review of population-based surveys. *PLoS One*, *13*(4), e0196085. https://doi.org/10.1371/journal.pone.0196085

Dementia in Australia. Web Report. National Policy Response to Dementia. (2024). Retrieved on June 11, 2024 from https://www.aihw.gov.au/reports/dementia/dementia-in-aus/contents/national-policy-response-to-dementia#The-National-Dementia-Action-Plan

Dementia Friends UK. An Alzheimer's Society Initiative. (2023). Retrieved on June 11, 2024 from https://www.dementiafriends.org.uk/

Dementia Friendly Communities. Alzheimer's International. (2020). Retrieved on June 10, 2024 from https://www.alzint.org/u/dfc-developments.pdf

Eccleston, C. E., Courtney-Pratt, H., McInerney, F., Johnstone, A., & Doherty, K. (2021). Predictors of dementia knowledge in a rural general public sample. *Australian Journal of Rural Health*, *29*(4), 530–537. https://doi.org/10.1111/ajr.12777

Glynn, R. W., Shelley, E., & Lawlor, B. A. (2017). Public knowledge and understanding of dementia—Evidence from a national survey in Ireland. *Age and Ageing*, *46*(5), 865–869. https://doi.org/10.1093/ageing/afx082

Korkmaz Yaylagül, N., Akiş, A. G., Çoban, M., İmancioğlu, H., Özgün Başibüyük, G., Yildiz, N., & Kirişik, H. (2024). Dementia knowledge in older and young adults: A cross-sectional study. *Turkiye Klinikleri Journal of Health Sciences*, *9*(1), 137–146. https://doi.org/10.5336/healthsci.2023-98620

Korkmaz Aslan, G., Kılınç İşleyen, E., & Kartal, A. (2023). Nursing students' knowledge and attitudes about dementia: A cross-sectional study. *Nurse Education in Practice*, *72*, 103800. https://doi.org/10.1016/j.nepr.2023.103800

Liu, D., Cheng, G., An, L., Gan, X., Wu, Y., Zhang, B., Hu, S., Zeng, Y., & Wu, L. (2019). Public knowledge about dementia in China: A national WeChat-based survey. *International Journal of Environmental Research and Public Health*, *16*(21), 4231. https://doi.org/10.3390/ijerph16214231

Livingston, G., Huntley, J., Sommerlad, A., Ames, D., Ballard, C., Banerjee, S., Brayne, C., Burns, A., Cohen-Mansfield, J., Cooper, C., Costafreda, S. G., Dias, A., Fox, N., Gitlin, L. N., Howard, R., Kales, H. C., Kivimäki, M., Larson, E. B., Ogunniyi, A., … Mukadam, N. (2020). Dementia prevention, intervention, and care: 2020 report of the lancet commission. *The Lancet*, *396*(10248), 413–446. https://doi.org/10.1016/S0140-6736(20)30367-6

Lüdecke, D., von dem Knesebeck, O., & Kofahl, C. (2016). Public knowledge about dementia in Germany—Results of a population survey. *International Journal of Public Health*, *61*, 9–16. https://doi.org/10.1007/s00038-015-0703-x

Neal, M., Barton Wright, P., & Cochrane Dementia and Cognitive Improvement Group. (1996). Validation therapy for dementia. *Cochrane Database of Systematic Reviews*, *2003*(1), CD001394. https://doi.org/10.1002/14651858.CD001394

Nichols, E., Steinmetz, J. D., Vollset, S. E., Fukutaki, K., Chalek, J., Abd-Allah, F., … Liu, X. (2022). Estimation of the global prevalence of dementia in 2019 and forecasted prevalence in 2050: A analysis for the global burden of disease study 2019. *The Lancet Public Health*, *7*(2), e105–e125. https://doi.org/10.1016/S2468-2667(21)00249-8

Öz, D., Yıldırım, Z., Kıyı, İ., Özbek, Y., Kulaç, İ., Erkol, G., Tihan, T., Gürvit, İ. H., & Yener, G. (2022). Senior moments are never-ending times when you are old (are they?): First step of turquoise project. *Archives of Neuropsychiatry*, *59*(Supplement 1), S10–S16. https://doi.org/10.29399/npa.28152

15251446, 2024, 6, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/phn.13398 by Koc University, Wiley Online Library on [19/11/2024]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Pacifico, D., Fiordelli, M., Fadda, M., Serena, S., Piumatti, G., Carlevaro, F., Magno, F., Franscella, G., & Albanese, E. (2022). Dementia is (not) a natural part of ageing: A cross-sectional study on dementia knowledge and misconceptions in Swiss and Italian young adults, adults, and older adults. *BMC Public Health*, *22*(1), 2176. https://doi.org/10.1186/s12889-022-14578-8

Rogith, D., Yusuf, R. A., Hovick, S. R., Fellman, B. M., Peterson, S. K., Burton-Chase, A. M., Li, Y., Bernstam, E. V., & Meric-Bernstam, F. (2016). Patient knowledge and information-seeking about personalized cancer therapy. *International Journal of Medical Informatics*, *88*, 52–57. https://doi.org/10.1016/j.ijmedinf.2016.01.005

Sun, F., Gao, X., Brown, H., & Winfree Jr, L. T. (2019). Police officer competence in handling Alzheimer's cases: The roles of AD knowledge, beliefs, and exposure. *Dementia*, *18*(2), 674–684. https://doi.org/10.1177/1471301216688605

Van Patten, R., & Tremont, G. (2020). Public knowledge of late-life cognitive decline and dementia in an international sample. *Dementia*, *19*(6), 1758–1776. https://doi.org/10.1177/1471301218805923

Xu, L., Hsiao, H. Y., Denq, W., & Chi, I. (2018). Training needs for dementia care in China from the perspectives of mental health providers: Who, what, and how. *International Psychogeriatrics*, *30*(7), 929–940. https://doi.org/10.1017/S1041610217002654

Wezel, N. V., van der Heide, I., Devillé, W. L. J. M., Blom, M. M., Hoopman, R., & Francke, A. L. (2022). Knowledge about dementia among family caregivers with a turkish or moroccan immigrant background: Development and validation of a dementia knowledge scale. *J Prim Care Community Health*, *13*, 215013192210900. https://doi.org/10.1177/21501319221090084

World Health Organization (WHO). Dementia Key Facts (2023) Retrieved on February 25, 2024 from https://www.who.int/news-room/fact-sheets/detail/dementia

WHO Global Action 2017–2022 (2017). Retrieved on June 10, 2024 from https://iris.who.int/bitstream/handle/10665/259615/9789241513487-eng.pdf?sequence=1

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