

Speech therapy for preventing dementia in the elderly – triangulation research

Danuta Grzesiak-Witek¹, Weronika Grela²

¹Institute of Literary and Linguistic Studies Jan Kochanowski University, Kielce, Poland

²”Logonika” Speech Therapy Office, Kielce, Poland

Medical Studies 2025; 41 (4): 350–357

DOI: <https://doi.org/10.5114/ms.2025.158291>

Key words: dementia, aging, dementia prevention, triangulation studies in the field of speech therapy.

Abstract

Introduction: Physiological aging is a progressive and multidimensional process that should be viewed in biological, psychological, and social dimensions. It leads to irreversible tissue and organ changes that depend on environmental, genetic, and health factors.

Aim of the research: To assess the current status and scope of speech therapy prophylaxis for dementia; to collect data on public knowledge about preventing dementia in the elderly and the available support for those with the first symptoms of dementia.

Material and methods: The study included 100 respondents aged 20 to > 70 years. A survey technique involving an original questionnaire, as well as an individual case method were used to obtain reliable results. An interview questionnaire for the patient's family was also employed. The triangulation approach combining quantitative and qualitative research methods allowed for the research goals to be achieved.

Results: The study group showed sufficient knowledge on dementia prophylaxis, as well as an ability to implement and conscientiously continue proper preventive measures. Dementia prevention based on healthy lifestyle was used by 60% of the study group. This included, among others, the Mediterranean diet and regular physical activity. About 73% of respondents were familiar with methods to avoid or delay the onset of dementia. The participants also reported knowledge about the available support for those who experience their first symptoms of dementia.

Conclusions: Corrective actions, such as increasing the number of specialists, improving communication between them, increasing their involvement in therapy and accelerating the diagnostic process, are needed for proper management of people with dementia in Poland.

Introduction

Aging is a biological process affecting the human body. It is influenced by multiple factors, including psychosocial, sociodemographic, health-related, genetic, and environmental factors in a given individual [1, 2]. Manifestations of aging can be seen in the external appearance, physical fitness, and functioning [1, 3]. However, physiological aging may be accompanied by pathological processes, including dementia.

The World Health Organisation (WHO) and ICD-11 (International Classification of Diseases and Related Health Problems, Version 11, which was published in the English language version by the World Health Organisation (WHO) in 2019 and came into effect on 1 January 2022) define dementia as significant cognitive impairment in 2 or more cognitive domains, considering the age of the affected person and the general premorbid level of their cognitive functioning. Although memory problems occur in most forms of dementia, cognitive impairment is not limited to this dimension

(i.e. other areas, such as attention, language, social cognition and judgment, psychomotor speed, and visuospatial abilities, are also compromised). The DSM-5 (The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition created by the American Psychiatric Association, came into effect in 2013) classifications define dementia as major or mild neurocognitive disorder with evidence of impairment in at least one cognitive domain, rather than a disease [4].

Several types of dementia have been distinguished:

1. Vascular dementia (VaD) and mixed dementia [5, 6];
2. Frontotemporal dementia (FTD) [7–10];
3. Dementia with Lewy bodies (DLB) [11–14];
4. Parkinson's disease dementia (PDD) [13, 15–17];
5. Dementia of the Alzheimer's type [18–20];
6. Dementia in rare diseases (primary neurodegenerative diseases (corticobasal degeneration (CBD), progressive supranuclear palsy (PSP), frontotemporal dementia with motor neuron disease (FTD-MND), dementia with Lewy bodies (DLB), and multiple system atrophy (MSA) are referred to as atypical parkinsonian disorders (APDs)); vas-

cular diseases; prion diseases; infectious diseases; metabolic diseases) [21, 22].

This paper focused on activities related to speech therapy prophylaxis for preventing dementia in the elderly.

Aim of the research

The primary aim of the study was to assess the current status and scope of speech therapy prophylaxis in the prevention of dementia. The main hypothesis assumed that dementia prevention is mainly based on a healthy lifestyle. The detailed hypotheses were as follows: H1 – prevention of dementia is based on a holistic approach; H2 – the level of knowledge of society on the prevention of dementia is high; H3 – respondents have some basic knowledge about the available support for those with the first symptoms of dementia; H4 – speech therapy prevention discussed in the subject literature corresponds with the actions taken by society; H5 – regularity and conscientiousness are the key elements to improve preventive efficacy.

Material and methods

The study used the triangulation approach, which combined quantitative and qualitative research methods to achieve the research goals and verify the hypotheses. This allowed for effective verification of both research data and data from other sources [23–25]. A survey technique involving an original questionnaire, as well as an individual case method, were used to obtain reliable results (Supplementary). The questionnaire tool consisted of 21 questions, including 15 closed-ended and 6 open-ended questions, with the latter ones allowing respondents to formulate their own, more extensive answers. The questionnaire was made available on social and other Internet portals for a mature audience. Respondents were informed about the confidentiality and anonymity of the research. A case study was used as the second research method [26]. A case study is based on the identification and assessment of a specific subject or phenomena that are influenced by the individual experiences of the subject in question [27].

The research tools used further included an interview questionnaire, containing mainly open-ended questions to which a more extensive answer could be provided. It was addressed to the family of the patient with dementia who was assessed as part of the individual case study.

The survey, which was conducted in April 2024, involved 100 people aged 20 years to > 70 years. Completing the online survey questionnaires was voluntary and fully anonymous. Women accounted for 53% of all respondents, whereas men accounted for 47% ($n = 47$). Individuals aged 41–50 years were

the largest group of respondents, accounting for 24% of all participants ($n = 24$), followed by respondents aged 20–30 years (22%). Participants aged 51–60 years and 61–70 years accounted for 19% and 14%, respectively. Respondents aged 31–40 years and over > 70 years, who accounted for 11% and 10% of the study population, respectively, were the smallest group. Most participants (61%) came from urban areas. Rural respondents accounted for 39% of the group. This is consistent with the data published by CBOS, showing that urban residents represented the majority of Internet users in 2023 [28]. The vast majority of respondents, i.e. 58%, were those with higher education. Secondary education was declared by 23%. Slightly fewer respondents, i.e. 17, declared basic vocational education, whereas elementary education was reported by 2 out of 100 participants.

The individual case study was a 77-year-old man, a retired soldier with the rank of Major. Since his retirement until 2016, he had worked in a detective agency and a security agency. He was diagnosed with vascular dementia on 8 November 2023.

Results

To assess the society's knowledge on preventing dementia and determine the preventive strategies used, we asked the respondents about their knowledge of the term dementia (Figure 1). The research has shown that the majority of respondents (97%) knew the term. Only 3 respondents were unfamiliar with the word. Additionally, nearly all those knowledgeable of the term chose the correct answer indicating the symptoms of dementia, i.e. "dementia manifests with problems with memory, concentration, naming objects and people in

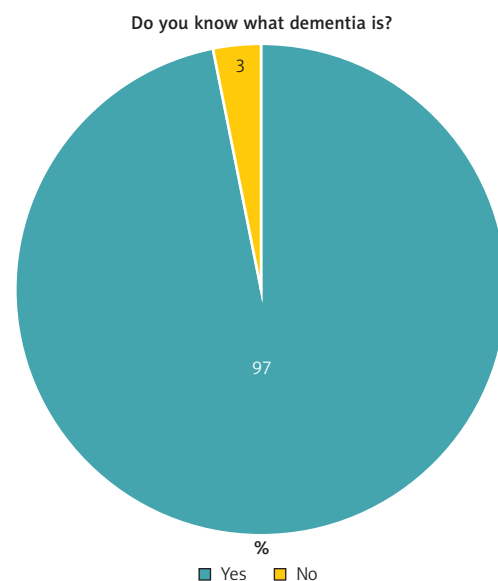


Figure 1. Familiarity with the term dementia

Source: Based on own research

If your answer is “yes”, please choose the sentence you think is correct:

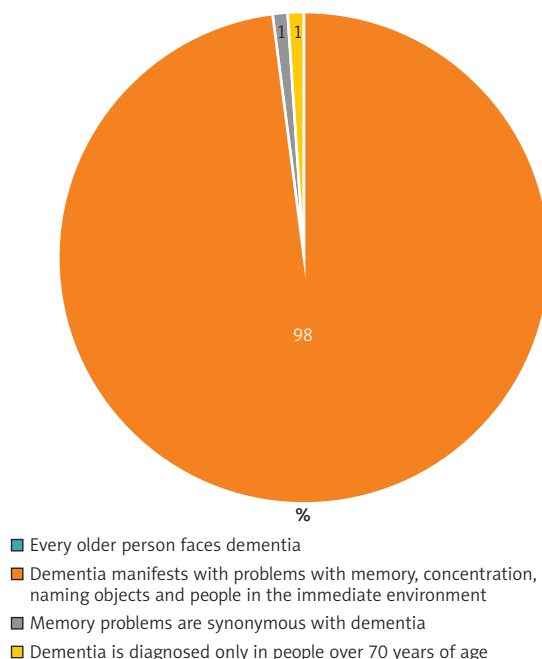


Figure 2. The choice of the correct term of dementia

Source: based on own research

Did you know that there are ways to prevent dementia?

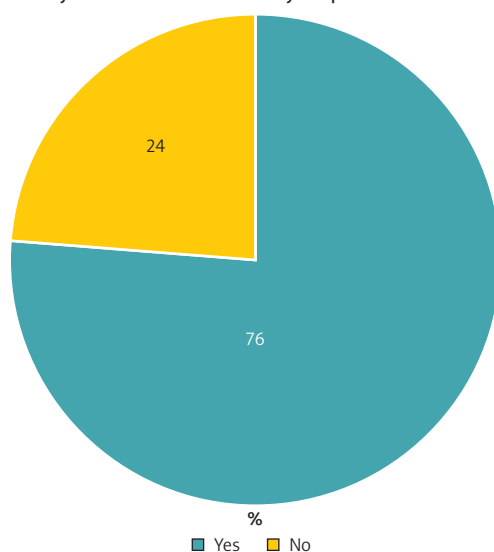


Figure 3. Ways to prevent dementia

Source: based on own research

the immediate environment” (Figure 2). The third and fourth answers, which were as follows: “memory problems are synonymous with dementia” and “dementia is diagnosed only in people over 70 years of age” were chosen by 1% of respondents each.

The respondents’ answers to the question: *Did you know that there are ways to prevent dementia?* were

helpful in determining the current level of knowledge about preventing dementia (Figure 3). More than three-quarters of respondents declared knowledge about methods to prevent dementia. However, 24% of respondents were not aware that such possibilities exist. In response to the survey question: *What, in your opinion, can be used to prevent dementia?* (Figure 4), which indicated the possibility of selecting more than one answer, the largest number of respondents selected the following options: solving crosswords and puzzles both on paper and online (85%); following the Mediterranean diet (70%); active treatment of metabolic and cardiovascular diseases (65%); and engaging in physical activities to increase the heart rate (58%). The vast majority of respondents marked the correct answers.

The majority of respondents (41%) (Figure 5) believe that dementia prevention can be introduced at any age, whereas 15% of respondents stated that it should be introduced from the age of 40 years. The answer “From the age of 15, 16, 17, 18 years” was selected by 12% of respondents. One in ten respondents declared that prevention should start from the age of 30 years. A smaller percentage (9%) of respondents considered that such activities should be introduced after the age of 60 years. This was followed by the answer “From the age of 50 years”, which was chosen by 6% of respondents.

A total of 51% of respondents declared that there were no people with dementia in their family. However, 49% of respondents reported a family history of dementia (Figure 6). The results indicate that almost 1 in 2 respondents had contact with the disorder. According to the questionnaire, respondents’ mothers (22.3%), followed by grandmothers (18.4%), grandfathers (12.2%), fathers (12.24%), uncles and wives (8.24%) were most commonly affected by dementia (Figure 7).

Most of the respondents (73%) declared that they knew which specialist they should report to in order to initiate the diagnosis (Figure 8). The majority of respondents ($n = 47$, 64% of respondents who answered this question) decided that it was optimal to start diagnosis with a neurologist. The next choice was a psychiatrist (27%), followed by a general practitioner (22%). The smallest percentage of respondents indicated a geriatrician (2%), a speech therapist, or an angiologist (1% each, Figure 9).

According to the survey data (Figure 10), 60% of respondents implement dementia prevention strategies, as opposed to the remaining 40%. According to the survey, the largest percentage of respondents (38%) reported that solving crossword puzzles is the most common prophylactic activity they use. A healthy diet came second (35%). A similar percentage of respondents (33%) pointed to physical activity. Reading books and solving quizzes were declared by 7 respondents, accounting for

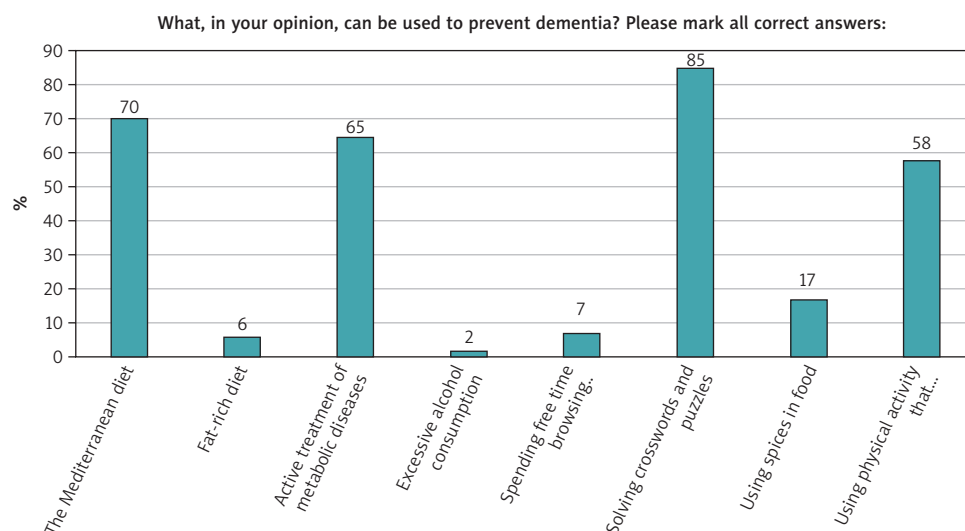


Figure 4. Possible preventive measures used by society

Source: based on own research.

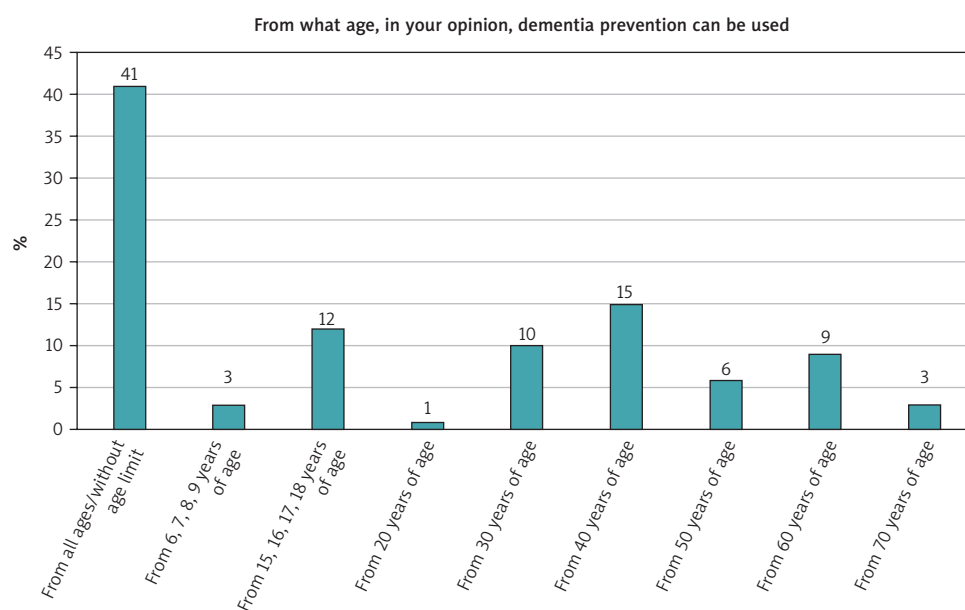


Figure 5. Age at which dementia prevention can be used

Source: based on own research

12% of participants using dementia prevention. Regular check-ups and mindfulness training were declared by 8% each. Memory training, which was declared by 4 people, came last. Analysing the above responses, it can be concluded that most respondents solve crossword puzzles, which they consider a part of prevention strategy (Figure 11). These can be in paper or electronic form.

Finding possible measures to increase the efficacy of dementia prevention was one of the goals of our re-

search. Information on this issue was collected during an interview conducted with the daughter of the case study patient. Ms. Anna noted that conscientiousness and regularity were key to achieving the desired outcomes.

Discussion

The main premise, and at the same time the primary hypothesis, was that people generally implement dementia prevention based on activities that

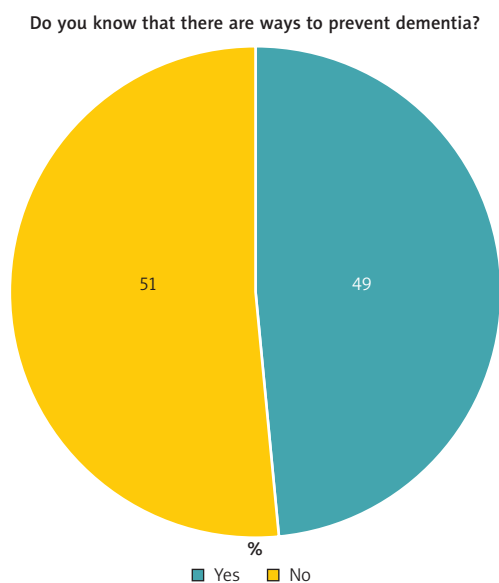


Figure 6. Positive family history of dementia

Source: based on own research

promote a healthy lifestyle. These include a Mediterranean diet and regular physical activity. This hypothesis can be confirmed based on the data obtained in the survey. Our findings are in line with previous studies on the subject [2]. Hypothesis 1 (H1), assuming that preventive measures in dementia are based on a holistic approach, has been confirmed. Respondents confirmed that dementia prevention is based on a holistic approach. People not only take care of their physical health, but also exercise memory and thinking, as well as report for regular check-ups and seek treatment for metabolic and cardiovascular diseases.

This aspect has already been highlighted in earlier studies [2, 22].

The specific hypothesis (H2), according to which public knowledge on preventing dementia is at a good level, has also been confirmed because the survey showed that the general knowledge of respondents about preventive measures is at a satisfactory level. About 76% of respondents are aware of methods to avoid or delay the onset of dementia. The daughter of the case study patient also demonstrated extensive knowledge on ways to prevent the disorder.

Another verified hypothesis (H3) assumed that people have some basic knowledge of the available support for individuals with the onset of dementia. They also reported that if faced with memory problems, they would see a neurologist, a psychiatrist, or a GP, who would then refer them for further diagnosis [3, 4, 7, 19]. The same path was chosen by the family of our case report patient, after his daughter observed his alarming symptoms in May 2023. These were aggression and memory disorders. The patient had problems recalling where he had intended to go and for what purpose; he would leave the house several times, locking the door, and then open it again to re-enter the house. He would also get lost after leaving the staircase. The daughter's response to these problems was rapid. She presented with her father to an internal medicine specialist, who then referred the patient to a psychiatrist.

The study partially confirmed the fourth specific hypothesis (H4), which presumed that the speech therapy prophylaxis discussed in the literature overlaps with the measures used by society. The prophylactic measures mentioned by the interviewees, as well as by the daughter of the analysed patient, cor-

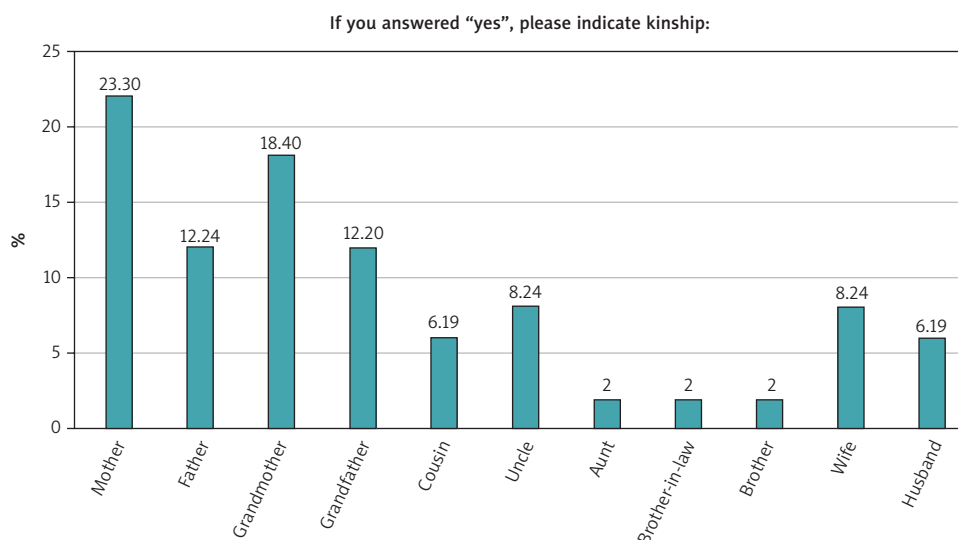


Figure 7. Respondent's family members diagnosed with dementia

Source: based on own research

respond to literature recommendations [3, 29]. However, access to specialists remains a problem. Its lack prevents patients from treating their disorders effectively. Furthermore, not every person can afford a private appointment. Ms. Anna emphasised in her interview that limited access to specialists and insufficient involvement of doctors prolonged her father's diagnostic process and delayed the implementation of effective treatment. She also reported that all her memory, attention, and thinking exercises, which are part of preventive therapy for her father, were derived from the Internet because she had received no guidance from qualified therapists. Professionals working in the field of geriatric speech therapy should be prepared to adequately convey knowledge on this topic to a specific target population [2, 3, 8, 12, 29].

The last hypothesis (H5) proved completely accurate. It is supposed that regularity and conscientiousness are the most important elements to improve the efficacy of prevention. Regularly performed brain exercises will increase the amount of grey matter in the brain and help maintain cognitive functioning at an appropriate level [1, 5, 22]. The interviewed group of respondents emphasised the importance of educational games that stimulate thinking, creativity, as well as support memory and enhance concentration, in line with reports from other studies [3, 4, 22]. Specialists play an important role in prevention by individually adjusting methods and techniques, taking into account information on the person's level of educational, occupational, leisure, physical, cognitive, and social activity, as well as life experiences. All these aspects have an impact on the patient's cognitive reserve (CR) [1, 4]. A similar aspect was highlighted by researchers when analysing the problem of multimorbidity in adults be-

Do you know which specialist you should see to start diagnosis?

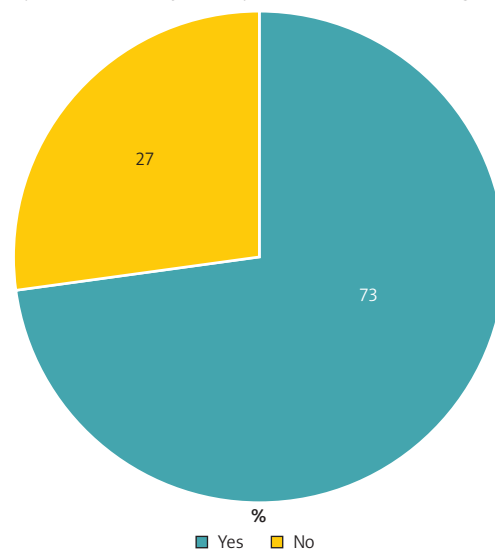


Figure 8. Respondent's knowledge about specialists who should initiate diagnosis

Source: based on own research

tween 40 and 64 years of age, emphasising the need to develop preventive strategies [30].

Conclusions

Ageing of the population and an unhealthy lifestyle have contributed to an increased incidence of dementia. The research has led to conclusions based on the negative aspects of dementia:

1. One in two respondents has contact with a dementia patient, most often the mother, grandmother, father, or grandfather.

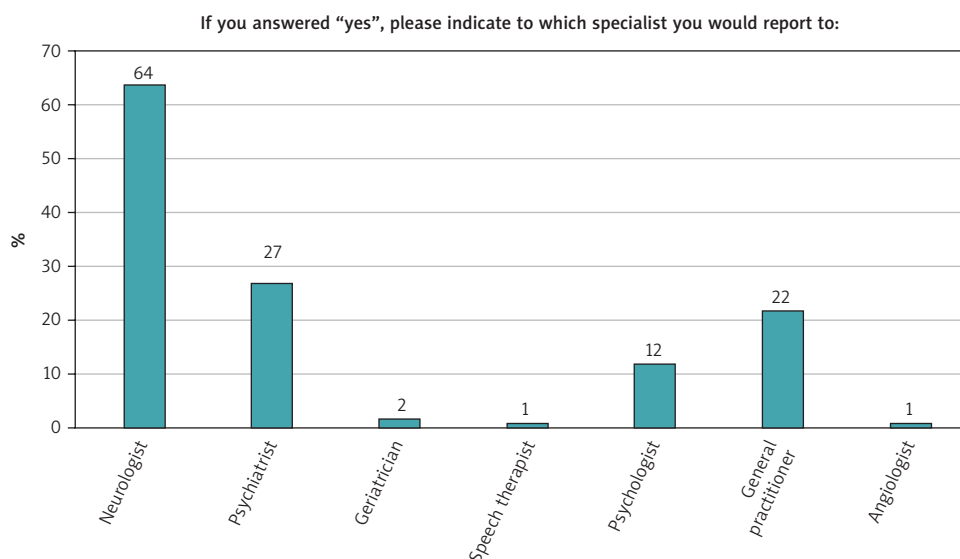


Figure 9. Specialists who should initiate diagnosis

Source: based on own research

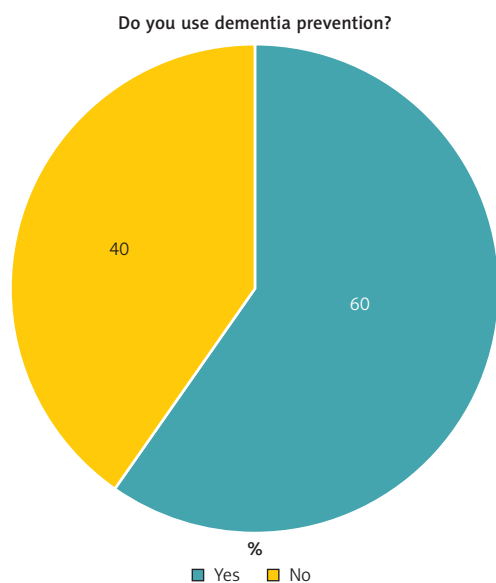


Figure 10. Respondent' use of dementia prevention

Source: based on own research

2. As indicated in the survey, the level of care among patients with dementia is low in Poland.
3. As pointed out by respondents, more specialists are needed in our country. Also, cooperation between them and their involvement in therapy should be improved. It was also suggested that the diagnostic process should be faster and the awareness of dementia prevention increased to improve the level of support for both patients with dementia and their families.

Based on the discussion of the results and verification of the research hypotheses, satisfactory conclusions can also be drawn:

1. People are familiar with the term dementia and know what steps should be taken when its first symptoms occur.
2. Respondents know methods to prevent or delay the onset of dementia and tend to use them.
3. Respondents know which professionals are involved in the therapy and care of a person diagnosed with dementia.

Summarising the above considerations, it should be noted that each study participant has their own individual experience, influencing the importance of preventive measures, as well as the evaluation of the work of specialists. It can be concluded that people have sufficient knowledge of how to prevent dementia, as well as on how to introduce and continue preventive measures in everyday life. Assessing the efficacy of preventive measures used by society to avoid dementia remains an open question. A follow-up would be needed in a few years.

Funding

No external funding.

Ethical approval

Not applicable.

Conflict of interest

The authors declare no conflict of interest.

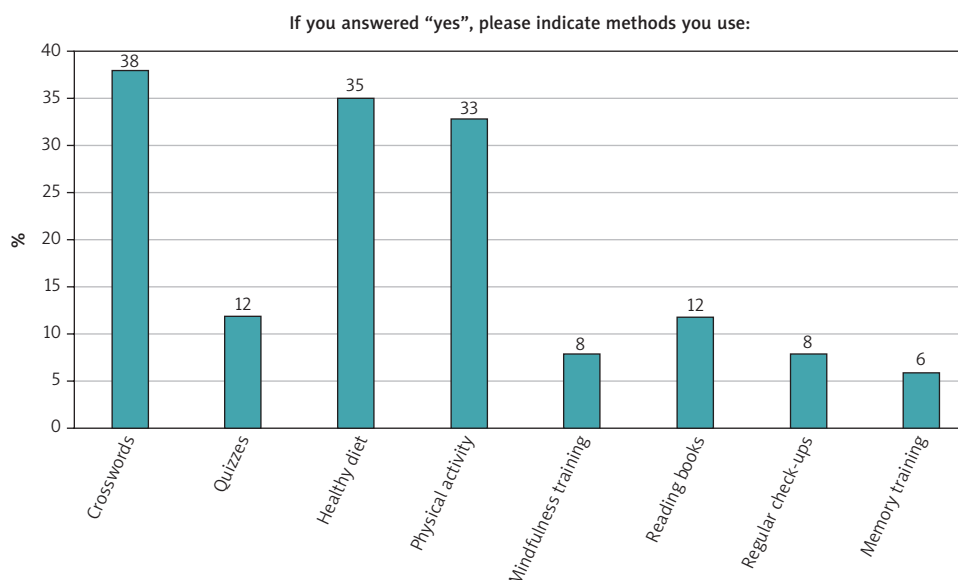


Figure 11. Preventive methods used by respondents

Source: based on own research.

References

1. Świątek A. Specyficzne zjawiska komunikacyjne w wieku senioralnym. *Sztuka Leczenia*. 2007; 14(1-2): 69-73.
2. Niedorys-Karczmarczyk B, Nowicki G, Chrzan-Rodak A, Nowak-Starz G, Ślusarska B. Health literacy levels and their sociodemographic, family, and health predictors among primary health care patients in urban and rural areas: a cross-sectional study. *Medical Studies*. 2024; 40(1): 22-32.
3. Panasiuk J. Zaburzenia mowy u osób w wieku senioralnym – diagnoza i terapia logopedyczna. In: *Gerontologia*. Tłokiński W, Milewski S, Kaczorowska-Bray K (eds.). Harmonia Universalis. Gdańsk 2018; 367-386.
4. Potocka-Pirosz K. Zaburzenia mowy we wczesnej fazie choroby Alzheimerera. *Studium przypadków*. Wydawnictwa Uniwersytetu Warszawskiego, Warszawa 2019.
5. Barcikowska M. Otępienie naczyniopochodne i mieszane. In: *Otępienie w praktyce*. Gabryelewicz T, Barczak A, Barcikowska M (eds.). Termedia, Poznań 2018; 125-135.
6. Schindler RJ. Otępienie naczyniopochodne i mieszane: znaczenie wczesnego leczenia farmakologicznego. *Dementia with cerebrovascular disease: the benefits of early treatment*. *Pol Przegl Neurol*. 2008; 4 suppl. B: 17-22.
7. Bidzan L. Kryteria diagnostyczne otępienia czołowo-skroniowego. In: *Otępienie czołowo-skroniowe. Ujęcie interdyscyplinarne*. Pąchalska M, Bidzan L (eds.). Krakowska Akademia im. Andrzeja Frycza Modrzewskiego, Kraków 2012; 41-62.
8. Bidzan L. Otępienie czołowo-skroniowe. Problemy diagnostyczne i terapeutyczne. *Geriatrics*. 2012; 6: 41-45.
9. Pąchalska M. Behawioralny wariant otępienia czołowo-skroniowego (bvFTD). In: *Otępienie czołowo-skroniowe. Ujęcie interdyscyplinarne*. Pąchalska M, Bidzan L (eds.). Krakowska Akademia im. Andrzeja Frycza Modrzewskiego, Kraków 2012; 113-143.
10. Olszewski H. Otępienie czołowo-skroniowe. Ujęcie neuropsychologiczne. *Impuls*, Kraków 2008.
11. Barczak A, Wańska W, Sitek EJ, Narożańska E, Brockhuis B, Sławek J. Otępienie z ciałami Lewy'ego – jak rozpoznać? jak leczyć?. *Pol Przegl Neurol*. 2015; 11(3): 107-116.
12. Sokół-Szawłowska M, Poleszczyk A. Trudna droga do rozpoznania otępienia z ciałami Lewy'ego. *Opis przypadku*. *Psychiatr Pol*. 2013; 47(1): 147-158.
13. Barczak A. Otępienie z ciałami Lewy'ego i otępienie w chorobie Parkinsona. In: *Otępienie w praktyce*. Gabryelewicz T, Barczak A, Barcikowska M (eds.). Termedia, Poznań 2018; 179-198.
14. Królik PW, Rudnicka-Drożak E. Otępienie z ciałami Lewy'go: diagnostyka i leczenie. *Geriatrics*. 2020; 14: 90-101.
15. Wieczorek D, Sitek EJ, Wójcik J, Sławek J. Łagodne zaburzenia funkcji poznawczych i otępienie w chorobie Parkinsona – obraz kliniczny i aktualne kryteria diagnostyczne. *Pol Przegl Neurol*. 2013; 9(3): 96-104.
16. Wallner R, Senczyzyn A, Budrewicz S, Rymaszewska J. Zaburzenia poznawcze i neuropsychiatryczne w chorobie Parkinsona. *Pol Przegl Neurol*. 2019; 15(2): 96-105.
17. Pawlukowska W, Honczarenko K, Gołąb-Janowska M. Charakter zaburzeń mowy w chorobie Parkinsona. *Neurol Neurochirurg Pol*. 2013; 47(3): 263-270.
18. Oberholzer M, Bassetti CL, Müri RM, Göhl K, Felbecker A, Kägi G, de Cassai L, Herwig U, Ziegglänsberger D. Postacie otępienia. In: *Choroby otępienne*. Rejdak K (ed.). Edra Urban & Partner, Wrocław 2020; 41-89.
19. Barcikowska M. Choroba Alzheimerera. In: *Otępienie w praktyce*. Gabryelewicz T, Barczak A, Barcikowska M (eds.). Termedia, Poznań 2018; 57-81.
20. Barczak A. Warianty choroby Alzheimerera. In: *Otępienie w praktyce*. Gabryelewicz T, Barczak A, Barcikowska M (eds.). Termedia, Poznań 2018; 83-124.
21. Barczak A. Otępienie w chorobach rzadkich. In: *Otępienie w praktyce*. Gabryelewicz T, Barczak A, Barcikowska M (eds.). Termedia, Poznań 2018; 199-214.
22. Barczak A. Wykształcenie, aktywność umysłowa i społeczna jako czynniki protekcyjne otępienia. *Aktual Neurol*. 2014; 14(3): 161-166.
23. Urbaniak-Zajac D. O łączeniu badań ilościowych i jakościowych – oczekiwania i wątpliwości. *Przegl Badań Eduk*. 2018; 26(1): 121-138.
24. Dziewiątkowska-Kozłowska K, Ulanowska T. Triangulacja w badaniach pedagogicznych – możliwości, ograniczenia, zagrożenia. *Przegl Pedagog*. 2022; 2: 147-158.
25. Boczkowski A. Badania ilościowe i jakościowe w socjologii. Między separacją epistemologiczną a praktyczną komplementarnością. *Rocz Nauk Społ*. 2018; 10(46): 63-80.
26. Łobocki M. Metody i techniki badań pedagogicznych. *Impuls*, Kraków 2000.
27. Filanowski B. Metoda studium przypadku w badaniach komunikacji. In: *Metody badania komunikacji i mediów. Perspektywa teoretyczna i analityczna*. Barańska-Szmitko A (ed.). Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2021; 309-316.
28. Komunikat z badań. Korzystanie z Internetu w 2023 roku: https://www.cbos.pl/SPISKOM.POL/2023/K_072_23.PDF [access: 29.04.2024].
29. Węsierska K. Profilaktyka logopedyczna w ujęciu systemowym. In: *Profilaktyka logopedyczna w praktyce edukacyjnej*. Węsierska K (ed.). Wydawnictwo Uniwersytetu Śląskiego, Katowice 2012; 25-47.
30. Głuszek-Osuch M, Cieśla E, Suliga E. Relationship between multimorbidity and sociodemographic factors, depressive symptoms, and lifestyle in middle-aged adults. *Medical Studies*. 2023; 39(2): 182-191.

Address for correspondence

Danuta Grzesiak-Witek
Institute of Literary and
Linguistic Studies
Jan Kochanowski University
Kielce, Poland
E-mail: danuta.grzesiak-witek@ujk.edu.pl

Received: 8.12.2024

Accepted: 28.04.2025

Online publication: 29.12.2025.