



International Journal of Pharmacology

ISSN 1811-7775

Research Article

Community's Knowledge, Attitude and Practice Toward Dementia in Qassim Region, Saudi Arabia

¹Haifa Abdulrahman Alsuhaibani, ²Basmah Fehaid Alharbi and ³Ashwag Saleh Alsharidah

¹College of Pharmacy, Qassim University, Buraidah, Saudi Arabia

²Department of Basic Health Sciences, College of Applied Medical Sciences, Qassim University, Buraydah 51452, Saudi Arabia

³Department of Physiology, College of Medicine, Qassim University, Buraidah, Saudi Arabia

Abstract

Background and Objective: Dementia is not a disease by itself. It is general term that describes a wide range of symptoms linked with thinking skills and memory decline which might affect the patient's ability to complete everyday activities. This study aims to identify the Saudi community awareness and attitude toward dementia in Qassim Region, Saudi Arabia. **Materials and Methods:** A diverse group of 401 participants, in term of gender, age group and education level. A questionnaire was distributed to assess knowledge, attitude and practice. The effect of demographics on dementia awareness was assessed. Questionnaire was randomly distributed to 401 participants. Categorical variables were described by frequencies and percentages. The Chi-square test was used to test the significance of the association between categorical variables. **Results:** Mild dementia case was identified by 53.9% of participants. As 240 (59.9%) of participants think that dementia is part of aging process. Over one third of the participants (39.7%) agreed that patients should head to neurology specialist when showing memory impairment symptoms. Rendering to age group, there was a significant difference among the groups ($p < 0.01$). Participants older than 65 agreed that dementia is part of aging process. While those between 18 and 29 years old disagreed with that. **Conclusion:** The overall attitude of the Saudi Society was highly acceptable. Low identification to the early stage of dementia was noticed. Furthermore, the area-specific study should be done to specify this pilot study.

Key words: Dementia, Alzheimer's disease, aging, awareness, behavior, geriatrics

Citation: Alsuhaibani, H.A., B.F. Alharbi and A.S. Alsharidah, 2024. Community's knowledge, attitude and practice toward dementia in Qassim Region, Saudi Arabia. Int. J. Pharmacol., 20: 735-741.

Corresponding Author: Ashwag Saleh Alsharidah, Department of Physiology, College of Medicine, Qassim University, Qassim, Buraidah 51491, Saudi Arabia

Copyright: © 2024 Haifa Abdulrahman Alsuhaibani *et al.* This is an open access article distributed under the terms of the creative commons attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Competing Interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

Dementia is a general term refers to a clinical syndrome described as a progressive mental and cognitive decline that affects the ability to live independently^{1,2}. In 2019, the estimated number of people with dementia is around 57.4 million cases globally. And it suspected to increase up to 152.8 million cases in 2050³. According to a study in Saudi Arabia, the prevalence of dementia reached up to 16%⁴. Dementia cases has reached more than 47 million worldwide in 2015, with an expected increase to reach 75 million by 2023⁵.

Dementia is classified according to its causes into four subtypes: Alzheimer's disease, Lewy body dementia, vascular dementia and frontotemporal dementia⁶. Alzheimer's disease accounts for 60-80% of dementia cases⁷. Alzheimer's disease is characterized by insidious onset and slow progression decline. Lewy body dementia is a distinct dementia subtype characterized by abnormal deposits of α -synuclein protein (Lewy bodies) inside the neurons. Vascular dementia, also called multi-infarct dementia, appears gradually or suddenly due to oxygen deprivation by either blockage or reduction in cerebral blood flow with stroke as its primary cause. At last, Frontotemporal Dementia (FTD) has more effect on personality change and behavioral disturbance⁸.

In Saudi Arabia, the most common type of dementia was mixed dementia 18.37%. This might be because of the high prevalence of the risk factors of cardiovascular disease. The second most common type of dementia in Saudi Arabia is Alzheimer's disease 15.87%⁹.

Dementia symptoms appear gradually, progressive and they are persistent. Dementia patients experience behavioral (non-cognitive), functional and cognition changes with memory problems being common, along with language and executive functioning difficulties. The signs and symptoms of dementia differ among affected individuals and the cognitive defects can be manifested as agnosia, apraxia, communication and language impairment and impaired executive function (planning, reasoning and judging). Cognitive impairment originates from cerebral cortex injury caused by inflammation, synaptic failure or any change in brain metabolism. Behavioral (non-cognitive) symptoms encompass mood disorders, psychotic symptoms and behavioral changes^{10,11}.

The barriers to identifying dementia could be classified into three categories. First are the barriers related to the patients themselves or their caregiver like lack of social support, misunderstanding of the diagnosis and total denial of the problem. On the clinical side, the barriers could be the difficulty of delivering an unfortunate diagnosis, also some

clinicians find it difficult to give an uncertain diagnosis and lack of time. Also, they find it difficult because of the Perceived lack of benefit in diagnosing dementia. Lastly, the system-related barriers could be because of restricted access to specialists and support services and Insufficient training for how to give dementia diagnosis¹².

In Saudi Arabia, a specific study has looked for 15 years of dementia patient history. They have found that dementia was highly accompanied with depression. Also, they found that the economical weight of dementia, as a result from frequent and long hospital admissions, is very high. Unfortunately, the study concluded that the outcome of dementia is poor and accompanied with high mortality rate. They emphasized the need to increase awareness of the public and health system about the impact of dementia in Saudi⁹.

By creating and assessing collaborative care and behavioral health homes, future practice and research must address the fragmentation of clinical care. These models ought to expand upon all-encompassing approaches that integrate innovative telehealth applications, mobile health technologies and peer assistance, using tactics effectively employed in low- and middle-income nations. It is imperative that team-based care become more measurement-based, interdisciplinary and incorporate a variety of clinical, rehabilitative, preventative and supportive services. Comprehensive assessment, clinical management, extensive outreach and the coordination of social, medical and mental health services should all be part of these services¹³.

This study aims to identify the Saudi Community's knowledge attitude and practice toward dementia. To a better understanding of the dementia patients caregivers to assure a better counseling and medication compliance.

MATERIALS AND METHODS

Study design: This study is a cross-sectional survey of public perspective on dementia in Qassim Region, Saudi Arabia. The study was carried out from March to May, 2023. The study is based on a validated questionnaire¹⁴. The calculated minimum sample size for the study is 385, based on the population of Qassim Region, Saudi Arabia.

Questionnaire: A structured survey was designed based on an extensive literature review. The survey was publicly distributed online; containing close-ended questions. It included adults older than 18 years old currently living in Qassim Region, Saudi Arabia.

The survey had 13 questions in total. The first part had 3 questions and they were for collecting demographic data (gender and age) and educational level.

The second part had 10 questions that measured the participant's perception and attitude regarding dementia. The following questions were to assist the participant could identifying and describe a dementia patient. Participants were provided with different scenarios of patients with early symptoms of dementia.

Ethical consideration: The participation was voluntary, with written informed consent. The participants were assured about confidentiality.

Statistical analysis: The questionnaire responses were analyzed using the Statistical Package for the Social Science (SPSS Inc. Chicago, Illinois, USA) version 23. Categorical variables were described by frequencies and percentages. Descriptive analysis involving chi-square test was used to test the significance of the association between categorical variables. The level of significance was set at $p < 0.05$.

RESULTS

A total of over 500 questionnaires were distributed the response rate was 80%. A total of 401 surveys were answered and analysed. The basic demographic data was shown in Table 1.

Table 1: Basic demographic characteristics of the participants^(n = 401)

Study variables	N (%)
Age group	
18-29 years	304 (75.8%)
30-45 years	57 (14.2%)
46-55 years	37 (9.2%)
>55 years	03 (0.70%)
Gender	
Male	74 (18.5%)
Female	327 (81.5%)
Educational level	
Primary school	11 (02.7%)
Middle or high school	90 (22.4%)
Bachelor's degree	276 (68.8%)
Postgraduate	24 (06.0%)

Table 2: Assessment of attitude and practice toward dementia^(n = 401)

Part 3	N (%)
In which of the following situations an elderly person should consult a doctor?	
He/she lost his/her way while going out	179 (44.6%)
Temper has significantly changed	33 (08.2%)
Significantly poor memory and generally normal daily life	95 (23.7%)
All of the above	94 (23.4%)
Which department would you choose for patients with memory impairment or dementia besides the diagnosis and treatment center of memory disorder or dementia?	
Neurologic department	159 (39.7%)
Psychiatric department	25 (06.2%)
Geriatric department	36 (09.0%)
Geriatric psychiatry	85 (21.2%)
I don't know	96 (23.9%)
Would you be comfortable with the fact that your family member suffers from dementia?	
I had better keep it a secret; after all, it does not have a good reputation	21 (05.2%)
I will try to face it; however, I sometimes feel ashamed	17 (04.2%)
It's nothing to be ashamed of because dementia is only a kind of disease	320 (79.8%)
I am not sure	10.7%
An old person has significantly worse memory than 2-3 years earlier and is absent-minded and often loses things. However, daily life is not influenced. What do you say?	
It does not matter because the memory always becomes worse with age	124 (30.9%)
I prefer to wait until it becomes worse when I have to see a doctor	07 (01.7%)
It's time to see a doctor	216 (53.9%)
I have no idea	13.5%
An old person could remember the past well rather than recent events; for example, he could not recall the relative and friend who had visited his home the previous day. What do you say?	
It is possible that he has senile dementia	188 (30.4%)
It should not be counted as senile dementia because he could remember the past well	35 (08.7%)
It is natural because it happens to many old people	117 (29.2%)
I am not sure	15.2%
Ms. X, 65 years of age, is an able housewife. During the past year, she has often forgotten to salt meals while cooking or salted meals twice. She did not notice that the boiling water had nearly dried up on the stove several times. What do you say?	
It is possible that she has senile dementia	122 (30.4%)
Capacity would get worse when one gets old	164 (40.9%)
She might suffer from depression	39 (09.7%)
I am not sure	76 (19.0%)

Table 3: Relationship between specific attitude toward dementia and gender^(n = 401)

Statement	Male N (%) ^(n = 74)	Female N (%) ^(n = 327)	p-value [§]
When is elderly sent to a doctor?			
He/she lost his/her way while going out	27 (36.5%)	152 (46.5%)	0.159
Temper has significantly changed	04 (05.4%)	29 (08.9%)	
Significantly poor memory and generally normal daily life	24 (32.4%)	71 (21.7%)	
All of the above	19 (25.7%)	75 (22.9%)	
Attitude toward a relative with dementia			
I had better keep it a secret; after all, it does not have a good reputation	08 (10.8%)	13 (04.0%)	0.019**
I will try to face it; however, I sometimes feel ashamed	06 (08.1%)	11 (03.4%)	
It's nothing to be ashamed of because dementia is only a kind of disease	55 (74.3%)	265 (81.0%)	
I am not sure	05 (06.8%)	38 (11.6%)	

[§] p-value has been calculated using Fischer Exact test and **Significant at p<0.05 level

Table 4: Relationship between the belief that dementia is part of aging according to age group^(n = 401)

Age group	Belief that dementia is not part of aging		p-value [§]
	Disagree N (%) ^(n = 240)	Agree N (%) ^(n = 161)	
18-29 years	198 (82.5%)	106 (65.8%)	<0.001**
30-45 years	28 (11.7%)	29 (18.0%)	
46-55 years	14 (05.8%)	23 (14.3%)	
>55 years	0	03 (01.9%)	

[§] p-value has been calculated using Fischer Exact test and **Significant at p<0.05 level

Regarding participants' knowledge of the basic facts of dementia, in part 2 of the questionnaire, in question 1 nearly all (95.5%) knew about the meaning of dementia. In question 2, 62.1% were aware of its signs and symptoms. In question 3, the proportion of respondents who agreed that dementia is not a normal part of aging was 40.1%. In question 4, respondents who knew of some factors that could delay dementia were 93%, while question 5 showed those who knew that mental health affects the mind and body were 98%. In question 6, most respondents do not believe that senile dementia is treatable (82.3%). In question 7, nearly all (93.5%) were confident that mental training and games could delay dementia. Approximately two-thirds (62.8%) believed that anti-oxidant could delay dementia in question 8 and approximately 92.5% were aware that a healthy lifestyle is another protective factor for dementia in question 9.

To assess the attitude and practice towards dementia, many question were assigned as shown in Table 2.

The significant relation between genders and dementia among perceived knowledge and attitude toward relative with dementia was shown in Table 3.

In Table 4, the youngest age group (18-29 years) significantly disagreed that dementia is part of aging (p<0.001).

DISCUSSION

In recent years, the full understanding of the dementia patient's caregiver thinking and believes has become necessary for counseling and taking care of patients. One of health care professionals' concerns is patient counseling and

ensuring proper therapeutic outcomes. This study identifies the Saudi community's knowledge attitude and perception. The latter has been the focus of previous research by authors¹⁵⁻¹⁹.

Early identification of dementia plays an essential role in treatment. In present study, nearly 54% of the subjects identified the early preclinical dementia case. In a study by Li *et al.*¹⁴ in China, only 29% identified the need for doctor visits in this stage. A case of mild dementia was not identified by the majority of the participants. In India, a study stated that 40% of dementia cases were diagnosed more than 2 years after symptom onset²⁰.

Dementia is not an essential part of ageing but the incidence of dementia increases with age²¹. In this study of Saudi community, around 40% of the participants know that dementia is not a part of aging. All the elderlies in this survey knew that dementia is not a part of aging. By contrast, in Uganda, 53.4% of students have the opposite thought²².

Dementia is not the only meaning of memory problems. These problems could have other causes, they could be classified as reversible dementia such as: Depression, vitamin B12 deficiency, folate deficiency, hypothyroidism, side effects of some medications and confusion or delirium which is caused by a medical condition, such as an infection²³. This study participants did not fully agree the appropriate time to see a doctor. Only 44.6%; mostly females; said when the patients start to lose his way. A study addressed the barriers to an early diagnosis and treatment of dementia into three groups following a thorough review: The patient, the physician and system²⁴. The patient was therefore, a crucial link. People were reluctant to talk or interact about dementia,

mostly because of prejudice and discrimination combined with an incorrect understanding of the condition²⁴. Also, surprisingly, even with massive available research about disclosure practice, only one-third of dementia patients receive a proper diagnosis or at least contact with a specialized person at any point in their condition. The diagnosis might be after years of living and suffering with dementia²⁵. The viewpoints and demands of the affected are only partially addressed by current healthcare and communication tactics. It would seem vital to follow a systematic and morally sound process for the information that experts supply both before to testing and during disclosure²⁶.

Dementia prevention has shown various results in research. A study has reported that individuals who participate in mentally stimulating activities-such as playing games, learning, or reading older ages are less likely to develop dementia compared with those who do not engage in these activities²⁷. Also, diet has an impact on dementia development as it shows in research that a high antioxidant diet could reduce inflammation, which is linked with the risk of dementia²⁸.

In present study, nearly all (93.5%) were confident that mental training and games could delay dementia. Approximately two-thirds (62.8%) believed that anti-oxidants could delay dementia and approximately 92.5% were aware that a healthy lifestyle is another protective factor for dementia. On the other hand, in a systematic study, the pooled median of participants believing that dementia is not preventable was 53% in Europe, 28% in Asia and 59% in Australia²⁹.

In present study, most respondents do not believe that senile dementia is treatable (82.3%). A study in Japan in 2008 questioned the general public and they had a similar opinion as just 37.8% believe that some type of dementia is treatable³⁰.

The primary care doctor is often the initial doctor to perceive possible dementia³¹. Then the general practitioner will refer the patient to the appropriate specialty clinic depending on their symptoms. In Germany, patients who were diagnosed with dementia were also referred to a specialist in psychiatry or neurology³². In present study nearly 40% recognized that a neurology clinic is a correct destination for dementia and memory impairments.

Around 9.4% showed that they would be ashamed of dementia relative with nearly 18% of male participants stating that it is better to keep a secret. In Shanghai, 56.9% of the participants in Li *et al.*¹⁴ study were ashamed of the fact of a relative who has dementia. Also, Connell *et al.*³³ noticed that caregivers preferred the diagnosis should have been disclosed. In 2020, Lopez *et al.*³⁴, studied shame that arose as

one of the feelings of dementia patients' caregivers. To manage shame, it produced three classes of responses: Either, by silence and avoiding attention to the symptoms, or covering the diagnosis and avoiding contact. The majority of the undergrad university students in Uganda stated they would not feel ashamed if they had a family member who may suffer from dementia²².

With a continues increase in the size of the elderly group in the Saudi community, the expected rates for dementia have increased. Result recommended that more educational efforts for patients and their caregivers about dementia and its diagnosis and prognosis.

CONCLUSION

This study aims to identify the Saudi population knowledge, attitude and perception toward dementia. Current study showed the overall attitude of the Saudi society was highly acceptable toward dementia. Low identification to the early stage of dementia was noticed. Acknowledging of the society's dementia awareness is a key element for the health care practice in geriatric settings to understand the caregiver point of view toward patients to assess in counseling. Furthermore, a study specified for the caregivers would give a proper image.

SIGNIFICANCE STATEMENT

The purpose of this study is to better understand the Saudi community awareness and attitude toward dementia. This is important because the world-wide trajectory numbers for dementia is rising globally. Our results provide an overview of the Saudi community behavior toward dementia and relatives with dementia. As it shows the high acceptance of the Saudi society towards dementia. Even though, the identification to the early stage of dementia was low.

REFERENCES

1. Sheehan, B., 2012. Assessment scales in dementia. *Ther. Adv. Neurol. Disord.*, 5: 349-358.
2. Chertkow, H., H.H. Feldman, C. Jacova and F. Massoud, 2013. Definitions of dementia and predementia states in Alzheimer's disease and vascular cognitive impairment: Consensus from the Canadian conference on diagnosis of dementia. *Alzheimer's Res. Ther.*, Vol. 5. 10.1186/alzrt198.
3. Nichols, E., J.D. Steinmetz, S.E. Vollset, K. Fukutaki and J. Chalek *et al.*, 2022. Estimation of the global prevalence of dementia in 2019 and forecasted prevalence in 2050: An analysis for the Global Burden of Disease Study 2019. *Lancet Public Health*, 7: E105-E125.

4. Alsebayel, F.M., A.M. Alangari, F.H. Almubarak and R. Alhamwy, 2022. Prevalence of dementia and its associated risk factors among geriatric patients visiting primary healthcare centers in Riyadh, Saudi Arabia: A cross-sectional study. *Cureus*, Vol. 14. 10.7759/cureus.24394.
5. Winblad, B., P. Amouyel, S. Andrieu, C. Ballard and C. Brayne *et al.*, 2016. Defeating Alzheimer's disease and other dementias: A priority for European science and society. *Lancet Neurol.*, 15: 455-532.
6. Chiu, M.J., T.F. Chen, P.K. Yip, M.S. Hua and L.Y. Tang, 2006. Behavioral and psychologic symptoms in different types of dementia. *J. Formosan Med. Assoc.*, 105: 556-562.
7. Reitz, C., 2015. Genetic diagnosis and prognosis of Alzheimer's disease: Challenges and opportunities. *Expert Rev. Mol. Diagn.*, 15: 339-348.
8. DeTure, M.A. and D.W. Dickson, 2019. The neuropathological diagnosis of Alzheimer's disease. *Mol. Neurodegener.*, Vol. 14. 10.1186/s13024-019-0333-5.
9. Albugami, M., N. Qadi, F. Almugbel, A. Mohammed and A. Alttas *et al.*, 2018. The demographic characteristics and the risk factors of dementia in SAUDI elderly. *Am. J. Psychiatry Neurosci.*, 6: 1-8.
10. Hildreth, K.L. and S. Church, 2015. Evaluation and management of the elderly patient presenting with cognitive complaints. *Med. Clin. North Am.*, 99: 311-335.
11. Sandilyan, M.B. and T. Dening, 2015. Signs and symptoms of dementia. *Nurs. Stand.*, 29: 42-51.
12. Wollney, E.N., M.J. Armstrong, N. Bedenfield, M. Rosselli and R.E. Curiel-Cid *et al.*, 2022. Barriers and best practices in disclosing a dementia diagnosis: A clinician interview study. *Health Serv. Insights*, Vol. 15. 10.1177/11786329221141829.
13. Reynolds, C.F., D.V. Jeste, P.S. Sachdev and D.G. Blazer, 2022. Mental health care for older adults: Recent advances and new directions in clinical practice and research. *World Psychiatry*, 21: 336-363.
14. Li, X., W. Fang, N. Su, Y. Liu, S. Xiao and Z. Xiao, 2011. Survey in Shanghai communities: The public awareness of and attitude towards dementia. *Psychogeriatrics*, 11: 83-89.
15. Holroyd, S., Q. Turnbull and A.M. Wolf, 2002. What are patients and their families told about the diagnosis of dementia? Results of a family survey. *Int. J. Geriatric Psychiatry*, 17: 218-221.
16. Dautzenberg, P.L.J., R.J. van Marum, R. van der Hammen and H.A. Paling, 2003. Patients and families desire a patient to be told the diagnosis of dementia: A survey by questionnaire on a Dutch memory clinic. *Int. J. Geriatric Psychiatry*, 18: 777-779.
17. Featherstone, H., M.L. Butler, A. Ciblis, A.L. Bokde, P.G. Mullins and J.P. McNulty, 2017. What do people with dementia and their carers want to know about neuroimaging for dementia? *Dementia*, 16: 461-470.
18. Ramirez, M., M.C. Duran, C.J. Pabiniak, K.E. Hansen and A. Kelley *et al.*, 2021. Family caregiver needs and preferences for virtual training to manage behavioral and psychological symptoms of dementia: Interview study. *JMIR Aging*, Vol. 4. 10.2196/24965.
19. Darlington, N., A. Arthur, M. Woodward, S. Buckner and A. Killett *et al.*, 2021. A survey of the experience of living with dementia in a dementia-friendly community. *Dementia*, 20: 1711-1722.
20. Ellajosyula, R., J. Narayanan, S. Hegde, V. Kamath and U. Murgod *et al.*, 2022. Delay in the diagnosis of dementia in urban India: Role of dementia subtype and age at onset. *Int. J. Geriatric Psychiatry*, Vol. 37. 10.1002/gps.5843.
21. van der Flier, W.M. and P. Scheltens, 2005. Epidemiology and risk factors of dementia. *J. Neurol. Neurosurg. Psychiatry*, 76: v2-v7.
22. Musoke, P., R. Olum, S. Kembabazi, B. Nantaayi, F. Bongomin and M. Kaddumukasa, 2021. Assessment of the knowledge and attitude towards dementia among undergraduate university students in Uganda. *Adv. Med. Educ. Pract.*, 12: 635-646.
23. Chari, D., R. Ali and R. Gupta, 2015. Reversible dementia in elderly: Really uncommon? *J. Geriatric Mental Health*, 2: 30-37.
24. Koch, T. and S. Iliffe, 2010. Rapid appraisal of barriers to the diagnosis and management of patients with dementia in primary care: A systematic review. *BMC Fam. Pract.*, Vol. 11. 10.1186/1471-2296-11-52.
25. Stokes, L., H. Combes and G. Stokes, 2015. The dementia diagnosis: A literature review of information, understanding, and attributions. *Psychogeriatrics*, 15: 218-225.
26. Lohmeyer, J.L., Z. Alpınar-Sencan and S. Schick Tanz, 2021. Attitudes towards prediction and early diagnosis of late-onset dementia: A comparison of tested persons and family caregivers. *Aging Mental Health*, 25: 832-843.
27. Mecocci, P., 2007. The multifaceted aspects of Alzheimer's disease: From social to molecular problems. *J. Alzheimer's Dis.*, 12: 1-9.
28. Szczechowiak, K., B.S. Diniz and J. Leszek, 2019. Diet and Alzheimer's dementia-nutritional approach to modulate inflammation. *Pharmacol. Biochem. Behav.*, Vol. 184. 10.1016/j.pbb.2019.172743.
29. Cations, M., G. Radisic, M. Crotty and K.E. Laver, 2018. What does the general public understand about prevention and treatment of dementia? A systematic review of population-based surveys. *PLoS ONE*, Vol. 13. 10.1371/journal.pone.0196085.
30. Arai, Y., A. Arai and S.H. Zarit, 2008. What do we know about dementia?: A survey on knowledge about dementia in the general public of Japan. *Int. J. Geriatric Psychiatry*, 23: 433-438.

31. van Hout, H.P.J, M.J. Vernooij-Dassen and W.A.B. Stalman, 2007. Diagnosing dementia with confidence by GPs. *Fam. Pract.*, 24: 616-621.
32. Strohmaier, U., F. Keller, I. Kilimann, B. Michalowsky and D. Wucherer *et al.*, 2018. Patients with dementia in primary care: Who is referred to a neurologist/psychiatrist and what patient-oriented factors are associated with the visit? *J. Alzheimer's Dis.*, 64: 925-932.
33. Connell, C.M., L. Boise, J.C. Stuckey, S.B. Holmes and M.L. Hudson, 2004. Attitudes toward the diagnosis and disclosure of dementia among family caregivers and primary care physicians. *Gerontologist*, 44: 500-507.
34. Lopez, R.P., K.M. Rose, L. Kenney, V. Sanborn and J.D. Davis, 2020. Managing shame: A grounded theory of how stigma manifests in families living with dementia. *J. Am. Psychiatr. Nurses Assoc.*, 26: 181-188.