



Knowledge and Attitudes towards Dementia among Clinical Years Medical Students at Jazan University: A Cross-sectional Study

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Abstract

Background: The literature suggests that training in dementia among medical students appears to be inadequate. This study aimed to evaluate medical students' knowledge and attitudes toward dementia. **Aim:** To assess knowledge and attitudes of Saudi medical students towards dementia. **Methods:** This cross-sectional study was conducted at College of Medicine, Jazan University, Jazan, Saudi Arabia using a sample of 241 medical students from clinical years (4th, 5th, and 6th). A structured and self-assessment questionnaire was used and included the socio-demographic data and questions related to knowledge and attitudes toward dementia. Data were presented as frequency and percentage, and as mean and standard deviation (SD). **Results:** A total of 241 participants agreed to take part in our study; 155 (64.3%) of them were females. Only 44 (18.3%) participants stated that they had a good training in dementia (mostly theoretical, 16.6%) and 17 (7.1%) mentioned having an extracurricular course in the subject. Out of 14 questions, participants obtained a mean of 1.49 (SD = 1.48). Regarding attitudes, participants agreed that much can be done to improve the quality of life of patients with dementia and their caregivers, that it is useful to provide the diagnosis of dementia to the family, and that dementia is better diagnosed in specialized service units. **Conclusions:** The findings of the present study suggest that while medical students generally have positive attitudes toward dementia, they have poor knowledge about the subject. More effort is needed to bridge knowledge gaps in dementia understanding at undergraduate level.

Keywords: Knowledge, Attitudes, Dementia, Medical students, Saudi Arabia.

1. Introduction

Dementia is a common and incapacitating syndrome with huge impact on patients and societies. It represents a wide variety of neurological, psychiatric and medical conditions with significant impairment in cognitive abilities that interfere with everyday life [1]. Globally, 47 million people were estimated to be suffering from dementia in 2015, and they are projected to reach 75 million by 2030 and 135 million by 2050 [2]. Regionally, the proportion of Saudi population living with dementia represents the upper range compared to developing and developed countries [3]. It is noteworthy that the age of Saudis is shifting towards elderly which is expected to represent 25% of the total population by 2050. These trends should direct our attention to applying strategies for dementia prevention given the mounting evidence on the role of multifactorial intervention in dementia prevention [3].

As per NICE/SCIE guidelines [National Collaborating Centre for Mental Health (UK), 2007], there is a need to improve awareness, skills and attitudes of health professionals responsible for taking care of people with dementia. Increasing public understanding of dementia is also recommended to make communities more "dementia-friendly" [4]. The role of a dementia-friendly community is to strengthen the relationship between people with dementia and their caretakers so that they can actively participate in decision-making process [5], helping them to remain independent and to be able to have control on their lives as long as they can [6].

Improving young adults' knowledge and attitudes toward dementia is particularly important given the ever increasing susceptibility to the disease. Therefore, educating young people about dementia in schools is on way into achieving this in a standardized manner. Internationally, nursing and medical students generally carry positive attitudes toward people with dementia [7,8],

although the depth of knowledge of these students is still concerning [7,9]. One study of final year medical students in Brazil found that students had only theoretical knowledge in dementia and lack practical training [10].

To the best of our knowledge, little is known about medical students' attitudes and knowledge of dementia in Saudi Arabia. This study aims to evaluate the knowledge and attitudes of medical students towards dementia at a large University in Saudi Arabia. The findings of this study may serve as a paradigm for the local research on the subject.

2. Materials and methods

2.1 Study design, settings and population

An observational cross-sectional survey was conducted in Jazan University in the academic year 2019. The target subjects were both male and female medical students in the clinical years. According to Jazan University curriculum, clinical years in the college of medicine are the 4th, 5th, and 6th years. Medical students were recruited through social media and invited to participate in the survey. Included in the study were all clinical years medical students who accepted to fill the study questionnaire. A sample of 241 students was calculated using a 95% confidence level, 5% margin of error and assuming a previous prevalence of 50% because there is no prior data on the subject in Jazan region.

2.2 Data Collection and quality control

Data were collected using Arabic, structured, and self-assessment questionnaire consisted of 30 questions presented in three parts. The questionnaire was adopted from a previous study on Brazilian medical students [10]. Respondents were firstly asked about some socio-demographic details including age, sex, year of study and any previous training in dementia. The remaining items of the questionnaire assessed respondents' knowledge about dementia in 14 questions. The knowledge section included questions on the epidemiology, diagnosis and management of people with dementia. Finally, respondents' attitudes toward people with dementia were

assessed using 10 a 5-responses Likert scale (Strongly agree, agree, neutral, disagree, and strongly disagree).

2.3 Data management and analysis

The questionnaire papers were verified and entered at home and then merged into one device. Categorical variables were described by frequencies and percentages, while numerical variables were presented as a mean and standard deviation. Associations were considered statistically significant if $p > 0.05$. The analysis was conducted using Statistical Package of Social Sciences (SPSS) Version 20 (SPSS Inc., Chicago, IL).

2.4 Ethical consideration

Our study was conducted in accordance with the ethical standards of the Kingdom of Saudi Arabia. A verbal consent was obtained from all the participants after a prior orientation regarding the objectives and benefits of the project. Participants then read, understood and answered the questions accordingly. They have been told that they have all rights to participate and their information will be kept anonymous and confidential. The study ethical clearance was obtained from Ethical Committee at Jazan University.

3. Results

A total of 241 participants (88.9%) agreed to take part in this study; 155 (64.3%) of them were females. The final sample consisted of clinical years medical students; 113 (46.9%) from the 4th year, 95 (39.4%) from the 5th year, and 33 (13.7%) from the 6th year. Regarding the questions about having a good training in cognitive impairments, only 44 (18.3%) students responded positively and 17 (7.1%) mentioned having an extracurricular course in the subject of dementia. Of the 55 students responded to the question regarding the type of training, 40 (16.6%) had a theoretical training and 15 (6.2%) had both theoretical and practical training. Table 1 describing the Sociodemographic characteristics of the study participants.

Table 1: Sociodemographic characteristics of study participants (N=241)

Sociodemographic characteristics	n (%)
Sex	
Male	86 (35.7)
Female	155 (64.3)
Year of study	
4 th	113 (46.9)
5 th	95 (39.4)
6 th	33 (13.7)
Did you have good training in cognitive alterations?	
Yes	44 (18.3)
No + do not remember	197 (81.7)
Have you taken any extracurricular courses on the subject?	
Yes	17 (7.1)
No + do not remember	224 (92.9)
If yes, the training in cognitive alterations was:	
Theoretical	40 (16.6)
Theoretical and practical	15 (6.2)
* The total percentage does not add to 100% because of missing values.	

Table 2 displays subjects' correct responses to the knowledge questionnaire. Only questions 2 and 3 revealed a higher percentage of correct answers. The subjects obtained a mean score of 1.49 (SD = 1.48) in the knowledge questionnaire out of a total scoring scale of 14 points. These results indicate a generally poor knowledge about cognitive alterations in dementia among the study subjects (Appendix A).

Table 2: Correct answers in the knowledge questionnaire

Questions	Correct answer n (%)	
Epidemiology	1. General clinic with a list of 1,000 persons aged 60 years or older must wait to have the following approximate number of persons with dementia on this list:	45 (18.7)
	2. Starting from 65 years of age, the prevalence of dementia is:	105 (43.6)
	3. One of the risk factors for developing Alzheimer's disease is:	168 (69.7)
Diagnosis	4. All of the following are potentially treatable etiologies of dementia, except:	67 (27.8)
	5. Patients with suspected dementia must be evaluated as soon as possible, since:	35 (14.5)
	6. Which of the following procedures is necessary to confirm definitively that the symptoms are caused by dementia?	6 (2.5)
	7. Which of the alternatives is not necessary in the initial evaluation of a patient with suspected dementia?	43 (17.8)
	8. Which of these alternatives can resemble dementia?	33 (13.7)
	9. When a patient presents a sudden onset of confusion, disorientation and incapacity to maintain attention, this clinical picture is more compatible with a diagnosis of:	36 (14.9)
	10. Which of the following options is almost always present in dementia?	16 (6.6)
	11. Which of the following clinical findings best differentiate vascular dementia from the dementia of Alzheimer's disease?	29 (12.0)
Management	12. The effect of anti-dementia medications act on:	24 (10.0)
	13. Which statement on the treatment of demented patients with depression is true?	4 (1.7)
	14. For what purpose does the ABRAZ Brazilian association supply information to patients and caretakers?	47 (19.5)

Appendix A: Correct answers in the knowledge questionnaire

Question	Correct answer	
	Count	Percentage %
1. A general practitioner with a list of 1,500 – 2,000 persons aged 60 years or older can expect to have the following number of people with dementia on their list :	35	17.59
2. Starting from 65 years of age, the prevalence of dementia is :	108	54.27
3. One of the risk factors for the development of Alzheimer’s disease is :	150	75.38
4. All of the following are potentially treatable etiologies of dementia except :	99	49.75
5. Patients with suspected dementia must be evaluated as soon as possible as :	57	28.64
6. Which of the following procedures is required to definitely confirm that symptoms are due to dementia?	19	9.55
7. Which of the following alternatives is not a necessary part of the initial evaluation of a patient with possible dementia?	86	43.22
8. Which of the following alternatives can resemble dementia?	4	2.01
9. When a patient develops a sudden onset of confusion, disorientation, and inability to sustain attention, this presentation is most consistent with the diagnosis of :	65	32.66
10. Which of the following is almost always present in dementia?	39	19.60
11. Which of the following clinical findings best differentiates vascular dementia from dementia of Alzheimer's disease?	94	47.24
12. The effect of anti-dementia drugs is to :	48	24.12
13. Which statement is true concerning the treatment of dementia patients who are depressed?	38	19.10
14. Which of the following best describes the functions of the Alzheimer’s Disease Society?	94	47.24

According to Table 3, the majority of students agreed that much can be done to improve the quality of life of patients with dementia and their caregivers. Also, the majority agreed that it is useful to provide the diagnosis of dementia to the family and that dementia is better diagnosed in specialized service units (Appendix B).

Table 3: Distribution of students’ attitudes towards dementia

Attitudes	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Much can be done to improve the quality of life of caregivers of persons with dementia	77 (32.0)	92 (38.2)	60 (24.9)	7 (2.9)	5 (2.1)
2. The families prefer to be informed about the dementia of their relative as rapidly as possible	94 (39.0)	2 (0.8)	88 (36.5)	44 (18.3)	5 (2.1)
3. Much can be done to improve the quality of life of persons with dementia	80 (33.2)	96 (39.8)	48 (19.9)	13 (5.4)	4 (1.7)
4. Providing the diagnosis is generally more useful than harmful	90 (37.3)	83 (34.4)	54 (22.4)	8 (3.3)	6 (2.5)
5. Dementia is better diagnosed in specialized service units	73 (30.0)	79 (32.8)	74 (30.7)	8 (3.3)	7 (2.9)
6. The patients with dementia can drain resources with little positive result	17 (7.1)	46 (19.1)	132 (54.8)	32 (13.3)	14 (5.8)
7. It is better to speak with the patient utilizing euphemisms	18 (7.5)	100 (41.5)	99 (41.1)	10 (4.1)	14 (5.8)

8. Treating dementia tends to be more frustrating than gratifying	17 (7.1)	43 (17.8)	120 (49.8)	39 (16.2)	22 (9.1)
9. Directing families to specialized services is not worth the effort when they do not want to use them	22 (9.1)	59 (24.5)	110 (45.6)	35(14.5)	15 (6.2)
10. The primary care team has a very limited role in the care of persons with dementia	39 (16.2)	69 (28.6)	82 (34.0)	37 (15.4)	14 (5.8)

Appendix 2: The attitudes of medical students in dealing with an elderly patient with dementia and dementia care						
Attitudes	Agree		Neutral		Disagree	
	Count	Percentage %	Count	Percentage %	Count	Percentage %
Much can be done to improve the quality of life of caregivers of persons with dementia?	91	45.70%	32	16.10%	76	38.20%
The families prefer to be informed about the dementia of their relative as rapidly as possible?	175	87.90%	20	10.10%	4	2%
Much can be done to improve the quality of life of persons with dementia?	159	79.90%	37	18.60%	3	1.50%
Providing the diagnosis of dementia is usually more helpful than harmful?	163	81.90%	32	16.10%	4	2%
Dementia is better diagnosed in specialized service units?	124	62.30%	66	33.20%	9	4.50%
Patients with dementia can be a drain on resources with little positive outcome and result?	79	39.70%	99	49.70%	21	10.60%
It is better to talk to the patient in euphemistic terms?	71	35.70%	104	52.30%	24	12.10%
Treating dementia tends to be more frustrating than rewarding?	59	29.60%	64	32.20%	76	38.20%
Directing families to specialized services is not worth the effort when they don't want to use them?	59	29.60%	60	30.20%	80	40.20%
The primary care team has a very limited role to play in the care of persons with dementia?	75	37.70%	44	22.10%	80	40.20%

4. Discussion

This study aimed to evaluate dementia knowledge and attitudes among medical students in Saudi Arabia.

The results of the present study suggest that medical students have a poor level of knowledge about dementia. The proportion of correct responses did not exceed 25% in all parts of knowledge section. Whilst it could be argued that knowing certain items (e.g. the role of Alzheimer’s Disease Society) is neither essential nor expected, it is noteworthy that a large proportion of participants were unable to correctly answer more basic questions, e.g. etiology of dementia (72.2% incorrect), diagnosis confirmation (97.5% incorrect), and the role of anti-dementia medications (98.3%). We also argue that the subjects' poor knowledge about dementia cannot be attributed to the nature of questionnaire and difficulty of questions. Another study which used the same items showed that almost 50% medical students correctly answered knowledge questions^[10]. Furthermore, these findings could be reasonably attributed to educational gaps in students’ training, an explanation supported by the finding that 81.7% of participants denied having any training in dementia and 92.9% denied having any extracurricular courses in the subject.

Participants showed generally positive attitudes, confirming previous findings that medical students have generally positive attitudes toward dementia ^[7,8,10]. However, there are still areas to improve, e.g. almost a quarter (24.9%) agreed that “Treating dementia tends to be more frustrating than gratifying”.

The main limitation of the present study is the use of a non-validated measure of knowledge and attitudes of dementia. Whilst the items were adopted from an established questionnaire ^[10], the fact that the measure was not specifically designed for the current sample could influence participants’ responses, either in wording or the responses. The self-administered questionnaire will also influence how the present findings are compared to other findings;

however the items were already made available in this study for future comparisons on individual items.

5. Conclusion and recommendation

This study provides evidence of knowledge gaps in the subject of dementia, but it shows generally positive attitudes toward dementia in Saudi medical students. Future studies are recommended to find out whether these findings are unique to the present sample, and if not, what are the most effective methods of promoting knowledge and attitudes toward dementia in medical students in general. Ensuring that education in dementia constitutes a part of the curriculum will help in increasing students’ awareness of the disease.

6. Data Availability Statement

The data used to support the findings of this study is available from the corresponding author upon request.

7. Conflicts of interest

The authors declare they have no conflicts of interest.

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