

# Awareness and Care Giving Attitudes of Medical Undergraduates towards Alzheimer's Disease - A Cross Sectional Study

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## ABSTRACT

**Background:** Alzheimer's disease is a severely debilitating disease that affects the number of elderly across the world. People especially the caregivers are bit reluctant to take care of such patients particularly because of the rapid progression of the disease and very little hopes of them to recover.

**Aim:** To evaluate the awareness, approach and care giving attitude of medical students towards the patient suffering from Alzheimer's disease.

**Methods:** A cross sectional study was carried out on medical undergraduates in CMH LMC IOD. A questionnaire including demographic profile, 11 awareness and 11 attitude questions was fulfilled by 384 students.

**Results:** Overall, >90% people knew the basic knowledge like primary symptoms, age of onset, genetic predisposition and role of gender in getting disease. About 75% students know about the treatment options, mortality rate and diagnostic techniques. Awareness score revealed that 85% of students had adequate information about Alzheimer's disease. MBBS students and nursing students had considerably enhanced understanding in contrast with other undergraduates. As far as attitude is concerned, >70% of students demonstrated positive attitudes amongst which the nursing students were on top.

**Conclusion:** The undergraduates demonstrated better knowledge and positive attitude care giving skills attitudes towards patients of Alzheimer's disease with a noticeable differentiation as far as various disciplines are concerned. Additional attempts are still needed to remove the stigma and hesitation concerned with such patients.

**Keywords** Alzheimer's disease, Elderly, Distress, and Stigma Knowledge

## INTRODUCTION

The majority of research works, though, propose that the reason is Alzheimer's disease for commonly occurring cases of mental mutilation in elderly ranging from moderate to severe, set as clinical (instead of being pathological) measure for the malady. The sufferings of persons and their families from Alzheimer's disease (AD) is very overwhelming, by keeping the time of occurring the disease aside<sup>1</sup>. As far as the neuropathology of AD is considered, it consists of weak plaques and neurofibrillary tangles in the brain, particularly in the hippocampus and the cerebral cortex<sup>2</sup>. The neurofibrillary tangles consist of corresponding helical filaments of the microtubuli-linked protein tau, in a peculiarly phosphorylated structure<sup>3</sup>. Moreover, thinking and perception worsening other manifestation for example confrontation belligerence melancholy as well as obsession are frequently seen in patient, together with those with AD<sup>4</sup>. A main provocation to academic attempts is that community has prejudice toward both psychological ailments and mellowing<sup>5</sup> and AD in meticulous may hold an unconstructive disgrace establish that 31% of elderly proclaim worrying AD further than other lethal maladies, such as tumor or blow. A widespread pigeonhole about elderly is that they are or will become "decrepit" and the analytical tag of AD alone may obtain sympathy<sup>6</sup>.

Health caretakers must be organized to face the healthiness worry challenges associated with caring for this vulnerable group. Awareness about AD and the difficulties of caring for its sufferers are essential to give the adequate help for patients and their attendants<sup>7</sup>. Care giving-related depression may elevate attendants' menace for sting and insomnia troubles particularly by delaying the deleterious influences of attendants' tension. According to social-cognitive theory, people who face intense constant worry can sequel between unnecessary thinking or approach concerning the stressor and repression of these views and stance<sup>8</sup> informing sufferer with AD of their disease is difficult and is laden with moral problems. Doctors are hesitant to reveal findings of this disease to concerned people because they think that it can affect the recovery process of their patient<sup>9</sup>. Many physicians are inclined to tell family of the pitiful conclusion also

about the disease progression, because in the majority instances patients are brought to the professional health care by their close association. Caretakers frequently request physicians not to enlighten the serene about AD<sup>10</sup>. Latest logical reviews have recognized a diversity of interventions that emphasize on civilizing student approach on the way to old care, such as elder guidance, moralistic and pragmatic sitting, intergenerational scheme, mellow duplications, amusements-based and the public contact scheme, and Web-based curricula amongst others. To have an idea about the knowledge of medical students of CMH Medical College towards AD and their attitude with such patients in order to take measures accordingly.

The objective of the study was to assess the awareness about AD and their attitude with the patients who are a lot more dependent on others for their needs especially with their fluctuating condition, agitation, aggression, depression and dementia

## MATERIALS AND METHODS

**Study Duration and Population:** Knowledge, Attitude and Practices (KAP) study was conducted at local medical college in Lahore, Pakistan during September and October. The inclusion criterion is those studying MBBS, BDS, Nursing and Allied Health Sciences with no person from any other field.

**Sample Size and Study Design:** We requested 450 medical students to fill out our survey forms and 384 agreed to take part in our study. Random sampling was done in this qualitative study. The cooperation rate was 85.33%. The sample size was calculated (through RaoSoft, using the formula =  $Z^2 * P(1-P)/m^2$ ) to be 384 with a 95% confidence interval and 5% error margin. Using random sampling, 384 students were selected. An informed consent was taken. The questionnaire was kept simple and confusions of students were removed. All participants were told that their answers would remain secret and they can leave from the research whenever they want. The questionnaire (obtained from a previous KAP study done on Alzheimer's disease<sup>11</sup>) consisted of four parts:

1. Demographic profile i.e., age, gender, study year and discipline
2. Questions to determine source of knowledge
3. Ten questions about knowledge
4. Eleven questions to know the attitude

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**Statistical Analysis:** Scrutiny and confirmation of data was done via SPSS version 25.0. The data is shown as percentages in the tables.

**RESULTS**

Three hundred and eighty four medical students filled the form. The students had an age gap of ranged of 18 to 28 years, which was separated into two sets. Set A had age group of 18-21 and Set B had age group from 22-28. 77.9% students were in Set A and 22.1 % in Set B. Table 1 shows the attributes of the students. 41.4% of the respondents were Male and 58.6% were females. Study groups include 251 MBBS students (65.4%), 43 BDS students (11.2%), 47 nursing students (12.2%) and 43 Allied Health Sciences students (11.2%).

Table 2 shows that it was a conception of about 80% of the students that they had ample information about Alzheimer's disease. Among the mode of information concerned; social media was on top (204 of respondents 63.7%) and then Television (69 respondents 21.6%). About 52 respondents (13.5%) had no information about Alzheimer's disease and 25(6.5%) were totally unaware about it.

Table 3 shows the amount of information of medical students about Alzheimer's disease. 374 participants (97.4%) knew that chief symptom of AD is memory loss. 366 respondents (95.3%) knew that initial symptoms of AD happen by age 60. 353 participants (91.9%) were well-acquainted that a gene responsible for AD had been discovered . Only 140 of the students (37.5%) were aware that the symptoms of AD can be treated via drugs . 250 respondents (65.1%) had acquaintance that there is no cure for AD. 298 students (77.6%) were aware that AD cannot be diagnosed by blood tests. 243 of the participants (63.3%) that suffers of AD are very much in the world now-a-days. 326 (84.9%) thought that people cannot die of AD within two years of ailment.324 (84.4%) knew that it is common type of cognitive impairment among elderly.353(91.9%) knew that women are at high risk to develop AD and 346(90.1%) AD can be prevented by using drugs.

Table 4 shows the attitude of the undergraduate medical students towards Alzheimer disease. 365 of the participants (96%) found it gratifying to serve patients of AD. 180 students 47.3% were not at all troubled by such people. 347 participants (90.4%) are calm while making contact with AD patient. 220 students

(57.8%) are comfortable being around the people with AD.200 people (52.6%) would not stay away from an frantic individual. 350 participants found it significant to take into account the past history of a person. 46% participants agreed that they can enjoy with such patients. 150 students thought that people with dementia have emotional feelings. 353 students didn't think that they are bothered with people of AD. 21.8% people think that they can't take care of AD sufferer. 76 students think that they can devise ways to ameliorate the life of person with AD.

Table 1: Attributes of the students, 2020 (n=384)

Characteristic	Participants%
Gender	
Male	159 (41.4%)
Female	225 (58.6%)
Age	
Set A (18-22 years)	299 (77.9%)
Set B (23-28 years)	85 (22.1%)
Discipline	
MBBS	251 (65.4%)
BDS	43 (11.2%)
Nursing	47 (12.2%)
Allied Health Sciences	43 (11.2%)
Grade	
1 <sup>st</sup> grade	100 (26%)
2 <sup>nd</sup> grade	148 (38.5%)
3 <sup>rd</sup> grade	85 (22.1%)
4 <sup>th</sup> grade	26 (6.8%)
5 <sup>th</sup> grade	25 (6.5%)

Table 2. Insight about Awareness and basis of awareness of AD of the students (n=384)

Question	Answer
Do you have an understanding of Alzheimer's disease?	
Yes	307 (79.9%)
No	52 (13.5%)
Don't Know	25 (6.5%)
If yes, What is means of information?	
Ministry of Health Website	26 (6.8%)
Social Media	204 (53.1%)
Newspaper	15 (3.9%)
Television	69 (18.0%)
Others	6 (1.6%)

Table 3. Awareness of medical students about Alzheimer's disease

Questions	Correct Answer%
1. The most important indication of Alzheimer's disease is memory loss. (True)	374 (97.4)
2. The first symptoms of Alzheimer's disease usually occur before 60 years. (False)	366 (95.3)
3. A gene causing Alzheimer's disease had been found. (True)	353 (91.9)
4. Drugs are available to treat the symptoms of Alzheimer's disease. (True)	140 (37.5)
5. Alzheimer's disease is untreatable to date. (True)	250 (65.1)
6. AD can be detected by a blood test.(False)	298 (77.6)
7. The prevalence of Alzheimer's disease has markedly increased. (True)	243 (63.3)
8. Alzheimer's disease is a fatal condition. (False)	326 (84.9)
9. Alzheimer's disease is the most prevalent among elderly affecting cognition. (True)	324 (84.4)
10. Incidence of AD is more in men than women. (True)	353 (91.9)

Table 4. Attitude of Undergraduate Medical Students towards Alzheimer's Disease

Questions (Correct Answer)	Response% <sup>a</sup>
1. It is gratifying to serve patients of AD. (Agree)	365 (96)
2. I am not troubled by people of AD. (Disagree)	180 (47.3)
3. I am comfortable touching people with AD. (Agree)	347 (90.4)
4. I feel calm while making contact with AD patient. (Agree)	220 (57.8)
5. I would stay away from a frantic individual. (Disagree)	200(52.6)
6. It is significant to take into account past history of people with AD. (Agree)	350 (92.2)
7. It is feasible to get pleasure from people with AD. (agree)	175 (46)
8. AD sufferers have emotional feelings. (Agree)	150(39.4)
9. I am bothered by people of AD. (Disagree)	353 (91.3)
10. I cannot imagine taking care of someone with dementia. (Disagree)	80 (21.8)
11. We can devise ways to ameliorate the lives of AD sufferer. (agree)	76 (20.8)

## DISCUSSION

AD has become very common these days affecting number of elderly world over also indicated by previously done researches [1] and it is a subject of a lot of discussions in various circles and so medical students. The study aims to focus on the knowledge and attitude of medical undergraduates towards suffer of AD who are decrepit and need a lot of care and attention leaving a high responsibility over them. It also aims to find out opinion about the disease, the level of patience needed to take care of elderly and to take care of the disability along with later onset of various infections in order to set a base line reference for proper nursing care of the patient. This might be helpful in the later establishment of educational career.

From the table 2 it can be deduced that 53.1% of students use social networking websites as a means of knowledge which is a direct relation between two. This immense use of social media has pros as well as cons. It is beneficial, versatile and easily available source but it facilitates a widespread of false knowledge<sup>12</sup>. It puts an increased responsibility on government to check for such news and also on medical students to validate the information before applying.

Examples describing this association are awareness of about 97.4% of the respondents about the primary symptom of AD to be memory loss. 95.3% about the age of onset of disease, 91.9% know about the discovery of gene that causes AD.

Only a very few respondents 37% knew how to treat a patient suffering from AD. One reason might be that AD patients are highly dependent on others for their basic needs and since it is a neurological phenomenon so it is considered to be linked with psychosis particularly due to its association with depression and cognitive impairment<sup>13</sup>. It is very often confused with it. Also it is widely known that AD patients cause a lot of trouble for their care givers<sup>14</sup>.

Many of the participants know that AD has no known cure to the date. This is adding fuel to the fire and is a major cause of the agony, denial and apprehensions associated with this disease. Also sound information is present among participants that no blood test can be done to diagnose this disease further implying that chemical basis of disease is not known and no preliminary measures can be taken to prevent or stop the disease which is further making the condition worse<sup>15</sup>.

A goodly number of people about 64% know that incidence of AD is quite high during the recent years and about 65% know that it is one of the most common cognitive impairment known so far. This is present so far because AD is so much stigmatized and enlightened in terms of awful disease that people only feel sympathy with the affected one as happened with most of the neurological diseases<sup>16</sup>.

On this observe, 79.9% scientific college students had sufficient information about AD. The effects factor out the need for enhanced and organized means to raise the extent of recognition among scientific students. As predicted, field and yr of examine become considerably associated with better tiers of facts college students of MBBS and nursing and in a senior grade showed better understanding and attention particularly because of their more interaction with such patients during their clinical rotation as compared to those of BDS and Allied health sciences students.

Majority had an overall hopeful viewpoint in having empathy with the person suffering from AD. As they found it really rewarding to work with person who suffers AD particularly because of their devotion to the field of medicine and their energy that keep them motivated and passionate about their work and they don't feel any kind of fear<sup>17</sup>. It is important to note is that about half of the respondents are worried about taking care of the people with AD as they find it difficult to help them as shown in previously done research<sup>9</sup>. This is might be due to the agitation in people with AD along with lack of proper guide lines to help the person so the medical students should emphasize on introducing the programs

associated with taking care of such people with an increasing number of symposiums, summits and seminars to discuss such grimacing condition. This might be due to lack of awareness about the grimness of the disease<sup>18</sup>. Very few participants believe that the patients suffering from AD have no emotions or feelings this is because of the very widely established fact that AD is disease of cognitive impairment and also the bizarre expressions of them as they are unable to relate their thinking with their environment which is widely misunderstood<sup>19</sup>.

Three hundred and fifty students showed an that an account of patient's past medical history and family history carry a lot more significance in understanding the etiology of disease and catching the disease early so a good prognosis regarding the disease can be made<sup>20</sup>.

About 91.3% of the students showed interest in getting most of the information about the disease. Majority showed empathy with AD sufferers as it is a disease of cognitive impairment but many find it difficult to treat the AD patients or understand their feelings particularly because of the increased level of stigma associated and an overall misconception of linking cognitive impairment with loss of emotions [21]. Many did not consider improving their quality of life because of the established fact that AD is a progressive disease in elderly and is untreatable over the years<sup>22</sup>.

### Study Limitations and Recommendations:

- Questionnaire data may have been discussed to provoke discrimination and unfair discrimination.
- Our research was limited to a single medical facility in Lahore, Pakistan's Punjab region, so the results shown here may not apply to other parts of the country.

Therefore, further conduct of comprehensive studies from other regions in Pakistan is essential to investigate the awareness and attitude of students across the country.

## CONCLUSION

Medical undergraduates of CMH Lahore have demonstrated adequate knowledge and positive attitudes towards Alzheimer's disease with a noticeable distinction in the level of understanding among the various categories. A general perception about the ill progression of AD should be minimized and students should be encouraged to find the solutions of problems faced by patient of AD.

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