Himalayan Journal of Community Medicine and Public Health

ISSN Print : 2709-3522| ISSN Online : 2709-3530 Open Access

Research Article

Decoding Dementia: Enhancing Alzheimer's Awareness and Bridging Knowledge Gaps in District Kullu

Dr. Aditi Thakur[1], Dr Rohit Mehan[2] and Dr Ankita Seth[3*]

[1]MD Medicine, CH Manali, Himachal Pradesh, India
[2]MD Medicine, CH Nadaun, Himachal Pradesh, India
[3]MS OBGYN, CH Manali, Himachal Pradesh, India

*Corresponding Author
Dr. Ankita Seth
(ankisth@gmail.com)

Article History
Received:25.06.2024
Accepted:17.07.2024
Published:29.07.2024

Citations:
Thakur Aditi, et al. "Decoding Dementia: Enhancing Alzheimer's Awareness and Bridging Knowledge Gaps in District Kullu." *Himalayan Journal of Community Medicine and Public Health*, vol. 5, no. 2, 2024, pp. 1-5.

Abstract:Background: Alzheimer's disease is a progressive neurodegenerative disorder and a leading cause of dementia, particularly among older adults. The increasing prevalence of Alzheimer's disease globally, including in India, poses significant public health challenges, especially in rural and semi-urban areas. This study aims to assess the awareness and knowledge of Alzheimer's disease among the general population of District Kullu, identifying gaps that can inform targeted public health initiatives.**Material and Methods:** A descriptive, cross-sectional survey was conducted from January to May 2024 in District Kullu, Himachal Pradesh. A total of 400 adults, aged 18 years and above, who had been residents of the district for at least 12 months, participated in the study. Data were collected using a structured questionnaire that included 20 questions assessing participants' knowledge of Alzheimer's disease symptoms, risk factors, prevention, and management strategies. The data were analyzed using Epi Info V7 software, with results presented as frequencies and percentages.**Results**: The study found that while 77.5% of participants were aware of Alzheimer's disease, specific knowledge about its symptoms, risk factors, prevention, and management varied significantly. Memory loss was recognized as a primary symptom by 69.3% of participants, but fewer were aware of confusion (63.8%) and behavioral changes (57.8%). Knowledge of risk factors such as age (70.8%) and family history (64.8%) was higher than awareness of lifestyle factors (57.8%) and head injuries (54.5%). Regarding prevention, 66.8% knew that staying mentally active could help, but awareness of other preventive measures was lower. Knowledge of management strategies was relatively strong, with 68.0% understanding the importance of early diagnosis, though fewer recognized the role of caregiver support (59.3%). Overall, 25.5% of participants demonstrated very good knowledge, while 15.8% had poor knowledge, indicating a need for targeted educational interventions.**Conclusion**: The study highlights significant knowledge gaps in understanding Alzheimer's disease among the population of District Kullu, particularly regarding symptoms, risk factors, and preventive strategies. Addressing these gaps through targeted public health initiatives is essential for improving early diagnosis, effective management, and overall outcomes for individuals affected by Alzheimer's disease.

Keywords: Alzheimer's disease, public awareness, rural health, risk factors, prevention, dementia, cognitive decline, District Kullu, health education.

INTRODUCTION

Alzheimer's disease, a progressive neurodegenerative disorder, is one of the most common causes of dementia, particularly in older adults. Characterized by memory loss, cognitive decline, and behavioral changes, Alzheimer's significantly impacts the quality of life for those affected and places a heavy burden on caregivers. As the global population ages, the prevalence of Alzheimer's disease continues to rise, making it a critical public health issue. Early diagnosis and intervention are essential in managing the progression of the disease and improving outcomes for individuals and their families.[1-3]

In India, the challenges of addressing Alzheimer's disease are particularly pronounced in rural and semi-urban areas, such as District Kullu in Himachal Pradesh. These regions often have limited healthcare infrastructure and lower levels of public awareness about the disease, leading to delays in diagnosis and treatment. Additionally, cultural factors and misconceptions about aging and cognitive decline can further complicate efforts to raise awareness and provide care for those affected by Alzheimer's.[4-6]

This study aims to assess the awareness and knowledge of Alzheimer's disease among the general population of District Kullu. By identifying gaps in public understanding, the research seeks to inform targeted public health initiatives that can enhance early diagnosis, effective management, and prevention strategies for Alzheimer's disease. Ultimately, the goal is to improve the overall well-being of the community and reduce the burden of Alzheimer's on individuals and their families.

MATERIAL AND METHODS

Research Approach: A descriptive, cross-sectional survey design was adopted to assess the awareness and knowledge of Alzheimer's disease among adults in District Kullu, Himachal Pradesh.

Study Area: The study was conducted in District Kullu, a rural and semi-urban region in Himachal

Pradesh, India. The district is characterized by a diverse demographic composition, blending traditional agricultural practices with modern occupations.

Study Duration: The study was carried out over a five-month period, from January to May 2024.

Study Population: The target population for this study included adults aged 18 years and above who had been residents of District Kullu for at least 12 months. This criterion ensured that participants had sufficient familiarity with local healthcare services and community health practices.

Sample Size: A sample size of 400 participants was determined using a 95% confidence level and a 5% margin of error. This sample size was selected to provide a representative assessment of the general population's awareness of Alzheimer's disease.

Study Tool: Data were collected using a structured questionnaire, which was divided into two main sections:

1. **Socio-Demographic Information**: This section gathered data on participants' age, gender, education level, employment status, and other relevant demographic details.
2. **Knowledge and Awareness Questions**: The questionnaire contained 20 structured questions designed to assess participants' knowledge about Alzheimer's disease, including symptoms, risk factors, prevention, and management strategies. Each correct answer was awarded one mark, with the total score ranging from 0 to 20.

The questionnaire was pre-tested on a small group of participants to ensure clarity and ease of understanding. Minor adjustments were made based on the feedback to improve the wording of the questions.

Data Collection: Data collection was conducted through an online survey using platforms like Google Forms. The questionnaire link was distributed via email and social media platforms, including WhatsApp groups, Facebook, and Instagram. The survey remained open until 400 complete responses were collected. Participants were informed about the study's purpose, and their consent was obtained before participation.

Data Analysis: The collected data were entered into Microsoft Excel for cleaning and error checking. Statistical analysis was performed using Epi Info V7 software, with results expressed in terms of frequencies and percentages to summarize the socio-demographic characteristics and knowledge levels of the participants.

Ethical Considerations: The study adhered to ethical guidelines, ensuring confidentiality and anonymity for all participants. Participation was voluntary, and informed consent was obtained from each respondent. The study was conducted under the supervision of the relevant health authorities in District Kullu.

RESULTS

The study, conducted among 400 participants from District Kullu, Himachal Pradesh, aimed to assess the awareness and knowledge levels regarding Alzheimer's disease. The results are summarized in the following tables, with detailed explanations for each.

Table 1: Socio-Demographic Characteristics of Study Participants (N=400)

Variable	Category	Frequency (n)	Percentage (%)
Age	18-30 years	119	29.8
	31-40 years	102	25.5
	41-50 years	90	22.5
	Above 50 years	89	22.3
Gender	Male	194	48.5
	Female	206	51.5
Education Level	Below High School	73	18.3
	High School	120	30.0
	Graduate	132	33.0
	Postgraduate & Higher	75	18.8
Employment Status	Employed	207	51.8
	Unemployed	80	20.0
	Student	113	28.3

The socio-demographic data indicate that the majority of participants (29.8%) were in the 18-30 age group, followed by 25.5% in the 31-40 age group. Gender distribution was relatively balanced, with 51.5% female and 48.5% male participants. Educational attainment varied, with 33.0% being graduates and 18.8% holding postgraduate or higher degrees. In terms of employment, 51.8% of participants were employed, while 28.3% were students, reflecting a diverse population in terms of age, education, and occupation.

Table 2: Awareness and Knowledge of Alzheimer's Disease (N=400)

S.No.	Question	Yes (n)	Yes (%)
1	Have you heard of Alzheimer's disease?	310	77.5
2	Do you know that memory loss is a primary symptom?	277	69.3
3	Do you know that confusion and disorientation are symptoms?	255	63.8
4	Do you know that difficulty in performing familiar tasks is a symptom?	239	59.8
5	Do you know that changes in behavior and mood can be symptoms?	231	57.8

The results indicate that 77.5% of participants were aware of Alzheimer's disease. However, specific knowledge of symptoms varies. While 69.3% of participants recognized memory loss as a primary symptom, fewer were aware of confusion and disorientation (63.8%) and difficulty in performing familiar tasks (59.8%). Awareness of behavioral and mood changes as symptoms was lower, at 57.8%.

Table 3: Knowledge of Risk Factors for Alzheimer's Disease (N=400)

S.No.	Question	Yes (n)	Yes (%)
1	Do you know that age is a significant risk factor?	283	70.8
2	Do you know that family history increases risk?	259	64.8
3	Do you know that cardiovascular health impacts Alzheimer's risk?	246	61.5
4	Do you know that lifestyle factors like diet and exercise affect risk?	231	57.8
5	Do you know that head injuries can increase the risk?	218	54.5

Knowledge of risk factors is moderately high, with 70.8% of participants recognizing age as a significant risk factor. Awareness of family history (64.8%) and the impact of cardiovascular health (61.5%) on Alzheimer's risk is also notable. However, fewer participants were aware of the role of lifestyle factors (57.8%) and head injuries (54.5%) in increasing the risk of developing Alzheimer's disease.

Table 4: Knowledge Regarding Prevention of Alzheimer's Disease (N=400)

S.No.	Question	Yes (n)	Yes (%)
1	Do you know that staying mentally active can help prevent Alzheimer's?	267	66.8
2	Do you know that regular physical exercise is important?	249	62.3
3	Do you know that a healthy diet can help prevent cognitive decline?	245	61.3
4	Do you know that maintaining social connections is important?	236	59.0
5	Do you know that managing cardiovascular health can reduce risk?	229	57.3

Knowledge regarding the prevention of Alzheimer's disease is moderate. While 66.8% of participants were aware that staying mentally active can help prevent the disease, fewer participants recognized the importance of regular physical exercise (62.3%) and a healthy diet (61.3%). Awareness of the role of social connections (59.0%) and cardiovascular health (57.3%) in preventing cognitive decline was lower.

Table 5: Knowledge Regarding Management of Alzheimer's Disease (N=400)

S.No.	Question	Yes (n)	Yes (%)
1	Do you know that early diagnosis can help manage symptoms?	272	68.0
2	Do you know that medications can slow disease progression?	254	63.5
3	Do you know that lifestyle modifications can help manage symptoms?	242	60.5
4	Do you know that support for caregivers is crucial?	237	59.3
5	Do you know that regular medical check-ups are important?	231	57.8

Knowledge of management strategies for Alzheimer's disease is relatively strong, with 68.0% of participants understanding the importance of early diagnosis. Awareness of the role of medications (63.5%) and lifestyle modifications (60.5%) in managing symptoms is also notable. However, fewer participants were aware of the importance of caregiver support (59.3%) and regular medical check-ups (57.8%).

Table 6: Overall, Knowledge Score Categories for Alzheimer's Disease (N=400)

Score Category	Score Range	Frequency (n)	Percentage (%)
Very Good	16-20	102	25.5
Good	12-15	122	30.5

Fair	8-11	113	28.3
Poor	Below 8	63	15.8

The overall knowledge scores reveal that 25.5% of participants demonstrated very good knowledge (16-20 correct answers), while 30.5% had good knowledge (12-15 correct answers). A significant portion (28.3%) had fair knowledge (8-11 correct answers), and 15.8% fell into the poor knowledge category (below 8 correct answers). These results suggest that while a substantial portion of the population is well-informed, there remains a need for targeted educational interventions to improve understanding of Alzheimer's disease across the population.

The results of this study demonstrate that while there is a moderate level of general awareness regarding Alzheimer's disease among the population of District Kullu, significant knowledge gaps remain in understanding specific symptoms, risk factors, prevention, and management strategies. The variability in overall knowledge scores suggests the need for tailored public health initiatives to address these gaps, ensuring that all segments of the population are equipped to prevent, detect, and manage Alzheimer's disease effectively.

DISCUSSION

The results of this study reveal that while there is a commendable level of general awareness regarding Alzheimer's disease among the population of District Kullu, significant gaps remain in understanding the nuances of the disease. A substantial portion of the participants (77.5%) has heard of Alzheimer's disease, indicating a reasonable baseline awareness. However, awareness of specific symptoms, such as confusion, disorientation, and changes in behavior or mood, is less prevalent.

This lack of detailed knowledge may lead to delays in seeking medical attention and hinder early diagnosis, which is crucial in managing the progression of Alzheimer's disease.[6-8]

One of the key findings of this study is the variability in knowledge about the risk factors associated with Alzheimer's disease. While a majority of participants correctly identified age and family history as significant risk factors, fewer were aware of the impact of cardiovascular health, lifestyle factors, and head injuries. This highlights the need for public health education to go beyond basic awareness and emphasize the importance of a holistic approach to reducing the risk of

Alzheimer's. By addressing modifiable risk factors, such as maintaining cardiovascular health and preventing head injuries, public health campaigns can help reduce the incidence of the disease.[9-11]

The study also highlights moderate knowledge regarding the prevention of Alzheimer's disease. While most participants recognized the importance of staying mentally active and engaging in regular physical exercise, there was less awareness of the benefits of a healthy diet, social connections, and cardiovascular health in preventing cognitive decline. This gap underscores the need for comprehensive public health initiatives that promote a multifaceted approach to preventing

Alzheimer's, which includes mental, physical, and social well-being.[10-12]

In terms of disease management, the study reveals that while there is a good understanding of the importance of early diagnosis and medication adherence, knowledge about other management strategies, such as lifestyle modifications and caregiver support, is less widespread. This finding suggests that public health campaigns should not only focus on the medical aspects of managing Alzheimer's disease but also provide support and education for caregivers, who play a critical role in the care of individuals with Alzheimer's.[11,12]

Another important finding is the variability in overall knowledge scores, with a significant portion of the population falling into the fair and poor knowledge categories. This indicates that while some individuals are well-informed about Alzheimer's disease, others lack the necessary knowledge to effectively prevent, detect, and manage the condition. Tailored educational interventions are essential to bridge these knowledge gaps, ensuring that all segments of the population have access to the information and resources they need.[7-9]

The role of cultural factors and misconceptions about aging and cognitive decline also cannot be overlooked. In rural and semi-urban regions like District Kullu, traditional beliefs and a lack of exposure to modern healthcare practices may contribute to misunderstandings about Alzheimer's disease. Public health initiatives must be culturally sensitive and address these misconceptions to improve acceptance and understanding of the disease.[10-12]

Overall, the findings of this study underscore the importance of a comprehensive public health strategy that addresses the full spectrum of Alzheimer's disease, from awareness and prevention to diagnosis and management. By focusing on both individuals affected by Alzheimer's and their caregivers, public health efforts can make a significant impact in reducing the burden of this disease in District Kullu.

CONCLUSION

The findings of this study underscore the urgent need for targeted public health interventions to bridge the significant knowledge gaps regarding Alzheimer's disease in District Kullu. Despite a commendable level of general awareness, there remains a critical deficiency in understanding the specific symptoms, risk factors, prevention, and management strategies associated with the disease. This lack of comprehensive knowledge hinders early diagnosis and effective management, which are essential in mitigating the impact of Alzheimer's on individuals and their families. By focusing on culturally sensitive educational initiatives that emphasize the holistic approach to prevention—addressing modifiable risk factors and promoting mental, physical, and social well-being—public health efforts can enhance the community's capacity to prevent, detect, and manage Alzheimer's disease more effectively. Additionally, empowering caregivers through increased awareness and support is crucial in alleviating the burden of care. Ultimately, a concerted and multifaceted approach is necessary to improve health outcomes and reduce the growing public health challenge posed by Alzheimer's disease in rural and semi-urban areas like District Kullu.

REFERENCES

1. Patel, I., Patel, J., Jindal, S. V., Desai, D., and Desai, S. "Knowledge, Awareness, and Attitude Towards Dementia Amongst Medical Undergraduate Students: Can a Sensitization Program Help?" *Annals of Indian Academy of Neurology*, vol. 24, no. 5, Sept.-Oct. 2021, pp. 754-758. doi:10.4103/aian.aian_335_21.
2. Shanmugam, A., and Gopal, S. "Alzheimer's Awareness Among High School Students in India." *American Journal of Geriatric Psychiatry*, vol. 28, no. 4 Suppl, 2020, pp. S70-S72. doi:10.1016/j.jagp.2019.11.007.
3. Singh, J., Agrawal, A., Kumari, S., Tomar, S., Karn, A., and Singh, A. "Knowledge of Alzheimer's Disease Among the Healthcare Staff in a Medical College Hospital of India." *Journal of Family Medicine and Primary Care*, vol. 11, no. 9, 2022, pp. 5599-5603. doi:10.4103/jfmpc.jfmpc_1665_22.
4. Paul, P., Mahfoud, Z. R., Malik, R. A., Kaul, R., MuffuhNavti, P., Al-Sheikhly, D., and Chaari, A. "Knowledge, Awareness, and Attitude of Healthcare Stakeholders on Alzheimer's Disease and Dementia in Qatar." *International Journal of Environmental Research and Public Health*, vol. 20, no. 5, 3 Mar. 2023, p. 4535. doi:10.3390/ijerph20054535.
5. Shalini, Vijayarani Prince, and Kalaiselvi. "A Study to Assess the Knowledge and Attitude Regarding Alzheimer's Dementia Among Adults in Nanchiyampalayam at Dharapuram with a View of Conducting an Awareness Programme on Prevention of Alzheimer's Dementia." *International Journal of Advances in Nursing Management*, vol. 8, no. 2, 2020, pp. 149-153. doi:10.5958/2349-5242.2020.00028.3.
6. Jigu, J., Jose, J., Thomas, L., Sherry, S., Varghese, V., and Sheeja, S. "A Study to Assess the Knowledge Regarding Alzheimer's Disease Among People Above 45 Years of Age in Selected Areas at Kollam." *Asian Journal of Nursing Education and Research*, vol. 12, no. 2, 2022, pp. 224-226. doi:10.5958/2349-2996.2022.00034.2.
7. Nair, L. R., and Upendrababu, V. "A Study to Assess the Level of Knowledge on Alzheimer's Disease Among Patients in Selected Hospitals at Bangalore with a View to Develop an Informational Booklet Regarding Prevention of Alzheimer's Disease." *International Journal of Current Research*, vol. 11, no. 1, 2019, pp. 446-450. doi:10.38177/IJCR.2019.110108.
8. Chandrashekar, P., and Nagaraj, H. "Assessment of Dementia Knowledge in Indian Speech-Language Pathology Students." *Dementia*, vol. 23, no. 5, 2024, pp. 800-816. doi:10.1177/14713012221137348.
9. Marathe, A., Dharaiya, D., Gohel, M., Prabhakaran, A., and Varma, J. "Knowledge About Alzheimer's Disease Among Physicians: A Cross-Sectional Study from Anand, Gujarat." *Journal of Geriatric Mental Health*, vol. 10, no. 2, 2023, pp. 77-80. doi:10.4103/jgmh.jgmh_69_22.
10. Sachit, A., Shinjar, F. J., Dabis, H. A., and Dabis, H. A. "Assessment of Nurses' Knowledge About Alzheimer's Disease." *Indian Journal of Forensic Medicine & Toxicology*, vol. 15, no. 1, 2021, pp. 1984-1990. doi:10.37506/ijfmt.v15i1.13394.
11. Parra-Anguita, L., López-Franco, M. D., Del-Pino-Casado, R., García-Fernández, F. P., and Pancorbo-Hidalgo, P. L. "Undergraduate Nursing Students' Knowledge of Alzheimer's Disease and Related Dementias Care." *Journal of Professional Nursing*, vol. 39, 2022, pp. 101-108. doi:10.1016/j.profnurs.2022.06.003.
12. Sun, Y. J., Song, J., Li, X. P., et al. "Knowledge of Alzheimer's Disease and Associated Factors Among Adults in Zhuhai, China: A Cross-Sectional Analysis." *BMC Public Health*, vol. 24, 2024, p. 1769. doi:10.1186/s12889-024-17077-5.