Knowledge and Awareness about the Connection between Lifestyle and Dementia among Adolescents

Dev Arora¹, R. Gayatri Devi²* and A. Jothi Priya²

¹Saveetha Dental College, Saveetha Institute of Medical and Technical Science (SIMATS), Saveetha University, Chennai, India.
²Department of Physiology, Saveetha Dental College, Saveetha Institute of Medical and Technical Science (SIMATS), Saveetha University, Chennai, India.

Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

ABSTRACT

Background and Aim: Dementia is a group of symptoms characterized by memory loss, judgemental loss, forgetfulness. Dementia cannot be cured; but can be prevented. There are seven stages of Dementia, no cognitive decline being the first stage to very severe cognitive decline being the seventh stage. Healthy lifestyle is important for lower risk of Dementia. Smoking, consumption of alcohol, negative thinking, depression, stress, anxiety, lack of sleep, unhealthy diet causes Dementia. Diet plays a very important role in prevention of dementia; foods such as red meat, sugar, fatty foods can increase the risk of dementia whereas foods rich in fibres, fruits can reduce the risk of Dementia. The main aim of this study is to assess the knowledge about lifestyle and dementia.

Materials and Methods: This is a cross sectional survey. 121 adolescents of Saveetha Dental College, Chennai participated in the survey which was conducted through Google forms in February 2021. The questionnaire consisted of 19 questions. The data was analyzed with the help of SPSS software and chi-square test was done for the correlation between gender and awareness. Chi-square test was done for the correlation of gender with awareness among the population. ‘p-value’ was calculated and value < 0.05 was considered as significant.

*Corresponding author: E-mail: gayatridevi@saveetha.com;
Results: Out of that 62 were females and 59 were males. Females were more aware about healthy lifestyles and its connection with dementia than males. 92.56% of people were aware that physical activity promotes a healthy brain. 69.2% agreed that depression can increase risk of Dementia. Majority of them agreed that physical exercise can promote a healthy brain.

Conclusion: This study revealed that lifestyle is highly associated with dementia among adolescents. Healthy lifestyle leads to lower risk of dementia even if there's high genetic risk. Females were aware about the diet which is healthy for lower risk of dementia and more smoking affects the memory. However, most of the people were neutral about the relation between BMI and Dementia.

Keywords: Dementia; lifestyle; adolescents; forgetfulness; cognition; health; innovation.

1. INTRODUCTION

Dementia is a group of conditions characterized by memory loss, judgmental loss, forgetfulness. Symptoms include limited social skills, limited thinking abilities. There are seven stages of Dementia, no cognitive decline being the first stage to very severe cognitive decline being the seventh stage. The most common cause of dementia is Alzheimer's disease. Various treatments are there, but the condition cannot be cured. Chronic dementia may last for many years or may last lifelong.

Physical activity reduces the pathophysiology of dementia [1,2–4]. Diet plays a very important role in prevention of dementia; foods such as red meat, sugar, fatty foods can increase the risk of dementia whereas foods rich in fibres, fruits can reduce the risk of Dementia [5]. Change in lifestyle leads to low risk of Dementia even when there’s high genetic risk. There are many studies regarding the correlation between Lifestyle and Dementia but there’s still need for some guidelines. It is calculated that the number of people diagnosed with Dementia will double in the next few years.

Dementia is most common in old aged people [6–11]. People who avoid smoking tobacco, alcohol and promote physical activity and a healthy diet are said to have a very low risk of Dementia [12,13,14,15]. People with Dementia are also said to have some diseases like Diabetes Mellitus, various Cardiovascular diseases [16,17,18,19]. Depression may also be the main cause of Dementia; it is studied that 30-50% cases of Dementia are because of depression only [20,21,22]. Treatment of Dementia includes Pharmacology, Cognitive therapy [23,24]. BMI is another factor for causing Dementia [25]. People with optimal BMI are said to have a very low risk of Dementia. People with repeated negative thinking are most likely to develop Dementia [26]. Environmental factors may also modify the risk of Dementia. People with widower status (most likely to have depression) had more risk of Dementia [27]. Sleep is also a reason for causing cognition. Habits of afternoon sleep are also said to develop Dementia [28]. Our team has extensive knowledge and research experience that has translated into high quality publications [29–33, 34–38].

The objective of this study is to inform the population about the unhealthy lifestyle which may cause Dementia and to change the lifestyle which includes a lot of physical exercise, healthy diet etc.

2. MATERIALS AND METHODS

A cross-sectional study was done through quantitative methods among 121 adolescents of Saveetha Dental College, Chennai. The survey was conducted through Google Forms in February 2021. The survey consisted of 19 questions. The pro of the survey is that adolescents nowadays have many different lifestyles which lead to a variation in the population. The numbers of people involved in the study were two; one investigator and one chief investigator. Simple random sampling method was used to minimize the sampling bias. Statistical analysis was done with the help of chi-square test and the software used was SPSS v23.0. Chi-square test was done for the correlation of gender with awareness among the population. 'p-value' was calculated and value < 0.05 was considered as significant.

3. RESULTS

92.56% of people were aware that physical activity promotes a healthy brain whereas 4.13% disagreed with the statement. 76.86% of people
agreed that lifestyle affects memory whereas 14.5% were not aware [Fig. 1]. 69.2% agreed that depression can increase risk of Dementia [Fig. 2]. 92.56% agreed that regular physical exercise promotes a healthy brain. 80.17% agreed that age affects cognition whereas 19.83% were not aware. Additionally, 38.02% were neutral about the optimal BMI individuals having good memory power; 26.45% agreed with the statement; 9.92% disagreed with the statement [Fig. 3]. 71.07% are aware that chronic dementia is not curable. 56.2% agree that change in lifestyle can lead to lower risk of Dementia [Fig. 4]. 81.82% are aware that negative thinking can harm the brain. 81.82% are aware of the diets which reduce the risk of Dementia while 61.6% only are aware of the harmful food which may cause Dementia.

Fig. 1. Pie chart showing percentage distribution of awareness on effect of lifestyle with memory. Majority of the participants 76.86% answered yes (cream), 9.09% answered no (green) and the remaining (14.05%) were not aware (blue)

Fig. 2. Pie chart on awareness of dementia with depression. 69.42% agreed that depression can increase the risk of dementia (cream), whereas 20.66% (green) disagreed with the statement and 9.92% were not aware (blue)
48.76% agreed that diet plays an important role in causing Dementia whereas 32.23% disagreed. 78.51% agreed that smoking causes cognition while 85.59% agreed that alcohol can affect the memory. 50.41% agreed that diabetic people are at more risk of developing Dementia. 81.82% agree that negative thinking can harm the brain. 82.64% agree that stress; anxiety can cause Dementia while 62.81% agree that sleep affects Dementia. Out of 62 Females and 59 Males; 48 Females (77.4%) and 49 Males (76.2%) agreed that lifestyle affects the memory. p value was found to be 0.152 which means that there’s no significant difference between males and females. 57 Females (91.9%) and 55 Males (93.2%) agreed that regular physical exercise promotes a healthy brain. The p value was found to be 0.559 which means that there’s no significant difference between the genders. 36 Females (58%) and 23 Males (39%) were aware about the importance of diet and its role in causing Dementia. The p value was found to be 0.023 which means that there’s a very high significant difference between males and females regarding the importance of diet [Fig. 5].

Fig. 3. Pie chart showing percentage distribution on optimal BMI individuals having good memory power. 38.02% (cream) were neutral about the statement, 9.92% (purple) strongly agreed with the statement and 15.70% (yellow) strongly disagreed with the statement

Fig. 4. Pie chart showing awareness on diet which can reduce the risk of dementia. 81.82% (green) agreed that diets rich in fibre, fruits reduce the risk whereas 18.18% disagreed with the statement (blue)
Fig. 5. The bar graph showing the association between gender and awareness about the diet which can reduce the risk of dementia. X-axis represents the gender and the Y-axis represents the percentage of responses. Females were more aware than males. Pearson chi square test showed the p value was 0.123 (>0.05), hence insignificant. 44.63% females and 37.19% males were aware and responded yes (Blue). 6.61% females and 11.57% males were not aware and responded no (Green).

4. DISCUSSION

People diagnosed with disorders like Diabetes Mellitus, Hypertension, are most likely to get Dementia; this statement was agreed by 27.27% Females and 23.14% Males in this study. Similar study was done in 2014; there were similar findings in both the studies [39]. In this study 47.67% Females and 51.72% Males agreed that Smoking and alcohol affects memory, in the previous study, there were similar findings with p value 0.033 that means there’s a significant difference between the gender and the statement [39].

Moreover, in this study, 47.11% Females and 36.36% Males agreed that depression causes Dementia and the p value was found to be 0.169. In the previous study [40], there were similar findings with p value 0.137 which means that there’s no significant difference between the awareness of males and females related to smoking and alcohol which can increase the risk of dementia.

In another study, 96% of the respondents agreed that a good diet and exercise regularly helps in a good lifestyle, thereby reducing the risk of dementia [41,42]. Established modifiable risk factors for dementia include: depression, diabetes, (midlife) hypertension, (midlife) obesity, smoking, alcohol abuse, high cholesterol, coronary heart disease, renal dysfunction, low unsaturated fat intake and inflammation [43]; in this study, 78.51% agree that regular smoking and 85.59% of the people agree that increased alcohol intake can increase the risk of dementia. Another study states that 69.4% of the people suffering from depression had inherited dementia [44], in this study 69.27% agree that depression can increase the risk of dementia.

In another study, 65 individuals with dementia volunteered and took the diagnosis of cognitively normal (CN) or Mild Cognitive Impairment (MCI) in every 2.5 years. The results stated that there was no association between stressful experiences and change to MCI [45,46]. The statement contradicts this study as 82.64% of the individuals agreed that stress; anxiety can increase risk of dementia.

The study was conducted in a very small sample size. Only adolescents were taken for the study from only one geographical area. This study could not provide strong evidence and effect
among the population. For future scope, this study is necessary as the medicines and therapies can only reduce the symptoms and Dementia; there’s no cure for Dementia found till date.

5. CONCLUSION

Based on this study, females were more aware about the relation between Lifestyle and Dementia than males. More females were aware about the diet which is healthy for lower risk of dementia. Females agreed on the fact that smoking affects the memory. However, most of the people were neutral about the relation between BMI and Dementia.

CONSENT

As per international standard or university standard, patients’ written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

We conducted our research after obtaining proper IEC approval.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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