Prevalence of Diabetes Mellitus among Young Indians and Psycho-Educational Intervention for Effective Treatment

V. Rupa Saritha Reddy¹, Dr. Hariharan A S², M. Rajesh³, Dr. Darshan J C⁴, Dr. S. Prasanna⁵, Dr I Nithyamala⁶

¹Professor,
Department Of Medical-Surgical Nursing,
Narayana College Of Nursing, Nellore, Andhra Pradesh, India.
sarithalahari143@gmail.com

² General Medicine, Final Year Postgraduate, Government Villupuram Medical College and Hospital, Tamil Nadu, India. hariharan.smiia@gmail.com

> ³ Assistant Professor, PG & Research Department Of Zoology, The American College, Madurai, Tamil Nadu, India. rajesh@americancollege.edu.in

> ⁴ Assistant Professor, Pharmacy Practice, Yenepoya Pharmacy College & Research Centre, Yenepoya Deemed To Be University Ayush Campus, Naringana Mangaluru, Karnataka, India. darshanjogidj17@gmail.com

⁵ Reader, Oral Pathology, Seema Dental College And Hospital, Rishikesh, India. dr.prasanna1oralpath@gmail.com

> ⁶ Medical Officer, Department Of Gunapadam, National Institute Of Siddha, India. inithyamalabsms@gmail.com

Abstract

This article is based on the prevalence of diabetes mellitus in Indian young people. This study focuses on the reason for increasing diabetes and it has been seen that employment and education is the major issues that make an impact on society. On the other hand, people are to much addicted to junk food, processed and ready-to-eat food that use harmful chemicals and artificial food substances. It may be responsible for hormonal imbalance and major health issues. Accordingly, this paper also discussed the psychological impact of diabetes Mellitus in the Indian young generation. There are two kinds of diabetes and both effects the other organs such as the kidney, liver, cornea, foot, skin, and many more.

Keywords: Diabetes Mellitus, psychoeducational intervention, type 1 and type 2 diabetes, counselling, education, activities.

Introduction

Diabetes Mellitus is one of the physical conditions that can be responsible for increasing glucose levels in the blood. Nowadays, medical professionals classified diabetes Mellitus into two parts such as type 1 and type 2. In the modern era diabetes is the biggest reason for mortality and morbidity. Accordingly, diabetes mellitus can involve and affect all the body organs in a systematic manner. Generally, diabetes mellitus is a chronic disease and it makes a huge and high impact on the physical condition of the person. Insulin hormone is secreted from the beta cells of the pancreas. The patient with diabetes mellitus has faced some difficulties with dysfunctional beta cells. It is responsible for decreasing the secretion of insulin hormone or their muscle and cell may not be able to get the effectiveness of insulin. These factors assist to decrease the functional abilities of the cells. An increase in blood glucose levels is known as hyperglycemia and a decrease in blood glucose levels is known as hypoglycemia. In current days it has been seen that diabetes mellitus is increasing among young people in India and they also face various kinds of serious issues that are related to their health and it also impacts their psychological condition also.

Prevalence of Diabetes in India

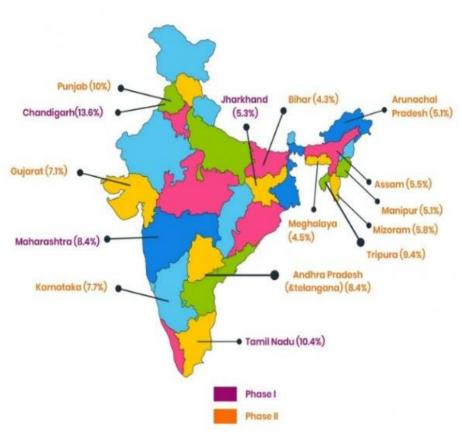


Figure 1: Prevalence of Diabetes in India (Source: 1)

From various census data, it has been observed that the prevalence of diabetes mellitus within the age group 20-79 years old in India is 8.9% [1]. India stands in the second position in diabetes mellitus all over the world. This study will shed light on the reason for raising diabetes mellitus among the young generation and also shed light on the impact of this disease on the young generation. On the other hand, this study tries to highlight psycho-educational intervention as an effective treatment procedure.

Literature Review

Reason for increasing diabetes mellitus among young Indians

In India, it has been seen that diabetes is a common disease that has become more popular in young people. A maximum number of people face blood sugar-related issues in their bodies. India is built up with different kinds of cultures, and food habits that make an effect on the entire community. For several days it has been seen that western diet and culture become more popular in India and it changed the daily lifestyle of the people and also put an effect on the habit and other factors. A western diet that contains refined carbohydrates, and trans. fat. In this context processed and ready-to-eat food also contains some preservatives and chemicals that highly affect the body and also transform the body's function. There are many kinds of artificial food substances that are responsible for diabetes Mellitus through their direct and indirect reaction process. In India, there are some significant factors that are linked to the increase in diabetes mellitus prevalence.

Young-onset Type 2 diabetes (≤ 45 years) Study cohorts Severe Insulin-Deficient WellGen, Pune, Maharashtra, Diabetes Western India Ahmedabad, Gujarat, Insulin-Mild Ageelated India Resistant Western India diabetes Mild Obesity-Related PHENOEINDY-2, Dibrugarh, Diabetes Assam, North-Eastern India India Severe Insulin-Application of **Deficient Diabetes** subgrouping algorithm using centroids derived Europe from European-patients Mild Obesity-**Related Diabetes** Severe Insulin-Resistant diabetes Study cohorts ANDIS, Scania, Southern Europe Sweden d Age-Related DIREVA, Vaasa, Western Mild Obesity-Related Diabetes Finland Diabetes

Figure 2: Increasing diabetes mellitus among young Indians (Source: 2)

Lack of education: In India, a major number of people do not have any kind of ideas or information about diabetes and other things. That is why they are not able to recognize the good things for their health [2]. In this case, employment is the major issue that creates barriers to education and increases the economic condition of the people.

Less exercise: young people do not have any interest in exercising to fit their bodies and this is one of the reasons that raise hormonal issues in the body.

Increase screen time: In India, most young people are addicted to their smartphones, computer, laptop, and other gadgets that are responsible for the dysfunction of the body's organs and it also hampers the psychological condition of a person.

Use of tobacco and alcohol: Tobacco and alcohol are common properties of young people. Some people drink and smoke simultaneously that have a negative effect on the function of the body and those factors raise diabetes mellitus.

High cholesterol diseases

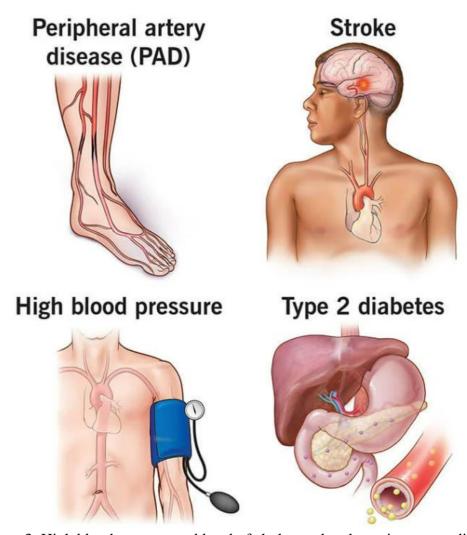


Figure 3: High blood pressure and level of cholesterol make an impact on diabetes (Source: 3)

High blood pressure and level of cholesterol: Consuming fast food, processed food, and junk food, can change the hormonal balance and harmful and chemical substances can create a chemical reaction in the body that also may raise diabetes mellitus [3].

Low consumption: It has been seen that young people are less interested in eating seasonal fruits, vegetables, nuts, and other nutritious things. They are always attracted to red meat, a spicy thing that can not provide the exact nutrients to the body. It can create deficiencies in the body and increase disease.

Accordingly obesity and overweight are common issues that can create multiple health problems and are also insulin resistance. Generally, it develops type 2 diabetes and hormonal changes due to puberty can lead to increased insulin resistance in young people.

Impact of diabetes mellitus on young people

In young people of India diabetes mellitus already makes a major impact on different factors. These factors are divided into several parts such as social, health, and psychological. As mentioned previously, type 1 and type 2 diabetes affect the body differently and those effects are also connected with the psychological condition of individuals. In India, tongue adults who are facing diabetes, have a major chance to get a heart attack or stroke. On the other hand, it is also responsible for reducing the flow of blood and also decreases the immunity system as well. These diseases also have poor psychological effects on the individual's mind. People are getting depressed day by day.

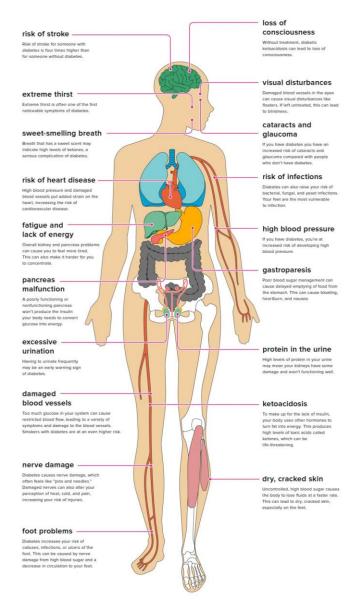


Figure 4: Impact of diabetes mellitus on young people (Source: 4)

They are less interested in their activities and don't motivate themselves to do attractive things or projects. Nowadays, the prevalence of diabetes also affects the social structures due to people are not communicating with other people of society and this depression and anxiety are responsible for committing suicide and other worst activities [4]. Moreover, diabetes mellitus hampers the entire community socially, mentally, and physically which assists to put the world in major damage. Accordingly, the majority of people are not aware of their health condition and they care more carefully about it. After some days they face major issues and due to poor economic conditions, they cannot get the proper treatment and it hampers their families and surroundings as well.

Implementing Psycho-educational intervention for treatment

Psycho-educational intervention is one of the special combinations of education and activities that play a major role in the treatment process of the individual. It includes supportive intervention and a counseling process also. This intervention process helps to empower the clients and also plays a significant role to improve their health condition. The objective of Psycho-educational intervention is to motivate the individual and provide education on Diabetes Mellitus. This intervention plan helps to provide individuals with a quality of life and well-being.

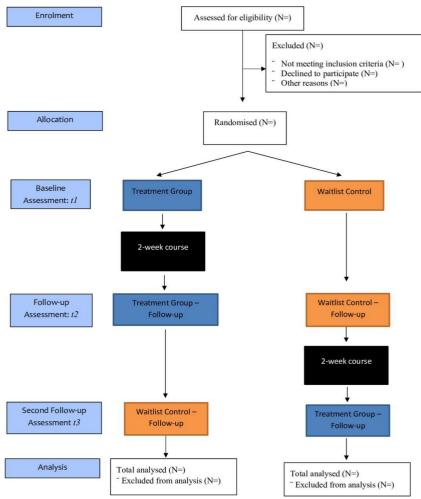


Figure 5: Psycho-educational intervention for treatment (Source: 5)

Accordingly, this plan provides essential education and motivates people through various kinds of activities. That they can apply the process to their daily lifestyle and individuals can track and check their body balancing. In the treatment segment and reducing diabetes Mellitus in Indian young people, psycho-education intervention can help to provide a kit that helps individuals to keep track of their level of glucose and also provides education about diabetes.

This intervention plan conducts a counseling process after recognizing the entire disease and other difficulties of individuals. This process helps to inspire people to build a healthy and upgrading lifestyle [5]. On the other hand, the psycho-educational intervention process can reduce stress, anxiety, and other unnatural behavior from the person who is suffering from diabetes mellitus and it also helps to open a new door in front of individuals to live a better life. At last, it can be said that psycho-educational intervention, allows society to collaborate with individuals and services providers to develop a specific and proper treatment plan. That helps to find the root issues and also try to mitigate the issues [6]. This intervention plan also involves the activities such as exercise, provides motivation for health habits, and also provides hope in the individuals that they can motivate others without fear and any kind of hesitations.

Methods

This study used electronic searches that help to conduct the entire research matter and use MEDLINE, PubMed, HTA, and AMED to get the authentic data to get the desired outcomes and smoothly initiate the research works. The secondary qualitative method is the best process of data gathering and evaluating them. In order to gather the information it has been

seen that all the data is based on systematic review and different kinds of methods. It helps to get a huge collection of information [7]. In order to proceed with this research study it also has been seen that this process of research is much easier than other methods. This process also helps to provide a strong constructive framework of the data. On the other hand, the secondary qualitative method provides a big opportunity to gain knowledge on this specific subject matter and also gives the chance to collect relevant information from the large data set.

All data sets consist of different kinds of information and all information has value for this research work.one of the biggest benefits of the secondary qualitative research process is that it is budget-friendly and it is not a request to pay money for data. Accordingly, the data collection process is much simpler and it also does not require a high amount of technical knowledge that helps to give a sophisticated provision to do the research work. Moreover, the secondary qualitative research process is a time and effort-saving process that assists to get time to complete a project in a systematic manner [8]. Generally, this way of collecting data, and analyzing the data uses the existing data that is already used. It helps to make the difference between past and present situations that make an effective impact on the study process. This study has used various kinds of journals, magazines, and books that were written by authentic authors to maintain the ethical manner. This study provides some outstanding and intellectual information on diabetes Mellitus and its types.

On the other hand, observation is the primary key of this research study to make the effects of getting data about Indian young people who are suffering from diabetes mellitus and its related issues [9]. Furthermore, the secondary qualitative data analysis process has given the chance to see the result of the implementation of a psychoeducation intervention plan in society or the community. From the data set, it is known that this intervention plan is very effective for the treatment and it also helps to provide the actual solution of the disease and also makes an impact to reduce the prevalence of diabetes mellitus in indian young people.

Discussion

From this above-mentioned study, it can be observed that diabetes Mellitus is a chronic disease in India. Nowadays maximum young people are affected by this disease and also get affected due to an unhealthy lifestyle. From this study it has been found, diabetes Mellitus has the power to affect the other body organ slowly and an individual has a high risk of heart attack and stroke [10]. There are two types of diabetes that are interconnected with insulin hormones. In India maximum young people have an addiction to tobacco and alcohol that make an impact on their physiological condition and the body can get the effectiveness of insulin that is responsible for diabetes Mellitus. Accordingly, this research study has shown that, the young people of India also face challenges by their environmental and social aspects. People are not showing their interest in doing exercise and they are not interested in even talking to each other. They like to pass their time on their screen and that is responsible for increasing blood pressure and other health issues.

Accordingly, education is the major issue that increases the disease due to people not having a proper diet plan for this disease. On the other hand, due to low-income rates, people are not getting the proper treatment from time to time [11]. These factors raise the issues day by day and it has a high impact on the mental situation of the individual. Nowadays most of young people are depressed and feel anxious due to their health issues. The main root of all these factors is unhealthy food habits, improper treatment, an unhygienic lifestyle, and eating junk, packaged, and ready-to-eat food. These kinds of foods consist of unhygienic and harmful chemicals that can be responsible for the worst chemical reaction in the body and also make hormonal imbalances. Apart from this, it has been seen that psychoeducational intervention is the process that helps to provide education to the Indian people and also mitigates their issues through different kinds of activities and counseling processes [12]. It can able to improve psychological condition and provides essential information on the disease. Accordingly, this

intervention plan is also able to motivate people for their better health and spending quality of life also. From this study it can be said that reduce the prevalence of diabetes Mellitus, the government and all health authorities need to give attention to the process and planning.

Conclusion

This above study is based on the prevalence of diabetes Mellitus in Indian young people. This study has discussed the disease diabetes Mellitus and it has been seen that this is a common disease in young people and a maximum number of people facing the issues. This study has discussed the reason of this chronic disease and it has observed that in India, education is a vital thing that needs to improve and this is interconnected with the economic system. People are not getting treatment due to a lack of employment. This research paper has also shed light on the psychoeducational intervention plan that helps to improve the disease and motivate individuals to live healthy lifestyles. On the other hand, this paper also explained the Impact of diabetes mellitus on the young people of India. This all data are collected through the secondary qualitative method and which is quite easy than other processes researching. At last, it can be said that a psycho-educational plan can be a blessing for reducing the prevalence of the disease in India.

Reference

- 1. Subramani, S.K., Yadav, D., Mishra, M., Pakkirisamy, U., Mathiyalagen, P. and Prasad, G.B.K.S., 2019. Prevalence of type 2 diabetes and prediabetes in the Gwalior-Chambal region of central India. International journal of environmental research and public health, 16(23), p.4708.
- 2. Poudel, A., Zhou, J.Y., Story, D. and Li, L., 2018. Diabetes and associated cardiovascular complications in American Indians/Alaskan Natives: a review of risks and prevention strategies. Journal of Diabetes Research, 2018.
- 3. Enas, E.A., Varkey, B., Dharmarajan, T.S., Pare, G. and Bahl, V.K., 2019. Lipoprotein (a): An underrecognized genetic risk factor for malignant coronary artery disease in young Indians. Indian heart journal, 71(3), pp.184-198.
- 4. Magliano, D.J., Sacre, J.W., Harding, J.L., Gregg, E.W., Zimmet, P.Z. and Shaw, J.E., 2020. Young-onset type 2 diabetes mellitus—Implications for morbidity and mortality. Nature Reviews Endocrinology, 16(6), pp.321-331.
- 5. Perrin, N., Bodicoat, D.H., Davies, M.J., Robertson, N., Snoek, F.J. and Khunti, K., 2019. Effectiveness of psychoeducational interventions for the treatment of diabetes-specific emotional distress and glycaemic control in people with type 2 diabetes: a systematic review and meta-analysis. Primary care diabetes, 13(6), pp.556-567.
- 6. Mahmoud, S.S., Mahdy, M.H.E., Mahfouz, M.S., Nada, I.S., Aqeeli, A.A., Darbi, M.A.A. and Ahmed, A.E., 2018. Effects of a psychoeducational program on hemoglobin A1c level and health-related quality of life in patients with type 2 diabetes mellitus, Jazan, Saudi Arabia. BioMed research international, 2018.
- 7. Sherif, V., 2018, May. Evaluating preexisting qualitative research data for secondary analysis. In Forum: qualitative social research (Vol. 19, No. 2, pp. 26-42). Freie Universität Berlin.
- 8. Madden, S. and Tarabochia, S.L., 2021. Untangling Methodological Commitments in Writing Research: Using Collaborative Secondary Data Analysis to Maximize Interpretive Potentials of Qualitative Data. Written Communication, 38(3), pp.447-476.
- 9. Mannheimer, S., 2021. Data Curation Implications of Qualitative Data Reuse and Big Social Research. Journal of eScience Librarianship, 10(4).
- 10. Birman, D., 2023. Investigation of the Effects of Covid-19 on Different Organs of the Body. Eurasian Journal of Chemical, Medicinal and Petroleum Research, 2(1), pp.24-36.

- 11. Flood, D., Seiglie, J.A., Dunn, M., Tschida, S., Theilmann, M., Marcus, M.E., Brian, G., Norov, B., Mayige, M.T., Gurung, M.S. and Aryal, K.K., 2021. The state of diabetes treatment coverage in 55 low-income and middle-income countries: a cross-sectional study of nationally representative, individual-level data in 680 102 adults. The Lancet Healthy Longevity, 2(6), pp.e340-e351.
- 12. Kehlenbrink, S., Smith, J., Ansbro, É., Fuhr, D.C., Cheung, A., Ratnayake, R., Boulle, P., Jobanputra, K., Perel, P. and Roberts, B., 2019. The burden of diabetes and use of diabetes care in humanitarian crises in low-income and middle-income countries. The Lancet Diabetes & Endocrinology, 7(8), pp.638-647.