

DIABETIC CARE MANAGEMENT FOR TIRE-2 CITIES

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EXECUTIVE SUMMARY

Healthcare has become one of India's largest sectors, both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical equipment. The key factors that drive the growth of the chronic diseases management market rise in the generic population and increase in the prevalence of various chronic diseases such as diabetes, hypertension and others. The chronic diseases management market is segmented into solutions and services. The solutions segment was the highest chronic diseases management to the increase in awareness of the peoples.

All in India 77 million individuals had diabetes in India; the incidence of prediabetes in India is estimated to be 14 %.(Diabetes statistics 2022). The main reasons sedentary lifestyle, obesity, unhealthy diet or habit and other factors. The main objective of the research beings study of diabetic care management in tire-2 cities. To know their behavior, their disease management techniques and impact of the same on their health and productivity. Simple random sampling was assigned to 100 peoples from tire-2 cities like Kolhapur, sangli and solapur. It based on the study we will be suggesting easy to implement and affordable solutions through data and IOT. If implemented these solutions can make greater impact on society.

Keywords: - diabetes, care, management, chronic disease, patient behavior, health, productivity.

1. INTRODUCTON

Diabetic care management means make a commitment to managing your diabetes, make healthy eating and physical activity part of your daily routine. Maintain a healthy weight, monitor your blood sugar, and follow your health care provider's instructions for managing your blood sugar level, take your medications as directed by your health care provider. In shortly, you and your diabetes care team will work out a managing plan to keep blood levels within your target range will help you feel better every day and keep you healthy in the future. A healthy eating plan and active lifestyle are the foundation of all blood sugar management.

A diabetes care management program was developed by prime care, a network model HMO, to improve quality of life health outcomes and reduce the costs of medical care for its members with diabetes. Diabetic care management is more important because diabetes can affect almost every part of your body. Therefore, you will need to manage your blood glucose levels, also called blood sugar. Managing your blood glucose, as well as your blood pressure and cholesterol, can help prevent the health problems that can occur when you have diabetes.

If manage a patient with diabetes must take responsibilities for their day-to-day care. This include monitoring blood glucose levels, dietary management, maintaining physical activity, keeping weight and stress under control, monitoring oral medications and if required, insulinuse via injections or pump.

The research aims to study 'Diabetic care management for tire-2 cities' is to achieve blood glucose, blood pressure and blood fat levels (including cholesterol) within the target ranges agreed by you and your healthcare team.

2. REVIEW OF LITERATURE

FROM THE LITERATURE,

Sharad pendsey (2004)- management of diabetes, very practical book for a busy medical practioner who doesn't have time to read regular text books on the subject; very useful.

Ginger Vieira(2014)- living with diabetes can be a tedious, overwhelming process, between taking medication on time, checking blood sugar, managing diet and exercise, and facing many challenges and changes can lead to burnout.

Shelby Kinnaird (2018)- the pocket carbohydrate counter is perfect for both newly diagnosedand long –time diabetes patients; it can help just about anyone. This books makes managing carbohydrates and diet super simple and explains is to make sense for beginners and veterans alike.

Zimmet P, alberti KG, Shaw J, (2001) – *global and social implications of the diabetes epidemic. Changes in human behavior and lifestyle over the last century have resulted in dramatic increases in the incidence of diabetes worldwide.*

3. OBJECTIVES OF THE STUDY

- *To find the inputs of the end users pain points and needs and patient behavior in diabetics in tire-2 cities.*
- *To study the gap in existing diabetic market and study the various diabetic service providers.*
- *To suggesting easy to implement and affordable solutions.*

4. SCOPE OF THE STUDY

- *TOPICAL SCOPE: - The research study is for only diabetic chronic disease, not for any other chronic disease.*
- *GEOGRAPHICAL SCOPE: - The research approach mainly deals with only tire-2 cities.*
- *ANALYTICAL SCOPE: - The analytical scope of the study is related to the analysis of data collection. Research applies tables, graphs for analyzing and interpretation of research through the survey and personal interviews.*

5. RESEARCH METHODOLOGY:-

1. Study area-

The study is conducted and restricted to only tire-2 cities.

2. Sample design-

The samples were drawn from peoples of different tire-2 cities like as Kolhapur, sangli, solapur for the year 2022. Their age group ranged from 16 to above 60. Formerly self-administered close-ended multiple choice questionnaire was given to a sample of 100 peoples. Out of this entire questionnaire were duly completed and returned, giving 100% return rate because these questionnaire were filled by patients who shares their health issues. For this study close ended questionnaire was constructed. The whole questionnaire divided into five parts; demographic, checkup frequency, faced issues, primary care and services to pay. Simple random sampling method was used for this study. Before circulating the questionnaire to the peoples, they were informed about the purpose and importance of the study and their participation.

3. Sources of data -

- Primary sources:-

a) Interview method- in this method, ask the questions to the people or patients and noting down the reply given by the respondents. And give some personal interviews of peoples for the data collection.

b) Survey through questionnaires – questionnaire with close ended for the data questions were used for the data collection. Close ended questions consists of multiple choices, which offer the respondent with a choice of specific answers.

c) Business modules canvas – the study of gap in existing diabetic market and various service providers through business modules includes key activities, key parameter, customer’s relationship, key resources, customer segment and so on.

- Secondary sources:-

Secondary data is collected from published and unpublished sources. It is collected from books, reports and published documents.

4. Statistical analysis tools

Microsoft-excel 2018

TABLE NO-1

AWARE ABOUT DIABETES

PARTICULARS	YES%	NO%
Diabetes is a serious chronic disease	91%	9%
Total Diabetes patient from survey	28.3%	71.7%
Suffer from type-1 diabetes	5.5%	94.5%
Suffer from type-2 diabetes	22.8%	77.2%
Have insulin	3.7%	96.3%
Have diabetes medicine on daily basis	28.3%	71.7%
Feeling more thirsty	17.6%	82.4%
Urinating often	22%	78%
Losing weight without trying	20.34%	79.66%
Feeling tired and weak	15%	85%

<i>Feeling irritable or having other mood change</i>	27%	73%
<i>Having blurry vision</i>	19.45%	80.55%

TABLE NO-2

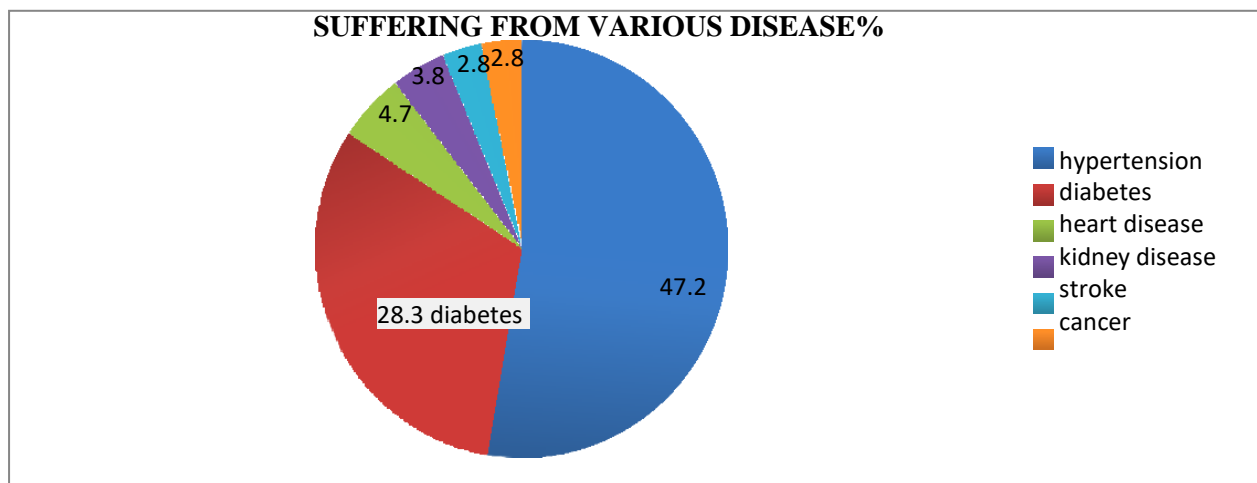
AWAERNESS OF DIBETC CARE

<i>PARTICULARS</i>	<i>YES%</i>	<i>NO%</i>
<i>Family history for diabetes</i>	57%	43%
<i>Time to checkup sugar level</i>	18%	82%
<i>Follow doctor advice</i>	16.4%	83.6%
<i>Aware about maintain sugarlevel</i>	23%	77%
<i>Aware causes of high blood sugar include damage nerve, heart problems, stroke, etc.</i>	89%	11%
<i>Aware about causes have diabetes</i>	60%	40%
<i>Awareness parameters onsugar level(stress, sleep, exercise, diet)</i>	45.37%	54.63%
<i>Aware about various diabetic service providers and their plans</i>	55.7%	44.3%

Aware about home remedies for diabetes	62.7%	37.3%
Aware about IOT solutions	56%	44%

(Source-filed work, survey and personal interviews)

GRAPH NO-1

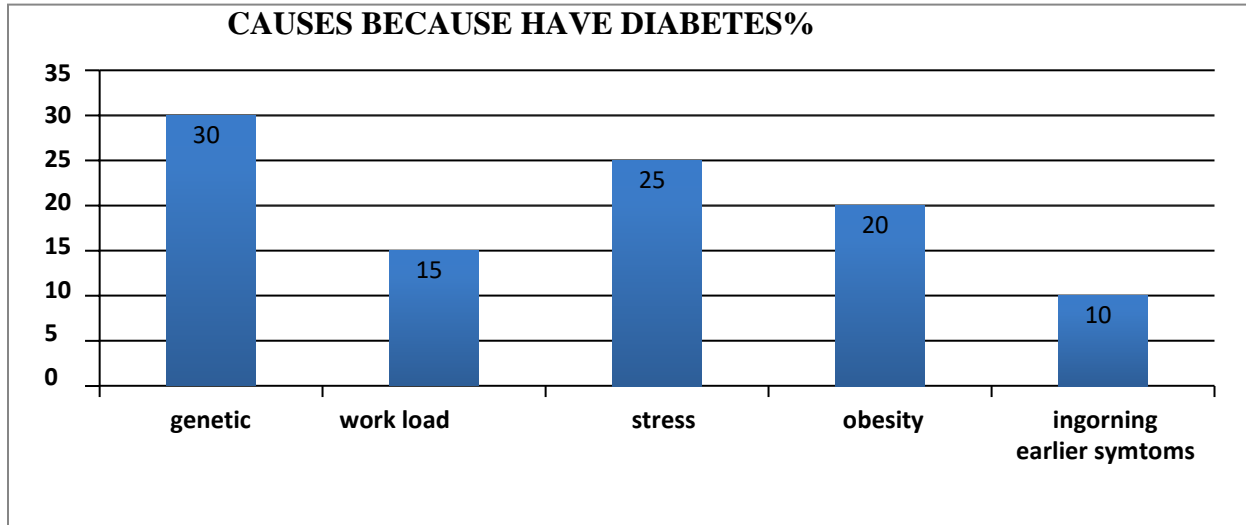


(Source-filed work, survey and personal interviews)

INTERPRETATION:-

Above graph shows that the people are suffers from various diseases in tire-2 cities. 47.2%people have hypertension it's very dangers India's major chronic disease its 1 rank in India. 28.3% people are suffering from diabetes; this is known India's biggest chronic disease its 2 rank all over in India. Diabetes is known as co morbidity disease because the patients are also suffering from another health problem. 4.7% people have heart diseases, 3.8% have kidney diseases, 2.8% people have stroke and also 2.8% have cancer.

GRAPH NO-2

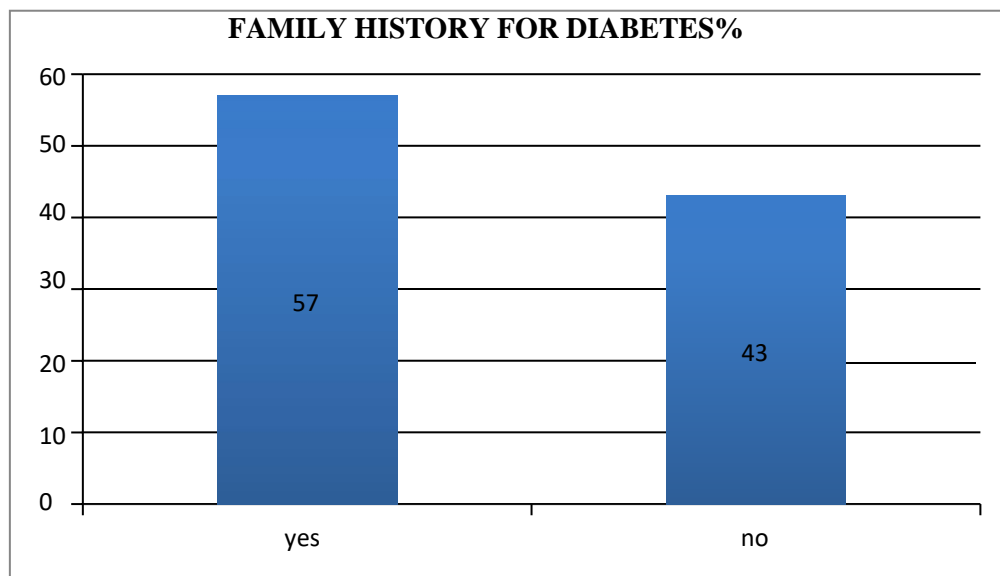


(Source-filed work, survey and personal interviews)

INTERPRETATION:-

Above graph shows that causes because have diabetes, 30% people have genetic diabetes it's connected with genes or with genetics. 15% peoples have work load, 25% people have stress, and 20% have obesity because of modification of lifestyle, eating habits and so on. 10% people are ignoring their symtoms so they have diabetes.

GRAPH NO-3



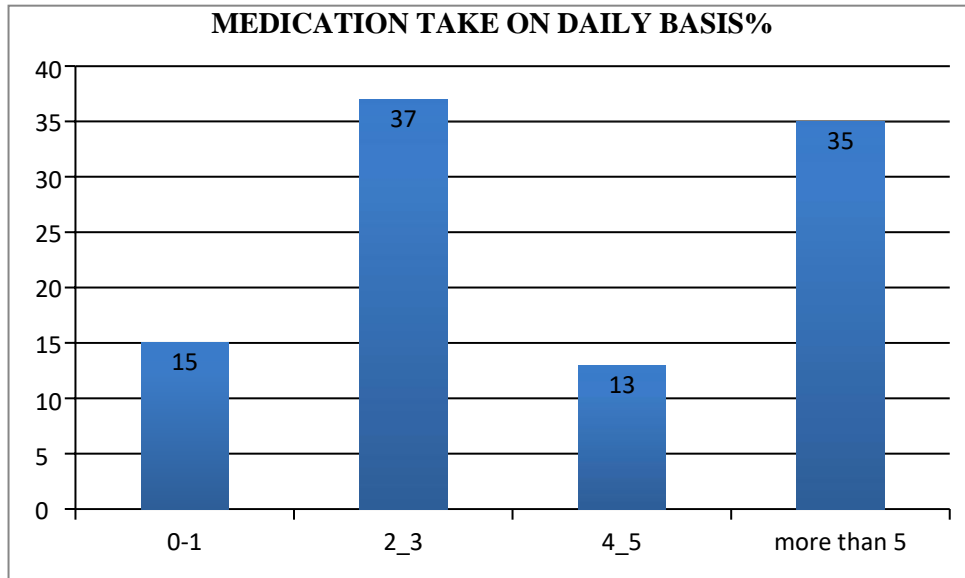
(Source-filed work, survey and personal interviews)

INTERPRETATION:-

Above graph shows that family history of diabetes, most of 57% people have their family historyof

diabetes it's a very dangers for their future. 43% people have not family history of diabetes.

GRAPH NO-4

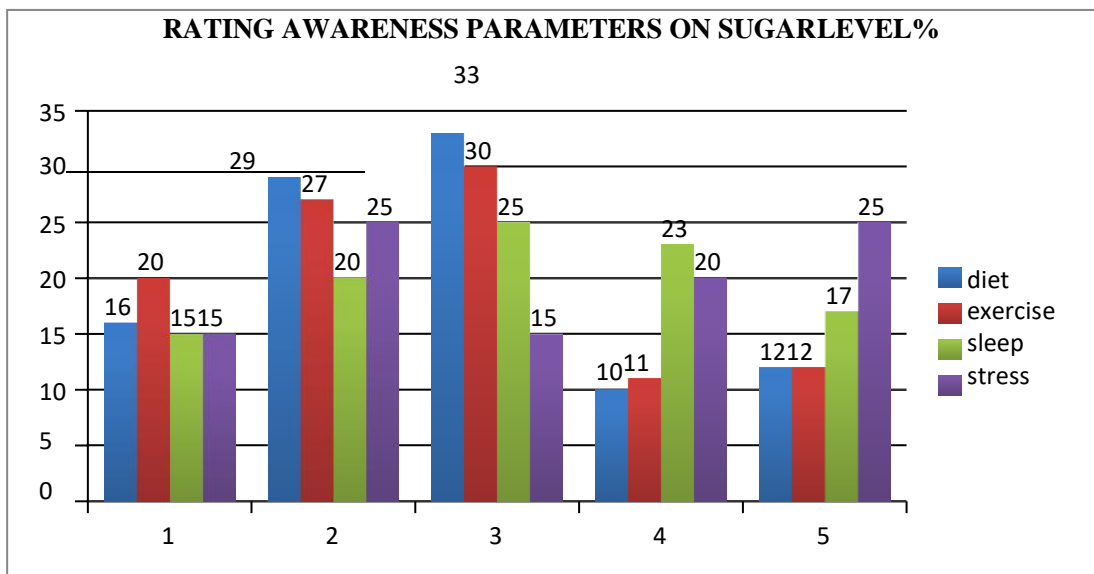


(Source-filed work, survey and personal interviews)

INTERPRETATION:-

The above graph shows that patients are taken too much medicine. Kidneys could be damaged if take large amount of over-the-counter medications. 15% patients are take 0-1 medication. 37% patients are having 2-3 medications. 13% patients are have 4-5 medications, 35% patients are having more than 5 medications its very dangers for their health.

GARAPH NO-5

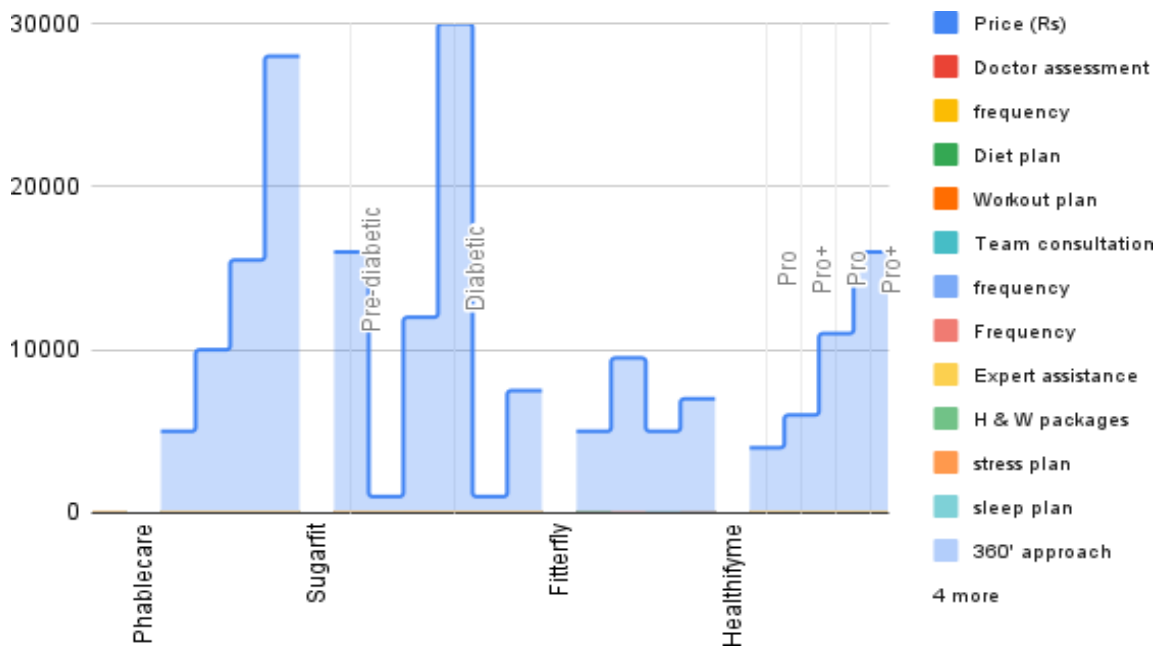


(Source-filed work, survey and personal interviews)

INTERPRETATION:-

The above graph shows that awareness parameters on sugar level it include diet, exercisesleep, stress etc. rating is refers to those who are proper aware or do proper way of parameters they are rating 5. In the 1 rating 16% peoples diet, 20% peoples exercise, 15% peoples sleep and 15% peoples stress it's not proper mange and way so it's very dangers to their health. In the 2nd rating 29% peoples diet, 27% peoples exercise, 20% peoples sleep and 25% peoples stress its level to better than 1 rating but it's not ok do proper way and manage. In the 3rd rating 33% peoples diet, 30% peoples exercise, 25% sleep and 15% stress its level to better than 2nd rating but its improve to level. In the 4th rating 10% people's diet, 11% exercise, 23% sleep and 20% stress it's to better than 3rd levels. And in the 5th rating all most people do proper follow doctor orhealthcare advice and they are serious to their health issues. So they proper do diet, exercise andget proper sleep and get minimum stress

PART-2



(Source- research through internet websites, apps)

6. FINDINGS

- *Diabetes is a 2nd rank chronic disease in India than hypertension.*
- *lack of proper awareness about diabetes, lack of better health care facilities towards diabetic care etc*
- *Maximum people have genetic diabetes problem.*
- *Main reasons- sedentary lifestyle, obesity, unhealthy diet, excess work load, stress, changing eating habits in lifestyle modification etc.*
- *Not proper taking medication or taking lots of medicines of ignoring doctor's advice.*
- *Not awareness of IOT devices (smart watch, insulin pen etc.)*
- *Lack of proper exercise, diet and checkup.*
- *Negative thinking about diabetes.*
- *Not asking the help from various diabetic service provider and not aware about their plans and services.*

7. SUGGESTIONS

- *Eat healthy, avoid fast foods. And maintain a healthy weight.*
- *Be active and exercise 5 days in a week. 45 min walking is very beneficial for diabetic patient.*
- *Avoid smoking; keep blood pressure and cholesterol under control.*
- *Be use home remedies for diabetes under control.*
- *Help from IOT devices, like as insulin pen, glucose monitor, smart watch etc.*
- *Use single-pill combination of the dipeptidyl peptidase-4, empagliflozin offers a new and attracts option for patients in consultation of doctors.*
- *Sugar surgery in consultation of doctor advice.*
- *Take proper medicines in consultation of doctor to avoid kidneys complications. It is easy to available in the market. For ex- dulaglutide, liraglutide, semaglutide etc.*

8. CONCLUSION

Diabetes is one of serious diseases. Diabetes is a slow killer with no known curable treatments. However, its complications can be reduced through proper awareness and timely treatment. Three major

complications are related to blindness, kidney damage and heart attack. It is important to keep blood glucose levels of patients under strict control for avoiding the complications. One of the difficulties with tight control of glucose levels in the blood is that such attempts may lead to hypoglycemia that creates much serve

complications than increased levels of blood glucose. The patients are must aware about their health problems or issues to stay healthy life. Must aware about health care systems. Patients do follow proper treatment and healthy lifestyle.

9. REFERENCES

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