

Apollo Sugar Clinic: Clinical Outcomes- Data on Heart

*Clinical outcomes in Macro
vascular complications of
Diabetes*



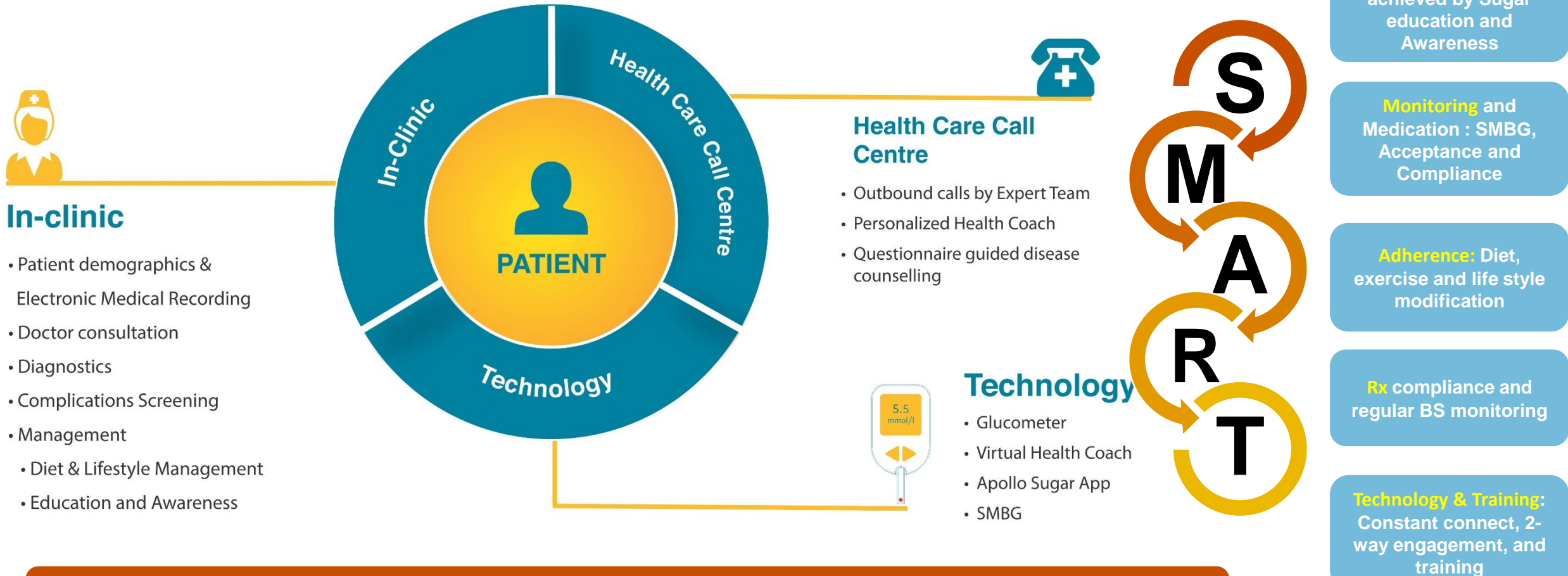
CENTRE OF EXCELLENCE
FOR DIABETES AND ENDOCRINOLOGY



Healthcare outcomes delivery is what we assure

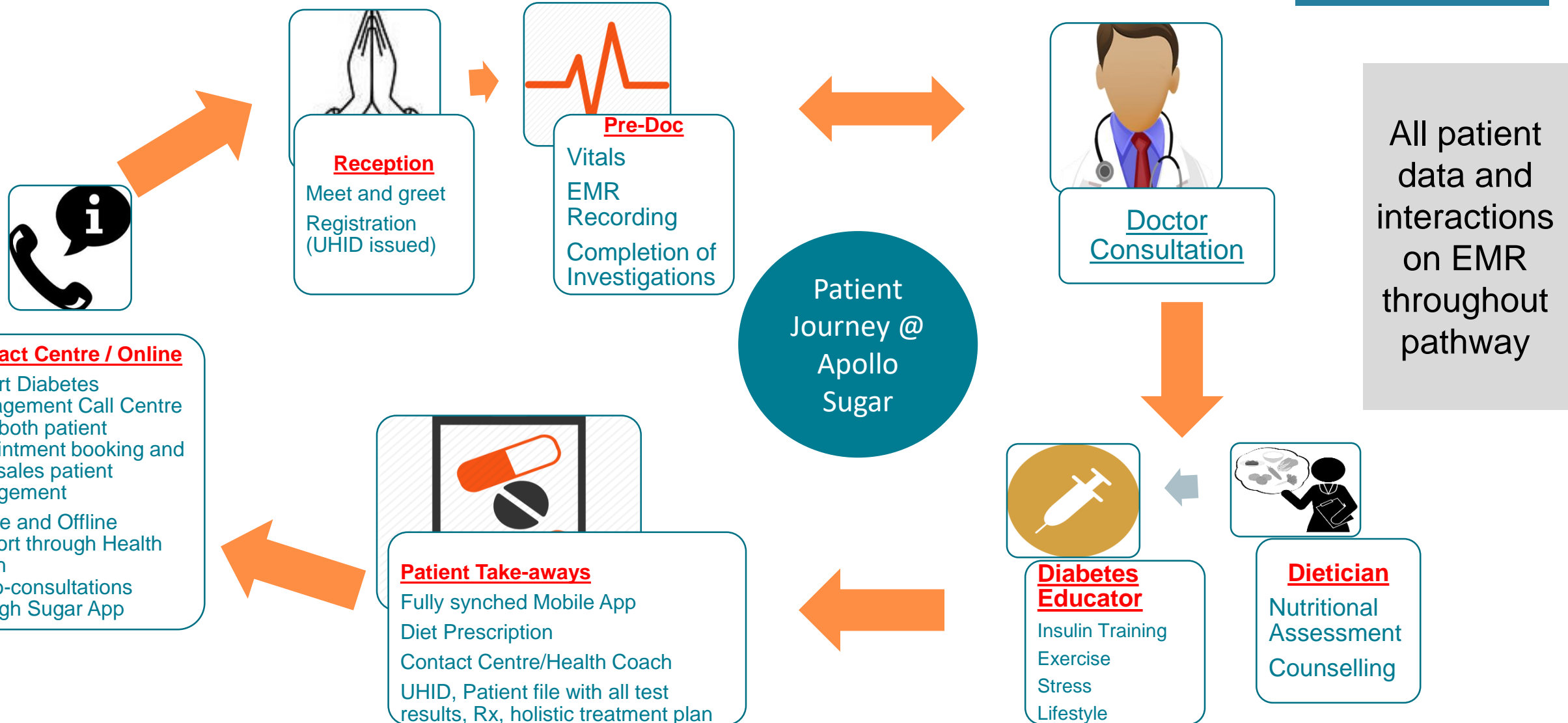
What is our integrated care model?

A patient centric model to deliver condition management – brick and mortar and remote



We are empowering patients with **VIDEOCONSULTATION FACILITY** to have easy access and reach-out to Doctors and care team at their convenient time through Apollo Sugar App

Our typical patient pathway



Sugar 360: A Full Scale Annual Program

Day 1

Day 90

Day 180

Day 270

Day 360

Consultations

Doctor consults*
CDE session

Doctor consults
CDE session

Doctor consults
CDE session

Doctor consults
CDE session

Doctor
consults
CDE session

Diagnostics

- Glucose profile
- Lipid profile
- Kidney profile
- Heart profile
- Eye and Foot exam

- Glucose profile
- Kidney profile
- BP Screening

- Glucose profile
- Lipid profile
- Kidney profile
- BP Screening

- Glucose profile
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- BP Screening

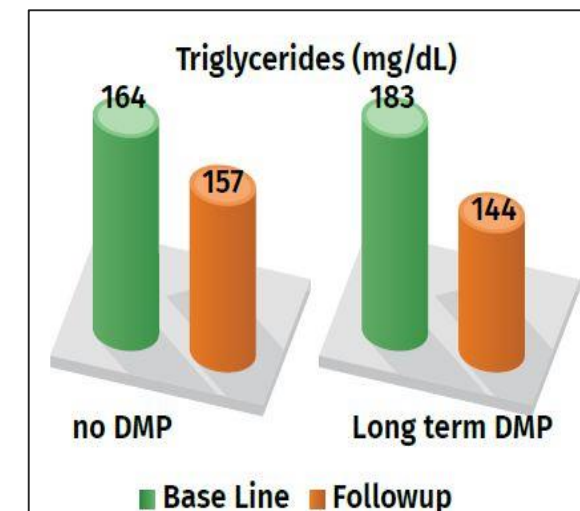
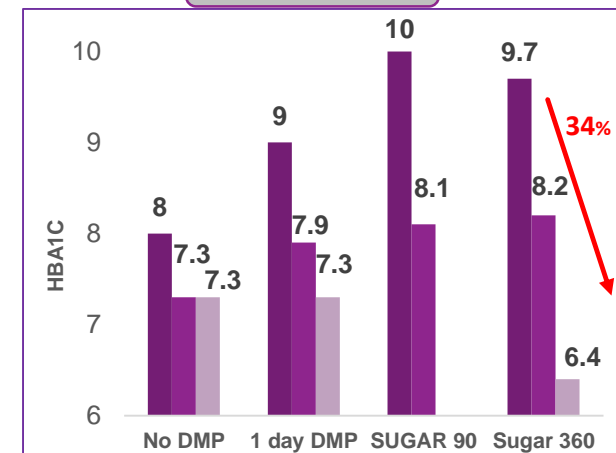
- Glucose profile
- Lipid profile
- Kidney profile
- BP Screening

Beyond the
Clinic Services:

- Sugar App with personalized Health coach with typically 50 1-1 CDE-patient interactions/month
- Personalized patient education materials (based on risk stratification, treatment plan)
- Connected devices and apps (Videoconsult available)
- 24 annual calls w/ Diabetes CDE staffed call centre: Assess longitudinally with QoL questionnaire
- Pharmacy benefits. 100+ personalized SMSs. 200+ personalized, algorithmically driven app notifications per year

1. **Comprehensive, multi-disciplinary, integrated care approach**
2. 10 in person touchpoints, >100 beyond the clinic touchpoints
3. Silver, Gold, Platinum for differentiated services. Similar programs for GDM
4. **Approx 18,000 patients enrolled in programs**

Outcomes



Our population health outcomes

87% patients have been well managed by Sugar care teams to achieve better health outcomes and quality of life

41% are at targets of HbA1c and 36% achieved/improved as per physician set targets

15% who are deranged(>9%) initially, around 13% were improved or reached targets

HbA1c deranged (~23%)

HbA1c control Improved and at targets (~77%)

Patients enrolled in Sugar Diabetes Management Program achieved:

- Superior outcomes in terms of HbA1c reduction
- All the patients enrolled in DMPs were under control and at targets for total Cholesterol per ADA guidelines
- All the female patients enrolled in DMP were at control for Triglycerides and there is a meaningful reduction in triglycerides level in Male patients
- Showcases the 360 degree approach provided by Sugar which is not only limited to HbA1C management

To From	Deranged	Improved	At targets
Deranged (>9%)	15%	9%	4%
Improved (as per physician definition)	7%	21%	13%
At targets (<7%)	1%	6%	24%

Note: At targets: <7%; Improved: >7-<9%; Deranged: >9%

Risk Factors of Cardiovascular disease

MODIFIABLE FACTORS

- ☐ Smoking
- ☐ Hypertension
- ☐ Diabetes
- ☐ Dyslipidemia
- ☐ Obesity
- ☐ Sedentary Life style
- ☐ Metabolic Syndrome
- ☐ Lack of fruits, GV & fiber in diet
- ☐ Anger, Hostility, Work stress, Depression
- ☐ Alcohol

NON- MODIFIABLE FACTORS

- ☐ Male Sex
- ☐ Post Menopausal State
- ☐ Positive Family History
- ☐ Genetic Susceptibility
- ☐ lipoprotein (a)
- ☐ Diabetes
- ☐ Infection

Apollo Sugar introduced customised health care programs, health care app, Home care kit, connected Glucometer to prevent high risk patients to get into complications.

❑ Long term programs specific for High cardiac risk patients- offered by Apollo Sugar Clinics

Sugar 90 (Cardio protection)	
Counsultation	
Dietician counselling	3
Doctor consultation	3
Lab Tests	
HBA1C	2
Glucose Serum/Plasma (Fasting)	3
Glucose Serum /Plasma (Post Prandial)	3
Liver Check	
AST SGOT (Serum)	1
ALT SGPT (Serum)	1
Kidney Check	
Creatinine Serum/Plasma	1
Cardiac Check	
ECG	1
Lipid Profile	1
BP Screening	1
Neuropathy	
Complete Foot Exam	1
Radiology & Imaging Services	
Diabetic Retinopathy Screening	1

❑ Apollo Sugar App-

- Automatically stratifying high risk patients, and driving targeted interventions via chatbox and human health coaches.
- Patient engagement touchpoints 4.5x higher via app

❑ Connected glucometer:

- Connected devices added – strong value add to doctor, patient, care team to close the loop beyond the clinic

Our Research publications on Diabetes and Cardiovascular diseases

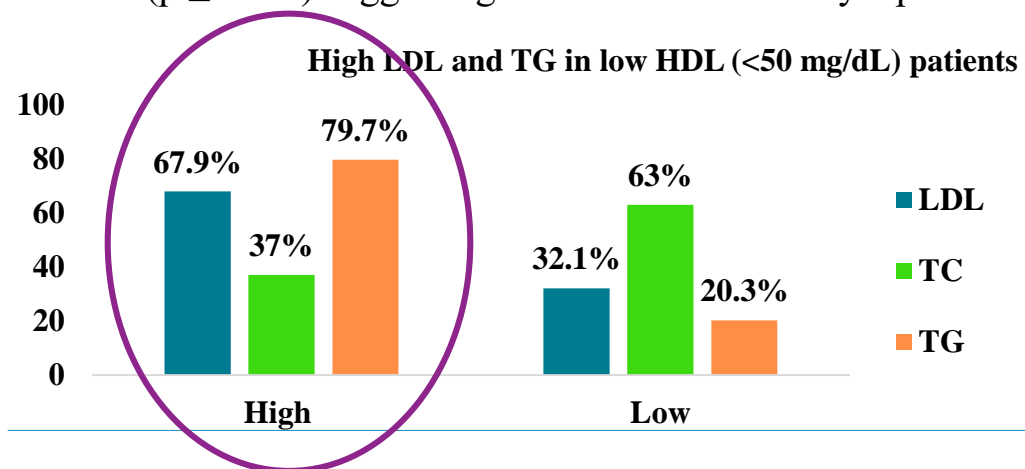
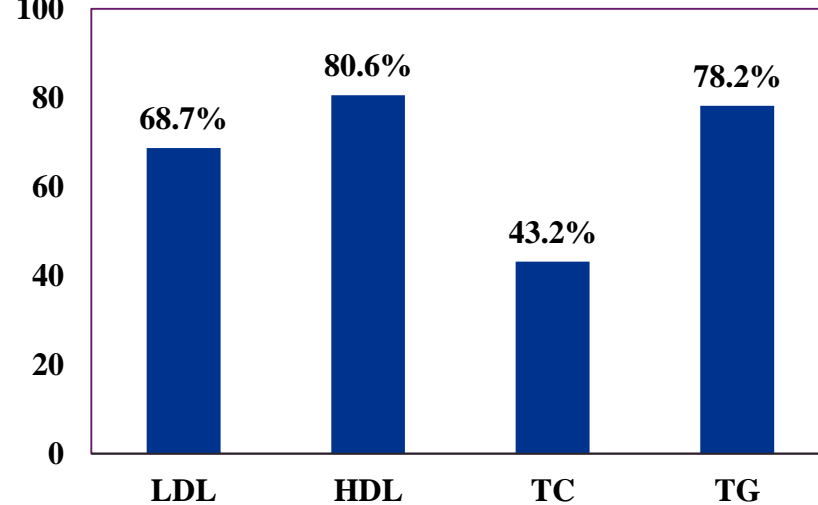
Shantharam Duvuru, Shashank R. Joshi, Apollo Sugar Research Group

Objective: The study purpose was to evaluate the lipid profile of type 2 diabetes (T2D) patients registered at Apollo Sugar clinics-PAN India.

Results:

- Total 3368 T2D patients were included in the analysis, had a mean age of 52.0 (11.4) years, males and females were 63.2% and 36.8%, respectively.
- Among these patients 68.7% have high LDL (>100 mg/dL), 80.6% have low HDL (<50 mg/dL), 43.2% have hypercholesterolemia (>180 mg/dL) and 78.2% have hypertriglyceridemia (>100 mg/dL).
- However, in total patients, 31.3% and 56.8% were at LDL and TC targets, respectively.
- Further, in low HDL group of 80.6%, majority of the patients had high LDL (67.9%) and high TG (79.7%).
- The mean concentrations of LDL, HDL, and TC were significantly higher in females compared to males ($p \leq 0.001$) suggesting females were more dyslipidemic than males.

Prevalence of Dyslipidemia in T2D



Conclusions:

- The prevalence of dyslipidemia was observed to be high in diabetes patients than reported in general population.
- The pattern of dyslipidemia is different in India which is termed as 'atherogenic dyslipidemia' where, in addition to low HDL, there are elevated levels of both LDL and TG. This increases enormous burden of non-communicable disease and needs multifactorial intervention for primary prevention of cardiovascular disease in diabetes



Clinical Evaluation of T2D Patients for Cardiovascular Risk Through Million Heart ASCVD Risk Assessment Tool

Shah Sanjiv, Joshi Shashank R. Apollo Sugar Research Group

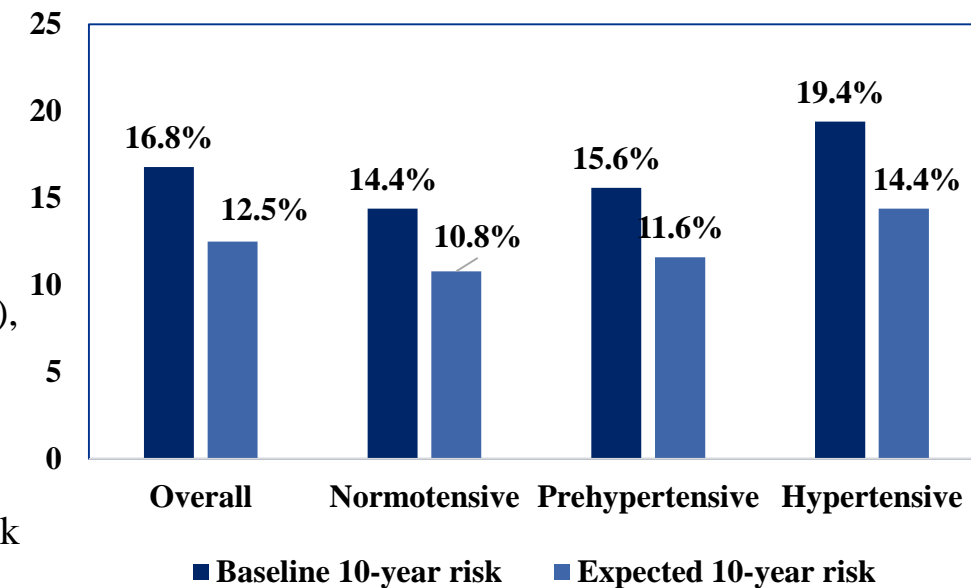
Objective:

The study aimed to minimize the risk posing factors and evaluate new CVD risk score using Million Hearts® Longitudinal ASCVD risk assessment tool among Type 2 Diabetes Mellitus (T2D) patients.

Results:

- A total of 365 T2D patients were included in the analysis. The mean (SD) age was 52.6 (11.9) years, males and females were 232 (63.6%) and 133 (36.4%), respectively.
- Of the total T2D patients, normotensive were 167 (45.8%), prehypertensive were 89 (24.4%), and hypertensive were 109 (29.9%).
- Mean age, BMI, and total cholesterol (each $p < 0.05$), strong indicators of CV risk were significantly different among these three groups.
- A total of 161 patients who met the ASCVD risk assessment criteria, the 10-year baseline risk was 16.8% and expected risk (if statin therapy initiated) was 12.5%.
- Significant difference in CV risk score was observed among three groups at baseline (14.4%; 15.6%; 19.4% $p=0.05$), and expected 10-year risk (10.8%; 11.6%; 14.4%) if statin therapy initiated.

ASCVD risk score in T2D patients with BP

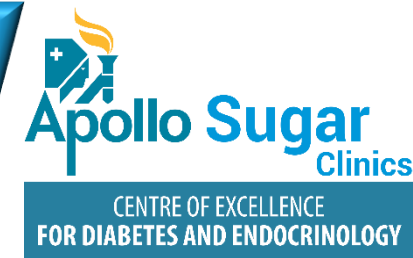


Conclusion:

Lowering cholesterol to recommended targets by moderate or high intensity statin should be an important component of multifactorial intervention for primary prevention of CV disease in diabetes patients.



Vascular Complications and Comorbidities Association in Type 2 Diabetes Patients a Retro Study Of Apollo Sugar Clinics



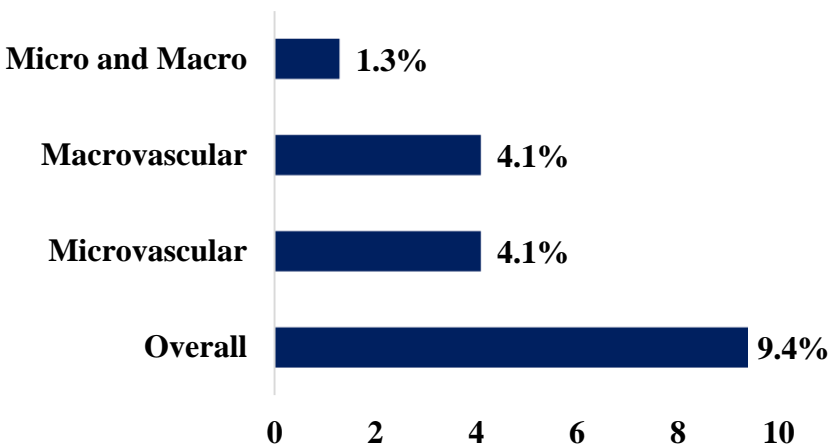
Jana Jayaprakash Sai, Joshi Shashank R. Apollo Sugar Research Group

Objective: To determine the prevalence of micro and macrovascular complications in T2D patients registered at Apollo Sugar Clinics, India.

Results:

- The mean (SD) age of the patients (N=1918) was 53.1 (11.6) years, males and females were 1166 (60.8%) and 752 (39.2%), respectively.
- Patients included in the analysis had a mean BMI of 28.4 (12.0) kg/m2 and duration of disease 7.8 (7.0) years.
- The overall prevalence of diabetes associated complications was observed in 181 (9.4%) patients.
- **Of these micro, macro and both vascular complications were observed in 78 (4.1), 79 (4.1) and 24 (1.3), respectively.**
- Further, these complications were significantly high in patients associated with comorbidities ($p < 0.001$), in age group >40 years ($p < 0.002$), males (0.02) and duration of disease (0.02).

Prevalence of Complications in Type 2 Diabetes



Conclusion:

- The current analysis indicates that continuous monitoring and educating the patients with structured condition management may contribute to notable changes in diet and drug adherence which may further help the patients in managing diabetes effectively deriving positive clinical outcomes.
- Therefore it is suggested that along with diet and drug therapy regular counselling through telephonic calls and SMS notifications may encourage the patients to start following and adhere to diabetes care.

Thank you.
Reach us on 18001031010

For Queries/ Concerns/Research initiatives, contact:

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