

Using Motivational Interviewing To Reduce Cardiovascular Risk In Type 2 DM Patients



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Background

- 11.3% of Singapore's population has Diabetes Mellitus (DM).
- Almost 60% of diabetics die as a result of Cardiovascular Disease (CVD) in Singapore, up to 50% of whom die from their first myocardial infarction.
- Primary rather than secondary prevention of CVD is thus a major goal of therapy in DM patients.
- Evidence shows that a reduction of 1.0 mmol/L of Low-Density Lipoprotein Cholesterol (LDL-c) in diabetics translated to 23% fewer major coronary events (myocardial infarct or coronary artery disease death) over 5 years.
- A goal of <2.6 mmol/L is strongly recommended for all DM patients.
- It was noted that among the Type 2 DM patients attending SingHealth Polyclinics (SHP) - Bedok only 61.9% (March 2012) managed to achieve this target.

Objective

The goal of the study was to increase the percentage of Type 2 DM patients followed-up at Bedok Polyclinic with LDL-c treated to target by at least 10% within 1 year.

Methodology

- Baseline data were collected with the help of SHP head office
- A balanced multidisciplinary team of Health Care Workers (HCW) was assembled
- Reasons for LDL-c not being treated to target were identified using Root Cause Analysis
- Voting was done to plot the Pareto Chart to identify the most important factors:
- Interventions were initiated to increase patients treated to target. The team chose to address the top two causes in the interventions.

First Intervention

15/09/2012: A Health Counselling Station (HCS) was set up specifically targeting dyslipidaemia in DM patients.

Patient Information Leaflet was used to reinforce the counselling

Second Intervention

15/11/2012: Teaching of Motivational Interviewing (MI) to HCW – concepts imparted:

1. Develop discrepancy
2. Express empathy
3. Roll with resistance
4. Support self-efficacy

Role play was done to enhance learning.

Patient Information Leaflet

Hyperlipidaemia (High Cholesterol)

1) What is High Cholesterol?

It is high levels of lipids, which are fats including the bad cholesterol Low Density Lipoprotein (LDL-c), in your blood. Causes are genes, advancing age, and diet.

2) What does it cause?

High Cholesterol has no symptoms. You can feel well! High LDL-c in your blood causes narrowing of your blood vessels and increases your risk of heart attacks, strokes and even death. This is even more so in patients at HIGH RISK of heart attacks, including those known to have diabetes, heart disease and stroke.

3) What is my target LDL-c?

In HIGH RISK patients, target LDL-c is less than 2.6 mmol/L.

4) What can lower my LDL-c?

LDL-c can be lowered with lifestyle changes, medications or a combination of these.

Lifestyle Change

a) Diet:

- Reduce total and saturated fat, cholesterol and avoid trans fats (present in animal fats and deep fried foods)
- Eat more fruits (except durians) and vegetables
- Eat more fish and soy protein (present in tofu, soya bean milk)

b) Aerobic exercise e.g walking, cycling or swimming at least 30 minutes 5 times a week

c) Reduce weight if your BMI is more than 23 (overweight)

Did you know that garlic (raw, powdered and aged) has been studied and found to be ineffective in lowering LDL-C!

Medication

STATINS: Include Lovastatin, Pravastatin, Simvastatin, Atorvastatin and Rosuvastatin

- Widely studied in many trials around the world
- Found to be most effective and safe
- Work by reducing production of LDL-c in the body

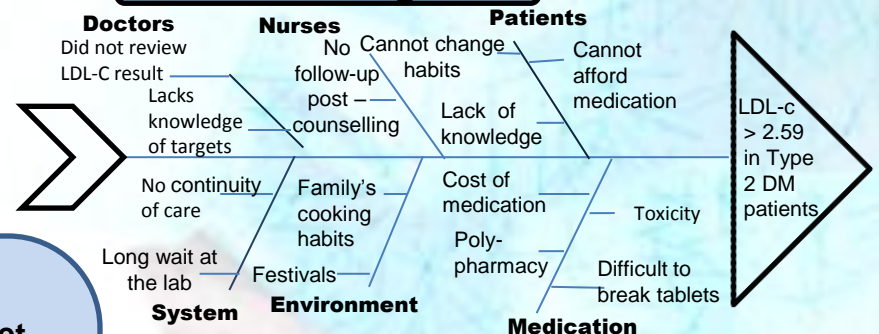
• Lower LDL-c by up to 60%

Additional benefits: Protect your heart from heart attacks. Improve fatty liver, an illness from too much fat in your liver. May lower risk of dementia

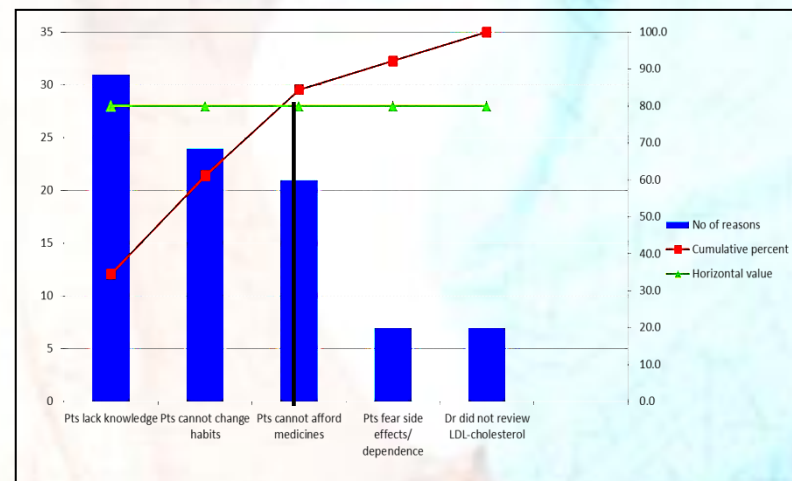
Possible Side Effects:

- Minor: headaches, nausea, diarrhoea, allergy-most patients DONOT get these
- Abnormal liver (blood) test
Liver tests remain normal for more than 98 of every 100 patients taking statins, and usually return to normal even without stopping statins.
- Myopathy: Refers to serious muscle pain and / or generalised weakness, occurs in 0.2% of patients on statins. That means more than 997 of every 1,000 are unaffected

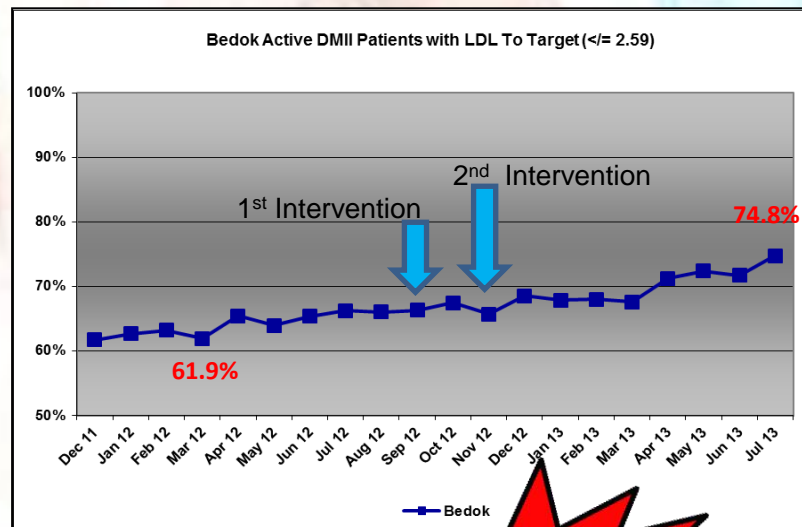
Ishikawa Diagram



Pareto Chart



Results



Conclusion

Learning Points

- Change in behavior requires time
- Change requires a team effort
- It is important to know stage of patient's behavior change so that we can individualize our management and utilize certain interventions with maximum impact

Sustainability

- Results were made known to all the SHP Polyclinics
- MI has been incorporated as a component of the training programme for nurses and doctors doing SHP posting

