

DIABETES : Tight Glycaemic Control vs Routine Therapy



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- **Presentation Outline:**

- A brief review of the literature
- Suggestions for an integrated approach
- The cost implications
- A reflection on what is done at the DGMAH
- A reflection on the role of the Public Health Facility Manager
- Conclusion
- References

A brief review of the literature:



- **Bulletin of the World Health Organization, 2011:**

“it is important to prioritize the development of and implementation of national guidelines and the use of new incentives programmes for the management of Hypertension and Hypercholesterolaemia amongst individuals with diabetes in developing countries. Our findings suggest that such program may be more feasible and more likely to have a larger population health impact than blood glucose control”
(Emmanuela Gakidou; Leslie Mallingen et al, 22/11/2010)

A brief review of the literature



- **Journal of Diabetes and its Complications 24(2010):**
“longer duration of diabetes and not adherent to diabetes self care management behavior were associated with poor glycaemic control. An educational program that emphasizes lifestyle modification with importance of adherence to treatment regimen could be of great benefit in poor glycaemic control” (Maysas Khattabi; Yousef S. Khader et al, 2010)

A Brief review of the literature:



- **Diabetes Care , Volume 37, January 2014:**
- ❖ HbA1c should be routinely tested in all patients with Diabetes.
- ❖ HbA1c target of less than 7%. But a target of 8% for patients with history of severe hypoglycaemia.
- ❖ (The Global Partnership recommends: HbA1c less than 6.5%). HbA1c monitoring every 3 months.
- ❖ The DCCT study concludes that tight glycaemic control is related to significant rate reduction in microvascular (retinopathy and nephropathy) and neuropathic complications.

A brief review of the literature:



- **The DCCT Study :**
concluded that improved intensive glycaemic control is related to significant decreased rates of microvascular (retinopathy & nephropathy) and other neuropathic complications, in Type 1 DM.
- **Kumamoto and the UKPDS studies:**
confirmed that intensive glycaemic control was associated with significant decreased rates of microvascular and neuropathic complications in Type 2 DM.
- **The ACCORD/ADVANCE/VADT Studies:**
showed that lower A1c levels were associated with reduced onset or progression of microvascular complications.
- **The ACCORD/ADVD/ADVANCE/VADT Studies:**
concluded that in more advanced disease type 2 DM, there was no significant reduction in CVD outcomes with tight glycaemic control.
- Patients with long duration of DM, with known history of severe hypoglycaemia including advanced atherosclerosis and advanced age may benefit from less aggressive glycaemic control.

Suggestion for an integrated Approach:



- **From the PHC/District Hospital level to the Central Hospital Level: the upward and down referral processes must ensure collaboration that:**
 - Strategic decisions are made and implemented to reduce the burden of DM in the population served. Eg. Support research and health intelligence initiatives (ehealth, B-Wise mobisite, telemedicine etc).
 - Obesity is reduced and managed.
 - Modifiable risk factors for DM are prevented and reduced.
 - Pre- Diabetes is managed appropriately; screening, pharmacological or lifestyle interventions are in place.
 - Improve the diagnosis and control of blood glucose in DM patients.
 - Improve the management of Microvascular complications
 - Improve the management of Cardiovascular associated risks.
 - Ensure physical access, financial viability and quality/equality of care for patients with DM.
 - Health care workers, community based healthcare workers and NGO/NPO's share in-service training and health promotion platforms.
 - That Central ,Tertiary and Regional Hospital specialists conduct outreach programmes for DM : prevention, control and management to the Primary Health setting.
 - The District Health Specialists are optimally deployed and supported to strengthen the appropriate Management of DM in the district health facilities.

The Cost implications :



- In the short term it is more expensive to implement Tight glycaemic control vs the routine interventions.
- But in the long term it is more cost effective to implement tight glycaemic control in indicated cohort of patients because the reduction of neuropathic, microvascular and associated cardiovascular complications in DM patients will lead to the cost reduction in the overall management of DM.

A reflection of what is done at the DGMAH:



- Both methods of managing DM are implemented: tight glycaemic control and routine/classical management of the patient with DM.
- Patients access to consumables (eg glucometers) is influenced by the their affordability classification.
- PPP affords also donations of glucometers to be provided to patients.
- 1liter sharps containers are also provided to patients for return to the hospital when full.
- HbA1c is done for every visit, although there is Electronic Gate Keeping.
- The guidelines from the Society for the Endocrinology , Metabolism and Diabetes for Southern Africa are used at the DGMAH.
- Most screening tests eg. Eye tests, are done once a year.
- Podiatrist , Clinical Psychologist and Social Workers are accessed when there is a need.
- Health promotion and weight management is routine and standard per consultation.

A reflection on the role of the Public Health Facility Manager:



- To be aware and plan for the projections that in the developing world from 2011 to 2030, that Diabetes incidence shall rise by more than two thirds.
- To plan and budget for the prevention, screening and management of DM.
- To plan, support and budget for human resources, systems ,consumables/equipment and infrastructure for the quality effective & efficient management of DM.
- To create and build profitable and reputable partnerships towards the appropriate management of DM.

Barriers to achieving good glycaemic control:



- Lack of clarity over definition of good glycaemic control.
- Inadequate monitoring of glycaemia.
- Complexity of managing hyperglycaemia.
- Insufficient involvement of specialist care units.

Conclusion:



- Routine therapy and tight glycaemic control in the treatment/management of DM, are seen as complimentary and synegetic inputs towards the reduction microvascular, neuropathic and associated cardiovascular complications. Especially in type I DM.
- **Tight glycaemic control is not for everyone with DM.** It can also be dangerous: risk of obesity and hypoglycaemia. The costs are also very challenging. Hypoglycaemia unawareness is also a major risk.
- Prudent budget and resource management is critical to improve access to healthcare service for patients at risk.
- Multidisciplinary collaborations and partnerships are important in the strive for reducing the negative impact of DM to our communities/population.
- CPD is key and critical in the management of DM.
- Health promotion and community education is important.
- Team work and continuous research is very critical towards effective management of the burden of DM.

Acronyms and terminology:



- DCCT-Diabetes Control and Complications Trial
- UKPDS-UK Prospective Diabetes Study
- ADVANCE-Action in Diabetes and Vascular Disease: Preterax and Diamicron MR Controlled Evaluation Trial.
- VADT-Veterans Affairs Diabetes Trial
- ADVD-Action in Diabetes and Vascular Disease
- KUMAMOTO- A city in Japan.
- ACCORD-Action to Control Cardiovascular Risk in Diabetes

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- www.clinical.diabetesjournals.org : Jay S. Skyler, MD
- www.fend.org: Achieving Good Glycemic Control.
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- **THANK YOU VERY MUCH.**