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IMPA NEWS

THE OFFICIAL NEWS LETTER OF THE INDEPENDENT MEDICAL PRACTITIONERS ASSOCIATION

FROM THE **PEN OF THE PRESIDENT. . .**

Dear All,

Having shouldered the responsibilities of the IMPA for last 10 months I think I should recap and reflect on the following matters for the benefit of our membership and the association in general.

I think it is hightime we need to make an active attempt to change the mental stereotypes regarding the IMPA as an organization. This can be achieved by several means :

1. Special interest groups SIGs - mental health, diabetes, respiratory disorders, primary care and private medical care in sri lanka

2. Membership drive and foreign medical graduates

3. Research output

4. Relationship with Ministry of Health (MOH)

Creation of Special Interest Groups (SIGs) is a widespread activity in many medical organizations. The rationale probably is to create an environment for team work and to let wide and varied competencies and skills of individual members to be expressed in organizational activity and performance. For a start I would like to propose diabetes, respiratory diseases, mental health as some important topics around which we can formulate some important activities. All these should have their outcome formulated in terms of patient centered themes. This will ensure that we will honor the mandate of our constitution by :

a. Organizing ourselves for the purpose of rendering humanitarian service and service to the profession

b. Maintaining professional and ethical standards of the medical profession, particularly relating to the science of medicine, surgery and medical clinical research. And also it cannot be overemphasized the importance of research more so in the field of primary care in Sri Lanka which will be served by these SIGs

We are also in an overdrive mode for our membership recruitment program. We are actively canvassing private sector hospitals, nursing homes and clinics to refer their medical officers to our office for further action. I think in this regard we should actively think of designing and maintaining a website for this purpose and also for our

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Editor - Dr A L P de S Seneviratne

CPD activities. Because in our membership drive a common request is for promotional materials. I think in this regard too this website would be of immense help. I would also like to solicit the help of our members to find an give us a sponsor for our proposed website which would serve us to carry our programs uninterrupted.

IMPA must be in the forefront of the research in primary care in Sri Lanka for the simple reason there are only a very few academic organizations to carry out this important activity for the benefit of the doctors and patients alike. And none of these organizations are known to produce any research output on a consistent and regular basis. I personally feel this is an important area the IMPA should focus on and a another Newsletter president's message will focus on this. In addition our constitution has given us a mandate to go ahead with research activity for the benefit of society in general and also
to our members.

Finally in our membership we have come across the phenomenon of foreign medical graduates and particularly the undergraduate. In fact currently most of the foreign medical graduates are absorbed into the private health care services in Sri Lanka. Therefore it is obvious that there is a pool of potential membership for us there for grabs.

Dr Ananda Perera

PREVENTION OF TYPE 2 DIABETES MELLITUS; ROLE OF THE FAMILY PHYSICIAN

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Abstract

Type 2 Diabetes Mellitus (T2DM) has become an epidemic worldwide. It is a major cause of premature death and a significant health problem. The Diabetic Prevention Program (DPP) trial demonstrated that an intensive lifestyle intervention could reduce the incidence of T2DM by 58% over 3 years. The two major goals of the DPP are to achieve and maintain a minimum of 7% weight loss and to improve physical activity. "Structured behavioral weight loss therapy" is of paramount importance for those who are overweight or obese in preventing T2DM. Intensive lifestyle intervention needs to be individualized, meaningful and realistic. An established therapeutic doctor-patient relationship between the person and the Family Physician and the credibility of the Family Physician, enable the achievement of the goals of DPP.

Introduction

Type 2 Diabetes Mellitus(T2DM) is a complex, chronic illness characterized by insulin deficiency, insulin resistance or both resulting metabolic failure in glucose homeostasis in the body; which requires continuous medical care with multifactorial risk-reduction strategies beyond glycemic control. Diabetes has become an epidemic worldwide with most of the incidence in middle and low-income countries like Sri Lanka. There are 425 million people have diabetes in the world and 82 million of those patients live in the South-East Asia Region (SEAR)[1]; while more than 50% of persons are unaware that they have diabetes. Sri Lanka too is seeing an increase in the cases of diabetes with 1.2 million (1198100) recorded cases in 2017 with a prevalence of 8.6%[2]. T2DM accounts for about 90% of all diabetes.

Diabetes is a major cause of premature death, blindness, kidney disease, heart disease, stroke, limb amputation and other significant health problems. With diabetes, life expectancy is significantly reduced. One of the hidden impacts of diabetes is the loss of productivity from disability, sickness, premature retirement and premature death.

Prevention of diabetes is highly effective in all the aspects of health both individually and in public. Though there is a genetic predilection, modifying personal and environmental risk factors can prevent

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or delay the onset of T2DM. The Diabetes Prevention Program (DPP) trial demonstrated that an intensive lifestyle intervention could reduce the incidence of T2DM by 58% over 3 years[3].

What are the risk factors for T2DM ?

- Age
- Genetic predisposition or family history in first degree relatives
- Certain racial/ethnic subgroups (African American, American Indian, Hispanic/Latino, Asian American)
- Obesity
- Lack of physical activity
- Women with prior gestational diabetes mellitus (GDM)
- Those with hypertension or dyslipidemia
- Those who are on certain medications (glucocorticoids, thiazide diuretics, HIV medications, atypical antipsychotics)

According to the Diabetic Association of Sri Lanka, 23% of Sri Lankan adults have 2 or more risk factors for developing T2DM. Physical inactivity (39%) found to be the predominant risk factor[4].

Childhood obesity is also found to increase the risk of developing obesity related diseases in adult life including T2DM[5]. A study conducted among Sri Lankan children clearly confirms that Sri Lankan children have high Fat Mass Index from young age and a low Fat Free Mass Index[6]. Rapid weight gain which was traditionally considered as a healthy intervention for low birth weight infants is now recognized as a potential risk factor of increasing interest for obesity. It is evident that the weight gain in Sri Lankan children is mainly due to the increase in body fat than non fat tissues. There are research proven risk factors for childhood obesity, which includes:

- Skipping the breakfast.
- Short duration night time sleep[7,8].
- Shift in the activity pattern of children from outdoor play into indoor entertainment: television viewing, internet and computer games.
- Large birth weight
- Maternal obesity
- Excess pre-pregnancy weight gain of mothers or maternal undernutrition[9]
- Maternal hyperglycemia
- Maternal smoking[10]
- Obesity of the father at the time of conception[11]

Prevention of T2DM

The two major goals of the Diabetes Prevention Program (DPP) are to:

1. achieve and maintain a minimum of 7% weight loss
2. physical activity similar in intensity to brisk walking - 150 min per week

American Diabetic Association (ADA), Standards of Medical Care in Diabetes 2019 emphasized that "Structured behavioral weight loss therapy" is of paramount importance for those who are overweight or obese in preventing T2DM[12]. Structured behavioral weight loss therapy includes a reduced calorie meal plan and physical activity.

Nutritional recommendations

- There is no evidence that eating or avoiding a specific food prevents diabetes. But a diet low in saturated fat and sugar, and high in complex carbohydrates and dietary fibre are strongly recommended for promoting overall health.
- An individualized reduced calorie meal plan is highly effective in preventing T2DM and improving other cardiometabolic markers.

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- Calorie goals were calculated by estimating the daily calories needed to maintain the patient's initial weight and subtracting 500-1,000 calories/ day (depending on the initial body weight)[13].

- A reduced-calorie diet consisting of fruits and vegetables (combined ≥5 servings/day), grains (primarily whole grains), legumes, fish, and lean meats is recommended[14].

- Portion size should be reduced, mainly the total carbohydrate in the diet and replace the deficit with high fiber low energy food such as green leafy vegetable to make patient to feel full after a meal.

- WHO recommends reducing daily sugar intake to <10% of total energy intake. For Sri Lanka, the recommended sugar consumption is about 25 grams (6 teaspoons) per non-diabetic person per day[15].

- The intake of saturated fats, trans fats, and cholesterol should be limited; and the plant sterols (~2 g/day) and soluble fiber (10-25 g/ day) should be encouraged.

- Higher intakes of nuts[16], berries[17], yogurt[18] (with no added sugar) are associated with reduced diabetes risk.

- Excessive alcohol intake should be discouraged.

Physical activity/exercise recommendations

- All children, irrespective of obesity, should be encouraged to engage in regular physical activity. Children should engage in at least 60 min of moderate-to-vigorous aerobic activity every day with muscle and bone-strengthening activities at least 3 days per week[19].

- A reasonable and feasible approach to fitness therapy at least 30 minutes of moderate-intensity exercise 4 to 6 days weekly (150 min/week), is recommended for adults[20].

- Daily physical activity goals can be met in a single session or in multiple sessions throughout the course of a day (10 minutes minimum per session)[21].

- In addition to aerobic activity, resistance training is recommended at least 2-3 nonconsecutive days per week. Resistance training of any intensity will improve strength, balance and the ability to engage in activities of daily living throughout the your life span[22].

- Non exercise physical activity such as washing clothes, sweeping the garden, cleaning the house, should be encouraged[23].

- All individuals should be encouraged to reduce the amount of time spent being sedentary (e.g., working at a computer, watching TV) by breaking up bouts of sedentary activity (>30 min) by briefly standing, walking or performing other light physical activity[24].

Other aspects of lifestyle modification

- Smoking may have a role in the development of T2DM. The routine and thorough assessment of tobacco use is essential to prevent smoking or encourage cessation[25].

- Stress can break down stored forms of glucose and elevate glucose in the blood. Reducing stress can decrease the risk for developing T2DM[26] and increase emotional stability and well-being. Exercise, mindfulness/meditation, relaxation, improving problem solving skills are few measures to manage stress.

Pharmacological measures to prevent T2DM

- Metformin therapy for prevention of T2DM should be considered in those with prediabetes, especially for those with BMI ≥35 kg/m^2, age >60 years and women with prior gestational diabetes mellitus (GDM)[27,28].

- Pharmacologic agents including metformin, α-glucosidase inhibitors, glucagon like peptide 1 (GLP-1) receptor agonists, thiazolidinediones

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and several agents approved for weight loss have been shown in research studies to decrease the incidence of T2DM to various degrees in those with prediabetes.

- It is better to have a clinician-patient risk-benefit discussion before starting a pharmacological agent. It should also emphasize that medication must be used on top of the intensive lifestyle modification[29].

What is the role of family physician?

Family Physician can play a pivotal role on the primary prevention of developing T2DM in those who are at risk. Family Physician should have a sense to identify the individuals at risk when they visit for other ailments. Prevention of T2DM need to be addressed before conception until the diagnosis of prediabetes in an individual. Family Physicians are privileged to identify risk groups and modify their behavior throughout their lifespan. Such opportunities are:

- A couple planning to have a family, they should be encouraged to have normal BMI at the time of conception.

- A pregnant mother gains excess weight during pregnancy, have a large baby or small for gestational age baby, GDM will raise the future risk of T2DM in both mother[30] and the child.

- Rapid weight gain of the infants should be recognized and addressed early before a child becomes overweight or obese.

- Children who are at risk of obesity should be identified and their risk behaviors (diet and physical activity) should be corrected.
- Children who are overweight and obese need to be started on an intensive lifestyle intervention.

- Anybody with risk factors (mentioned above) for T2DM should be identified and involved in DPP; and need to be monitored periodically with screening tests to detect T2DM as early as possible[31].

Family Physicians should conduct motivational interviews with the patient as well as the family members specially when it comes to a child, to modify their lifestyle to overcome the risks as mentioned earlier. Intensive lifestyle intervention needs to be individualized, meaningful and realistic; if not it will not be successful. Established professional relationship between the person and the Family Physician and the credibility of the Family Physician, enable Family Physician to achieve goals of DPP to prevent T2DM in the individuals and in future generations. Family Physician needs to be devoted and should spend extra time with the patients to change their diet and level of physical activity.

Continuous reinforcement would help people to maintain their lifestyle changes and to establish the changes in their day to day routine. Meantime, none of these interventions should give rise stress or anxiety to the person or the family. To alleviate this, Family Physician should always incorporate the patient and the family in decision making and setting targets. For example, to make a weight losing dietary plan, food items should be chosen by the person according to his/her preference to match the daily calorie requirement. To conclude, the Family Physician is the best person who could practice preventive care in the development of T2DM.

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