

Diabetes Remission: Is It Realistic in the Sri Lankan Diabetes Epidemic?

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Diabetes has emerged as one of the most challenging global pandemics in the 21st century. According to the IDF diabetes atlas, 537 million adults lived with diabetes in 2019. It is estimated that 1 in 8 adults will have diabetes mellitus by 2045, which is an increase of 46%, and the majority of them will live in low and middle-income countries [1]. Among IDF regions, South Asia reports the second highest number of people living with diabetes, and to make matters worse, over 1 in 2 of them are underdiagnosed [1]. It is also known that South Asians carry a considerably higher risk of developing T2D at a lower body mass index with characteristic Asian Indian phenotype and at younger ages. The mechanism for their excess risk likely includes greater total fat mass and lower lean mass, leading, in turn, to more rapid visceral fat deposition when weight increases and potentially lower beta cell reserve [2, 3].

Sri Lanka is also no exception to this global pandemic, with alarming prevalence rates reflecting the global trend. The overall prevalence of diabetes was 27.6% in Colombo urban study done in 2018, which showed a dramatic rise in prevalence over the last decade [4,5]. This is attributed to genetic and epigenetic factors and mostly to modifiable environmental factors, including unhealthy eating patterns, physical inactivity, and novel risk factors, such as exposure to environmental pollutants, smoking, depression, short sleep duration, and the built environment [6]. This diabetes epidemic imposes a huge health cost burden, while the country is going through the worst economic crisis ever. Cost effective and feasible solutions to address this epidemic should be explored and established.

Diabetes remission has been recognized globally as a potential therapeutic solution for this pandemic. In the review article by De Abrew et al, pathogenesis, theoretical possibility, and real-life clinical evidence for the feasibility of diabetes remission in different populations across the world have been nicely pointed out [7]. High rates of diabetes remission have been reported among obese T2D with metabolic bariatric surgery in Sri Lanka [8]. Structured weight

management programmes have been recognized as a successful, cost-effective method for weight loss and diabetes remission in different populations based on evidence from DiRECT equivalent trials done in UK, Australia and Middle East [9, 10, 11]. STANDBY trial done among South Asian migrants in the UK shows a remission rate of 40%, which is close to that of the DiRECT trial with a similar weight management program using total diet replacement (TDR) for 12 weeks. Its findings suggest that the mechanism of T2D and its remission may indeed be broadly the same in South Asians as in Europeans, despite differences in metabolic phenotype [12]. As in this study, diabetes remission will be possible in our population with lower baseline body weight and BMI at lower absolute weight loss. Acceptability of total diet replacement in Sri Lankan food culture cannot be expected from the majority, and therefore, culturally acceptable meal replacement options need to be explored. TDR with commercial formulae for 3 months costs around LKR 180,000, and its use will be limited to the affluent minority. In a limited resource setting, metabolic bariatric surgery is not given priority in free health services, while MBS costs a few million LKR in the private sector. Very few injectable GLP-1 agonists are registered in Sri Lanka at the moment, and again, it is only affordable for the affluent minority.

Research and real-life clinical evidence are required at baseline to describe the feasibility and applicability of this intervention in our setting, to identify population-specific predictors, challenges, and weight loss targets, and to design a practical, low-cost affordable, structured diabetes remission program model. Diabetes remission rates are high at earlier stages of the disease, requiring a minimum number of drugs while beta cells are at a recoverable stage. Delays in diagnosis of diabetes, lack of proper screening programmes for early detection, and lack of public awareness make their probability of diabetes remission low at the time they present to the health care service.

Incorporation of a low cost, culturally acceptable structured weight management program for

prevention and remission of diabetes into the well-established primary care health services in Sri Lanka could be a more practical approach. Increasing awareness among the public, healthcare professionals, and stakeholders regarding diabetes remission and its implications will improve their acceptability of the programme. Exploring the possibility of local manufacturing of newer GLP1 agonists in Sri Lanka, taking neighboring India as the best example, will increase the availability of affordable low-cost generic forms of GLP1 agonists to our population.

Highly prevalent risk factors such as physical inactivity and unhealthy eating patterns in Sri Lankan diabetic population make it extremely challenging to achieve success in weight loss, diabetes remission, and its maintenance with weight management programmes. Incorporation of key principles of healthy lifestyle to avoid chronic positive energy balance into the school curriculums will shape the future generations to combat this epidemic.

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