Increasing prevalence of diabetes mellitus in a rural Sri Lankan community

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Introduction

The prevalence of diabetes mellitus is expected to rise world-wide and to epidemic proportions particularly in the developing countries[1]. It is projected to increase world-wide by 122% (from 135 million to 300 million people) between 1995 and 2025 and is expected to grow by 170% (from 84 million to 228 million) in the developing countries. This rise has been attributed to the changes in the socio-economic status with resultant altered lifestyle patterns of people living in these countries. The increase is most prominent in the urban sector where the effect of a more 'westernized' lifestyle results in high prevalence rates of diabetes compared to that in the rural sector[2]. However recent clinical observations indicate that the prevalence of diabetes is on the rise even in the rural sector. The objectives of the present study were to determine whether this is so by determining the trends in the prevalence of diabetes in a named rural community in Sri Lanka over a period of 10 years.

Methods

The study was carried out in the rural sector of the Hindagala Community Health Project Area. The population studied consisted of 25605 adults (over 18 years of age) and a cluster sampling method was used to determine the number of subjects for the study. The age, gender and whether they are known to have diabetes was enquired from these subjects.

Results

A total of 8 clusters consisting of 1325 subjects were studied. A total of 28 subjects consisting of 13 males and 15 females were identified to have known diabetes accounting for a prevalence rate of 2.1% (Table). This is in contrast to a prevalence rate of only 1% observed in a study conducted by the main author in the same population 10 years ago[3]. The difference was statistically significant ($p<.05$).

Table. Number of subjects in each cluster and the number with known diabetes

Name of cluster	*Number of subjects*	*Number with diabetes*	
		Male	*Female*
1. Haloya	173	4	3
2. Wariyagala	180	2	0
3. Pahingamuwa	156	0	2
4. Palledeltota	183	0	2
5. Sarasavigama	173	2	2
6. Megodakalugamuwa	145	0	3
7. Nawagurukele	143	3	0
8. Galoya	172	2	3
Total	1325	13	15

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Discussion

The development of diabetes mellitus has been attributed to an interaction between the genetic composition and the environment. The community studied is ethnically homogenous and has remained so during the past 10 years. In this study the prevalence of diabetes has doubled during the past 10 years. Therefore the increased prevalence observed could be attributed to the effect of the environment rather than a change in the genetic composition. The enviromental factors which contribute to increased prevalence of diabetes have been identified as obesity, unhealthy diet and the sedentary lifestyles associated with industrialization and urbanization[4]. Such rapid changes in lifestyle factors has contributed to an alarming increase in the prevalence of diabetes in countries with large populations such as China and India.

People who migrate from rural areas to cities adopt a 'western' type of lifestyle as a result of which they are prone to develop noncommunicable diseases such as diabetes, hypertension and coronary heart disease. The results of the present study which was conducted in a rural population reveal that even without migration to the cities the socio-economic status of those who continue to live in rural areas has perhaps improved thereby making them vulnerable to develop these noncommunicable diseases.

If the results of the present study are projected to the whole of Sri Lanka the implications could be of considerable significance since nearly 70% of the Sri Lankan population still live in the villages and liable to develop diabetes. There would be a appreciable rise in the number of patients with diabetes in the rural sector and continuation in the present trends would result in unfavourable public health and economic consequences. Corrective action consists of primary prevention of diabetes and providing facilities to deal with the increasing load of patients. Primary prevention programmes directed to modifying the adverse lifestyle factors would be a highly cost effective method of dealing with the epidemic of diabetes particularly in developing countries such as Sri Lanka[5].

References

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