Tackling childhood obesity: a novel school-based programme in India.

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Childhood obesity, which predisposes to type 2 diabetes and several other diseases, is an emerging health problem in India. Acknowledging that schools provide an effective platform to bring about behavioural change in children, Chellaram Diabetes Institute has initiated a Childhood Obesity Prevention Programme in select schools of Pune city — the seventh largest city in India, 150 kilometres southeast of Mumbai. This interactive programme involves a set of topical slides on obesity, use of an audience response system and activities for secondary grade children, all providing a lively experience for learning. The promising results obtained so far offer scope for expansion of this programme on a wider scale.

Childhood obesity, which predisposes to type 2 diabetes and several other diseases, is an emerging health problem in India. A recent multi-centric study of more than 38,000 children aged 8 to 18 years, found that 18.5% and 5.3% of the children were overweight and obese respectively.1 In another study in a city in South India, the overall prevalence of overweight and obesity among adolescent school children was 9.9% and 4.8% respectively. The prevalence was higher among adolescents belonging to the high socioeconomic status group, those who had physical activity of less than one hour a day, watched television for more than four hours a day and who ate chocolates daily.2 The risk factors for childhood obesity, which include changing lifestyles, unhealthy diets and physical inactivity, are all on the rise in India.

Concerted action at the school level offers a lasting solution to the problem of childhood obesity. Schools play a vital role in the upbringing of children and can therefore be an important setting for teaching healthy habits and helping children to better understand how to avoid health problems — including obesity — in their future lives.

This has been recognised by governments in countries with high rates of childhood obesity. For instance, the USA and the UK have been implementing countrywide campaigns like “Let’s Move” and “Change4life” which were developed to improve child nutrition and increase physical activity.3, 4 In India, however, there have only been sporadic efforts to address the issue of childhood obesity, especially at the school level.

In this context, Chellaram Diabetes Institute (CDI) has initiated a programme to address childhood obesity in the city of Pune in Western India.

CDI organised a conference on childhood obesity as part of a programme to mark World Diabetes Day 2013. The confe-
rence was well attended by principals, teachers, parents, students and healthcare providers in the city. The conference group felt that obesity was certainly on the rise in children in Pune and the consensus was that schools can be an important medium for initiatives to address the problem of childhood obesity.

The Childhood Obesity Prevention Programme (COPP)

Subsequent to the discussions at the Pune Conference, CDI developed a programme called Childhood Obesity Prevention Programme (COPP) for implementation with secondary school students aged 12-16 years. Although still vulnerable to obesity, this age group was chosen because they are capable of understanding the right messages to take appropriate action against obesity.

COPP involves an interactive PowerPoint presentation divided into five modules:

1. Definition and measurement of obesity
2. Facts about obesity
3. Causes, effects and contributory factors
4. Nutritional management related to obesity
5. Interventions to prevent and treat obesity

The sessions have been designed to be lively with interesting graphics and hands-on activities like plotting one’s own chart, interspersed with anecdotes and humour, to encourage the active involvement of students.

COPP also involves an interesting tool named the Audience Response System (ARS) or “voting meters” which tests the knowledge of the students before and after the sessions. COPP has been structured to take approximately one hour to conduct.

COPP was first implemented among secondary school students in a prominent English-language girls’ school of Pune, and subsequently, with secondary school students of another prominent co-educational English-language school in the city.

A total of 296 students across the two schools participated in the programme. The level of improved awareness in the students is demonstrated in table 1.

The programme substantially improved awareness in the students on obesity and related issues. In School 1, the knowledge improvement was more pronounced for the topics...
Table 1: Proportion of accurate responses to pre-test and post-test questions

<table>
<thead>
<tr>
<th>School</th>
<th>Proportion of accurate responses to pre-test questions</th>
<th>Proportion of accurate responses to post-test questions</th>
<th>Difference in proportion of accurate responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1 (N=216)</td>
<td>30.8%</td>
<td>62.9%</td>
<td>32.1%</td>
</tr>
<tr>
<td>School 2 (N=80)</td>
<td>41.9%</td>
<td>67.0%</td>
<td>25.1%</td>
</tr>
</tbody>
</table>

relating to treatment of the extremely obese, physical activity in children and screen time, while in School 2, this was observed for the topics relating to energy dense foods and waist-hip ratio.

On the other hand, there was not much improvement in certain areas. In School 1, the least improvement was with respect to the topic of food groups of a healthy diet, while in School 2, it was regarding the topic of health risks posed by obesity. Approximately two-thirds (67.2%) of all students described COPP as interactive in nature.

COPP offers an interesting solution to address the growing problem of childhood obesity at the school level in India. Important issues related to the subject can be covered in the form of modules, which can be discussed with the students in an interactive manner. Stress needs to be given on topics that would spur the children into thinking about making appropriate lifestyle changes.

Efforts will be made to ensure the continuity of the programme in the two schools through discussions with the school authorities and parents, by involving them in suitable activities. The programme holds the promise of expansion on a wider scale, for which a broad framework would need to be evolved to involve more schools.

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