

## Correspondence

### Prevalence of type 1 diabetes mellitus in Saudi Arabian children and adolescents

*To the Editor*

I read with interest the article by Al-Herbish et al<sup>1</sup> on the prevalence of type 1 diabetes mellitus (DM) in Saudi Arabian children and adolescents. Type 1 DM is the most common form of diabetes in most part of the world, although reliable data are still unavailable in several countries. Wide variations exist between the prevalence rates of different populations, and its trend is markedly increasing in the recent years. I have 3 comments regarding the aforementioned article.

First, considering the data listed in Table 3 of the article, the total number of cases of type 1 DM in children under the age of 12 years was 22 with an estimated prevalence of 106.7/100,000. Considering the previous studies,<sup>2-4</sup> the increasing trend in the magnitude of type 1 DM in the pediatric age group in Saudi Arabia probably parallels the escalating trend in the reported prevalence of obesity<sup>5-8</sup> that might reflect changing nutritional habits and affluent lifestyles.<sup>9,10</sup> This does not mean undervaluing the operating roles of genetic, environmental, immunological, and psychological backgrounds in the etiology of type 1 DM. Second, the authors stated nearly an equal gender distribution of type 1 DM (26 males versus 24 females) in the studied children and adolescents. I wonder whether the authors have any precise gender distribution in the studied pediatric age group. Contrary to well-known knowledge about equal gender distribution of type 1 DM,<sup>11</sup> there is recently an increasing evidence of males' preponderance that might be attributed to internal factors related to the gender rather than differences in the exposure to environmental factors.<sup>12</sup> Third, the authors also stated that no clear cause and effect relationship of certain environmental factors like breastfeeding, vaccination, and viral illnesses was established as predictive factors in the development of type 1 DM. However, recent studies have shown the protective role of breastfeeding,<sup>13-15</sup> and predictive roles of prior vaccinations (pertussis, MMR, mumps, *H. influenza*, and BCG vaccine),<sup>16,17</sup> and previous viral illness<sup>18-20</sup> in initiation and early pancreatic islets cells destruction and progression to type 1 DM. Finally, I do agree with the authors that regular epidemiologic surveillance of DM on both a national

and international scale will help target efforts against potential risk factors with the objective of ameliorating or lessening the long-term complications of DM.

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### *Reply from the Author*

I sincerely thank Prof. Al-Mendalawi for his interest and valuable comments in reference to our article.<sup>1</sup> My comments are as follows: in his introductory statement I am sure that Prof. Al-Mendalawi is referring to the pediatric and adolescent age group when he stated that "type 1 DM is the most common ...." as type 2 DM remains the most common type considering all ages. I expect the reason behind isolating under the age of 12 is perhaps in reference to the practice in many Arab countries of making the cut off point for the pediatric age group as 12 years. I however, disagree with the cause-effect relationship Prof. Al-Mendalawi made with the increasing trend in prevalence of obesity. Obesity is an important factor in the etiology of type 2, and not type 1 diabetes both in adults and children. I thank Prof. Al-Mendalawi for his second comment, and reference no.12 he included. Our study however, did not show this trend. As known, the etiology of type 1 diabetes remains a mystery. Despite many observational epidemiological studies of relationship to breastfeeding, vaccination and viral illness, there is still a lack of convincing prospective, and double blind study to confirm the association. Breast-feeding has been found a possible protective factor against type 2 diabetes, and also early cow's milk and solid food introduction for children may be a contributing factor for type 1 DM, we however, await a definite answer from the TRIGR Study.<sup>21</sup> Devendra et al<sup>22</sup> in the article published in BMJ, illustrated in table 2 a summary of the studies showing conflicting results in connection to the environmental factors and type 1 diabetes where some studies showed association, and some show none. Hviid et al,<sup>23</sup> in their previously published article concluded that results do not support a casual relationship between childhood vaccinations and type 1 diabetes. In summary, we do not feel that there are enough existing data to support these

environmental factors in relationship to the etiology of type 1 diabetes. We again thank Prof. Al-Mendalawi for his interest and valuable comments.

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### Related topics

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