Correspondence

Epidemiology of type 1 diabetes mellitus among Arab children

To the Editor

I read with interest Dr. Noorwali's review article of last June on the Epidemiology of type 1 diabetes mellitus among Arab children.[1] Its main message focused on the increasing incidence of type 1 diabetes mellitus (Type 1 DM), and on the higher incidence in rich compared with poor Arab countries. My communication aims at drawing attention to an aspect that might help in explaining these variations in the incidence of Type 1 DM. My claim is based mainly on Dr. Abdullah's citation from his reference[2] on the misdiagnosis of Type 1 DM presenting initially as diabetic ketoacidosis (DKA) particularly in infancy and early childhood; a statement that has been substantiated from outside Arab countries as well.[3] Missing many such cases of Type 1 DM could disturb its actual incidence. My claim gains logical support from facts deduced, mainly, from the review article itself, thus:

A single peak age of onset of Type 1 DM among the presented 9 Arab countries was within the 10-14 years age range in 4 (Saudi Arabia, Jordan, Egypt and Oman).[1] The same 10-14 years age range was one of 2 peaks in Tunisia and Sudan. There was no comment on such peak(s) in Algeria and Libya. As for Kuwait, the richest country, some peak at 5-9 years, was reported in a recent study. Older children, contrary to infants and younger children, can talk and express their symptoms more clearly to bring attention to the diagnosis of diabetes and to be included in incidence records. Missed DKA means death of the patient and thus failure of inclusion in incidence records. As for the exception, the geographically small modernized Kuwait, the quality of health care, including laboratory facilities, presumably has paralleled their highest per capita income in its efficiency and easy accessibility without distant travel as to preclude failure to diagnose Type 1 DM presenting as DKA. Moreover, a practitioner diagnosing a fresh Type 1 DM presenting as DKA in an infant or child has to refer him for the inpatient care that DKA demands. For a poor family with several offspring, such a step could be weighed as too demanding financially or socially for a little baby; especially so if it involves distant travel. Older children, males more than females, are less likely to be deprived from such, life saving, care. In a recent study from Iraq on type 1 DM in children, males constituted 66.7% among the ≤2 year-age range and their percentage gradually decreased to reach down to 53.1% among the 12-14 year-age range.[4] Furthermore, if such parents know the demands that care of Type 1 DM imposes, not to mention its prognosis with suboptimal care when the little child reaches adulthood and thereafter, their already loose attitude may become worse. Likewise, such neglect precludes inclusion in incidence records.

Amid the known high prevalence of gastroenteritis during summer time, the mentioned misdiagnosis of DKA as a first presentation of Type 1 DM in a baby is more likely than in wintertime when gastroenteritis is less prevalent. Such a mistake is more likely to occur in the crowded primary care clinics of poor countries than in the rich. In addition, to its share in explaining the low incidence of Type 1 DM of childhood in poor countries, this viewpoint contributes to the higher occurrence of the disease in wintertime worldwide,[5] including Arab countries where it was seen in 6 out of 7 whose seasonal occurrence of the disease was reported.[1] Thus improvements of medical services, health education and transport facilities contribute to the reported increasing incidence of childhood Type 1 DM by not allowing some of the patients to be misdiagnosed. The degree of improvement is likely to be less in poor countries; hence their low incidence and the higher incidence in rich countries. The reported recent 4-fold increase in incidence of Type 1 DM among ≤5 years old Kuwaitis' might reflect the improvement of medical services rather than the economy. Kuwait was as rich 3-4 decades ago as she is now. The very low figures of Oman[1] supposedly reflect lag of improvement of medical services more than blaming the financial status.

Taher Q. Al-Dabbagh
Department of Medicine, College of Medicine
University of Mosul
Mosul, Iraq

Reply from the Author

No reply was received from the Author.

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