

Prevalence of Type 1 Diabetes and Presence of Optimal Support Services in Public Schools a Case Study of Gweru, Zimbabwe - Miriraishe Chigova - University of Zimbabwe, Zimbabwe

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Abstract

Introduction

Type 1 diabetes sometimes referred to as childhood onset diabetes is characterized by deficient hormone insulin production by the body. Children spend most of their time in school such that when there is an imbalance between medication, food and physical activity the wellbeing of the minor is placed at risk. The main objective was to investigate the prevalence of Type 1 diabetes and presence of support services for affected children in public schools in Gweru, Zimbabwe.

Methods

A cross-sectional study was conducted in public primary schools in the third largest city of Zimbabwe, Gweru. Key informant interviews were conducted with selected staff members to determine the type of support services available for children with Type 1 diabetes. The Michigan Diabetes Knowledge test was used to collect data from school staff on knowledge about the condition.

Results

The prevalence of Type 1 diabetes was 0.1% across 21 primary schools assessed. A third of the schools (33.3%) offered support services such as insulin administration (n = 2), nutrition support (n = 7), and blood glucose monitoring (n = 5). The mean knowledge score was 15.4 ± 2.7 . Half of the schools scored above the mean knowledge score.

The total number of primary school children in Gweru urban was 24863. Only eight schools out of a total of 21 assessed schools had children with Type 1 diabetes enrolled. The total number of children confirmed using medical records was 26. The prevalence of Type 1 diabetes was 0.1%. Females (n = 14) were slightly more than males (n = 12). More than half of the children with diabetes 57% and 43% of the males and females respectively required monitoring at school and the rest were independent of glucose monitoring. Only two schools had school nurses and they had been trained about management of diabetes in nursing school. Only 1 school had a written policy.

In total 33% of the schools offered some support service to children with diabetes

Conclusions

The results show that there was a low but significant prevalence of Type 1 diabetes in Gweru urban primary schools. There are few supportive services being provided in the schools and there is inadequate information and specific school policies pertaining management of Type 1 diabetes in public schools. Intervention from policy makers is warranted.

The prevalence of Type 1 diabetes in Zimbabwe is not well known [4] but is estimated to be under 0.1% [5,6]. It is projected to be on the increase [6,7] however data on incidence and prevalence remains scarce in Zimbabwe. Children spend most of their time at school (30-35 hours per week) and hence the importance of personnel entrusted with the child to be involved in management of any condition they may have. The school is a critical environment for children with diabetes. There is dearth of information on the prevalence of optimal support services for Type 1 diabetic children in primary schools in developing countries leading possibly to poor management.

Zimbabwe has a School Health Policy which emphasizes not only the teaching of relevant topics but also the presence of appropriate school health services irrespective of economic status, religious beliefs and ownership of school [8]. Conditions such as those concerning sexual and reproductive health, environment and sanitation are well documented and receive adequate attention in school health policies [8] however Type 1 diabetes an equally important topic is less discussed. Intervention in schools is key as it offers a window of opportunity to educate for behavior change thus preventing lifelong debilitating effects of uncontrolled diabetes in the future of these children [9]. The policy further states that "Institutional capacity shall be strengthened for the support of learners with special needs including diabetes". This level of 'strengthening' has never been evaluated. The main objective of this study was therefore to investigate the prevalence of

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Type 1 diabetes as well as presence of support services for children with Type 1 diabetes in public schools in Gweru, Zimbabwe.

This study focused on the assessment of diabetes care services, knowledge of staff members and the prevalence of Type 1 diabetes in public schools in Gweru urban district. We found a low prevalence rate of Type 1 diabetes in the primary schools of 0.1%. The prevalence rates of Type 1 diabetes in general are said to be low worldwide accounting for between 5% and 10% of all the diabetes cases [15]. Little is known about the prevalence of Type 1 diabetes in both developed and developing countries. A recent survey in the United States of America (USA) estimated the prevalence in the USA to be 0.5% [16] whilst in Africa, different small scale studies have published the following low prevalences, Nigeria, Kano State 2.3/1000 [17], Mozambique 3.5/100,000, Sudan 9.5/100,000, and Zambia 12/100,000 [18]. However most of these studies were hospital based documenting prevalence rates from patients who would have visited the hospital for therapeutic services [19]. Prevalence of Type 1 diabetes is however estimated to be increasing by 2%-5% worldwide [20] and this is a cause for concern especially in light of inaccessible quality health care and the poor prevalence of support services in developing countries.

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