'Awareness About Type 1 Diabetes Among Pupil Teachers of Dehradun'-A Project

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Abstract:

Type1Diabetes Mellitus (Juvenile Diabetes) or T1DM is a childhood disease. The problems that the ill management and ignorant attitude of the teachers towards the disease may cause have long been neglected. This has affected the achievement level as well as the performance of TIDM children. This project was designed to know the initial knowledge and awareness of Pupil Teachers regarding this disease and its management. The projected highlighted a major lack of knowledge and awareness among the pupil teachers. It projected an urgent need of re-organization of Teacher –Education curriculum with reference to management of such childhood diseases and a pressing need of organizing workshops to provide the same knowledge to working teachers.

Key Words: **T1DM, Pupil Teachers, Teacher-Education**

1.0 INTRODUCTION

Type 1diabetes (Juvenile Diabetes) is one of the most common chronic endocrine illnesses that can develop in childhood. Among the children suffering from Type 1 diabetes, over half are living in developing nations, with India having an estimated 97,700 children with T1DM. Data collected from hospital-based studies in 1990 from India suggest that young diabetics (onset of diabetes before the age of 15 years) constitute about 1%–4% of the total diabetic population.

As the researcher has a chance to interact with Type 1 Diabetic children during her doctoral thesis(Effect of Juvenile Diabetes on Cognitive Abilities of Students-A Study), the problems and insensitivity these children have to face in the schools were brought to her knowledge. So, this project was designed to know the various causes behind the issues these children have to face in schools.

With School age children spending most of their day in school, it is essential that all aspects of type 1 diabetes management can take place there (Boden et al, 2012). For example, 68% of primary school children report needing assistance with insulin injections (Diabetes UK, 2009). Poor glycemic control is associated with life-threatening acute and chronic complications (Cooper et al, 2016; Semenkovich et al, 2016).It as well potentially impacts negatively a child's academic achievement, in terms of both cognitive function and ability to engage in learning processes (Srivastava Akanksha, 2013).

Modern insulin regimens can be complex and challenging for children i.e. they often require support from teachers and other school staff (Driscoll et al, 2015).A study in U.K. mentioned that after a series of campaigns about the care received in schools by children with long-term medical conditions, new guidelines have made this training statutory for all school staff caring for young people with diabetes (Department for Education, 2014). To support this, a number of diabetes organizations, including JDRF (2015) and Diabetes UK (2016), have launched support materials for schools, families and teachers. But such provisions are lacking in India and there is a dearth of contemporary survey tools available to assess knowledge of diabetes and its management in young people in schools.

After going through various curriculums of teacher education offered by different Indian Universities, it was noted that there is no provision to train the Pupil teachers for caring the students having Type 1

Diabetes. This project was undertaken to know the awareness level of pupil teachers for Type 1 diabetes and to plan future strategies to update their knowledge of the same.

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2.0 OBJECTIVES

The objectives of this study were to:

- To assess the knowledge and awareness of trainee teachers about Type 1 Diabetes.
- To plan future strategies to update their knowledge of the same.

3.0 MATERIALS

A questionnaire having 50 questions was developed. The division of questions is as follows:
13 Questions - regarding personal and educational information of the respondent
37 Questions - on knowledge, awareness and information regarding management of Type 1 Diabetes.
The questionnaire was administered to 120 Trainee Teachers enrolled in Bachelor of Education course in Dehradun city.

4.0 PROCEDURE

A non-random convenience sample of first to fourth semester students studying in bachelor of education degrees, leading to Qualified Teacher Status, were selected.
Students studying in colleges affiliated to one central university, one state university and one private university were sampled. From each of the three institutions 40 students were included in the project.
A questionnaire having 50 questions was developed and administered to 120 Trainee Teachers enrolled in Bachelor of Education course in Dehradun city. A list of facts about type 1 diabetes from the JDRF website and various other website was used to prepare questions on awareness.
After completion of the questionnaire an informal discussions was carried out with the participants regarding their queries.
The analysis of the responses to different questions was done by calculating the percentage of different responses.

5.0 RESULTS

A total of 120 students participated. Respondents had a median age of 25 years (range, 21–36 years). A good percentage of the participants have spent four months in schools during internship. Almost 20% of the respondents (n=25) reported that they knew someone with type 1 diabetes. Those who mentioned that they knew someone with Type 1DM, scored significantly higher scores compared with those who did not know someone with the condition. There was a significant difference in the score of those with science stream and other streams, with science stream students scoring higher.
After analysis of the data it was found that:

- Among the participants, 22% had a moderate level of knowledge on Type 1 diabetes and 20% had little knowledge while almost 55-60% had poor knowledge, awareness and understanding about the disease.

- Those who had some knowledge about the disease credited their general knowledge, information available on internet and contact with Type 1 patients as their sources of information.
- Only 10% of the participants replied that T1DM cannot be cured, 32% were not sure, 42% agreed that it can be completely cured and 26% had no idea about it.
- About 78% participants responded in negative to the question that whether T1DM children can eat sweets or not.
- On being enquired about symptoms of T1DM only 15% respondent with 2-3 symptoms. None of the participant could list even 5 symptoms of the disease.
- Most of the participants were not sure about whether low blood glucose signals Diabetes or an increased blood glucose level is defined as Diabetes.
- None of the participant could identify polydipsia and polyuria as symptoms of the disease while a few identified fatigue, frequent urination and dry mouth as symptoms.
- Only 18% understood the meaning of' Hypo' in relation to diabetes, rest were either not sure about the meaning or have not answered the question.
- Almost all of the participants agreed on fluctuating blood glucose level to be an important indicator of diabetes.
- 45% of participants answered that the disease might develop at any age.
- Regarding diabetic children attending the physical education course, almost 32% participants responded positively, 24.3% believed they should not allow the children to attend physical exercise classes and the rest admitted that they are not sure about it.
- The percentage of teachers willing to be supportive to diabetic children was 80.2%.
- The questions on management of Type 1 Diabetes were analyzed. In case of a decreased blood glucose level, 38% agreed that they would give sugar-added products, 17% would give a bar of chocolate or candy and almost 45% did not know what to do.
- 10% of the participants answered that they will call the doctor in case of emergency while the remaining subjects reported that they would give some sugar added products .
- None of them had any information about first hand management of emergency conditions of such children.
- When the subjects were asked that would they accept Type 1 Diabetic children in their class, 52.8% answered in negative, only 23% were positive in their response while 21 % stated that they would not give their consent to have diabetic children in their classes, and rest noted that they would accept these children unwillingly.
- The majority of participants (87%) reported that it would be useful to receive more information on supporting children with type 1 diabetes in schools; with most stating they would like to receive information at both the stages i.e while at university/college and while in-service.

6.0 DISCUSSION

This study represents the investigation into teacher trainees' initial knowledge and awareness of Type 1diabetes .In this study, almost all of the subjects reported that they had a limited knowledge about the disease. This finding indicates a lack of information among the Pupil teachers regarding chronic diseases which may develop in every child in the class. Among teachers, 10.1% were unwilling to teach diabetic children, while 24.3% believed they should not allow the children to attend physical exercise classes, therefore, they ignored the beneficial effects of exercise on blood glucose regulation. This may be

explained by limited information and anxiety for being responsible for these children. Increasing knowledge on the management of diabetes through training programs and eliminating anxiety regarding chronic diseases may remove the misunderstandings about diabetic children in schools. In addition, proper management of diabetes may increase the school attendance ratio and success rate of these children.

We believe that large-scale studies are required to assess the long-term effect of teacher training on the management of chronic diseases.. A well-established relationship should be built among the patient and teachers. It has been reported that teachers were incapable of making connections between a specific problem and the reasons underlying the problem, unless they were aware of the medical condition of the student. In our study, the percentage of pupil- teachers who were willing to learn and give support to diabetic children was 87%. Therefore, we can conclude that an important ratio of the teachers will attend and benefit from training programs designed for them. However, studies are required to establish the success rate of these programs and their effects on the relationships at school.

In conclusion, in this study, the responses to the questionnaire indicate that the future teachers enrolled in education courses of the sampled universities have limited information on diabetes and the management of the disease. Providing knowledge and awareness about this disease by accessing large communities through teacher training programs, early diagnosis of childhood diabetes and also prevention/delaying of its complications may be achieved.

The compelling need of the hour, to train staff about supporting the young people with long-term conditions highlights the need for training, not just for those in the classroom but also for those who are preparing to start teaching. This support is essential to help ensure that all young people with long-term medical conditions, including type1diabetes, are properly supported in school. The introduction of the obligation to train school staff has been supported by diabetes associations and charities, including Diabetes UK and JDRF. These findings suggest that this survey could be useful in assessing the training of both teachers and trainees with respect to diabetes. Knowledge and awareness of diabetes appeared to be strongly linked to having studied science up to 10+2 Level or beyond. This was partially in agreement with previous work (Bradbury and Smith, 1983; Rowe, 2012). While studying physical education did not seem to be linked to better knowledge of diabetes.

After analyzing the results, it is suggested to arrange to provide yearly training in schools for teachers of children with type 1 diabetes as well as training to improve awareness of chronic conditions in schools perhaps should be included at university courses of teacher education. An important consideration is that in many schools there are no young people with diabetes on the school roll (Boden et al, 2012). Therefore, rather than educating all trainee teachers in the management aspects of type 1 diabetes, it may be more worthwhile to train them in type 1 diabetes awareness, such as identification of the symptoms of type 1 diabetes.

7.0 SUGGESTIONS

The findings of this study should be considered with caution, as the sample was relatively small. Future studies could consider the same survey on working teachers and pupil teachers of other universities.

8.0 FOLLOW UP

It is planned to design and implement a training program(with the support of pediatric endocrinologists working in the hospitals) for the teachers and pupil-teachers. The program should include several topics like T1DM definition, clinical signs and symptoms, emergency management of diabetes complications, and information on the attitudes of teachers, administrators and other peers. Initially the program will be conducted in Dehradun and then it’s further extension to different cities of India will be planned.

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