

Juvenile Diabetes Mellitus

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Juvenile insulin dependent diabetes mellitus (IDDM) is an auto immune disease. The median age of onset is about 12 years with the usual onset of not later than 20 years of age. IDDM is most frequently seen in children and adolescents. It is characterised by specific destruction of the insulin, by producing beta cells of the pancreas, resulting in an absolute requirement for exogenous insulin in the IDDM patients. The beta cell destruction is probably due to cell-specific auto immunity.

Need for the Study

The juvenile diabetes mellitus is a global problem with wide geographical and racial variation in its prevalence and rate of 35.3/100,000 per year, which may be only the reflection of iceberg phenomena (WHO, 1999).

Diabetes can disturb the entire family shortly after a child's diagnosis. Within the family, low level of conflict, better communication and stronger family orientation towards achievement are all associated with better control. The caregivers of diabetic children had limited knowledge about the general aspect of the disease, they were found to be totally unaware about the complication and the strategies to prevent the disease. The in-

vestigator came across caregivers of IDDM patients and undertook a study to assess the knowledge and attitude of care-givers.

Methodology

This descriptive study was carried out at Chennai in Tamil Nadu. One hundred care givers who were attending the diabetic clinic were selected by convenient sampling technique. The tool was developed by the investigator after reviewing the related literature and guidance from experts in the field. Questionnaire consisted of three parts: part I - Demographic data, and part II - Knowledge aspect questionnaire. There were 25 questions regarding disease condition, diet, administration of injection insulin, exercise, play needs and prevention of complication.

The score interpretation was:

Below 50% - inadequate;
50-75% - moderately adequate knowledge; *above 75%* - adequate knowledge.

In part III, attitude scale consisted of 10 items related to attitude regarding juvenile diabetes mellitus. Various aspects, were assessed on a 5-point liker scale.

<50% - Unfavourable
50-75% - Favourable attitude
>75% - Most favourable attitude

Analysis was done using descriptive statistics and inferential statistics (chi-

square test, co-efficient of correlation).

Results

1. The caregivers of children had moderately adequate knowledge regarding juvenile diabetes mellitus and they had favourable attitude. There was a low positive correlation between knowledge and attitude of care givers of children on (type 1) juvenile diabetes mellitus at 99.99% which was not statistically significant at level of 95% ($p > 0.05$).

2. There was statistically significant association between the level of knowledge and demographic variables such as education and occupation of caregivers, family income and duration of disease at 95% confidence level.

3. There was statistically significant association between the level of attitude and education and occupation of caregivers (father) at 95% confidence level.

There are important implications for the nursing service, education & administration and nursing research.

Nursing Service : Caregivers can become alert to the juvenile diabetes mellitus once they become aware and can develop positive attitude regarding juvenile diabetes mellitus.

Nursing Education : On the basis of these findings, specific practical work such as insulin

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administration in the community by students can be incorporated in the nursing education.

Nursing Research: Nurses can conduct experimental study on the effectiveness of self instructional modules, using pamphlets on care of juvenile diabetes mellitus patients.

Discussion

The study was done for six weeks, and the data were collected with structured tool which had three parts (i) demographic variables (ii) knowledge scale, and (iii) attitude scale.

Fifty (50%) care givers had moderately adequate knowledge on insulin injection administration, 48 (48%) care givers had adequate knowledge regarding prevention of complications 45 (45%) with regard to disease condition and 33 (33%) with regards to insulin administration. Seventeen (17%) care givers had inadequate knowledge about disease condition, prevention of complications and insulin injection.

Bassili et al. (2000) had mentioned the inadequacy of diabetic care for children in a developing country. Results of this study appear to reflect marked deficiencies in the provision of information to children with diabetes and their parents in a developing country. This study highlights the need for public education strategies, consensus about treatment recommendations and use of more flexible insulin regimens. In terms of assessment of level of attitude, 67

(67%) caregivers had favourable attitude and only six (6%) had most favourable attitude. The mean and standard deviation of attitude value was 67.50 with standard deviation 11.

The third objective of this study was to identify the relationship between knowledge and attitude of caregivers. Altobelli et al. (2000) had done a study of family and disease management in young type I diabetic patients with the aim of evaluating the determinants of poor daily self-monitoring, focusing on the patient's perception of the problem.

The study results indicate a poor compliance of adolescents with respect to children in attending to daily self-monitoring, but also the course of daily activities such as going to school, studying, working and simulating symptoms and sign of hypo-hyperglycemia. Parents mostly ignore their child's self-monitoring status and the related motivations.

The very low positive correlation between the knowledge and attitude of caregivers of juvenile diabetes mellitus which was not statistically significant (0.089) at level of 95% ($p > 0.05$).

The fourth objective of this study was to correlate the knowledge and attitude of care givers with their demographic variable. Statistically significant association was found between the level of knowledge and demographic variables of education like caregiver, occupation of caregiver, family income and duration of disease. There was statistically significant asso-

ciation between level of attitudes and education & occupation of the caregivers (father).

The study revealed that care givers of children had moderately adequate knowledge regarding juvenile diabetes mellitus and they had favourable attitude. The investigator feels that the most critical goal of the health care team in the care of children with juvenile diabetic mellitus is the development of parenting education curricula for effective parenting and raising an emotionally intelligent child.

Recommendations

1. A short-term teaching programme on juvenile diabetes mellitus will help the caregivers to gain basic knowledge.
2. Caregivers of children with juvenile diabetic mellitus should be adequately educated regarding the disease condition, medication, and preventive measures by the health personnel.
3. Training can be given to village health guides to identify juvenile diabetic mellitus in children and organise further management.
4. Voluntary agencies can be involved in creating awareness among caregivers about the importance of insulin administration and complications of juvenile diabetic mellitus.
5. Mass media can be utilised to educate the public about juvenile diabetes mellitus.

References

1. Brunner Suddarth's (2004). Text book of Medical Surgical Nursing, Philadelphia. Lippincott Williams and Wilkins Company, pp 1150-1160
2. Derek Le Roith, et al. (2000). Diabetes Mellitus - A Fundamental and Clinical Text. Philadelphia. Lippincott Company; p 957
3. Dorothy R Marlow, Feurhara A Redding (2001). Text Book of Pediatric Nursing, Philadelphia Harcourt India Private Ltd, Saunders Company
4. Judith Ann Allender, Barbara Walton Sparadley (2001). Community Health Nursing Concepts and Practice. Philadelphia. Lippincott Company, p 1107
5. Lennete D Burrvöl (1992). Adult Nursing in Hospital and Community Getting, Connect. Appleton & Lange Norwalk, p 118
6. Lewis, Heitkemper, Porkgen (2004). "Medical Surgical Nursing", Mosby publication, St Louis, pp 1268-1296
7. Margaret F Alexander, Josephine N. Fancett (2000). Nursing Private Hospital, and Home (Adult), Edinburgh. Churchill Livingstone, pp 161-183
8. Martha Velasco, Whetsell et al. (2000). Pediatric Nursing, Philadelphia, McGraw-Hill Companies, p 786
9. Mary CJ Rudoff, Malcolm I. Levenue (1999). Paediatrics and Child Health. Blackwell Science, Philadelphia. McGraw-Hill Companies, p 176
10. Nelson (2000). Text Book of Pediatrics, Philadelphia, WB Saunders Company.

Journals

1. Altobelli et al. (2000). Family and disease management in young type I diabetic patients. *Acta Diabetology* 37(4); 173-178
2. Asha Bai, PV et al. (1999). Magnitude of young onset diabetes in Indian population. *The Indian Practitioner* 99(3) 293
3. Asha Bhi PV (1999). Epidemiologic studies of diabetes of IDDM in the young in Madras city. *J Diab Assn India*, 34(1): 21-23
4. Auslander WF, et al. (1991). Predictors of diabetes knowledge in newly diagnosed children and parents. *J Pediatr Psychology* 16(2): 213 - 218
5. Barbara J Anderson (2004). Family conflict and diabetes management in youth: Clinical lessons from child development and diabetes research. *Diabetes Spectrum (Asian edn)* 3(3): 71
6. Bassili A et al. (2002). The adequacy of diabetic care for children in a developing country. *Jour Spec Pediatric Nursing*, 7(3): 125-128
7. Chellamariappan, et al. (2001). Prevalence of known diabetes in Chennai city. *JAPI*, 49: 974
8. Chettri M, et al. (1999). Some important revaluations in a diet survey of South Indian IDDM subjects with and without complications. *The Indian Practitioner*, VSVA, 52(12): 829
9. Court JM (1989). Diabetes education for the family, patient and paramedical staff. *Indian J Pediatrics*, 56:581-585
10. Gery M (2000). Interventions for children with diabetes and their Families. *Annu-Rev Nurs Res* 18: 149-170

International Nurses Day Celebrated at Kohima and Dimapur

Dimapur Local Branch, TNAI organised International Nurses Day celebrations on 12 May 2008 at Kohima and Dimapur.

Addressing the nurse gathering at Civil Hospital & Naga Hospital, the chief guest Minister for Health & Family Welfare Kuzholuzo Nienu (Azo) said, "It is in your power to save lives and to improve the quality of life of our people." He said, nurses constitute the backbone of the Health Department.

At Dimapur, Dr A Shukato Sema, Medical Suptdt, Dimapur District Hospital, exhorted the nurses to keep them updated on the skills and know-how of technology and its application in discharge of services. He particularly deplored ignorance of people about basics of cardiopulmonary resuscitation (CPR). In the function, Dr Kahuka Sema of Faith Hospital revealed the simple procedure to manage cardiac or respiratory arrest in the wake of alarming rise in cardiovascular diseases.



Obituary

Mrs Fabiola Selvan, commonly referred to as F. Selvan, passed away on 22 September 2008 after a brief illness.

After completing GNM at Bowring & Lady Curzon Hospital (B&LCH), Bangalore, she served as Nursing Tutor at B&LCH, Victoria Hospital, Bangalore; District Hospital, Gulbarg; Government Headquarters Hospital, Bellary; and KR Hospital, Mysore. Thereafter, she continued to service as Senior Nursing Tutor at St Philomena's School of Nursing and lastly at Sr Morch School of Nursing, CSI Hospital, Chickballapur till 30 June 1995.

Mrs Selvan was a life member of TNAI and a member of Midwives & Auxiliary Nurse Assn. A dynamic enthusiastic personality in profession, on domestic front she was a dutiful wife, a loving mother and caring mother-in-law. May God grant her soul eternal peace.

