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Current Condition and Supporting Service Measures of Childhood, Adolescent Diabetes Patient in Republic of KOREA: Focused on the SPORT

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Abstract

This study aims to contemplate on the necessity of supplement of medical support service as in institutional through and enhance the stand of insulin dependent childhood, adolescent diabetes patient who were excluded from beneficiary of medical support service. Type-1 diabetes is a disease which the pancreas makes less or none of insulin so that the blood sugar increases and the rest of the sugar come out by urine, which the high blood sugar level damages eye, heart, kidney and other body organs. This has no basic prevention, and for the treatment, the one must inject insulin 4 times a day which is a definite burden to childhood, adolescent diabetes patients.

The childhood, adolescent diabetes patient are easy to be exposed to physiological trauma in daily lives due to the self-management of diabetes along with growing and development. Actually, the adolescent with type-1 diabetes patients are more 2~3 times more likely to suffer depression than the normal ones.

Insulin-dependent diabetic child and adolescent need continuous management, which goal is to control proper blood sugar, normal growth, development, prevention of acute complication, chronic complication. In other words, to conduct similar level of activity and function as peers and maintain proper blood sugar. The normal growth and development means maintaining proper height and weight for specific age group and accomplish emotion and social development. Including the growth of childhood, adolescent diabetes patient have burden of managing diabetes for the lifetime.

National Health Insurance Corporation has published health insurance payment material analysis result for recent 10 years from 2006 to 2015. According to the analysis, child patients under age 18 who are treated with medicine treatment for diabetes increased 31% from 4076 patients in year 2006 to 5338 in year 2015. During the period, when considering the child population decrease, the total number of patient per 100 thousand populations increased from 35.6 patients in year 2006 to 55.3% which is 55.3% increase.

Finally, the various angle of studies for correct recognition toward insulin dependent child and adolescent diabetes patients are required. The insulin dependent diabetes requires various angle of treatment management environment. The financial, social, educational support must be backed for each period of lifetime, not just limiting to the individual pathological problem. Above all, future studies with present senses for the insulin dependent child and adolescent diabetes patients must continue to develop the medical support service they require and provide the service.

This thesis seeks understanding toward childhood, adolescent diabetes patient and support service for childhood, adolescent diabetes patient.

[Keywords] Sport, Republic of Korea, Diabetes, Insulin, Financial Support

1. Introduction

When child passes early childhood and enter childhood, one's scope of activity widens to school and neighbor, and develop various aspects of personality from peer relation other than family. Also, the adolescent after childhood is the period of developing into an adult which obtains characteristics of both childhood and adulthood so that not only the rapid physical transition but also the psychological insecurity, and formation of self-awareness occurs. Moreover, one becomes more liberal and independent from parents, and goes through various problems and stress from development process, academic burden, school, friends, family and other role expansion[1]. Diabetes is classified into type 1 diabetes(insulin dependent diabetes mellitus) and type 2 diabetes(non-insulin dependent diabetes mellitus), and most of the diabetes are type 2 diabetes[2]. According to the national health nutrition inspection in 2012, the prevalence rate of diabetes over age 30 was 10.1% and the number of diabetes patients was approximately 4~5 million[3].

When one is diagnosed with type-1 childhood diabetes, the disease period extends in physically, psychologically, emotionally immature age, and the life time self-managements such as blood-sugar test, insulin injection, diet and exercise are needed, and influences the whole life of a person such as friends, family relation, career, social life, marriage, pregnancy, childbirth and military[4].

Type-1 diabetes is a disease which the pancreas makes less or none of insulin so that the blood sugar increases and the rest of the sugar come out by urine, which the high blood sugar level damages eye, heart, kidney and other body organs. This has no basic prevention, and for the treatment, the one must inject insulin 4 times a day which is a definite burden to childhood, adolescent diabetes patients[5].

The childhood, adolescent diabetes patient are easy to be exposed to physiological trauma in daily lives due to the self-management of diabetes along with growing and development. Actually, the adolescent with

type-1 diabetes patients are more 2~3 times more likely to suffer depression than the normal ones[6].

Insulin-dependent diabetic child and adolescent need continuous management, which goal is to control proper blood sugar, normal growth, development, prevention of acute complication, chronic complication. In other words, to conduct similar level of activity and function as peers and maintain proper blood sugar. The normal growth and development means maintaining proper height and weight for specific age group and accomplish emotion and social development. Including the growth of childhood, adolescent diabetes patient have burden of managing diabetes for the lifetime.

Recently, many studies regarding more expanded subjects including medicine, social psychology and social welfare, but still, it does not depart far from clinical approach about childhood, adolescent insulin independent diabetes patient. This led to lack of in-depth analysis of medical service supplement in institutional dimension, and lower effort to prepare countermeasures.

This study aims to contemplate on the necessity of supplement of medical support service as in institutional dimension and understand the current condition of insulin dependent childhood, adolescent diabetes patient, and enhance the stand of insulin dependent childhood, adolescent diabetes patient who were excluded from beneficiary of medical support service. Therefore, this thesis seeks understanding toward childhood, adolescent diabetes patient and support service for childhood, adolescent diabetes patient.

2. Background

2.1. Understanding of type-1 diabetes

Diabetes is a disease which the blood sugar increases so that the sugar is discharged through urine in which case, the healthy body secretes insulin from pancreas when the blood sugar is elevated after eating, and the insulin moves glucose to cells to maintain

blood sugar level[7]. however, due to genetic, environment, self-immune system factors damage pancreas cell and make pancreas incapable of secreting insulin which is called type-1 diabetes, while diabetes caused due to the resistance of insulin is called type-2 diabetes. Especially, type-1 diabetes mostly occur during childhood and adolescent, so also named as childhood diabetes[8].

Due to the traits of diabetes, if there is no efficient management, it might cause serious complication, so the diabetes require sufficient management[9]. The psychological burden about blood sugar management can dwarf one's life more than any other disease, and as it is a lifelong symptom, it is understood as not just a simple disease but a concept of disability[10].

As for the type-1 diabetes, many patients are unaware of diseases, feel burden about the lifetime insulin injection and blood sugar

test, while the complication(low blood sugar symptom etc.) causes fear and insecurity, which sometimes lead to anger, fury or aggressive tendency. Moreover, the questions about disuses, limitation of activity causes reality conflict, depression which lead to passive treatment attitude toward type-1 diabetes and even further goes to giving up one's future dream and hope[11].

2.2. Current condition of insulin independent childhood, adolescent diabetes patient

The number of childhood diabetes patients has rapidly increased last 10 years. Especially, the childhood diabetes patients were more densely occupied in low-income group. National Health Insurance Corporation has published health insurance payment material analysis result for recent 10 years from 2006 to 2015.

Table 1. Current condition of insulin independent childhood, adolescent diabetes patient.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Increase 2006/2015
Total	4,076	4,257	4,528	4,818	4,920	4,929	4,865	4,983	5,268	5,338	31.0
Men	1,968	2,017	2,127	2,291	2,358	2,316	2,283	2,301	2,398	2,459	24.9
Women	2,108	2,240	2,401	2,527	2,582	2,613	2,582	2,682	2,870	2,879	36.6

According to the analysis, child patients under age 18 who are treated with medicine treatment for diabetes increased 31% from 4076 patients in year 2006 to 5338 in year 2015. During the period, when considering the child population decrease, the total number of patient per 100 thousand populations increased from 35.6 patients in year 2006 to 55.3% which is 55.3% increase.

As for the age group, the age 16~18 adolescents occupied almost half of patients in bot male and female patients in year 2015, and child patients under age 10 was about 10% of total patients. The diabetes treatment patients per 100 thousand populations by age group showed continuous increase after age

3. Especially, the attack rate of childhood diabetes showed huge difference regarding the parents' income and disability.

3. Conclusion

This thesis seeks understanding toward childhood, adolescent diabetes patient and support service for childhood, adolescent diabetes patient.

3.1. Improvement in financial support

On November 2010, the Medical Insurance Deliberative Committee has passed the bill to expand payment for diabetes medicine which in detail include consumables for childhood

diabetes including insulin dependent child and adolescent diabetes, but the benefit is not much. To accomplish better financial support, the bill must be amended regarding the reality of patients who must spend medical expenses for lifetime, and must achieve cast support for specific disease.

3.2. Disease recognition improvement and improvement of professional service provision

As for the insulin dependent childhood, adolescent diabetes patients who spend most of their time in school, the medical service for the disuses is very insufficient. In most cases, there is no nutrition management in case of receiving school meals, and the restrictions regarding injection and blood sugar test which are essential for diabetes management is very serious. Especially, insulin dependent childhood, adolescent diabetes in puberty goes through psychological and emotional turmoil, so the professional counseling program is one of the significant and necessary assignment of medical service[12].

At school, most of the teachers have lower awareness and knowledge toward insulin dependent diabetes, which limits the management of diabetes, so that the lower grade show higher risk of being exposed to disease exacerbation[13].

In order to solve such problems, the medical service should be directly and practically improved to improve recognition toward insulin dependent child, adolescent diabetes, and connect the diabetes related education and medical treatment to daily lives. also, to obtain improvement of physical function which had weakened due to long-term disease, the comprehensive and preventive medical welfare service system must be established.

Also, by the cooperation of school, hospital and family, the various medical service connection model must be developed to lighten the burden of disease during the childhood and adolescent which is very significant period in life.

3.3. Clarification and connection of delivery system

In the aspect of satisfying fundamental demand of study subject and to conduct universal support including saving medical expenses, it would be right to take responsibility of public area, and connect to private organizations for problems occurring from financial shortage and personnel limitation to solve the problem. To do so, the mutual cooperative relationship between public delivery system and private delivery system.

Finally, the various angle of studies for correct recognition toward insulin dependent child and adolescent diabetes patients are required. The insulin dependent diabetes requires various angle of treatment management environment. The financial, social, educational support must be backed for each period of lifetime, not just limiting to the individual pathological problem. Above all, future studies with present senses for the insulin dependent child and adolescent diabetes patients must continue to develop the medical support service they require and provide the service.

This thesis seeks understanding toward childhood, adolescent diabetes patient and support service for childhood, adolescent diabetes patient.

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