



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1019533>Available online at: <http://www.iajps.com>

Research Article

**HEALTH PROTECTION TECHNOLOGIES OF
ORGANIZATION OF EDUCATIONAL ACTIVITY OF
STUDENTS WITH DIABETES****Nadezhda P. Yachina***, Albina M. Imamutdinova, Rezeda K. Khurmatullina

Institute of Pedagogy and Psychology, Kazan Federal University, 18 Kremlyovskaya, street Kazan 420008, Russia

Abstract:

The research urgency is due to the fact that the number of students with diabetes is increasing annually. Diabetes affects physical health, like any serious chronic disease; diabetes affects the development of personality, interpersonal relationships with peers, and the nature of learning activities of a student. Diabetes can lead to serious consequences, if you do not follow the diet, day regimen, physical activity.

The research was aimed at: studying Russian and foreign experience in the development of health-protection technologies of organization of educational activity of students with diabetes; determining the conceptual bases of the organization of educational activities in higher education focused on the health protection of students with diabetes; at developing the health protection technologies of organization of educational activity of students with diabetes.

The object of research is health protection technologies in the organization of educational activity of students with diabetes. 10 students with diabetes from a major Russian University participated in this study.

The following methods were used: sociological study, the medical study of the diabetes mellitus problems, the theoretical analysis and generalization of scientific-pedagogical literature on the problem of health protection of students with diabetes; questionnaires, observation, processing methods of materials research.

Scientific novelty of the research is to determine the most effective health-saving technologies in teaching students with diabetes. The results of this study offer new ways to approach the problem of complications prevention in students with diabetes during the period of study at the University.

Keywords: health protection technologies, mixed-technology, higher education, University, student, diabetes.

Corresponding author:**Nadezhda P. Yachina.**

Associate professor,

Institute of Pedagogy and Psychology,

Kazan Federal University, 18 Kremlyovskaya,

street Kazan 420008, Russia

E-mail: nadegda_777@mail.ru

QR code



Please cite this article in press as Nadezhda P. Yachina et al., *Health Protection Technologies of Organization of Educational Activity of Students with Diabetes*, Indo Am. J. P. Sci, 2017; 4(10).

INTRODUCTION:**Actualization of the Problem**

According to the Institute of diabetes of the Russian Academy of medical Sciences (RAMS), 3 million 782 thousand patients with diabetes were registered in 2013 in Russia. A large number of patients said about the social aspects of diabetes. Diabetes mellitus is among the diseases that due to its high prevalence and the presence of complications are a real threat to the economy of many countries. This circumstance leads to an increase in the cost of providing medical care to this category of patients [1]. The upward trend in the incidence of diabetes in general and insulin dependent in particular, have emerged in the last decade. Every year, the world records more than 609,000 cases of newly diagnosed diabetes, of which 3-4% are insulin dependent type [2]. Every 15 years the number of diabetics is increasing. On the whole Russia observes a stable increase in the incidence in the pediatric population, average of 2, 58% [3]. Health care should be as close as possible to the individual characteristics of a specific person [4]. The development of educational programs and individual trajectories of development of students with diabetes, health- protection technologies of organization of educational activity of students with diabetes are urgent.

MATERIALS AND METHODS:**Methods of research**

The object of study is the organization of educational activities in higher education. The subject of research is health protection technologies of organization of educational activity of students with diabetes.

To achieve the objectives of the study, we used a range of methods: observation, survey, questionnaire. Specially designed physical education, a balanced individual nutrition, adherence of the day regimen, individual lessons on the development of memory and thinking was conducted with experimental group students.

Trial infrastructure

Experimental base for research is one of the Russian universities in a major city.

Research phases

The research was carried out from 2015 to 2017. The study involved 10 students 19 to 23 years with type I diabetes disease duration of more than 4 years, without concomitant diseases of musculoskeletal system and peripheral nervous system. The diagnosis was based on the data of medical workers. The correlation of criteria, indicators and means of health and success of students with diabetes are given in the table (Table 1).

Table 1: Diagnostic matrix of monitoring health and success of students with diabetes

Signs	Diagnostic tool
Physical health: height, weight, chest circumference, and others.	Technique: "Comprehensive express - assessment of physical health of children," S.V. Khrushchev (1995)
Psychological health: psychological status, the nature of school anxiety; psychological climate in the family	- drawing test "home-tree-person"
The spiritual and moral health: attitude towards others; formulation of a motivation for a healthy lifestyle; interpersonal relationships; value orientation	-profile "Incomplete sentences, or my attitude to people" by N.E. Bogouslavskaya (2010) - profile "Why are you doing this?" - questionnaire "True friend" by A.S. Prutchenkov (1997)
Social health: emotional attitude of a child to the adult world; assessment of psychological climate in the classroom, harmony with oneself and society	Diagnostics Methods of interpersonal and intergroup relations ("Sociometry") by J. Moreno (1937) -picture test by M. Luscher (2009)
Academic success: the level of knowledge, the level of anxiety Social success: personal achievements, energy in various activities, assessment of the psychological climate in the classroom Communicative success	the card of success, the average score of training -test by A.M. Prichozhan (2002) (identifying anxiety as a relatively stable education) -student's portfolio -expert assessment

Table 2: The results of the use of educational technologies in the training of students (10 people) with diabetes

The levels of educational outcomes	low	average	high
Traditional technology	3	3	4
Remote technology	2	7	1
Interactive technologies (blended learning)	2	3	5

When working with students with diabetes, we have proposed different educational technologies: traditional, interactive, using electronic educational resources and distance learning. The initial survey of students showed that 30% prefer traditional, 50% remote and 20% interactive technology. Traditional technology is a lecture and a practical class and it is the most dominant in the modern University; remote technology with the use of electronic educational resources; interactive technology combines communication with the teacher, who plays the role of consultant and makes use of information resources, that is, the technology of blended learning training (blended learning). The conducted study allowed to conclude that students with diabetes prefer to alternate teaching strategies, but prefer remote learning strategy - 50%, they are attracted by the free entrance of the classroom, consultation with teachers. The results confirmed the assumption about the necessity of creating favorable conditions for students with diabetes, aimed at the preservation and promotion of health through implementation of health-protection technologies of the educational process. A survey of teachers was also conducted in the research process. A survey of teachers showed that the students with diabetes exercise individually-oriented approach only in case if they were informed. Students usually try to hide the disease. Thus, students with diabetes are alone with their illness in an educational institution.

RESULTS:

Various educational technologies used in working with students with diabetes, revealed the following educational outcomes: The interactive (blended) technology has proven to be the most effective (50% of the students confirm their high learning outcomes). Traditional technology is the following for the efficiency: 40% of the students confirm high results. Remote technology has proven to be very ineffective: only 10% show a high result.

Dynamics of anxiety level of students with diabetes at the initial and final sections was traced by the test explicit anxiety (CMAS). The number of students referred to the level of "very high anxiety"

decreased by 20.5%; the number of students at the level of "clearly increased anxiety" decreased by 3.4%; the number of students referred to the level of "some high anxiety" increased by 6.7%; "normal" level results have improved by 15.3% and at the level of "anxiety is not peculiar" the dynamics stands at 6.7 percent. Thus, health protection technologies of the educational process will promote the improvement of mental health of students with diabetes with a probability of $p \leq 0.01$. Students with diabetes, for whom health protection technologies of training were applied, showed the best learning outcomes. Humane and careful attention to their health, sparing mode of learning has created a positive motivation to learn, with a positive impact on the psychological and social health of students and their learning.

DISCUSSIONS:

A number of patients with diabetes is increasing, and their adaptation and socialization is the subject of discussion in scientific community. According to Australian scientists, people with diabetes 2 are subjected to discrimination from society [5]. Chisholm A. (2016) indicates the dependence of the disease on lifestyle and recommends how to prevent it [6]. Park K. research (2015) is about the role of nutrition for diabetes patients [7]; Dafoulas, G. E., (2017.) warns about the risk of epilepsy in patients with diabetes mellitus [8]; diabetes of the 2nd type is a risk factor for developing Alzheimer's disease Qi, L., (2016) [9]. Kueh, Y. C., (2017.) shows the impact of knowledge about diabetes to self-management and quality of life [10]; Kim, S. N. (2016) believes that the educational programme for diabetes should be tailored to the needs and cognitive abilities of the target population [11]. Swardfager, W., (2016) claims that even mild symptoms of the disease lead to depression, creating a significant life barrier [12]. G. Horigan (2017) believes that we need more effective and innovative ways of presenting knowledge about diabetes that will satisfy the needs of the people [13]. Scientists also try to solve the problem of health-caring educational institution environment as a condition for promoting pedagogical rehabilitation of children with diabetes (Shtreys,

2011) [14]; the formation of spiritual basis of the relationship to the "different", the idea of compassion as a basis of interpersonal relations (Yachina, 2015) [15]; tutor activities technology (Sergeeva, 2011) [16]; implementation of the principles of health-caring education (Orehova, 2011) [17]. However, in terms of organization, this problem in educational environment is not solved. Students with diabetes are educated as well as healthy ones.

CONCLUSION:

Thus, the diagnostic phase of experimental work suggests that at the high school activities on health protection of students with diabetes are not effectively carried out. The development of health-protection technologies of the educational process in higher school with individualized and multidisciplinary approaches in teaching students with diabetes will help to prevent the development and progression of diabetes.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

REFERENCES:

1. Titova, N.M., Savchenko, A. A., Titova, N. M. &Subbotina T. N. Rol' svobodnoradikal'nyh i metabolicheskikh processov v patogeneze saharnogo diabeta I tipa [Elektronnyj resurs]: monografija [Tekst]. Krasnojarsk: Sib. feder. un-t, 2012. p. 269.
2. Skuler, J.S. Immune intervention for tupe I diabetes mellitus. *Journal Clinical Practice*, Suppl. 2011; 170; 60-61.
3. Shirjaeva, T.Ju., Andrianova E.A. &Suncov Ju.I Dinamika osnovnyh pokazatelej saharnogo diabeta I tipa u detej Rossijskoj Federacii. Nauchno-prakticheskij medicinskij. *Journal Saharnyj diabet*. 2010g. №4. p. 11.
4. Yachina, N.P., Khuziakmetov, A.N. Project of Health-Caring Educational School Environment for Children with Diabetes Mellitus. *Eurasian Journal of Analytical Chemistry*. 2017;l.12, N. 5b. pp. 559–567.
5. Browne, J.L., Ventura A., Mosely, K. &Speight, J. 'I'm not a druggie, I'm just a diabetic': A qualitative study of stigma from the perspective of adults with type 1 diabetes. *Journal BMJ Open* 2014; 4(7): Article number e005625.
6. Chisholm, A., Hart, J., Mann, K., Perry, M., Duthie, H., Rezvani, L. & Peters, S.. Investigating the feasibility and acceptability of health psychology-informed obesity training for medical students. *Journal Medicine*.2016;21(3):368-376.
7. Park, K., Ahn, Y., Kang, N. & Sohn, M. Development of a simulation-based assessment to evaluate the clinical competencies of Korean nursing students. *Journal Nurse* 2016; 36(1): 337-341.

8. Dafoulas, G.E., Toulis, K.A., Mccorry, D., Kumarendran, B., Thomas, G.N., Willis, B.H., Gokhale, K., Gkoutos, G., Narendran, P. &Niranthakumar, K. Type 1 diabetes mellitus and risk of incident epilepsy: a population-based, open-cohort study. *Journal Diabetologia* 2017;60(2):258-261.
9. Qi, L., Ke, L., Liu, X., Liao, L., Ke, S., Liu, X., Wang, Y., Lin, X., Zhou, Y., Wu, L., Chen, Z. &Liu, L. Subcutaneous administration of liraglutide ameliorates learning and memory impairment by modulating tau hyperphosphorylation via the glycogen synthase kinase-3 β pathway in an amyloid β protein induced alzheimer disease mouse model. *Journal European Journal of Pharmacology* ,2016;783(15):23-32.
10. Kueh, Y.C., Morris, T. & Ismail, A.-A.-S. The effect of diabetes knowledge and attitudes on self-management and quality of life among people with type 2 diabetes. *Journal Psychology, Health and Medicine*,2017;22(2):138-144.
11. Kim, S.H. Educational attainment moderates the associations of diabetes education with health outcomes. *Journal International Journal of Nursing Practice*2016;22(5): 444-450.
12. Swardfager, W., Yang, P., Herrmann, N., Lanctôt, K.L., Shah, B.R., Kiss, A. &Oh, P.I. Depressive symptoms predict non-completion of a structured exercise intervention for people with Type 2 diabetes *Journal Diabetic Medicine*,2016;33(4):529-536.
13. Horigan, G., Davies, M., Findlay-White., Chaney, D. &Coates, V. (2017) Reasons why patients referred to diabetes education programmes choose not to attend: a systematic review. *Journal Diabetic Medicine*,2017;34(1): 14-26.
14. Shtrejs, O. N. Sozdanie zdorov'esberegajushhego prostranstva obrazovatel'nogo uchrezhdenija kak uslovie pedagogicheskogo sodejstvija rehabilitacii detej, bol'nyh saharnym diabetom [Tekst] //Aktual'nye zadachi pedagogiki: materialy Mezhdunar. nauch. konf. (Chita, dekabr' 2011 g.). - Chita: Izdatel'stvo Molodjuchenyj, 2011. pp. 169-171.
15. Yachina, N.P., Kulagina, G.N., Muhutdinova, T.Z. &Hazieva N.N. (2011). Problema formirovanija duhovnyh osnov otnoshenij k «Drugomu», ideja sostradanija kak osnova mezhlichnostnyh otnoshenij. *Journal Vestnik Kazanskogo tehnologicheskogo universiteta. Federal'nyj nauchnyj recenziruemij zhurnal*. Vypusk №24.- Kazan': Izd-vo KGTU, 2011g. pp. 142-149.
16. Sergeeva, V.P., Sergeeva I.S., Sorokovyh G.V., Ziborova Ju.V. &Podymova L.S. (2011). T'jutor v obrazovatel'nom prostranstve. Moscow: NICINFRA-M. 2016. p.20.
17. Orehova, T.F. (2011). Principy zdorov'e tvorjashhego obrazovanija i ih realizacija v uslovijah pedagogicheskogo processa shkoly. Metodicheskie ukazanija dlja studentov i uchitelej [Elektronnyj resurs]: uceb. Posobie / T.F. Orehova; sost. T.F. Neretina. - 2-e izd., stereotip. M.FLINTA. 2011. p.42.
<http://znanium.com/catalog.php?bookinfo=409681>