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Preventive Dental Care Among Children Organized By Forecasting Models.

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ABSTRACT

The article is devoted to the structure, organization and dynamics of preventive work among the child population. An estimation of the number of inspections and those in need of inspection for 2012-2015 was made and a forecast for 2016-2020 was made.

Keywords: Preventive work, diseases of the dentoalveolar system, regression analysis.

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INTRODUCTION

An important direction in improving the qualitypediatric dentists works is the development of norms, algorithms and models of a unified approach to regulating the process of providing medical services. With the help of mathematical statistics, the dynamics of changes in the basic quantitative indicators of the work of dentists is assessed, which increases the effectiveness of coordination decisions. Actual is also the problem of the optimal computer technologies usesand intellectual resources personnel's of treatment and prophylactic organizations of the dental profile.

According to A.Cameron, R.Widmer, 2003, about a fifth part of children under the age of 14 have a damages in a dentofacial system. The most important stage is the diagnosis; any wrong decision can lead to serious complications. The choice of the right treatment depends entirely on the degree of damage to the teeth and periodontal organs, the depth of the lesion and the nature of the injury. Principles of dental treatment in children and adults are very different from each other, since the dental apparatus of the child is not formed. The purpose of conducting preventive works is to identify and treat disorders of the dentoalveolar system in the early stages of the disease.

It should be noted the important contribution of dental clinics. Their work is to identify, treat and prevent dental diseases through routine inspections of employees of enterprises, children in schools and preschool educational institutions, students in higher education institutions and collectives of other institutions. The timetable of planned readjustmentis fixed in a special schedule. Not only dental clinics, but also administrations of educational institutions are responsible for conducting health improvement work. Also carried out: oral cavity readjustments, emergency care and outpatient treatment for all who need it. In addition, the polyclinic compiles an analysis of the population incidence's and conducts a set of sanitary and educational activities to improve the overall level of health.

Preventive maintenance in children's preschool institutions is organized by a dentist attached to this site. A plan for educational work and hygienic education of parents has being created, children are identified with an "increased risk" of caries development, oral hygiene is taught, and fluoride toothpaste is prescribed for children with tooth development abnormalities and sodium fluoride tablets for children who do not have untreated teeth and periodontal diseases [1-24].

MATERIALS AND METHODS

The structure of the study is the regression analysis of data on the work of pediatric dentists in preschool institutions. The calculations were made on the basis of inspections conducted between 2012 and 2017.

	Inspected	Requires treatment
2014	4940	2133
2015	5991	2163
2016	5485	2401
2017	5338	2187

Table 1: The work of children's dentists

10(1)











On the basis of the analysis, a forecast was made for the period from 2012 to 2020 according to the criteria "Inspected" and "Requires treatment". The forecast of possible quantitative changes is important for work's coordinating of the conducting preventive examinations system.







Fig 3: Forecasting number of examinations of the child population (2012-2020)



Fig 4: Forecasting number of people in need (2012-2020)

The number of child examinations is projected to increase by an average of 1.17% each year. The number of people in dental help needs is increased by 1.61%.

CONCLUSION

Summarizing all of the above, it can be said that the prevention of dental diseases plays a very important role in achieving a high level of public health and reduces the risk of developing diseases, preventing complications.



REFERENCES

- [1] Results of The Epidemiological Survey of Dental Health In 13-Year-Old Children Evaluated in Compliance with The European Community Health Indicators (Data for The City of Voronezh, Russia) / Belenoval.A.*, KharitonovD.Y., LeschevaE.A., andSushenkoA.V. \\ RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICALSCIENCES. Vol.8. №2. P.1586-1593.
- [2] Shtankov S.I., Shiryaev O.Y., Sudakov O.V. et all Software Implementation the Methodology for Calculating Integral Indicators Rehabilitation Potential of Patients with Schizofrenia / Research journal of pharmaceutical biological and chemical sciences. 2018, №9(1): p. 950-953.
- [3] Mathematical, algorithmic and software support of the information support complex for making medical decisions in patients with diabetes mellitus and arterial hypertension / O.V. Sudakov, N.A. Gladskikh, E.V. Bogacheva, N.Yu. Alekseev, O.A. Androsova // System analysis and management in biomedical systems. 2015. P. 14. № 4. P. 815-819.
- [4] Assessment of the risk of recurrent stroke in patients with type 2 diabetes and hypertension / N.A. Gladskikh, O.V. Sudakov, E.V. Bogacheva, N.Yu. Alekseev, E.A. Fursova // System analysis and management in biomedical systems. T.15.№ 1.C.C. 123-127.
- [5] Esaulenko I.E. Information system for the selection of diagnostic signs of autonomic syndrome. I.E. Esaulenko, N.A. Gladskikh, S.I. Shtankov, M.A. Zheleznyakov // System analysis and management in biomedical systems. 2011. T. 10. № 4. Pp. 864 -869.
- [6] Mathematical and theoretical models of diagnostics of vegetative syndromes. ON. Gladskikh, S.N. Shipilov, E.V. Bogacheva, S.I. Shtankov. // Applied information aspects of medicine. 2011. T. 11. № 2. P. 44-45.
- [7] Calculation of diagnostic assessments of the effectiveness of the use of Mexidol in the provision of medical care to victims with TBMT in prehospital and early hospital stages / I.E. Esaulenko, V.L. Radushkevich, N.A. Gladskikh, E.V. Bogacheva // System analysis and management in biomedical systems. 2013. T. 12. № 4. P. 896-901.
- [8] Gladskikh N.A. Development of methods of classification-prognostic modeling in the system of staffing of territorial health care / dissertation for the degree of candidate of technical sciences / VSTU. Voronezh. 2008, 211 pp.
- [9] Application of neural network modeling to support decision-making in the diagnosis of chronic heart failure / E.A. Fursova, E.I. Novikova, O.V. Sudakov // System analysis and management in biomedical systems.2009.T.8.№ 2.P.410-413.
- [10] Modeling of severe forms for acute toxic hepatitis / N.Yu. Alekseev, N.Yu. Kuzmenko, O.V. Sudakov // System analysis and management in biomedical systems.2012. T.11. № 2. P.481-484.
- [11] Models construction of the of the adaptation potential for the patients with type 2 diabetes and arterial hypertension / O.V. Sudakov, T.P. Kuchkovskaya, A.V. Sviridov, G.M. Panyushkina, E.A. Studenikina // System analysis and management in biomedical systems. 2014. T.13.№ 2. P. 447-452.
- [12] Construction of an adaptive algorithm for the treatment of patients with diabetes mellitus and arterial hypertension / O.V. Rodionov, E.N. Korovin, O.V. Sudakov, E.A. Fursova, D.V. Sudakov // System analysis and management in biomedical systems. 2014. T.13. No. 3. P. 688-690.
- [13] Construction of the mathematical model for the type selection of medical impact in patients with a diabetic stop syndrome by the results of the informations preliminary processing / D.V. Sudakov, O.V. Rodionov, E.N. Korovin, O.V. Sudakov // System analysis and management in biomedical systems. 2012. No. 11.P. 869-872.
- [14] Health monitoring of participating youth on the basis of computer technologies \ I.E. Esaulenko, T.N. Petrova, O.V. Sudakov \\ System analysis and management in biomedical systems. 2014. T. 13. No. 2. P. 483-487.
- [15] Choice of tactics for the treatment of complications of diabetes mellitus on the basis of neural network modeling \ D.V. Sudakov, E.N. Korovin, O.V. Rodionov, O.V. Sudakov, E.A. Fursova \\ System analysis and management in biomedical systems. 2014. Vol. 13. No. 3. P. 592-597.
- [16] Mathematical model used for the variabilities study of heart rhythm in long-term intervals \ Sviridov AV, Sudakov OV, Rodionov OV, Alekseev N.Yu.\\ System analysis and management in biomedical systems. 2007. V. 6. No. 1. P. 109-113.
- [17] Construction of a prognostic mathematical model based on the parameters of the heart rhythm for estimation of the height of heart diseases \ Sudakov O.V. \\ System analysis and management in biomedical systems. 2007. Vol. 6. No. 1. P. 201-208.



- [18] Comparative analysis of the health of student youth's health depending on the university profile \ Petrova T.N., Sudakov O.V. \\ System analysis and management in biomedical systems. 2012. Vol. 11. No. 3. P. 804-809.
- [19] Mathematical Support For The Formation Of Informative Signs Dictionary For The Probabilistic Estimates Calculation Of The Repeated Stroke \ Sudakov, O.;Gladskikh, N.; Alexeev, N. and others \\ RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES Vol. 9. № 4. P.393-399: JUL-AUG 2018.
- [20] Method And Algorithm For Calculating The Probabilistic Evaluation Of Stroke Recurrence \ Sudakov, O.; Gladskikh, N.; Alexeev, N. and others \\ RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES Vol. 9. №4. P. 400-404: JUL-AUG 2018.
- [21] Possibilities Of A Personified Approach To Diagnosis Of Obesity Based On The Developed Genetic Tests And Determining The Sensitivity To Phenyltiokarbamide \ Petrova, T. N.; Popov, V., I; Kolesnikova, E. N. and others \\RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES Vol:8. № 6. P.713-717 :NOV-DEC 2017.
- [22] Polymorphic Genetic Markers of Obesity and Their Associations with Clinical and Metabolic Indicator \ Kolesnikova, E. N.; Petrova, T. N.; Sudakov, O. V. and others \\RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES Vol. 8. №6.: P. 726-729. NOV-DEC 2017.
- [23] Estimation of Adaptable Possibilities of Medical Students Based on Climatic Factors \ Alexeev, N.; Sudakov, O.; Kuzmenko, N. and others \\ RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES Vol.8. № 2. P. 2693-2697. MAR-APR 2017.
- [24] Genetic and Clinic-Pathogenetic Peculiarities of Prediction of Development and the Effects of Obesity at Young Persons \ Esaulenko, I. E.; Petrova, T. N.; Kolesnikova, E. N.; \\ RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES. Vol. 8. №3. P. 1368-1374. MAY-JUN 2017.