

PREVALENCE OF FUNCTIONAL DISORDERS OF THE DIGESTIVE SYSTEM IN CHILDREN AND ADOLESCENTS

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Abstract. *The diseases of the gastrointestinal tract are located on one of the leading places in the structure of the morbidity among schoolchildren. The increasing prevalence of the digestive system diseases including ulcer disease has been observed among the young population at present time. For the schoolchildren and teenagers, the decrease in parameters of vital activity and social functioning is very important⁵, among which the leading place is occupied by the difficulties associated with learning process, physical exercises and sports, usual daily activity⁶. In the majority of patients referred to the pediatrician the debut of chronic diseases the gastrointestinal tract occurs at the young age. The special place in the identification of the functional disorders in the latently developing chronic diseases of the digestive system is allocated to physical examinations⁸, questionnaire usage during medical surveys. However today there is established poor quality of the medical surveys in the schools. Thus, there is observed delayed underestimation of the pathology of gastrointestinal tract in the schoolchildren.*

Keywords: *gastroenterological, erosive-ulcerative lesions, belching, hiccup, abdominal distention.*

The purpose of our research is the study of features of frequency and clinical picture of diseases of the gastroduodenal zone at the school children, as well as increase in efficacy of the screening of the gastrointestinal tract during medical surveys.

Material and methods. This research enrolled the data of own clinical experience therefore the special questionnaire has been developed for independent filling by the schoolchildren during medical survey. The questionnaire contains 17 questions for revealing previously established gastroenterological diagnoses, symptoms of diseases of the digestive systems and risk factors of their development. Revealing character of the studied person, his style of life, level of the general culture and culture of nutrition, complaints all these has the great value for development of constructive relations between the doctor and patient for making of preliminary diagnosis, developing of the plan of examinations and consultations, previous recommendations on risk factors. We used the questionnaire during medical examination of 620 children at the age from 14 to 16 years, of them 272 (44,2%) females and 346 (53.8%) — males.

Results

As a result of the researches performed it has been established that in 165 schoolchildren (26/6%) there were available established gastroenterological diagnoses, including ulcer disease in 1,8%, gastroduodenal pathology in 20.6%, including inflammatory diseases in 17,6%, erosive-ulcerative lesions of the gastroduodenal zone. It is interesting that the girls of school age are exposed more often to the gastroenterological diseases. The study of the regimen of the schoolchildren showed that to take dinner is very important for them because their lessons last usually till 15.00 o'clock. It was found that taking food 7-8 times a day was observed only in 6 of our studied children — 1%; the frequency of food taking 5-6 times a day was found in 93 children (15%); 3-4 taking food a day was noted in the majority of children — 477 (77%) children; and

only 44 children (7%) have food very seldom, that is, 1-2 times a day. According to the data of interviews, 105 children (17%) prefer for dinner only first dish as a soup; 112 children (18%) prefer for dinner to use the second dish such as rich porridges, mashed potatoes, cutlets or pilaf; the majority of children — 372 (60%) have for dinner both the first and second dish in a complex; and only 31 children (5%) show their preference to fast food. The carbonated beverages are considered an unfavorable alternative for drinking, especially in juvenile and children's age, since according to researches of the American scientists, they result in development of increased bone porosity and restructuring in elderly age. The majority of pupils -285 (46%) uses carbonated beverages from time to time, irregularly. Only 50 (8%) children used the soft drinks every day. 56 children (9%) do not use the soft drinks at all. More than a half of interviewed children did not show the complaints on a pain in the field of abdomen — 329 (53%); 12 children (2%) complained on the constant pains; on a pain after a stressful situation (unsatisfactory estimation, conflict to the teachers, with the classmates, with the parents etc.) only 6 children complained (1%); more often — at a quarter of children — the pain arising on an empty stomach was observed in 155 children (25%); 93 (15%) children said about development in a stomach at once and during one hour after taking of food; 25 children (4%) complained on occurrence of a pain in connection with physical loading. The analysis of features of the pain syndrome has shown, that in 40% of children the pain was connected with time of eating; they occurred a half of an hour after taking food in 76 children, in the morning and (or) on the empty stomach — in 67, before and after eating — in 57, in 10-15 minutes after eating — in 29 and during taking food — in 19 children. The pains were mainly of dull character (61,97%), however there were often observed spasmodic pains (33,33%), that was not absolutely typical for diseases of a stomach and testified to presence of accompanying functional disorders of other departments of the gastrointestinal tract. The pain duration accounted for, on the average, 4,8 months. Only in 32 patients (5,2%) the duration of the pain syndrome was one year. Frequency of the pain occurrence was 1-2 times per one week at 33,3%, 2-3 times per one week — at 20,8%, one time per one week — at 16,7%, more often than 4 times per one week — at 12,5%, and 1-2 times a month — at 12,5% of children. The pains were of moderate (78,9%) or weak (10,5%) intensity. According to the questionnaire performed, in the majority of children (303 children; 48,9%) after taking food there are not observed any unpleasant sensations in a stomach; 118 children (19%) have a sense of heaviness in a stomach; 87 children (14%) feel bloated after eating; 50 (8%) have heartburn; 25 (4%) feel nausea; the pain of surrounding character was marked only in 6 teenagers (1%). The majority of examined children (360,58%) have no any unpleasant sensations in a mouth on mornings; sour sensation in a mouth was noted in 87 (14%); bitter taste in a mouth — in 68 (11%) interrogated pupils; sour eructation on mornings was found in 37 (6%) children. Regular stool was noted at an almost half of children — 49% — 304 teenagers; stool every other day at 38% — 236 children; stool once per 2-3 days at 8% — 50 teenagers; and only at 3% — 19 respondents the stool was very seldom — one time per one week. At the majority of children (459,74%) there is noted sensation of complete emptying of the abdomen after defecation, 50 children (8%) feel sensation of incomplete emptying and in 2% (12 children) of respondents there were false tenesmuses. Diarrhea is observed, in opinion of the teenagers, extremely rare — only one time in one year — in 353 (57%) respondents; it is not marked at all in a quarter of children, interrogated by us, — 155 (25%); in 74 (12%) pupils the cases of a liquid stool alternate with constipations, and 19 (3%) children noted, that they have rather often water stools or diarrhea. On interrogation about harmful habits the overwhelming

majority of children (608, 98%) answered, that they did not smoke, only 12 children (2%) smoked cigarettes; a similar situation with use of alcohol (589 teenagers, 95%) against 5% (31 children) using alcohol (often beer, less often wine). It is established, that in smoking children more often than in the similar groups without harmful habits, there were found pains in a stomach ($P < 0,05$), heartburn ($P < 0,01$), belching ($P < 0,05$), and hiccup ($P < 0,001$). Children using alcohol drinks and beer, had more often pains in a stomach, eructation ($P < 0,001$), sour belching ($P < 0,05$), hiccup ($P < 0,001$), feeling of weakness ($P < 0,05$) and sleep disturbances ($P < 0,001$). Thus, in 403 children (65%) there is noted risk of occurrence of symptoms of gastric dyspepsia, for which the typical features of functional disorders in the gastroduodenal area such as the pain syndrome in the abdomen connected to taking of food and nausea are characteristic. The analysis of dyspeptic syndrome showed in 93 children (15%) the rather high frequency of such complaints, as a nausea (14 children; 58,3%) and poor appetite (12 children; 50%). Hiccup and vomiting appeared less often (in 3 and 4 patients, respectively), and also increase or decrease in stool frequency (in 4 and 2 cases). Other complaints including increase of appetite, feeling of early saturation, increased gas formation, abdominal distention, and absence of appetite were found in single cases. The syndrome of irritable intestine was revealed in 69 teenagers (11,1%), which was characterized by incomplete intestinal emptying (12 children), stool appearance one time in 3 days or one time per one week (50 and 19 teenagers respectively), sensation of flatulence and fullness of the abdomen (87 teenagers). Thus, advantages of the developed questionnaire for the schoolboys is the obtaining information about the diseases of the gastrointestinal tract, opportunity of revealing of the factors contributing to occurrence and an aggravation of the illnesses of the digestive system (alimentary factors, characteristics of the person, presence of harmful habits). In this situation the important role is given to the selection of anamnesis. On the basis of the result of questionnaire and examination of the schoolchildren there has been developed the plan of the further observation (list of the experts and tool methods), required for diagnosis verification. The treatment of the functional gastrointestinal disorders is predominantly out-patient. And only at marked dyspeptic events and pain syndrome the inpatient treatment is recommended. According to our data at the repeated interviews 366 (59%) children keep strictly to the instructions of the doctor, 118 children (19%) carry out the recommendations of the doctor incompletely, 62 teenagers (10%) carry out these recommendations irregularly; 37 (6%) children do not follow advices of the doctor. 409 (66%) children do not observe a special diet for weight loss, 99 (16%) — keep to this diet regularly and 81 (13%) — occasionally. On the basis of the results obtained the identification of the groups of higher risk, early diagnostics of available diseases, taking to the account of the patients with known diseases, realization of active measures on primary and secondary preventive maintenance appeared to be the most important direction in the activity of school doctors. The application of our questionnaire developed at performance of the medical surveys allows identification of individual risk factors, degree of the disease control, providing of proved recommendations for examination, treatment, prevention, separation of groups for dynamic supervision. During the analysis of the questionnaire in a field of sight of the doctor there are remained patients not only showing complaints, but also those who have rarely discomfort, dyspepsia and have no complaints. It is established, that 46,3% of the schoolchildren (a half from them did not show the active complaints) require advisory reception of the doctor, that in turn will raise efficiency of the dispensary supervision of the patients with diseases of the gastroduodenal zone. Thus, the application of the questionnaire, developed by us, is a simple and not expensive method, effective

in revealing of pathology of gastro intestinal tract that allows its recommendation for testing the schoolboys at the annual medical surveys. Thus, the questionnaire performed allowed to reveal Interrelationship between nutritional habits and functional disorders of the gastrointestinal tract in the adolescents. They noted unpleasant sensations in a mouth, belching, pain or abdominal distention, feeling of heaviness in a stomach.

Conclusions:

1. In childrens age even the insignificant disorders of the gastrointestinal tract functions can give unfavorable influence on the development of a child.

2. The analysis of the results achieved has revealed that 65% of the schoolboys have the complaints of dyspeptic character that allows suggestion about presence in them of the esophageal motor disorders. 5,2% of children suffered from dyspepsia daily at duration of disease for 1 year and more, and only 3,4% addressed to gastroenterologist, were examined under the conditions of the childrens gastroenterological department, received and continue to receive adequate therapy.

3. The carry out research shows, that for occurrence of functional disorders of the gastroenterological tract the habits, regimen and character of the nutrition of the schoolchildren seem to be of great importance.

4. The duly diagnostics of these disorders with the further referral to the specialist for the profound tool and morphological examinations is necessary for preventive maintenance of more serious pathological states of health of the adolescents.

Summary

The results of application of the original questionnaire, developed by the authors, during medical examination of the students of high school, schoolchildren and special secondary educational institutions are presented. The application of the questionnaire by the student and pupil allows identification of the individual risk factors of the gastroduodenal zone diseases, the control of disease, providing recommendations approved for examination, management and prevention of disease and separation of groups for dynamic observation. The authors have developed algorithm of the patient's management under the conditions of the student polyclinic reflecting all stages of diagnostics, treatment and preventive maintenance.

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