

PSIHIČKO ZDRAVLJE I SOCIJALNO FUNKCIONISANJE DECE I ADOLESCENATA SA CELIJAČNOM BOLEŠĆU

Biljana Stojanović-Jovanović¹, Stevan Jovanović¹, Biljana Vuletić²

¹Visoka zdravstvena škola, Akademija strukovnih studija Beograd, Beograd, Srbija

²Odeljenje za pedijatriju, Fakultet medicinskih nauka, Univerzitet u Kragujevcu, Kragujevac, Srbija

SAŽETAK

Uvod/Cilj: Celijačna bolest predstavlja sistemsku autoimunu bolest koju karakteriše trajna nepodnošljivost glutena. Stanje koje nameće bolest, poseban režim ishrane bez glutena, često izaziva stres, što kod dece, a posebno adolescenata, može dovesti do poremećaja psihičkog zdravlja i socijalnog funkcionisanja. Cilj istraživanja je da se ispita da li postoje značajne razlike između dece i adolescenata sa i bez celijačne bolesti u odnosu na njihovo psihičko zdravlje i socijalno funkcionisanje.

Metode: Studijom slučajeva i kontrola obuhvaćeno je 116 dece i adolescenata uzrasta 5-18 godina sa dijagnozom celijačne bolesti i 116 dece i adolescenata bez ovog oboljenja. Ispitivane grupe su sparivane prema uzrastu i polu. Pored opšteg upitnika, za procenu stepena anksioznosti korišćen je Upitnik za pretragu anksioznih poremećaja kod dece (engl. *Screen for Child Anxiety Related Disorder - SCARED*). U statističkoj analizi podataka korišćen je hi kvadrat test.

Rezultati: Ispitanici sa i bez celijačne bolesti nisu se značajno razlikovali u odnosu na pol i uzrast. Deca i adolescenti sa celijačnom bolešću su značajno češće imali anksiozni (33,9%) ($p < 0,001$) i panično-somatski poremećaj (33,0%) ($p < 0,001$), generalizovanu (20,0%) ($p = 0,001$) i separacijsku anksioznost (32,2%) ($p = 0,031$), i izbegavali su školu (18,3%) ($p < 0,001$), nego kontrole (9,5%; 8,6; 4,3%; 19,0%; 2,6%). Između ispitivanih grupa nije bilo značajne razlike u odnosu na socijalnu anksioznost.

Zaključak: Kod dece sa celijačnom bolešću se moraju uzeti u obzir psihološki aspekti bolesti u cilju obezbeđivanja boljeg kvaliteta života. Moguće je postojanje psihološkog stresa i neprijatnosti, jer ih vršnjaci mogu izbegavati zbog drugačije ishrane.

Ključne reči: celijakija, deca, gluten, ishrana, psihičko zdravlje, socijalno funkcionisanje

Uvod

Celijačna bolest se definiše kao imunološka hronična bolest proksimalnog dela tankog creva. Karakteristika ove bolesti je nepodnošljivost na gluten kod osoba koje imaju genetske predispozicije. Lečenje se sastoji od uvođenja bezglutenske ishrane što dovodi do histološke i kliničke remisije (1). Dosadašnja saznanja su ukazivala da je celijakija primarno bolest tankog creva nastala kao rezultat imunološke reakcije sluzokože tankog creva na gluten, zbog čega nastaje zapaljenje i smanjena apsorpcija hranljivih materija. Međutim, najnovija istraživanja ukazuju na činjenice da celijakija nije samo bolest tankog creva već da zahvata i veliki broj drugih organa i sistema (2).

Od ove bolesti dva puta češće oboleva ženska nego muška populacija. Kada bolest počne u detinjstvu, rast, razvoj i mentalno zdravlje mogu biti poremećeni (3,4).

Iskustva pokazuju da pravovremena detekcija celijačne bolesti i nakon toga dosledno lečenje bezglutenskom dijetom, daju dobru prognozu bolesti. Veći broj istraživanja dokazuje da kasno postavljena dijagnoza, kao i nesprovođenje bezglutenske ishrane, dovodi do komplikacija koje mogu biti teške (3,5,6).

Kod dece sa hroničnim poremećajima, a samim tim i kod celijakije, postoji velika verovatnoća da se pojave različiti emocionalni poremećaji i poteškoće u psihičkom prilagođavanju u odnosu na vršnjake bez ove bolesti (7-9).

MENTAL HEALTH AND SOCIAL FUNCTIONING OF CHILDREN AND ADOLESCENTS WITH CELIAC DISEASE

Biljana Stojanovic-Jovanovic¹, Stevan Jovanovic¹, Biljana Vuletic²

¹Higher Education School of Vocational Health Studies, Belgrade, Serbia

²Department of Pediatrics, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

SUMMARY

Introduction/Aim: Celiac disease is a systemic autoimmune disease characterized by persistent gluten intolerance. The condition imposed by the disease, a special gluten-free diet, often causes stress, which in children, especially adolescents, can lead to disturbances in mental health and social functioning. The aim of the study is to examine whether there are significant differences between children and adolescents with celiac disease and their peers without celiac disease in relation to their mental health and social functioning.

Methods: The study included 116 children and adolescents aged 5-18 years with a diagnosis of celiac disease and 116 children and adolescents without celiac disease. The study groups were matched by age and gender. In addition to the general questionnaire, the Screen for Child Anxiety Related Disorder (SCARED) was used to assess the level of anxiety. The chi-squared test was used in the statistical analysis of the data.

Results: Subjects with and without celiac disease did not differ significantly in gender and age. Children and adolescents with celiac disease had significantly more frequent anxiety (33.9%) ($p < 0.001$), panic-somatic disorder (33.0%) ($p < 0.001$), and avoided school (18.3%) ($p < 0.001$), generalized (20.0%) ($p = 0.001$) and separation anxiety (32.2%) ($p = 0.031$) than controls (9.5%; 8.6; 2.6%; 4, 3%; 19.0%). There was no significant difference between social groups in relation to social anxiety.

Conclusion: In children with celiac disease, psychological aspects of the disease must be considered in order to ensure a better quality of life. Psychological stress and discomfort may occur as peers can avoid them because of a different diet.

Keywords: celiac disease, children, gluten, nutrition, mental health, social functioning

Introduction

Celiac disease is defined as an immune chronic disease of the proximal part of the small intestine. It is characterized by gluten intolerance in people who have genetic susceptibility. The treatment includes introducing a gluten-free diet, which leads to histological and clinical remission (1). The existing knowledge has pointed to the fact that celiac disease is primarily a disease of the small intestine, which is a result of an immune reaction of the small intestine mucosa to gluten. This reaction causes inflammation and the reduced absorption of nutrients. However, the recent findings have pointed to the fact that celiac disease can affect not only the small intestine, but also a large number of other organs and systems (2).

Women are diagnosed with celiac disease two times more often than men. When this disease occurs during the childhood, growth, development and mental health can be disturbed (3,4).

Experience shows that timely detection of celiac disease and later the consistent treatment with a gluten-free diet give a good prognosis of this disease. A larger number of research studies prove that a late diagnosis and non-compliance with a gluten-free diet lead to complications, which can be serious (3,5,6).

In children with chronic disorders, and celiac disease as well, there is a great possibility that different emotional disorders and difficulties regarding their psychological adaptation may appear in comparison to their

Doživotna posvećenost striktnoj bezglutenskoj ishrani utiče na emocionalne i kognitivne aspekte i međuljudske odnose (10). Osim osnovne bolesti, kod dece i adolescenata sa celijakijom, beleže se i psihološki problemi. Anksioznost, depresivni simptomi, emotivna preosetljivost i osećanja tuge su česta pojava i pored ostalog negativno utiču na adaptaciju u socijalnoj sredini. Mera u kojoj će dete prihvatiti režim bezglutenske dijeta i pridržavati se zavisi i od stava koji roditelji imaju prema bolesti svog deteta (11,12).

Jako je važno da mladima sa ovim zdravstvenim problemom porodica pruži podršku u meri u kojoj je to potrebno, da bi se postigao uspeh u tretmanu bolesti (11-13).

Cilj istraživanja je da se ispita da li postoje značajne razlike između dece i adolescenata sa celijakijom i njihovih vršnjaka bez celijakije u odnosu na njihovo psihičko zdravlje i socijalno funkcionisanje.

Metode

Studijom slučajeva i kontrola, koja je sprovedena u periodu 1.4.2016-31.12.2016. godine, obuhvaćeno je 116 dece i adolescenata, uzrasta 5-18 godina, sa postavljenom dijagnozom celijakije u Institutu za zdravstvenu zaštitu majke i deteta Srbije „Dr Vukan Čupić“ u Beogradu i Univerzitetnoj dečjoj klinici u Beogradu. Svi ovi ispitanici bili su na bezglutenskoj ishrani najmanje godinu dana. Kontrolnom grupom obuhvaćeno je 116 ispitanika bez celijakije i njih su činila deca koja su pohađala program predškolske ustanove, nastavu osnovne i srednje škole na teritoriji grada Beograda i kod kojih celijačna bolest nije bila dijagnostikovana. Ispitivane grupe su individualno sparivane u odnosu na uzrast i pol.

Podaci su od ispitanika prikupljeni upitnicima tokom redovnih gastroenteroloških kontrola.

U cilju procene anksioznosti kod dece i adolescenata uzrasta od 5 do 18 godina korišćen je Upitnik za pretragu anksioznih poremećaja kod dece (engl. *Screen for Child Anxiety Related Disorder* - SCARED). Pitanja u upitniku su razvrstana u pet skala (Generalizovana anksioznost, Separacijska anksioznost, Socijalna anksioznost, Izbegavanje škole i Panično-

somatski poremećaj) (14,15). Upitnik je kulturološki adaptiran za srpski jezik.

Ispitanicima su davana kratka uputstva o toku i pravilima. Popunjavanje testova je sprovedeno anonimno i bez vremenskog ograničenja pri odgovaranju. Po potrebi su ispitanicima davana dodatna objašnjenja vezana za način popunjavanja upitnika. Pri anketiranju ispitanika uzrasne grupe 5-7 godina aktivno učešće su uzeli i roditelji koji su usmeno postavljali svojoj deci pitanja iz upitnika. Ovo je bilo potrebno zbog poverenja koje dete ima u roditelje.

Istraživanje je razmotreno i odobreno od strane Etičkih odbora Univerzitetne dečje klinike u Beogradu i Instituta za zdravstvenu zaštitu majke i deteta Srbije „Dr Vukan Čupić“, u Beogradu. Za učešće dece u istraživanju dobijena je pisana saglasnost dece i njihovih roditelja. U cilju zadovoljenja etičkih normi, ispitanici su bili informisani o svrsi istraživanja i činjenici da će se dobijeni podaci koristiti u naučne svrhe.

Analiza i obrada podataka vršene su pomoću paketa namenjenog statističkoj obradi podataka (engl. *Statistical Package for the Social Sciences – SPSS for Windows, version 23.0, 2015*). U analizi podataka korišćen je hi-kvadrat (χ^2) test.

Rezultati

Istraživanjem je obuhvaćeno 116 ispitanika sa dijagnozom celijakije uzrasta od 5 do 18 godina i to 77 (66,4 %) devojčica i 39 (33,6%) dečaka (Tabela 1). Uzrasnu grupu 5–7 godina činilo je 22 (19,0 %) ispitanika, uzrasnu grupu 8–12 godina 44 (37,9 %) ispitanika, a uzrasnu grupu 13–18 godina 50 (43,1%) ispitanika. Kontrolnu grupu činilo je 116 zdrave dece i adolescenata čija je distribucija po polu i uzrastu bila identična ispitanicima sa celijakijom, jer su ove dve grupe sparivane u odnosu na pol i uzrast.

Ispitanici sa celijakijom su značajno češće, u odnosu na kontrole, imali prema SCARED upitniku, anksiozni poremećaj (skor ≥ 25) ($p < 0,001$), panično-somatski poremećaj (skor ≥ 7) ($p < 0,001$), generalizovanu (skor ≥ 9) ($p = 0,001$) i separacijsku anksioznost (skor ≥ 5) ($p = 0,031$), a i značajno su češće izbegavali školu (skor ≥ 3) ($p < 0,001$). Između ispitivanih grupa

peers, who are not diagnosed with this disease (7-9).

A life-long adherence to a strict gluten-free diet influences emotional and cognitive aspects and interpersonal relations (10). Beside the basic disease, psychological problems are noticed in children and adolescents with celiac disease. Anxiety, symptoms of depression, emotional hypersensitivity and emotions of sorrow often appear and, among other things, negatively affect adjusting to social surroundings. The extent, to which a child will accept the regime of a gluten-free diet and adhere to it, depends on the parents' attitude towards the disease (11,12).

It is very important that a family supports young people with this health problem, to the extent that success could be achieved in treating the disease (11-13).

The aim of the research was to examine whether there are significant differences between children and adolescents with celiac disease and their peers without this disease regarding their mental health and social functioning.

Methods

A case-control study, that took place in the period from April 1st to December 31st 2016, included 116 children and adolescents, aged 5-18 years, who were diagnosed with celiac disease at The Institute for Health Protection of Mother and Child of Serbia "Dr Vukan Cupic" in Belgrade and University Children's Hospital in Belgrade. All these examinees were on a gluten-free diet for at least one year. The control group included 116 examinees without celiac disease, that is, children, who attended the program of pre-school institution, primary or high school in the territory of Belgrade, and who were not diagnosed with celiac disease. The examined groups were individually matched by age and gender.

The data were collected from the examinees during the regular gastroenterological check-ups. The Screen for Child Anxiety Related Disorder (SCARED) was used in order to estimate the anxiety in children and adolescents aged 5-18 years. The questions in this questionnaire were classified into five domains (Generalized

anxiety, Separation anxiety, Social anxiety, School avoidance and Panic/somatic disorder) (14,15). The questionnaire was culturally adapted for the Serbian language.

Short instructions about the course and rules were given to the examinees. The tests were completed anonymously and there were no time limits for the test completion. If necessary, the examinees were given additional explanation regarding the way in which the tests were filled in. Examinees from the age group 5-7 years were helped by their parents, who actively participated and asked them questions from the questionnaire orally. This was necessary because children have confidence in their parents.

The research was examined and approved by the Ethics Committees of University Children's Hospital in Belgrade and The Institute for Health Protection of Mother and Child "Dr Vukan Cupic" in Belgrade. Written informed consent was obtained from children and their parents prior to enrollment in the study. In order to satisfy the ethical norms, all the examinees were informed about the purpose of the research and the fact that all the obtained data would be used for scientific purposes.

Data were analyzed with the help of Statistical Package for the Social Sciences – SPSS for Windows, version 23.0, 2015. A chi-squared test was used for data analysis.

Results

The study included 116 examinees, who were diagnosed with celiac disease, aged 5 to 18 years, that is, 77 girls (66.4%) and 39 boys (33.6%) (Table 1). There were 22 (19.0%) examinees in the age group 5-7 years, 44 (37.9%) examinees in the age group 8-12 years, and 50 (43.1%) examinees in the age group 13-18 years. The control group consisted of 116 healthy children and adolescents whose distribution by sex and age was identical to the subjects with celiac disease, because these two groups were matched in relation to gender and age.

Examinees with celiac disease had more frequently in comparison to controls, according to the SCARED questionnaire, anxiety disorder (score > 25) ($p < 0.001$), panic-somatic disorder

nije bilo značajne razlike u odnosu na postojanje socijalne anksioznosti (skor ≥ 8) ($p = 0,598$) (Tabela 2).

Diskusija

Specifičnost ovog istraživanja ogleda se u činjenici da je njime procenjavano zdravlje i socijalno funkcionisanje dece i adolescenata istog uzrasta sa i bez celijakije.

Autori mnogobrojnih istraživanja ukazuju da od celijakije češće oboleva ženska nego muška populacija (3,17,18), što je dobijeno i u našem istraživanju.

Svaka hronična bolest, a samim tim i celijakija, ako se javi kod mladih tokom perioda njihovog rasta i razvoja može da utiče na psihosocijalni razvoj i socijalno funkcionisanje. U više studija je utvrđeno da značajno utiče na kvalitet života u vezi sa zdravljem dece i adolescenata (19,20).

U našoj studiji, deca i adolescenti su statistički značajno češće imali anksioznost, panično-somatski poremećaj i značajno su češće izbegavali školu ($p < 0,001$), odnosno češće su

imali generalizovanu ($p < 0,001$) i separacijsku anksioznost ($p < 0,031$) u odnosu na kontrole. Anksioznost se smatra „normalnom“ reakcijom na životne teškoće, stresove i neizvesnosti. Kod dece obolele od celijačne bolesti, kao i od drugih hroničnih bolesti, anksiozna stanja, trajanjem i intenzitetom, mogu da imaju snažan uticaj na svakodnevno funkcionisanje i kvalitet života. Nelagodnost i strepnja su glavna obeležja anksioznosti. Anksioznost može da bude akutna i hronična, ali i primarna (psihološka reakcija na bolest i lečenje), sekundarna, ili kao kombinacija navedenih oblika (21).

Domen socijalnog i emocionalnog funkcionisanja kod dece sa celijakijom je povezan sa fizičkim ograničenjima u ishrani i teškoćama koje prate nabavljanje bezglutenskih proizvoda, jer često nisu lako dostupni (22).

Deca, a posebno adolescenti, sa celijakijom često pokazuju povećan nivo psihološkog stresa nakon dijagnoze i prelaska na bezglutenski način ishrane. Izbegavanje širokog spektra namirnica koje sadrže gluten često zahteva značajne promene u načinu ishrane i načinu života dece

Tabela 1. Distribucija dece i adolescenata sa i bez celijakije po uzrastu i polu

| Uzrast/ Age | Pol/ Gender | Deca i adolescenti sa celijakijom/ <i>Children and adolescents with celiac disease</i> N=116 Broj (%)/ No (%) | Deca i adolescenti bez celijakije / <i>Children and adolescents without celiac disease</i> N=116 Broj (%)/ No (%) | p vrednost*/ p value* |
|----------------|-------------------|---|---|--------------------------|
| 5-7 | Muški/ Male | 9 (40.9) | 9 (40.9) | >0.05 |
| | Ženski/ Female | 13 (59.1) | 13 (59.1) | |
| | Ukupno/ Total | 22 (19.0) | 22 (19.0) | |
| 8-12 | Muški/ Male | 15 (34.1) | 15 (34.1) | >0.05 |
| | Ženski/ Female | 29 (65.9) | 29 (65.9) | |
| | Ukupno/ Total | 44 (37.9) | 44 (37.9) | |
| 13-18 | Muški/ Male | 15 (30.0) | 15 (30.0) | >0.05 |
| | Ženski/ Female | 35 (70.0) | 35 (70.0) | |
| | Ukupno/ Total | 50 (43.1) | 50 (43.1) | |

*p vrednost za χ^2 test

(score > 7) ($p < 0.001$), generalized anxiety (score > 9) ($p = 0.001$) and separation anxiety (score > 5) ($p = 0.031$), and they avoided school more frequently (score > 3) ($p < 0.001$). There was no significant difference between the examined groups in regard to social anxiety (score > 8) ($p = 0.598$) (Table 2).

Discussion

The specificity of this research is reflected in the fact that it assessed the health and social functioning of children and adolescents of the same age with and without celiac disease. The authors of numerous studies have pointed to the fact that female population is diagnosed more often with celiac disease than male population (3,17,18), which has been confirmed in our research, as well.

Each chronic disease, and therefore celiac disease as well, can influence the psychosocial development and social functioning if it appears in young people during the period of their growth and development. It has been confirmed in a number of studies that they significantly

influence health-related quality of life of children and adolescents (19,20).

In our study, children and adolescents had anxiety, panic-somatic disorder significantly more frequently and they avoided school significantly more often ($p < 0.001$), that is they had generalized ($p = 0.001$) and separation anxiety ($p = 0.031$) more often in comparison to controls. Anxiety is deemed to be a "normal" reaction to life problems, stress and uncertainty. In children with celiac disease, and with other chronic diseases, conditions of anxiety can have a strong influence on everyday functioning and quality of life. Uneasiness and apprehension are the main characteristics of anxiety. Anxiety can be acute and chronic, as well as primary (psychological reaction to disease and treatment), secondary and the combination of these forms (21).

Domain of social and emotional functioning of children with celiac disease is connected with the physical restrictions regarding food and difficulties related to the purchase of the gluten-free products, which are often not easily

Table 1. Distribution of children and adolescents with and without celiac disease by age and gender

| Uzrast/ Age | Pol/ Gender | Deca i adolescenti sa celijakijom/ <i>Children and adolescents with celiac disease</i> N=116 Broj (%)/ No (%) | Deca i adolescenti bez celijakije / <i>Children and adolescents without celiac disease</i> N=116 Broj (%)/ No (%) | p vrednost*/ <i>p value*</i> |
|----------------|-------------------|---|---|---------------------------------|
| 5-7 | Muški/ Male | 9 (40.9) | 9 (40.9) | >0.05 |
| | Ženski/ Female | 13 (59.1) | 13 (59.1) | |
| | Ukupno/ Total | 22 (19.0) | 22 (19.0) | |
| 8-12 | Muški/ Male | 15 (34.1) | 15 (34.1) | >0.05 |
| | Ženski/ Female | 29 (65.9) | 29 (65.9) | |
| | Ukupno/ Total | 44 (37.9) | 44 (37.9) | |
| 13-18 | Muški/ Male | 15 (30.0) | 15 (30.0) | >0.05 |
| | Ženski/ Female | 35 (70.0) | 35 (70.0) | |
| | Ukupno/ Total | 50 (43.1) | 50 (43.1) | |

*p value for chi square test

i njihovih porodica, a redukuje se i socijalna interakcija. Tekući problemi mogu uticati na nivo anksioznosti i depresije (23). Viši rizik za anksiozne poremećaje kod dece po postavljanju dijagnoze povezuje se sa reakcijom deteta na saznanje o hroničnoj bolesti koja zahteva strogu doživotnu bezglutensku ishranu, a koja ga svrstava u kategoriju drugačijih u odnosu na svoje vršnjake.

Studije sprovedene širom Evrope ukazuju da su poremećaji raspoloženja, kao što su anksioznost, depresija i osećaj zamora, povezani sa dijagnozom celijakije, pre i posle postavljana dijagnoze, i stoga mogu da utiču na poštovanje bezglutenske ishrane i kvalitet života pacijenata (24). Za očekivati je da deca i adolescenti koji imaju pogoršanje bolesti, najčešće zbog nepoštovanja dijete, a sa time i viši stepen nesposobnosti, teže učestvuju u socijalnim aktivnostima, što je potvrđeno u nekoliko pedijatrijskih studija (25).

Rezultati većeg broja studija sugerišu da pacijenti sa celijakijom imaju koristi od

bezglutenske ishrane, ali da ona utiče na mnoge dnevne aktivnosti, pogotovo na socijalne aspekte života. Studije sprovedene na velikom uzorku ispitanika sa problemom celijakije potvrđuju da pacijentima bezglutenska ishrana značajno utiče na kvalitet života, uključujući pored socijalnog, ekonomski i psihološki aspekt. Ispitanici su se izjasnili da imaju ograničenja u društvenom životu, uključujući putovanja i zabave, mada ni finansijsko opterećenje njihove porodice, kako ističu, nije zanemarljivo (26,7).

Postoje dokazi koji napominju da kod dece sa hroničnim poremećajima, postoji veća verovatnoća da imaju različite emocionalne poremećaje i poteškoće u psihičkom prilagođavanju u odnosu na zdrave vršnjake (27). Rezultati studije *Addolorato*-a i saradnika su pokazali da pacijenti sa celijakijom imaju značajno veće šanse da dobiju simptome anksioznosti, i to nakon godinu dana na ishrani bez glutena, u odnosu na kontrolnu grupu zdravih (27). Autori opisuju anksiozne poremećaje kao što su socijalna anksioznost i panični poremećaji

Tabela 2. Distribucija dece i adolescenata sa i bez celijakije prema skorovima Upitnika za pretragu anksioznih poremećaja kod dece (SCARED, verzija za dete)

| Karakteristike/ <i>Characteristics</i> | | Deca i adolescenti sa celijakijom/ <i>Children and adolescents with celiac disease</i> N=116 Broj (%) / No (%) | Deca i adolescenti bez celijakije / <i>Children and adolescents without celiac disease</i> N=116 Broj (%) / No (%) | p vrednost* / <i>p value*</i> |
|--|-------------------------------|---|---|----------------------------------|
| Anksiozni poremećaj/ <i>Anxiety disorder</i> | Ne/No (< 25) Da/Yes (≥ 25) | 76 (66.1) 39 (33.9) | 105 (90.5) 11 (9.5) | <0.001 |
| Panično-somatski poremećaj/ <i>Panic-somatic disorder</i> | Ne/No (< 7) Da/Yes (≥ 7) | 77 (67.0) 38 (33.0) | 106 (91.4) 10 (8.6) | <0.001 |
| Generalizovana anksioznost/ <i>Generalized anxiety</i> | Ne/No (< 9) Da/Yes (≥ 9) | 92 (80.0) 23 (20.0) | 111 (95.7) 5 (4.3) | 0.001 |
| Separacijska anksioznost/ <i>Separation anxiety</i> | Ne/No (< 5) Da/Yes (≥ 5) | 78 (67.8) 37 (32.2) | 94 (81.0) 22 (19.0) | 0.031 |
| Socijalna anksioznost/ <i>Social anxiety</i> | Ne/No (< 8) Da/Yes (≥ 8) | 90 (78.3) 25 (21.7) | 95 (81.9) 21 (18.1) | 0.598 |
| Izbegavanje škole/ <i>School avoiding</i> | Ne/No (< 3) Da/Yes (≥ 3) | 94 (81.7) 21 (18.3) | 113 (97.4) 3 (2.6) | <0.001 |

*p vrednost za χ^2 test

available (22).

Children, and especially adolescents with celiac disease, often show the increased level of psychological stress after diagnosis and switching to a gluten-free diet. Avoiding a wide range of products, which contain gluten, often demands significant changes regarding diet and the way of life of children and their families, while social interaction also becomes limited. Current problems can influence the level of anxiety and depression (23). A higher risk of anxiety disorders in children after diagnosis is connected with the reaction to the realization that it is a chronic disease, which demands a strict lifelong gluten-free diet and which categorizes children as "different" from their peers.

Studies, which have been conducted across Europe, have shown that anxiety disorders, such as anxiety, depression, fatigue, are connected with the diagnosis of celiac disease, before and after diagnosis is confirmed, and therefore, they can have influence on the adherence to a gluten-

free diet and patients' quality of life (24). It is expected that children and adolescents, whose condition gets worse due to the non-compliance with a diet and whose level of disability is, therefore, higher, take part in social activities with more difficulties, which has been confirmed in a few pediatric studies (25).

Results of a large number of studies suggest that patients with celiac disease benefit from a gluten-free diet, but that this diet influences numerous daily activities, especially social aspects of life. Studies, which have been conducted on a large sample of examinees with celiac disease, have confirmed that a gluten-free diet has a significant influence on the quality of life, including economic and psychological aspects, beside the social aspect. Examinees claimed that they experienced restrictions regarding social life, including travels and entertainment, and that the financial burden was not negligible, as well (26, 7).

There is evidence which suggests that in children with chronic disorders, there is a

Table 2. Distribution of children and adolescents with and without celiac disease by Screen for Child Anxiety Related Disorder (SCARED, version for children)

| Karakteristike/ Characteristics | | Deca i adolescenti sa celijakijom/ Children and adolescents with celiac disease N=116 Broj (%)/ No (%) | Deca i adolescenti bez celijakije / Children and adolescents without celiac disease N=116 Broj (%)/ No (%) | p vrednost*/ p value* |
|---|-------------------------------|---|---|----------------------------------|
| Anksiozni poremećaj/ Anxiety disorder | Ne/No (< 25) Da/Yes (≥ 25) | 76 (66.1) 39 (33.9) | 105 (90.5) 11 (9.5) | <0.001 |
| Panično-somatski poremećaj/ Panic-somatic disorder | Ne/No (< 7) Da/Yes (≥ 7) | 77 (67.0) 38 (33.0) | 106 (91.4) 10 (8.6) | <0.001 |
| Generalizovana anksioznost/ Generalized anxiety | Ne/No (< 9) Da/Yes (≥ 9) | 92 (80.0) 23 (20.0) | 111 (95.7) 5 (4.3) | 0.001 |
| Separacijska anksioznost/ Separation anxiety | Ne/No (< 5) Da/Yes (≥ 5) | 78 (67.8) 37 (32.2) | 94 (81.0) 22 (19.0) | 0.031 |
| Socijalna anksioznost/ Social anxiety | Ne/No (< 8) Da/Yes (≥ 8) | 90 (78.3) 25 (21.7) | 95 (81.9) 21 (18.1) | 0.598 |
| Izbegavanje škole/ School avoiding | Ne/No (< 3) Da/Yes (≥ 3) | 94 (81.7) 21 (18.3) | 113 (97.4) 3 (2.6) | <0.001 |

*p value for chi square test

koji su povezani sa bezglutenskom dijetom. U istoj studiji je uočeno i da znatno veći procenat (70%) pacijenata sa celijakijom ima socijalnu anksioznost i porast paničnih poremećaja u odnosu na kontrolnu grupu (27).

Zaključak

Deca i adolescenti sa celijakijom su skloniji ispoljavanju emocionalnih i socijalnih problema u poređenju sa njihovim vršnjacima koji nemaju celijakiju.

Postoje problemi u svakodnevnoj organizaciji života pa se pored zdravstvenog javlja i socijalni problem. Kod adolescenata, uticaj vršnjaka na ponašanje postaje jači od roditeljskog i tada su spremni da prekrše dijetu i suoče se sa svim opasnostima koji taj postupak donosi.

Redovno sprovođenje procedura sa ciljem detekcije psiholoških problema kod dece i adolescenata sa celijakijom bi doprinelo blagovremenim terapijskim merama, a samim tim i očuvanju kvaliteta života u vezi sa zdravljem.

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greater possibility that they may have different emotional disorders and difficulties regarding psychological adjustment in relation to their healthy peers (27). Study results of Addolorato and associates have shown that patients with celiac disease have significantly greater chances to get the symptoms of anxiety after one year on a gluten-free diet in comparison to the control group without this disease (27). The authors describe anxiety disorders such as social anxiety and panic disorders, which are associated with a gluten-free diet. In the same study, it has been noticed that significantly higher percentage (70%) of patients with celiac disease has social anxiety and the increase in panic disorders in comparison to the control group (27).

Conclusion

Children and adolescents with celiac disease are more prone to experience emotional and social problems in comparison to their peers, who do not have celiac disease.

There are problems regarding daily organization of life, and therefore, beside the health problem, the social problem occurs, as well. In adolescents, the influence of peers is stronger than the influence of parents and then they are ready to break the diet and face the dangers of this behavior. Regular compliance with the procedures, aimed at detecting the psychological problems in children and adolescents with celiac disease, would contribute to timely therapeutic measures, and therefore, to maintaining health-related quality of life.

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Autor za korespondenciju: dr sci. med. Biljana Stojanović - Jovanović, Visoka zdravstvena škola, Akademija strukovnih studija, Cara Dušana 254, 11000 Beograd, Srbija; e - mail: biljananstojanovic@gmail.com

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Corresponding author: dr sci. med. Biljana Stojanovic - Jovanovic, Higher Education School of Professional Health Studies, Cara Dušana 254, 11000 Belgrade, Serbia; e - mail: biljananstojanovic@gmail.com
