

## FODMAP SASTOJCI U HRANI I NJIHOV UTICAJ NA PROBLEME U GASTRINTESTINALNOM SISTEMU

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Danas su česte probavne smetnje uz simptome kao što su nadutost, bolovi u stomaku, poremećaji pražnjenja crijeva, a dodatne teškoće nastaju kod sindroma iritabilnog crijeva (IBS). Kod takvih stanja često se uvodi dijetoterapijski pristup sa smanjenim sadržajem sastojaka prepoznatih pod nazivom FODMAPa. Prikupiti, sistematizirati i analizirati podatke o primjeni FODMAP dijete kao i podatke o pozitivnim potencijalima u tretmanu određenih bolesti i stanja vezanih za probavu i metabolizam hrane. FODMAP je skraćenica od fermentabilni oligosaharidi, disaharidi, monosaharidi i poliolni koji se slabo apsorbiraju u tankom crijevu. Oni uključuju kratkolančane oligosaharidne: polimere fruktoze (fruktane) i galaktooligosaharide-GOS (stahiozu i rafinozu), disaharide (laktozu), monosaharide (fruktozu), te šećerne alkohole (sorbitol, manitol, ksilitol i maltitol). Većina FODMAP-a je prirodno prisutna u hrani. Zastupljeni su u mnogim vrstama voća, povrća, mlijeka, žitaricama i njihovim prerađevinama. Takvi sastojci ne resorbuju se u tankom crijevu. U debelom crijevu podliježu bakterijskoj fermentaciji, pri čemu dolazi do stvaranja gasova. Posljedice su nadutost, bolovi, poremećaji pražnjenja crijeva, posebno kod osoba koje boluju od sindroma iritabilnog crijeva (IBS) i drugih funkcionalnih gastrointestinalnih poremećaja (FGID). Kao dijetoterapijski pristup uvodi se ishrana sa smanjenim sadržajem FODMAPa. Njena dugoročna primjena može imati štetan utjecaj na crijevnu mikrobiotu i dovesti do energetskih i nutritivnih disbalansa. Da bi efikasnost dijete bila što veća i da bi se izbjegli rizici koje ona nosi sa sobom potrebno je da njeno provođenje bude pod nadzorom vještog i iskusnog nutricioniste. Potrebna je edukacija pacijenata u smislu promjena životnog stila, načina prehrane i prepoznavanja namirnica koje izazivaju simptome bolesti. Bolje označavanje sadržaja FODMAPa na pakovanju hrane bi olakšalo pacijentima izbjegavanje rizičnih proizvoda.

**Ključne riječi:** FODMAP, gastrointestinalni poremećaji

## FODMAP INGREDIENTS IN FOOD AND THEIR IMPACT ON THE GASTROINTESTINAL PROBLEMS

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Today, indigestion is common with symptoms such as bloating, abdominal pain, bowel disorders, and additional difficulties in patients with irritable bowel syndrome (IBS). In such conditions, a dietary approach with a reduced content of ingredients recognized as FODMAP is often introduced. To collect, systematize and analyze data on the use of low FODMAP diet as well as data on its positive potentials in the treatment of certain diseases and conditions related to digestion and food metabolism. FODMAP stands for fermentable oligosaccharides, disaccharides, monosaccharides and polyols that are poorly absorbed in the small intestine. These include short-chain oligosaccharides: fructose polymers (fructans) and galactooligosaccharides-GOS (stachyose and raffinose), disaccharides (lactose), monosaccharides (fructose), and sugar alcohols (sorbitol, mannitol, xylitol and maltitol). Most FODMAPs are naturally present in food. They are represented in many types of fruits, vegetables, milk, cereals and their products. These ingredients are not resorbed in the small intestine. In colon they undergo bacterial fermentation, which produces gases. The consequences are bloating, pain, bowel disorders, especially in people suffering from irritable bowel syndrome (IBS) and other functional gastrointestinal disorders (FGID). A diet with reduced FODMAP content is introduced as a dietary therapy approach. Its long-term use can have a detrimental effect on the intestinal microbiota and lead to energy and nutritional imbalances. In order for the diet to be as efficient as possible and to avoid the risks it carries with it, it is necessary for its implementation to be under the supervision of a skilled and experienced nutritionist. Patients need to be educated in terms of lifestyle changes, diet and recognizing foods that cause symptoms of the disease. Better labeling of FODMAP content on food packaging would make it easier for patients to avoid risky products.

**Key words:** FODMAP, gastrointestinal disorders