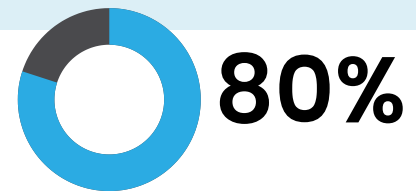


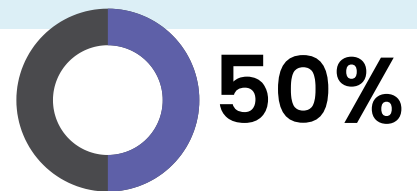
Overview

Fatigue is a common underlying issue for many individuals with IBD and ostomy. 80% of individuals with active IBD and 50% of those in remission report fatigue as a factor that impairs their quality of life (Borren). A similar trend was observed amongst those with ostomies in which fatigue was associated with active disease (Abdalla).

Although the exact reason for the prevalence of fatigue in populations with IBD and ostomy is still under investigation, there are numerous theories as to the cause of this – some with a significant amount of scientific backing and others in need of further research. Several of these different causes are listed below:



of individuals with active IBD report fatigue as a factor that impairs their quality of life



of individuals in remission report fatigue as a factor that impairs their quality of life

- **Chronic inflammation:** While we do know that active disease states are correlated with higher levels of fatigue amongst patients, we do not know with certainty what causes continued fatigue for those in remission. One theory is that alteration in different molecules called cytokines, which are involved in both heightening and quieting the inflammatory response, may be irregular in individuals with chronic health conditions. The thought is that either elevated levels of pro-inflammatory cytokines or decreased levels of anti-inflammatory cytokines could contribute to fatigue even when not in states of active disease (Borren).
- **Certain medications:** Particular medications used in management of IBD and ostomies may be associated with fatigue. Azathioprine (AZA), mercaptopurine (6-MP) and methotrexate are all associated with increased fatigue. Additionally, medication options like vedolizumab (Entyvio) and infliximab (Remicade) have been shown to cause fatigue in 6% and 9% of patients respectively. Steroid use has also been associated with insomnia and impaired sleep which can then impact energy levels. Medications used to treat different complications of IBD and ostomy may also lead to fatigue. For example, many individuals taking antidepressants and/or narcotics report feelings of drowsiness or lethargy (Nocerino).

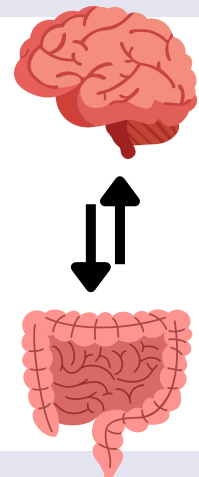


- **Malnutrition:** Malnutrition can be a common occurrence for individuals with IBD and ostomies due to both aversion of food as well as malabsorption issues even when food is consumed. Some individuals may need to follow limited diets in order to avoid triggering symptoms which can lead to poor intake of certain food groups. Restriction of food groups can lead to issues with appropriate intake of nutrients. In addition, some individuals may be able to eat a variety of foods, but dependent upon the location of their IBD and/or type of ostomy, they may not absorb all nutrients from the food they eat. This can also lead to poor intake of nutrients and subsequent malnutrition.
- **Anemia:** Malnutrition and malabsorption can contribute to anemia in individuals with IBD and ostomy. Anemia is a condition in which the body has a suboptimal amount of red blood cells. This can impair the body's ability to carry oxygen and nutrients often leading to fatigue (see our Anemia fact sheet for more on this).



- **Mental health conditions:** IBD and ostomies are correlated with increased risk of mental health comorbidities such as depression, anxiety and disordered eating (see our Mental Health fact sheet for more on this). All of these mental health manifestations can be associated with increased fatigue. In addition, antidepressant medication can be associated with drowsiness and lethargy.
- **Impaired sleep:** Individuals with IBD and ostomy may experience disrupted sleep due to abdominal pain, increased disease activity or utilization of steroids. Additionally, individuals may struggle to fall asleep due to stress and anxiety regarding their condition. While more research with larger participant enrollment is needed, several studies have shown higher rates of disrupted sleep in individuals with active disease (Xu, Sobolewska-Wlodarczyk).

- **Altered gut microbiome:** The gut microbiome consists of the numerous microorganisms found within the intestinal tract. A variety of microorganisms make up the gut microbiome with alterations in the type of microorganisms present associated with certain disease processes. In individuals with IBD, the gut microbiome is shown to be reduced in diversity. In particular, bacterial species that contribute to inflammation are found at a higher rate. It is thought the inflammatory chemicals released from these bacteria may interact with the brain contributing to fatigue (Ni).



Diagnosis

Because fatigue is a diagnosis with a broad range of causes, there are a wide variety of testing modalities utilized in discovering the cause of fatigue. In many cases, fatigue can be linked to an underlying health condition, so evaluation of other health issues must be investigated - this likely will require specific testing which is beyond the scope of this fact sheet.

For fatigue associated specifically with IBD and ostomy, your provider will likely begin by taking a medical history. You may also be referred for labs to assess for any nutritional deficiencies or anemia. For those struggling with fatigue due to mental health conditions or impaired sleep, you may also be required to complete several diagnostic questionnaires.

Treatment

Management of fatigue with IBD and ostomy can be difficult as there is still much we do not know regarding the exact causes of fatigue. Management of underlying disease activity is the first and foremost goal in managing fatigue associated with IBD and ostomy; however, even individuals in remission often report fatigue. In these cases, management of fatigue must go beyond solely control of disease activity.

For those struggling with fatigue as a result of a certain medication option, the risks and benefits of a medication switch must be weighed. In some instances, it may be worth it to try a different medication - this is a conversation that needs to occur with your gastroenterologist. It is never recommended to switch or go off medication without consulting your gastroenterologist first.

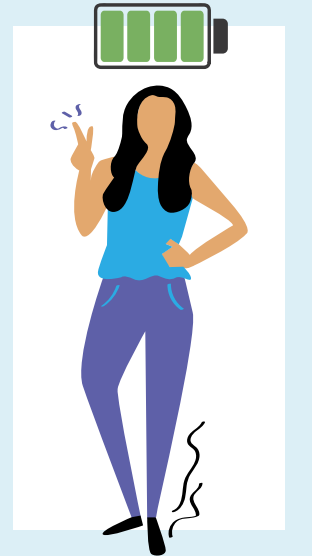
A balanced diet is also crucial for those struggling with fatigue as a result of malnutrition and/or anemia. Supplementation of certain vitamins and/or minerals may be needed to treat vitamin and mineral deficiencies. Depending on the location of your IBD or the type of ostomy you have, you may be recommended to do an infusion rather than oral supplementation.

For those struggling with mental health complications as a result of IBD and/or ostomies, utilization of mental health resources (e.g. therapist, psychiatrist, social worker) alongside possible medication options may help to alleviate symptoms of fatigue as well. Poor sleep may be resolved by seeking care from a sleep therapist along with certain medication options.



Prevention

While there is no definite way to prevent fatigue, certain steps can be taken which may be protective in development of fatigue. For those with IBD, management of disease activity is critical in preventing fatigue. Being aware of one's current medications and which ones are prone to cause fatigue as a side effect may allow for sooner identification of fatigue and its cause. Regular physical activity, maintenance of a balanced diet and consistent sleep habits are lifestyle modifications that can be made to reduce development of fatigue. For those struggling with mental health comorbidities as a result of IBD and ostomy, seeking out professional help can aid not only in mental health but also fatigue.



Further Resources

- Crohn's and Colitis Foundation: Pain and Fatigue (<https://www.crohnscolitisfoundation.org/pain-and-fatigue/fatigue-causes>)
- Crohn's and Colitis UK: Fatigue and IBD (<https://www.crohnsandcolitis.org.uk/about-crohns-and-colitis/publications/fatigue-ibd>)
- Crohn's and Colitis UK: Fatigue and IBD Fact Sheet (<http://www.ibdclinic.ca/media/uploads/fatigue-and-ibd.pdf>)

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