Research Article

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COVID-19 pandemic and celiac disease.

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ABSTRACT

Background : The global health has been impacted by the COVID-19 epidemic.
Design : This review evaluated how people with celiac disease were affected by the COVID-19 pandemic.
Results : During the COVID-19 pandemic, there was a surge in both the prevalence and complications of celiac disease. Since there is currently no recognized treatment for celiac disease other than a gluten detox, diet adherence is critical to the patient's health and well-being.
Conclusions : The therapy team should encourage and adopt a gluten-free diet for these patients.

Keywords : Coeliac disease,Incidence,COVID-19 ,Gluten-free diet Therapy ,Health education

INTRODUCTION

Patients with celiac disease (CD) had a lot of trouble following a gluten abstinence regimen prior to the COVID-19 pandemic [1]. However, what took place amid the COVID-19 pandemic? Dermatitis and CD gluten-related diseases (GRDs) include herpetiformis (DH). A variety of intestinal and extraintestinal clinical manifestations are seen in both illnesses [2]. Five percent of the population had GRDs [3].
Recent years have seen a rise in the incidence of CD [4-6], most likely as a result of better diagnoses. In addition, a genuine rise in this immune-based illness, unrelated to disease diagnosis, was the cause of the increase in incidence [5-8]. According to screening conducted in Israel between 2020 and 2021, the incidence of CD autoimmunity was four times higher in people aged 26 to 55 than it was in pediatric age groups, particularly in children 0–5. The prevalence of CD in the general population in the Asia-Pacific area was higher in women than in men, and it was higher in children than in adults ($P < 0.05$). [10]. Arab nations, including Saudi Arabia revealed that the general population had the highest CD prevalence (3.2%) and the lowest CD prevalence (0.1%) in Tunisia. Compared to men, women showed a higher prevalence of CD. The range of 1-3 years to 9-10 years was the peak age at diagnosis [11]. In the Uyghur Autonomous Region of Xinjiang, China, participants who lived in rural areas consumed more wheat than those who lived in urban areas (3.16% vs. 0.97%, $P < 0.01$), according to research on CD autoimmunity [12]. Women and children in Canada had the highest incidence of CD [13]. A UK study discovered a 5% incidence of CD seropositivity and 6%predominance of CDs. Compared to UK population estimates, these values were around five times higher [14]. There was no statistically significant increase in the prevalence of undiagnosed CD in Denmark over time, with a prevalence of 1.0% [15]. A study conducted in the USA linked increased latitude where the prevalence of CD based on serology is higher [16]. Between 2010 and 2017, 49 829 CD patients in the Swedish population had a marginally but statistically significantly elevated death risk [17].
According to a Finnish study, the incidence of DH dropped [18]. However, in a different study conducted in the USA and Sweden, the researchers discovered that compared to the general population, individuals with CD have a long-term elevated risk of developing a number of common skin problems [19].
Atopic dermatitis was linked to DH and CD in another study conducted in Finland. kids [20]. Another study conducted in Finland came to the same conclusion: in DH, a lifelong gluten-free diet (GFD) improves quality of life (QOL), eliminates enteropathy and rash, and provides a favorable long-term outcome. prognosis [21].
During the SARSCoV-2 2020–2021 pandemic, numerous scientific publications on CD were published; nonetheless, it is unclear how the virus affected the incidence of CD. To determine the reasons for the rising incidence of CD that is occurring nowadays, we have examined the literature. Using the search term "celiac disease incidence," we narrowed down the PubMed database to only include information from the most recent 2020–2021 years.

PROPOSED REASONS FOR THE RECENT RISE IN THE INCIDENCE OF CD

Insufficient familiarity with CD

Healthcare professionals and CD patients in Central Europe lacked adequate awareness of CD [22]. In Italy, the less The

only clinical factor that had an impact on the parents' and children's quality of life with CD was age [23]. According to an Argentine study, persons who acknowledge knowing about national CD-related benefits and restrictions score higher on health-related QOL [24]. With the exception of the general health area, Saudi CD children on GFD's health-related QOL was largely equivalent to that of the healthy control [25]. The primary concerns of the responders to the social and economic challenges of GFD were identified in a Spanish CD children study [26]. In In Sweden, the correlation between CD and socioeconomic status was not evident [27]. The program's implementation in Brazil to raise awareness of GRDs among medical experts and providing the public with reliable scientific information regarding the advantages and disadvantages of adhering to a GFD were both desirable [28].

Rise in related chronic illnesses

CD is a common ailment in polyautoimmunity syndrome and is linked to numerous autoimmune, inflammatory, and behavioral disorders [1,29,30].

B1. Psychiatric and behavioral disorders

A Swedish study connected CD to a number of different health issues, such as somatic complaints and neurodevelopmental and psychiatric disorders [31]. According to a study conducted in the USA, children with CD have a higher chance of developing psychiatric diseases as adults. For this reason, the researchers suggested include mental health exams in the care of CD [32].

According to the results of another US study, those with CD had a higher likelihood of developing certain mental illnesses, such as autism, eating disorders, bipolar disorder, anxiety, depression, and ADHD [33]. In a research conducted in Iran, Patients frequently experienced anxiety symptoms, particularly women [34]. Human leukocyte antigen DQ2 heterozygosity was linked to headaches in CD patients and was linked to neurological manifestations in female sex, mild histopathological form, and human leukocyte antigen DQ2 heterozygosity [35]. All CD patients on GFD were deemed to be slightly nervous in a Turkey research [36]. The number of CD diagnoses may have increased as a result of greater knowledge of those behavioral and mental conditions linked to CD.

B2. Diabetes mellitus

A German study linked young people with type 1 diabetes (T1D) to depression and CD [37]. From prospectively collected serial growth measurements, no evidence of impaired childhood growth prior to CD and CD autoimmunity development—identified by early and periodic screening—was discovered in SUA during the first ten years of life.

[38]. Globally, there are differences in the prevalence of CD as well as its anthropometric and metabolic effects in children with T1D [39]. According to a Polish study, the incidence of kids with T1D-related autoimmune illnesses has been steadily rising in all age groups over the past few years [40]. Patients with T1D, especially women, were linked in a different USA study to increased incidences of myocardial infarction, ischemic stroke, and renal failure [41]. T1D may have improved CD diagnosis since patients are routinely examined for CD-associated serology.

B3. Bowel inflammation and inflammatory bowel syndrome

Saudi Arabian patients with inflammatory bowel disease (IBD), particularly those with a criteria-positive diagnosis, had a high prevalence of CD [42]. An In children with IBD and CD, an Italian study found a greater risk for autoimmune disorders, colectomy, and pubertal delay compared with IBD alone [43]. An increased risk of CD in patients with IBD and an increased risk of IBD in patients with CD were found in a Canadian study when compared to other patient populations [44]. When diagnosing a family history of CD or IBD, a multi-center investigation is crucial [45]. In patients with common variable immunodeficiency, a Polish-Portuguese investigation examined whether CD and IBD are indeed CD and IBD or just CD-like and IBD-like disorders [46]. An Italian investigation concluded that there may be a scientifically and clinically hard issue regarding the potential interaction between GRDs and irritable bowel syndrome [47]. IBD and inflammatory bowel disease are common conditions that are sporadically linked to CD [1,48]. It's possible that their relationships raised the diagnosis rates of CD.

B4. Nutritional deficits and eating disorders

Among adolescents in Hungary with diet-related chronic illnesses (e.g., CD, T1D, and IBD), disordered eating was not a well-understood issue [49]. A case report from Italy describes how CD suddenly appeared as severe malabsorption syndrome, which includes hypoproteinemia and irregular electrolytes [50]. Children with CD had a less nutritionally balanced diet than the control group in a research conducted in Spain [51]. The study suggested that individuals on a GFD keep an eye on their intake in a second Italian investigation [52]. A US research advised CD children on GFD to see their primary care physician [53]. Nutritional deficiencies and eating disorders are global issues [54], and their correlation with CD may have raised awareness of the need to look for a CD diagnosis.

COVID-19 and CD

In Italy, a great deal of study has been done on the connection between COVID-19 and CD. Individuals with CD have a

modest illness line and no correlational risk of COVID-19 with the general population. There was no difference in the clinical type of CD, age, sex, length of time, adherence to a GFD, or mucosal healing between CD patients with and without COVID-19 [55]. However, GFD, the only therapy for CD, and CD treatment may be impacted by the COVID-19 limits [56]. The lockdown addresses a third of respondents' reported increased adherence to the GFD, especially in those who had previously had inadequate disease control. It provides an opportunity to prevent sources of contamination or violation and increase using goods that are naturally gluten-free [57]. There have also been reports of a possibly fatal delay in the diagnosis of CD [58]. Patients with CD have been affected by the COVID-19 pandemic; women, older patients, and patients with additional comorbidities have been particularly afflicted [59]. The connections between COVID-19, the gastrointestinal system, and CD have been emphasized lately [60,61]. In the elderly, COVID-19 and CD are common, and COVID-19 old impacted mortality is influenced by gastrointestinal functional senescence [62, 63].

CONCLUSION

Most countries do not provide health education to adhere to the GFD. Regretfully, there has been a rise in psychological difficulties among CD patients. One of the ongoing challenges in CD management is the correlation between T1D and CD. Once more, it can be difficult to link IBD to CD. In the correlations between CD and T1D and IBD, psychological issues also surfaced. The COVID-19 pandemic caused numerous psychological issues for CD patients, despite the fact that the COVID-19 virus did not present an elevated danger. Gluten withdrawal during the COVID-19 pandemic should be closely monitored by CD patients who generally follow a gluten-free diet (GFD) in order to prevent further difficulties and enhance their quality of life.

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