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Policy Brief:

Bridging the Gap: Ministerial Policies to Address Food Insecurity and Gluten-Free Accessibility for Coeliac Patients are mandatory

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Abstract

Background and Objective: Celiac disease (CD) requires lifelong adherence to a gluten-free diet (GFD). However, the high cost and limited availability of gluten-free (GF) products impose a significant economic and social burden on patients. This article proposes nutritional policy recommendations to alleviate these financial challenges.

Material and Methods: This study is derived from a main research project previously published by Rahmanian et al., 2025 and a targeted literature search (PubMed/MEDLINE, Scopus, Web of Science). That original study involved a cross-sectional survey of 375 coeliac disease (CD) patients in Iran, collecting data on diagnostic delays, healthcare utilization, and associated costs. The present manuscript propose nutritional policies addressing gluten-free food accessibility and economic burdens, supplemented by a review of policy measures from selected countries and Iran-specific challenges.

Results and Conclusion: GF products are two to five times more expensive than conventional equivalents due to specialized raw materials, dedicated production lines, quality control, and import dependence. This cost burden reduces dietary adherence, causes symptom recurrence, psychological stress, and social isolation, especially in low-income families. In Iran, challenges include high costs, poor product variety, inadequate insurance, limited rural access, and weak labeling oversight. The high cost of GF foods seriously threatens the health and quality of life of CD patients. Therefore, key policy recommendations for Iran are: providing subsidies or insurance coverage for GF products, supporting domestic production through tax incentives and facilities for knowledge-based companies, strict monitoring of labeling and prevention of cross-contamination via mandatory national regulations, public education and training for staff in restaurants, schools, and public facilities, and empowering patients through nutritional counseling and encouraging home-grinding of raw materials. Implementing these policies is not only a medical necessity but also a matter of social justice and equitable access to health.

Keywords: Celiac disease; Gluten-free diet; Nutritional policy; Food insecurity; Gluten-free products; Economic burden; Quality of life; Iran

1. Introduction and statement of the problem

Coeliac disease (CD), an immune-mediated inflammation to gluten (found in wheat, barley, and rye) affects the small bowel and can cause multiple symptoms, including chronic diarrhea, anemia, short stature, and abdominal discomfort [1]. The only treatment for CD is a strict adherence to a gluten-free diet (GFD). A lifelong GFD is not a voluntary lifestyle choice it is a necessity. However, the limited availability and high cost of a GFD pose significant challenges for patients [2].

In many countries, nutrition policy is used as a tool to support public health [3]. These policies may include food subsidies, support for domestic production, start gluten free (GF) legislation and monitoring for food labelling, and public education initiatives. For CD patients, the role of nutrition policy is indeed a necessity, as their treatment relies on GF-products that are more expensive and not always available, especially in rural areas. The aim of this article is to examine the role of nutritional policy in reducing the economic problems of CD patients and analyze the impact of GF-food prices on the quality of life of these patients.

To maintain their health, individuals with CD must completely eliminate all gluten-containing foods from their diet. These requirements make them dependent on GF products, which are generally more expensive than conventional foods. The higher prices are mainly due to specialized production methods, the use of specific raw materials, limited production volumes, and the rigorous quality control measures necessary to prevent cross-contamination [4].

In many countries, especially in low-middle-income countries, limited local production of GF-(packaged) products and reliance on imports have driven up their final cost. Consequently, many individuals with CD cannot afford to strictly adhere to a GFD. Failure to comply with a GFD can lead to malnutrition, anemia, osteoporosis, etc. and even an increased risk of certain cancers [4].

On the other hand, the lack of effective national support policies, such as insurance coverage, food subsidies, and price controls, places additional economic strain on families affected by CD. Therefore, the central issue of this article is how nutrition policy can help to reduce the cost of a GFD and improve the quality of life of CD patients.

2. Methods

This article is derived from a main research project previously published by Rahmanian et al., 2025 [4]. That original study involved a cross-sectional survey of 375 CD patients in Iran, collecting data on diagnostic delays, healthcare utilization, and associated costs. The present manuscript builds on that evidence to propose nutritional policies addressing gluten-free food accessibility and economic burdens, supplemented by a review of policy measures from selected countries and Iran-specific challenges. Also, other evidences were identified through a targeted search of peer-reviewed literature and relevant clinical guidelines in PubMed/MEDLINE, Scopus, and Web of Science, supplemented by hand-searching the reference lists of key papers.

3. Results

Market status of GF products

In recent years, awareness of CD has increased the number of CD patients, leading to interest of food industry to produce GF products. Despite this growth, the price of these products remains significantly higher than that of conventional products (Table 1). For example, GF bread, biscuits and pasta can sometimes cost two to five times more than their regular counterparts.

This price difference is due to several factors:

* The high cost of uncontaminated raw materials such as rice, corn, oats, buckwheat or almond flour

* Dedicated production lines to prevent cross-contamination

* The cost of quality control testing to ensure GF standards are met

* The fact that many of these GF-products are imported, due to the current lack of local producers

As a result, families with CD spend too much of their household income on their GFD.

Economic impact on patients' quality of life

The high cost of a GFD not only creates financial problems but also leads to psychological and social consequences [4]. Many patients are unable to fully adhere a strict GFD due to financial limitations, which often results in the recurrence of symptoms and deterioration of their overall health. Some patients also experience limited access to suitable GF foods in social settings such as restaurants, visiting their friends and relatives, schools, or workplaces [5]. This lack of accessibility can lead to feelings of isolation and anxiety, interfering with their quality of life. In low-income families, having to choose between essential living expenses and purchasing GF foods creates significant psychological stress and financial strain. CD is not merely a medical condition, but also a significant economic and social challenge. Recent studies have indicated that food insecurity can reduce GFD quality and adherence to a GFD in patients with CD, highlighting the need for supportive interventions and effective policymaking [6, 7].

Table 1: Key challenges and policy solutions

Challenge	Impact on Patients	Possible Policy Response
High price of GF foods	Financial burden, reduced diet adherence	Subsidies, insurance support
Limited product variety	Restricted diet, reduced quality of life	Support for domestic production
Weak labeling oversight	Risk of accidental gluten exposure	Stronger regulatory monitoring
Limited access in small towns	Inequality in food availability	Improve distribution networks

Challenges in Iran

In Iran, although awareness of CD has increased compared to the past, several challenges remain. These include the high cost of CD products, poor quality and variety of GF foods, inadequate insurance coverage, and insufficient domestic production. Additionally, many patients in small towns, and especially rural areas lack adequate access to GF products. Poor labeling oversight and the cross-contamination in some products have also raised significant concerns for patients (4). Therefore, the need to develop comprehensive nutritional policies in our area is clearly evident.

4. Health Policy Framework

Nutritional policy can play an important role in reducing the challenges faced by individuals with CD. The most important policy measures include the following:

A) Financial support and subsidies

Governments can help ease the financial burden on patients by subsidizing GF products or by offering insurance coverage for part of their cost. In some countries, such as Italy and the United Kingdom, monthly allowances or vouchers are provided specifically for the purchase of GF foods, helping patients adhere more easily to their prescribed diet [8].

B) Supporting domestic production

Encouraging the food industry to produce high-quality GF products can help reduce dependence on imports and lower the final price of these products. In this regard, providing tax incentives and supporting innovative or knowledge-based companies might be effective.

C) Monitoring food labeling

The absence of regulatory oversight means that cross-contamination controls in bakeries, restaurants, and small-scale production are inconsistent if any, underscoring the need for national-wide harmonization of labelling standards to support safe and accurate dietary management for CD patients. The “gluten-free” label to inform patients is an important responsibility for regulatory bodies.

D) Education and culture building

Increasing public awareness of CD and the necessity of a GF diet can significantly improve the social conditions of patients. Furthermore, comprehensive staff training in restaurants, schools, and public facilities is essential to ensure safe dining and living environments for those affected.

E) Patient empowerment

Dietary counselling for the patient and their family is the cornerstone of effective treatment. It makes sense for patients to consider home grinding for GF raw material. Versatile, reliable grinding machines capable of handling raw materials are essential.

Ultimately, addressing the nutritional needs of CD patients is not merely a medical necessity; it is a matter of social justice and the fundamental right to proper access to health. Authorities should be engaged to introduce legally binding food-labeling regulations regarding gluten content. Financial support for patients, improving and incentivizing local GF producers, monitoring of GF products, and increasing public awareness are the most important measures that can improve the quality of life of CD patients.

The policy recommendations presented in this section are derived from the approved research project No. 43013851 with ethics code IR.SBMU.RETECH.REC.1404.010.

5. Declarations

5.1. Acknowledgement

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5.2. Conflict of Interest

All authors declare no conflict of interest.

5.3. Using chatbots

Portions of this manuscript were edited for clarity and English-language style using an AI-assisted language tool (ChatGPT, OpenAI). The authors reviewed and revised all outputs and take full responsibility for the content.

5.4. Authors' Contributions

Mohammed Rostami-Nejad: Conceptualization, Methodology, Original Draft Writing, and Preparation, Supervision, Funding Acquisition, Validation, and Project Administration. Chris J Mulder: Data Curation, Reviewing, and Editing.

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خلاصه سیاستی:

ضرورت مداخله وزارتخانه‌ای: سیاست‌های الزام‌آور برای کاهش ناامنی غذایی و افزایش دسترس‌پذیری محصولات بدون گلوتن در بیماری سلیاک

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چکیده

سابقه و هدف: بیماری سلیاک نیازمند رعایت مادام‌العمر رژیم بدون گلوتن است. هزینه بالای محصولات بدون گلوتن و دسترسی محدود به آن‌ها، بار اقتصادی و اجتماعی قابل توجهی برای بیماران ایجاد می‌کند. هدف این مقاله ارائه پیشنهادهای سیاست تغذیه‌ای برای کاهش این چالش‌های مالی است.

مواد و روش ها: این مطالعه برگرفته از یک طرح تحقیقاتی اصلی است که قبلاً توسط رحمانیان و همکاران (۲۰۲۵) منتشر شده است. مطالعه مذکور شامل یک پیمایش مقطعی بر روی ۳۷۵ بیمار مبتلا به بیماری سلیاک در ایران بود که داده‌هایی در مورد تأخیرهای تشخیصی، استفاده از خدمات درمانی و هزینه‌های مرتبط جمع‌آوری گردید. مقاله حاضر بر اساس آن شواهد، با هدف ارائه پیشنهادهای سیاست تغذیه‌ای برای بهبود دسترسی به مواد غذایی بدون گلوتن و کاهش بار اقتصادی تهیه شده است و علاوه بر آن، مروری بر اقدامات سیاستی کشورهای منتخب و چالش‌های خاص ایران نیز ارائه می‌دهد.

یافته‌ها و نتیجه‌گیری: محصولات بدون گلوتن به دلیل مواد اولیه تخصصی، خطوط تولید اختصاصی، کنترل کیفیت و وابستگی به واردات، دو تا پنج برابر مشابه‌های معمولی قیمت دارند. این بار مالی منجر به کاهش پیروی از رژیم، عود علائم، تنش روانی و انزوای اجتماعی بویژه در خانواده‌های کم‌درآمد می‌شود. در ایران، چالش‌هایی نظیر هزینه بالا، تنوع کم محصولات، پوشش ناکافی بیمه، دسترسی محدود در مناطق روستایی و نظارت ضعیف بر برچسب‌گذاری باقی است. قیمت بالای مواد غذایی بدون گلوتن تهدیدی جدی برای سلامت و کیفیت زندگی بیماران سلیاکی است. بنابراین مهم‌ترین پیشنهادهای سیاستی برای ایران عبارتند از: ارائه یارانه یا پوشش بیمه‌ای برای محصولات بدون گلوتن، حمایت از تولید داخلی با مشوق‌های مالیاتی و تسهیلات برای شرکت‌های دانش‌بنیان، نظارت جدی بر برچسب‌گذاری و جلوگیری از آلودگی متقاطع با مقررات الزام‌آور ملی، آموزش عمومی و فرهنگ‌سازی و آموزش کارکنان رستوران‌ها، مدارس و مراکز عمومی، و توانمندسازی بیماران با مشاوره تغذیه‌ای و تشویق به آسیاب کردن مواد اولیه در منزل. اجرای این سیاست‌ها نه تنها ضرورت پزشکی، بلکه موضوعی مرتبط با عدالت اجتماعی و حق دسترسی عادلانه به سلامت است.

واژگان کلیدی: بیماری سلیاک؛ رژیم غذایی بدون گلوتن؛ سیاست‌گذاری تغذیه‌ای؛ ناامنی غذایی؛ محصولات بدون گلوتن؛ بار اقتصادی؛ کیفیت زندگی؛ ایران