

## Editorial

# Where are We Standing with the Screening of Healthy Population for Celiac Disease?

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Population screening might be an option for reducing the negative public health impact of untreated celiac disease (CD). The current evidence supports and encourages active case finding in at-risk groups, such as first-degree relatives, people with type I diabetes, unexplained infertility, IBS, and the elderly population.<sup>1</sup>

The main issue is that benefits of screening programs should outweigh their possible harms. The World Health Organization (WHO) has established criteria that should be fulfilled before implementation of screening programs.<sup>2</sup> These criteria state that the disease should constitute an important health problem with a well understood natural history. In addition, the screening tests, as well as the diagnostic procedure and treatment following a positive result, should be acceptable to the population addressed.<sup>3-5</sup>

Mass screening for CD as a public health intervention is controversial. CD is still largely under-diagnosed or only diagnosed after a long delay, even when patients are symptomatic. Recent population studies and serological testing of at-risk groups reveal a much higher prevalence of CD than previous studies have reported.<sup>6</sup> This could be at least partially explained by both the development of more sensitive serological tests and a high degree of disease suspicion.<sup>7</sup> The disorder is common, occurring in 0.5% to 1% of the general population in most European and other countries.<sup>6</sup> Various studies investigating the prevalence of CD in Iran, Egypt, and Tunisia indicate that the disease is also common within these populations.<sup>6,8,9</sup>

Although there has been concern about the increased risk of concurrent autoimmune diseases in patients with untreated CD, the health implications of subclinical CD detected by sensitive tests are not clear.<sup>10,11</sup> Some studies have found that perception of health may decrease among subclinical cases, which discourages population-based screening.<sup>12</sup>

In this issue of the *Archives of Iranian Medicine*, Farahmand et al.<sup>13</sup> have investigated the prevalence of atypical CD among 634 healthy school-age children from Iran using IgA anti-tissue transglutaminase antibodies followed by a biopsy of cases with positive

results. They found a prevalence of 0.5%. Although none of these cases reported signs and symptoms, or showed IgA deficiency, the duodenal biopsies were consistent with the diagnosis of CD. Unfortunately the authors have excluded cases with other chronic diseases from this study. This might have contributed to a lower prevalence rate compared to other populations studied for CD in Iran. A surprising finding in this relatively large study was the lack of IgA deficiency. This might again partially be explained because all cases with chronic disorders were excluded.

CD with typical presentation is more commonly seen in Middle Eastern countries.<sup>6</sup> The question is what is the impact of diagnosing CD in cases with subclinical forms of this disorder? Although some patients detected accidentally might successfully manage their daily lives, others might experience CD as truly burdensome, having a considerable negative impact on their lives. A prominent experience among CD patients is the adherence to dietary restrictions, which may cause feelings of being a burden or an outsider. Health economic evaluations are also needed, and the optimal age(s) for CD testing have yet to be defined. Follow-up studies of screening-detected subclinical CD cases are scarce. A recent study has reported that the diagnosis had varying impact on the quality of life, related both to changes in perceived health and to the adolescents' experiences of living with CD in terms of social sacrifices.<sup>14</sup>

The prognosis of the subclinical<sup>11</sup> form of disease would still require additional studies and unification in definition. This might help target the correct subgroup that would most benefit from screening and treatment. It would be of interest to follow and measure the quality of life in cases identified through screening, particularly in those studies targeting a relatively healthy population. The economic costs of screening and treatment vs. prevented morbidity also need to be calculated.<sup>15</sup> The conditions where there is evidence that screening is beneficial and strongly recommended are listed in Table 1.

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**Table 1.** Screening for celiac disease (CD).

<b>Recommended</b>
Type I diabetes
First degree relatives of celiac patients
Abnormal liver enzymes or in those with immune related liver disease and other autoimmune disorders that have a known link to celiac disease, Down syndrome, infertility
Older people with atypical symptoms
Irritable bowel syndrome
Idiopathic ataxia or any unexplained neuropathy, Autism
<b>Not recommended</b>
Healthy blood donors
Any other selected healthy population

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