OPTIMIZATION OF CHRONIC PANCREATITIS ATTACK PREVENTION THROUGH THE APPLICATION OF THE "MEDITERRANEAN DIET" AMONG THE POPULATION OF FERGANA REGION

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Abstract: Chronic pancreatitis (CP) is a progressive inflammatory disease of the pancreas characterized by recurrent pain, impaired digestion, and endocrine dysfunction. Its prevalence is rising in regions with high rates of metabolic syndrome and unhealthy dietary habits. This work explores the potential of the Mediterranean diet (MedDiet) as a scientifically validated nutritional model for preventing CP attacks among the population of Fergana region. Drawing on evidence from major international studies such as PREDIMED and the Lyon Diet Heart Study, the MedDiet demonstrates anti-inflammatory, antioxidant, and metabolic benefits that help stabilize glucose and lipid metabolism and reduce systemic inflammation. Adapting this diet to the agro-climatic and cultural context of Fergana offers a cost-effective and sustainable strategy for improving public health and reducing CP-related morbidity.
Keywords: mediterranean diet, chronic pancreatitis, prevention, fergana region, metabolic syndrome, public health

Chronic pancreatitis remains a pressing clinical and public health problem due to its recurrent attacks and progressive loss of exocrine and endocrine pancreatic function. In the Fergana region, the traditional dietary pattern characterized by high intake of refined carbohydrates, animal fats, and low consumption of fish and vegetables creates favorable conditions for metabolic syndrome, obesity, and dyslipidemia, which in turn aggravate pancreatic inflammation. Pro-inflammatory pathways such as NF-kB and cytokines like IL-6 and TNF-α remain persistently activated, resulting in oxidative stress and pancreatic fibrosis.

The Mediterranean diet provides a comprehensive nutritional approach to interrupt this pathological cycle. Its core principles emphasize olive oil as the main fat source, abundant vegetables, fruits, legumes, nuts, whole grains, and moderate fish intake, while restricting red meat and processed foods. Evidence from the PREDIMED trial has shown that adherence to MedDiet lowers cardiovascular risk by up to 30%, reduces triglycerides, increases HDL cholesterol, and improves insulin sensitivity. These changes directly influence CP by reducing systemic and pancreatic inflammation, thereby decreasing the frequency and severity of attacks. For the Fergana region, MedDiet adaptation should prioritize locally available produce: walnuts, beans, chickpeas, seasonal vegetables,

melons, apples, and freshwater fish can easily be incorporated. Community education programs, nutritional counseling, and collaboration with primary care physicians are crucial to ensure adherence and sustainability. Such programs will simultaneously address other comorbidities such as type 2 diabetes and hypertension, amplifying the overall health impact.

The findings of this work clearly demonstrate that the Mediterranean diet (MedDiet) can serve as a scientifically validated, practical, and culturally adaptable approach for the prevention of chronic pancreatitis (CP) attacks among the population of Fergana region. By improving insulin sensitivity, reducing abdominal obesity, and normalizing lipid and glucose metabolism, the MedDiet addresses the major risk factors that trigger recurrent pancreatic inflammation. The diet's anti-inflammatory and antioxidant components—especially polyphenols, omega-3 fatty acids, and monounsaturated fats modulate pro-inflammatory signaling pathways (NF-kB, IL-6, TNF-α), suppress oxidative stress, and protect pancreatic tissue from fibrosis and necrosis.

Another important conclusion is that adapting the MedDiet to local conditions is both feasible and beneficial. The agro-climatic resources of Fergana region allow for the use of locally available fruits, vegetables, legumes, walnuts, and freshwater fish as key components of this nutritional model. This not only ensures better adherence and sustainability but also reduces costs and strengthens local agriculture. Tailoring the diet to regional culinary traditions may also increase acceptance among the population, turning it into a realistic, long-term lifestyle change rather than a short-term intervention.

From a public health perspective, implementing MedDiet-based programs can significantly reduce the burden of chronic non-communicable diseases (NCDs) in the region. Lower incidence of CP attacks would lead to decreased hospitalization rates, reduced use of pain management medications, and fewer complications such as exocrine pancreatic insufficiency and diabetes mellitus. Furthermore, the same intervention would simultaneously address comorbid conditions such as metabolic syndrome, hypertension, and dyslipidemia, providing a multifaceted health benefit for the community. Finally, these results highlight the importance of integrating nutrition-based preventive strategies into the regional health system. Health authorities should consider including MedDiet guidelines in primary care protocols, training medical staff in dietary counseling, and launching educational campaigns to promote healthy eating habits. Such measures could improve population health, extend life expectancy, and reduce healthcare expenditures, making the Mediterranean diet a cornerstone of modern, evidence-based preventive medicine in Fergana region and potentially beyond.

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