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Use of electronic instruments for opportunistic screening of undiagnosed diabetes and other disorders of glucose metabolism. The DSP (Diabetes Screening Palermo) Study

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Introduction: The Diabetes Screening Palermo Study evaluate, in primary care setting, the effectiveness of a screening strategy of type 2 diabetes mellitus (T2DM). This study used electronic instruments to identify individuals at a high risk of diabetes and to provide early detection of undiagnosed T2DM and prediabetes.

Methods: This is an observational study, in primary care, from Italy. The screening program is divided into two phases.

Phase1: identification of patients at high risk of diabetes, through the analysis of databases of general practitioners.

Phase 2: execution of screening tests. To test for Diabetes or prediabetes, the HbA1c, the fasting plasma glucose (FPG) and the 2-h plasma glucose (2-h PG) value after a 75-g oral glucose tolerance test (OGTT) are appropriate. T

he OGTT was a central component of the screening program, in fact, a significant proportion of individuals at high risk for diabetes, with impaired fasting glucose (IFG), had blood glucose levels, after glucose load, compatible with diagnosis of T2DM or impaired glucose tolerance (IGT).

Results: After 24 months of the study: the total population was composed of 26410 subjects, of which 13319, (50.43%), was at high risk of T2DM. A total of 40.75% of these high-risk individuals had an impaired fasting glucose (IFG). A total of 965 subjects with IFG, were then subjected to OGTT, on the basis of which 136 subjects (14.09%) were identified with IGT and 83 subjects (8.60%) gave a response compatible with the diagnosis of T2DM.

Conclusion: in a primary care setting, a proactive approach towards diabetes screening, especially, performing OGTT in subjects with IFG, facilitate the early diagnosis of T2DM. This reduced the percentage of cases of undiagnosed diabetes and allowed for the identification of individuals with prediabetes. The information systems, lead to better management of the screening program.