

The Fasting Hyperglycaemia Study: I. Subject identification and recruitment for a non-insulin-dependent diabetes prevention trial.

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Subjects at increased risk for developing non-insulin-dependent diabetes mellitus (NIDDM) were encouraged via a public awareness campaign, general practitioners, or a direct approach (in the case of women with previous gestational diabetes) to attend one of three English and two French centers for fasting plasma glucose (FPG) measurement. Of 1,580 subjects (mean +/- SD age, 47 +/- 10 years), 29% were male, 56% had a diabetic relative, 20% had a history of elevated blood glucose or glycosuria, and 9% previously had gestational diabetes. Thirty-one percent (493) had an initial increased fasting glucose ([IFG] 5.5 to 7.7 mmol.L-1), 3% (41) a diabetic fasting glucose ([DFG] > or = 7.8 mmol.L-1), and 66% (1,046) a normal fasting glucose ([NFG] < 5.5 mmol.L-1). Four hundred forty-one of the 493 returned for a second FPG measurement, and 67% (293) of these had a similar value on repeat testing 2 weeks later. A 75-g, 2-hour oral glucose tolerance test (OGTT) in 223 of these subjects showed that 37% (83) had impaired glucose tolerance (IGT), 26% (58) diabetes mellitus (DM), and 37% (82) normal glucose tolerance (NGT). Seven percent of self-referred patients had NIDDM by World Health Organization (WHO) criteria. Eighty-eight percent of those with an initial DFG had an increased glycated hemoglobin (> 6.2%), and 75% an increased fructosamine (> 282 mumol.L-1). While these two glycemic measures provided good discrimination for diabetes, neither were reliable in detecting those with increased but not diabetic FPG values. In conclusion, 293 (19%) of 1,580 self-referred subjects were identified as having persistently increased FPG, and 227 have been entered into a randomized NIDDM prevention trial evaluating healthy-living advice and sulfonylurea therapy.

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