Quality of life in type 2 diabetic patients is affected by complications but not by intensive policies to improve blood glucose or blood pressure control (UKPDS 37).

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OBJECTIVE: To determine in patients with type 2 diabetes the effects on quality of life (QOL) of therapies for improving blood glucose control and for improving blood pressure (BP) control, diabetic complications, and hypoglycemic episodes.
RESEARCH DESIGN AND METHODS: We performed two cross-sectional studies of patients enrolled in randomized controlled trials of 1) an intensive blood glucose control policy compared with a conventional blood glucose control policy, and 2) a tight BP control policy compared with a less tight BP control policy. Also undertaken was a longitudinal study of patients in a randomized controlled trial of an intensive blood glucose control policy compared with a conventional blood glucose control policy. Subjects' QOL was assessed before or at the time of randomization and from 6 months to 6 years after randomization. Two cross-sectional samples of type 2 diabetic patients were randomized to therapies for blood glucose control: 1) 2,431 patients, mean age 60, duration from randomization 8.0 years, completed a "specific" questionnaire covering four aspects of QOL, and 2) 3,104 patients, mean age 62, duration from randomization 11 years, completed a "generic" QOL measure. Of these samples, 628 and 747 patients, respectively, were also randomized to therapies for BP control. A sample of 122 non-diabetic control subjects, average age 62, were also given the specific questionnaire. A longitudinal sample of 374 type 2 diabetic patients randomized to either intensive or conventional blood glucose policies, mean age at randomization 52, were given the specific questionnaire. Sample sizes at 6 months and 1, 2, 3, 4, 5, and 6 years after randomization were 322, 307, 280, 253, 225, 163, and 184, respectively. The specific questionnaire assessed specific domains of QOL, including mood disturbance (Profile of Mood State), cognitive mistakes (Cognitive Failures Questionnaire), symptoms, and work satisfaction; the generic questionnaire (EQ5D) assessed general health. Both questionnaires were self-administered.
RESULTS: The cross-sectional studies showed that allocated therapies were neutral in effect, with neither improvement nor deterioration in QOL scores for mood, cognitive mistakes, symptoms, work satisfaction, or general health. The longitudinal study also showed no difference in QOL scores for the specific domains assessed, other than showing marginally more symptoms in patients allocated to conventional than to intensive policy. In the cross-sectional studies, patients who had had a macrovascular complication in the last year had worse general health, as measured by the generic questionnaire, than those without complications, with scale scores median 60 and 78 respectively (P = 0.0006) and tariff scores median 0.73 and 0.83 respectively (P = 0.0012); more problems with mobility, 64 and 36%, respectively (P < 0.0001); and more problems with usual activities, 48 and 28% respectively (P = 0.0023). As measured by the specific questionnaire, they also showed reduced vigor (P = 0.0077). Patients who had had a microvascular complication in the last year reported more tension (P = 0.0082) and total mood disturbance (P = 0.0054), as measured by the specific questionnaire, than

patients without complications. Patients treated with insulin who had had two or more hypoglycemic episodes during the previous year reported more tension (P = 0.0023), more overall mood disturbance (P = 0.0009), and less work satisfaction (P = 0.0042), as measured by the specific questionnaire, than those with no hypoglycemic attacks, after adjusting for age, duration from randomization, systolic BP, HbA1c, and sex in a multivariate polychotomous regression.

CONCLUSIONS: In patients with type 2 diabetes, complications of the disease affected QOL, whereas therapeutic policies shown to reduce the risk of complications had no effect on QOL. It cannot be discerned whether frequent hypoglycemic episodes affect QOL, or whether patients with certain personality traits or many symptoms also reported increased numbers of hypoglycaemic attacks