

Diabetes Control and Depression

Purpose/ Hypothesis

- Evaluate a populace of Type 2 diabetes patients in a rural community and examine if those patients whose blood glucose levels are uncontrolled, based on HgBA1C levels, are more likely to suffer from depression.

Method

- A questionnaire was distributed to all Type 2 diabetes patients age 18 and over. The questionnaire contained eleven yes/no questions which screen for depressive symptoms. A positive correlation to depressive symptoms is achieved by answering "yes" to four of the eleven questions. In addition, there were questions pertaining to quantitative exercise analysis, other existing medical conditions, their overall emotional status, and amount of daily pain. An average HgbA1C of the past 2 years was taken from the patient's chart. Any level >7 is considered out of normal limits.

Findings

- A total of 24 questionnaires were distributed and returned for analysis.
- Only 7 patients had HgBA1C levels >7 and were thus able to be used in the study.
- The range of uncontrolled HgbA1C was 7.1 thru 12.3 with the average reading of 7.8.
- Among the 7 patients, 5 were male and 2 were female.

Findings

- Of the 7 patients whose HgbA1C levels were out of normal range, 4 answered questions positive for depressive symptoms. (57% of those with levels >7 showed sign of depression)
- Of the remaining 17 patients whose HgBA1C levels were within normal limits, none answered 4 or more questions “yes” to suggest depressive symptoms.

Exercise in the Uncontrolled Patient

- All uncontrolled patients recorded that they did have an exercise program with varying degrees of activity that ranged from “very light” to “very heavy”.
- Of the 4 patients who answered positively for depression, 2 of the patients did “very light” exercise. In addition, these patients also answered the most questions “yes”. One of the patients answering 11, and the other patient answering 7 questions “yes”.
- Of the remaining two who answered positively for depression, both did engage in “moderate activity” although not on a regular basis.

Exercise in the Controlled Patient

- All 17 controlled patients took part in an exercise program ranging from “very light” to “very heavy”. They took part in exercise without an obvious daily routine.
- These patients showed controlled HgbA1C levels and no sign of depression.

Medical Problems in Uncontrolled Patients

- All patients whose HgBA1C was >7 suffered from HTN.
- Of the 4 depressed, the 2 patients who answered positively for depression with the most answers had a history of stroke, while one patient had a history of arthritis, glaucoma, MI, and CABG.
- These two patients, while showing the most sign of depression also had the most medical problems in the study.

Medical problems in controlled, Non-depressed

- The most common ailment was HTN. One patient also suffered from Parkinson's Disease.
- These patients, while suffering from Type 2 Diabetes Mellitus, showed similar findings compared to the 4 depressed patients with regards to their other medical problems in that they did not suffer any more or less.

Feelings

- Of the seven uncontrolled patients, four stated they had a “slight” increase in emotional problems over the past 4 weeks, and 3 denied emotional problems.
- Despite the above findings, all uncontrolled patients had “as much support” at home as was needed.

Pain

- Of the 7 patients whose HgBA1C was uncontrolled and who showed depressed symptoms, 4 had “moderate” daily pain.
- The 3 other patients whose HgBA1C was uncontrolled but not depressed, had a maximum of “very mild” daily pain.
- Of the 17 controlled patients, three answered “moderate” pain, and the rest stated “mild” pain as the maximum daily pain limit.

Conclusion

- Patients whose HgBA1C is uncontrolled have an increased risk for depression (4/7 or 57%). It is unknown if the depression is a result of the increased HgbA1C or if the depression was a pre-existing condition.
- There appears to be no correlation between HgbA1C control, amount of exercise, pain, or other pre-existing medical conditions that would increase a type 2 Diabetes Mellitus patient's risk of depression.
- Why patients with elevated HgBA1C levels are at an increased risk of depression is unknown.