Utilizing the SF-36v2 Mental Component Summary Score to Describe Mental Well-Being Experienced by Patients With Type 2 Diabetes Mellitus

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BACKGROUND

- Evidence suggests that one in five (22%) patients with type 2 diabetes mellitus (T2DM) also have mild-to-severe depression, and that an even greater proportion (32%) experience moderate-to-severe anxiety.
- Additionally, patients with T2DM are frequently affected by diabetes-related psychological distress, which may be from social stigma, lack of social support, or negative expectations for their diabetes.10
- Numerous observational studies demonstrate that patients with both T2DM and depression experience a greater risk of poor self-care, treatment non-adherence, and decreased glycemic control.11,12
- Evidence suggests that a higher risk of micro- and macro-vascular events13 and risk of cardiovascular and all-cause mortality13
- Compared to depression, distress is less well studied, but evidence suggests they may play equal roles in poor health outcomes, incidence of complicating complications, and mortality.13 Indeed, evidence suggests that the relationship between depression and glycemic control may be mediated by distress.

OBJECTIVE

- To measure the mental well-being experienced by patients with T2DM by utilizing the SF-36v2 mental component summary (MCS).

METHODS

- Data were from the 2013 US National Health and Wellness Survey – a nationally representative, cross-sectional study of the health status and health care of the adult population. A total of 75,015 respondents (aged > 18 years), stratified by gender, age, and ethnicity, completed self-administered, Internet-based questionnaires.
- The analytic sample included those respondents who self-reported a T2DM diagnosis. Additional confirmation that diabetes diagnosis was type 2 rather than type 1 was established by considering a combination of age at diagnosis, time since diagnosis and start of insulin, oral medication use, and body mass index (BMI; e.g. a patient with BMI ≥25 kg/m² and aged > 30 years, and using insulin since time of diagnosis, but not using any oral medications, would be categorized as type 1, even if that patient self-reported type 2).
- Mental well-being was defined using the SF-36v2 MCS. Based on the normed mean of 50 and standard deviation (SD) of 10 for the general population and the distribution of MCS scores within the analytic sample, categories were defined as good mental well-being (above the population mean; MCS ≥ 50), poor mental well-being (≤ 1 SD below the population mean; MCS ≤ 40 and > 30), and very poor mental well-being (≤ 30 and ≤ 20).
- Additionally, patients with T2DM are frequently affected by diabetes-related psychological distress, which may be from social stigma, lack of social support, or negative expectations for their diabetes.10
- Numerous observational studies demonstrate that patients with both T2DM and depression experience a greater risk of poor self-care, treatment non-adherence, and decreased glycemic control.11,12
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RESULTS

- The analytic sample consisted of 7,852 respondents diagnosed with T2DM (SF-36v2 mental component summary).1
- The cross-sectional nature of the study and the variables examined do not allow for causal inferences.
- The SF-36v2 is a commonly used scale and interpretation of summary scores is straightforward, due to the norm-based scoring.

STRENGTHS

- The US National Health and Wellness Survey provides the patient perspective on health status and health care.
- The SF-36v2 is a commonly used scale and interpretation of summary scores is straightforward due to the norm-based scoring.

LIMITATIONS

- Because the US National Health and Wellness Survey uses an Internet sampling methodology, population segments not able to complete online surveys, such as individuals who are older, sicker, or have lower socio-economic status, may be under-sampled. Therefore, the current study sample may be biased toward respondents who are younger, healthier, and of higher socio-economic status.
- Cross-sectional nature of the study and the variables examined do not allow for the establishment of a casual relationship between mental well-being and other patient demographic and health characteristics.
- All measures were self-reported and respondents may have misclassified their disease or treatment status. T2DM diagnosis was not confirmed through medical records or healthcare provider reports.

CONCLUSIONS

- Patients with T2DM and poorer mental well-being are more likely to be younger, female, non-white, and of lower socio-economic status (i.e. lower education and household income) than patients with T2DM and good mental well-being. Poor and very poor mental well-being, as measured by the SF-36v2 MCS, are associated with greater overall physical and psychiatric morbidity, as well as morbidity specifically associated with T2DM.
- Patients with T2DM and poor mental well-being may face greater barriers to accessing health status and services due to both their socio-demographic characteristics and mental and physical health status.
- Among those with very poor mental well-being, there still remains a substantial proportion that is not diagnosed with depression or an anxiety disorder. Among those with poor mental well-being, the proportion is even larger. By using the SF-36v2 MCS to classify the mental well-being of patients with T2DM, a larger group is identified that may benefit from interventions to improve both mental and physical health.

REFERENCES