Major depressive disorder: afternoon and evening diurnal mood variation is common

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QUESTION

Question: How common is diurnal mood variation (DMV) and how do patients with classic DMV (morning worsening) differ from those without it or from those with afternoon or evening worsening?

Population: 3744 outpatients aged 18–75 years with non-psychotic major depressive disorder (score ⩾14 on HAM-D-17) who were also enrolled in the STAR*D (Sequenced Treatment Alternatives to Relieve Depression) study. People with schizophrenia, schizoaffective disorder, bipolar disorder, anorexia nervosa, obsessive compulsive disorder or bulimia nervosa were excluded.

Setting: Primary and psychiatric care sites in the public and private sectors; time period not stated.

Assessment: Clinicians used their judgement and the DSM-IV-TR diagnostic checklist to diagnose depression. Participants were assessed at baseline with the Inventory of Depressive Symptomatology-Clinician-rated (IDS-C-30) scale, to determine presence of DMV and when mood is lowest. Only those who consistently experienced DMV at specific times of the day were counted as having DMV. Characteristics of people who experienced DMV with worsening at different times of day were compared using goodness of fit and logistic regression.

Outcomes: Prevalence of DMV overall, prevalence of different types of DMV (classic morning, afternoon, evening, all of these or no DMV), association between DMV and other depressive symptoms.

METHODS

Design: Cross-sectional study.

MAIN RESULTS

Just over a fifth of people reported DMVs (837/3744; 22.4%) and in the majority of cases (96.7%) these were not related to environmental factors. Of these non-environmental DMVs, 258 (31.9%) reported the classic morning mood worsening, 158 (19.5%) reported afternoon mood worsening, and 393 (48.6%) reported evening mood worsening. People with any DMV and people with classic morning worsening had more severe depression and were more likely to meet criteria for melancholic features ($p<0.001$ for all comparisons). People with classic morning worsening were more likely to have 3 of the other melancholic or somatic symptoms: reduced mood reactivity, decreased libido and evidence of psychomotor slowing than people without DMV ($p<0.007$ for each symptom). People with any DMV were significantly more likely to have 7 of the other symptoms, including 4 melancholic or somatic symptoms than people without DMV (sad mood, distinct quality to the mood, difficulty concentrating, low energy, reduced libido, reduced involvement, and psychomotor slowing; $p<0.007$ for each symptom).

CONCLUSIONS

Diurnal mood variation (DMV) is common in people with major depressive disorder. People who experience any type of DMV have more melancholic symptoms than those who do not.

ABSTRACTED FROM

Morris DW, Rush AJ, Jain S, *et al*. Diurnal mood variation in outpatients with major depressive disorder: implications for DSM-V from an analysis of the sequenced treatment alternatives to relieve depression study data. *J Clin Psychiatry* 2007;**68**:1339–47.

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COMMENTARY

Diurnal mood variation (DMV), typically understood as morning worsening of mood, is a core element of the melancholic/endogenous/somatic subtype of major depressive disorder as characterised in DSM and ICD. However, research has been sparse, and the study by Morris and colleagues constitutes a substantial advance in the characterisation of DMV. They found support for the assumption of a link between DMV and a number of other symptoms typically described as melancholic (for example, decreased libido and psychomotor slowing). DMV was found unrelated to symptoms of atypical or anxious depression. The presence of diurnal variation in mood was marked –21.6% of the sample reported DMV not attributable to exogenous factors.

However, there are three findings that challenge the common definition of DMV as a melancholic symptom. First, morning worsening pattern made up only 30.8% of the DMV group, while 47.0% of those reporting DMV described evening worsening of mood (a pattern typically associated with *neurotic* depression). Second, the association between DMV and other melancholic features was stronger when all forms of DMV (morning, afternoon and evening worsening) were aggregated than when classical morning worsening was investigated alone. Finally, there was little difference clinically or demographically between patients reporting the various forms of DMV.

These are very interesting data. On the one hand, DMV appears to be relatively common (about the same prevalence as melancholic major depressive disorder) and specifically linked to other melancholic symptoms. On the other, the phenomenology of DMV appears to be not as we had assumed. The authors conclude that the definition of melancholia may need revision to include all forms of DMV. More sceptically, the data can be viewed as a challenge to the latent construct of melancholia, for which classical DMV is a defining feature.

As acknowledged by the authors, the findings are not definitive. Effect sizes were small to moderate and there was a failure to control for overall level of depression. Structural equation modelling would have permitted clearer conclusions as well as consideration of more recent descriptive schemes.[1] Nonetheless, the paper is significant in suggesting that if DMV means anything in psychopathology, it means diurnal mood variation of various forms.

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1. **Watson D**. Rethinking the mood and anxiety disorders: a quantitative hierarchical model for DSM-V. *J Abnorm Psychol* 2005;**114**:522–36.