

Personality traits predict compliance with type 2 diabetes regimens

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There is currently no well-circumscribed way for healthcare professionals treating type 2 diabetes to predict which individuals will adhere to their dietary, pharmaceutical and medical scheduling protocols. Because personality can affect behaviour, identification of a person's personality has potential to help in predicting medical compliance and outcomes before treatment is initiated.

Study aim

The purpose of this quantitative correlational study was to determine if traits of normal personality are associated with medical compliance in individuals with type 2 diabetes. Personality traits were measured by the NEO-Five Factor Inventory (Costa and McCrae, 2009), which is based on the five-factor model of personality and measures the personality domains of:

- Openness
- Conscientiousness
- Extraversion
- Agreeableness
- Neuroticism.

The literature suggests that positive effects on health behaviour are attributable to conscientiousness (Christensen and Smith, 1995; Brickman et al, 1996; Weiss and Costa, 2005). Using the five-factor model of personality, the studies by these investigators found that conscientiousness was directly associated with increased compliance and better clinical outcomes, which is consistent with the author's findings.

Findings

HbA_{1c} levels, which served as surrogate markers of compliance, were obtained from medical records of 126 individuals with type 2 diabetes aged 27–85 years. Relationships between personality traits and HbA_{1c} levels were investigated using hierarchical regression analysis.

The results indicated a significant relationship between HbA_{1c} and conscientiousness, with a negative beta-coefficient indicating that higher conscientiousness is related to lower HbA_{1c}, or better glucose control. This inverse relationship between conscientiousness and HbA_{1c} suggests that more conscientious individuals are more compliant with management of their type 2 diabetes.

The relationships between personality traits and outcome variables are inconsistent throughout the literature on compliance and are also inconsistent within the limited literature pertaining to personality and type 2 diabetes regimen compliance. In this study, when accounting for all control variables, the relationship between conscientiousness and HbA_{1c} was statistically significant, predicting 2.9% of the variance in HbA_{1c}. These results are evidence that personality traits may have a small influence on variations in HbA_{1c} in individuals with type 2 diabetes under medical management.

Conclusion

Understanding the relationship between personality traits and diabetes regimen compliance could improve diabetes

management by identifying individuals at risk for poor compliance. The refinement of education or counselling programmes to help improve compliance and clinical outcomes could be advanced. Although modifying personality traits may not be possible, a better understanding of their influence may guide behaviour modification efforts to achieve higher compliance rates.

The literature on personality correlates of type 2 diabetes compliance is limited and inconsistent. The present study adds to the body of scholarship by identifying relationships between personality traits and compliance. To further this knowledge, future studies are necessary. Investigations with stronger personality instruments, larger samples and longitudinal designs may disclose a larger effect size and offer additional clinically useful information. ■

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Christensen AJ, Smith TW (1995) Personality and patient adherence: Correlates of the five-factor model in renal dialysis. *J Behav Med* 18: 305–13

Costa PT Jr, McCrae RR (2009) The five-factor model and the NEO inventories. In: Butcher JN (ed), *Oxford Handbook of Personality Assessment*. Oxford University Press, New York: 299–322

Weiss A, Costa PT Jr (2005) Domain and facet personality predictors of all-cause mortality among Medicare patients aged 65 to 100. *Psychosom Med* 67: 724–33

The IMPROVE™ Control Campaign

The Global Task Force on Glycaemic Control is a group of physicians and specialists in the field of diabetes from around the world that is working in collaboration with Novo Nordisk with the ultimate aim of identifying and developing practical solutions to the global problem of poor glycaemic control in people with diabetes. Since early 2008, the *Journal of Diabetes Nursing* has featured articles and submissions under the banner of IMPROVE™ Control – a global public awareness campaign focused on the need for improved control, as part of the Task Force's work. Throughout 2012, the journal will continue to bring you articles on the barriers to good glycaemic control, and submissions from you, our readers, outlining the strategies you have used to help people with diabetes improve their control.

For example, perhaps you have implemented a new educational session in your area that has helped break down barriers to control, or maybe you have set up a new referral pathway that has helped improve HbA_{1c} levels. The *Journal of Diabetes Nursing* would like to help you share your practical solutions for improving control, no matter how big or small, with other nurses working in diabetes. We encourage you to take part in this global initiative by calling 020 7627 1510, or emailing jdn@sbcommunicationsgroup.com.

