

Research letter

Health-related quality of life among final-year medical students

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Clinical clerkship, which represents the end of medical school and the beginning of postgraduate training, is a period of particularly high stress.¹⁻³ Often for the first time, medical students are exposed to patient care responsibilities and “on-call” periods. They must also make major career decisions and apply to residency programs.

Guthrie and colleagues⁴ found that the psychological well-being of a group of students in their final year of medical school was best predicted by their mental health scores in their first undergraduate year. Tile and associates⁵ reported that first-year internal medicine residents had significantly better mental health scores and a trend toward better social functioning and general health perception than a combined group of second- and third-year residents. These observations suggest that the process of medical training is associated with a decline in the psychosocial domains of health status.

We longitudinally measured the health-related quality of life of a group of final-year medical students over 10 months. We were interested in differences between our study group and the general population as well as in changes in our study group over time.

Participants were recruited from the Faculty of Medicine at Queen’s University, Kingston, Ont. Ethical approval for the study was obtained from the Queen’s University Research Ethics Board. All 73 students in the Class of 1997 were invited to complete the self-administered Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) on 4 occasions: in May, August and November 1996 and in February 1997. The SF-36 is a generic health status questionnaire designed to assess 8 health status domains: physical functioning (10 items), role limitations due to physical (4 items) or emotional (3 items) problems, social functioning (2 items), bodily pain (2 items), mental health (5 items), vitality (4 items) and general health perceptions (5 items).⁶ One additional item that is not scored asks the respondent to compare his or her current health with that of 1 year ago. Each domain is scored out of 100, a higher score indicating less limitation, better functioning or less pain. A change of 5 points is considered to be clinically and

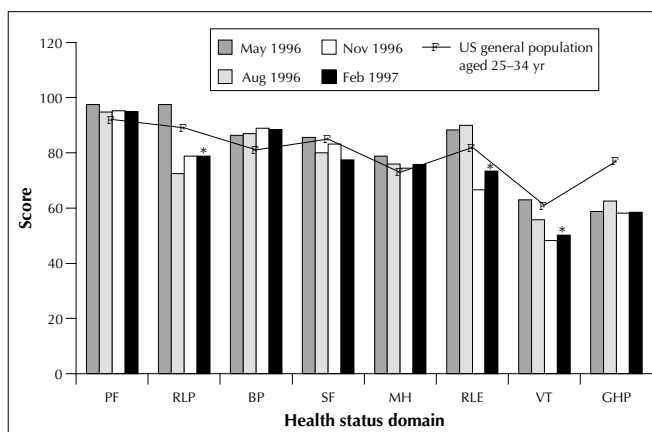


Fig. 1: Scores from a general health status questionnaire (SF-36 survey⁶) administered to medical students 4 times during their final year; results of those who completed all 4 surveys are displayed. Domains covered by the survey were physical functioning (PF), role limitations due to physical problems (RLP), bodily pain (BP), social functioning (SF), mental health (MH), role limitations due to emotional problems (RLE), vitality (VT) and general health perceptions (GHP). *Significant deterioration over time ($p < 0.05$).

socially relevant. Participation was voluntary and anonymous. Consent was assumed if the SF-36 was completed and returned. Fifty-seven (78%) students returned the first survey, and 20 (27%) completed all 4. The mean age (26 years) and sex distribution (55% female) of these 20 respondents did not differ significantly from those of the entire class (mean age 28 years, 52% female).

Fig. 1 presents the survey scores of the students who completed all 4 questionnaires. Repeated-measures analysis of variance revealed a significant deterioration in 3 domains: vitality ($F = 4.14$; $p = 0.01$), role limitations due to physical problems ($F = 4.13$; $p = 0.01$) and role limitations due to emotional problems ($F = 3.37$; $p = 0.025$). These findings imply that the students as a group felt more tired and worn out and that they were having more difficulty with work or other daily activities as a result of physical health and emotional problems as the year progressed.

The remaining 5 domains did not change significantly over the academic year. For comparative purposes, Fig. 1 also illustrates the scores for the US general population aged 25–34 years.⁶ Most of the domain scores were similar between the student group and the US general population except for general health perceptions; they were much lower among the students, which suggests that they perceived themselves as less healthy and more likely to become ill than others.

To test for bias we compared the scores of those who completed the first survey with the scores of those who completed all 4, and the scores of those who completed the fourth survey with the scores of those who completed all 4. We found no significant differences in any of the domains.

Our study was prompted by Tile and associates' findings of lower SF-36 scores among second- and third-year internal medicine residents than among first-year residents.⁵ The students in our study displayed a deterioration in 3 domains as the year progressed, which suggests that changes in health status may begin in the clerkship year or even earlier. Further research to identify the determinants of change during medical training, by following a single cohort of students through medical school and postgraduate training, is needed.

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