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Attitudes of Medical Students Toward the Care of the Dying in Relation to Personality Traits: Harm Avoidance and Self-Directedness Make a Difference

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Abstract

Caring for dying patients requires specific attitudes. Medical students often feel unprepared to cope with issues related to end-of-life care. Little is known about the relationships between personality and attitudes toward the dying; consequently, it is difficult for medical educators to devise training that is best suited to prepare students for practicing palliative medicine. The study aimed to investigate the role of personality in predicting students' attitudes toward the care of the dying. The study findings suggest a significant link between more self-directed and less harm-avoidant personality profiles and more developed attitudes toward the dying. Personality assessment in medical curricula is important, not merely to help teachers plan tailored training but also to foster in future doctors the propensity to develop a patient-centered practice.

Keywords: palliative care, medical student, attitudes, personality

Introduction

Patient death has always been a common experience for doctors. However, because of continuous advances in medical science, today's doctors more often confront a slow and sometimes prolonged period of progressive deterioration of patients' clinical conditions as they approach death. This phase is commonly referred to as the ''end-of-life'' stage. During this period, the line between being sick and dying becomes blurred, and this indistinct boundary complicates the doctor–patient relationship. Therefore, caring for dying patients requires specific skills and attitudes that differ from those required for curing sick patients.

The skills that medical students learn in relation to end-of- life care remain unclear. Research on end-of-life care education suggests that an absence of continuous and uniform medical curricula[1-4] along with insufficient substantive experience with dying patients[5,6] leaves students with inadequate knowledge of palliative care. In the last decade, however, several interesting proposals have emerged in the literature to fill the gap.[7-12]

Regarding attitudes among medical students, published studies have included a general overview[13], an evaluation of the effects of palliative care educational interventions on affective responses to caring for dying patients and their families[10] and concerns about end-of-life care.[11] However, except for very dated studies[14,15] and a recent preliminary study on a small sample of medical students,[16] the specific relationship between medical students' attitudes toward the care of dying patients and those students' personality traits has generally been neglected in the literature.

In summary, although a considerable amount of research has been conducted on the skills required in palliative care, the same cannot be said for the study of attitudes and of the other aspects of personality that could play a role in students' relationships with dying patients. Recent observations that many newly qualified doctors feel unprepared to care for dying patients[5,6,17] encourage further research in this domain.

The present study partly addresses these gaps in the end- of-life care education research by examining the role of medical students' personality traits, according to the Cloninger psychobiological dimensional model of temperament and character,[18] in the prediction of students' attitudes toward the care of dying patients.

Methods

Participants

The research participants were undergraduate (second year) Italian students who attended the University of Turin Medical School. All participants voluntarily agreed to participate and were properly informed about the purposes and methods of the study. Ethical approval was obtained from the appropriate Ethical Review Committee. The study was conducted in accordance with the most recent principles of the Declaration of Helsinki.

Instruments

To investigate students' attitudes toward the care of dying patients, the Frommelt Attitude Toward the Care of the Dying scale form B (FATCOD-B) was used.[19,20] The FATCOD-B consists of 30 randomly ordered items scored on a 5-point Likert-type scale. Half of the statements are positively worded and half are negatively worded. Each statement describes a belief about palliative care, such as the patient's decision-making autonomy, the doctor's emotional involvement with the patient's experience, care of the patient's family, and pain treatment. Positive items are scored as follows: 1 1⁄4 strongly disagree, 2 1⁄4 disagree, 3 1⁄4 uncertain, 4 1⁄4 agree, and 5 1⁄4 strongly agree. Scores are reversed for negative items. The possible total score ranges from 30 to 150 and a higher score indicates a more positive attitude toward the care of dying patients.[19,20]

For the personality assessment of the subjects, the Temperament and Character Inventory (TCI) was used.[21] The TCI is a true–false questionnaire with 240 questions that assess personality by describing aspects of temperament and character. Temperament is considered the more heritable personality component, stable throughout life, and responsible for adaptive emotional responses and behavioral reactions to life experiences and is assessed through 4 dimensions: harm avoidance (HA), novelty seeking (NS), reward dependence (RD), and persistence (P). In contrast, character is considered the more learned personality component and is thought to mature throughout adulthood and to contribute to the development of one's self-concept. Character involves differences in values, life choices, and aims, and it is assessed through 3 dimensions: self-directedness (SD), cooperativeness (C), and self-transcendence (ST). Each dimension of temperament and character is then further described by several lower order traits.[21]

Procedures

To standardize administration of the self-report paper-and- pencil questionnaires and to increase response rates, we con- ducted the study protocol at the beginning of a pilot course on end-of-life care developed by the University of Turin Medical School for second-year students. Data were collected on the first day of lessons, before the course began. To increase the sample size, we combined the data collected at the beginning of this academic year (2013-2014) with those collected

at the beginning of the preceding academic year (2012-2013). There were no specified time limits, but students took approximately 50 minutes to complete the questionnaires. Responses were kept confidential and were collected anonymously as students labeled their questionnaires using nicknames. Each participant received an identification number when the data were entered.

Statistical Analyses

Statistical analyses were performed using SPSS for Mac, version 20.0. Descriptive statistics were calculated to summarize the data. To investigate the between-group differences in questionnaire responses, independent-sample t tests were performed. One-way analyses of variance were also used when appropriate. The Bonferroni correction method was applied in cases of multiple comparisons. To determine how much of the variation in the attitudes toward caring for the dying, as measured by FATCOD-B total score (ie, dependent variable), could be explained by personality traits, as measured by TCI dimensions (ie, independent variables), a standard multiple regression was conducted. Independence of residuals was assessed through the Durbin-Watson statistic, and a value of approximately 2 was requested. The studentized residuals were plotted against the unstandardized predicted values to check for linear relationships and homoscedasticity. The variance inflation factors were consulted to check for multicollinearity. Standardized residuals greater than +2.5 were considered outliers and removed from the regression analysis. Leverage values less than 0.2 were requested. The influence of single cases was assessed through the Cook distance values. The P–P plot was consulted to check for normality of the residuals' distribution. All statistical tests were 2 tailed with a set at .05.

Results

Response Rates

Of the 900 students taking the end-of-life care courses, 880 (97.8%) agreed to participate in the study. Of those, 801 (91%) returned the completed FATCOD-B and TCI questionnaires, yielding an overall response rate of 89%. No demographic differences were found between students who did and did not return the questionnaires.

Demographics

Of the 801 students considered in statistical analyses, 354 (44.2%) were males and 447 (55.8%) were females. The mean age of the participants was 20.47 years (standard deviation [SD] 1⁄4 1.21). All students were caucasian. Participants were asked to disclose whether they had any life experience with dying people. Overall,

233 (29.1%) reported they had such experience, while 313 (39.1%) reported they had no such experience, and 255 (31.8%) did not answer the question.

Table 1. FATCOD-B and TCI Scores: Descriptive Statistics and Between-Group Differences. Second-year Italian medical students

	Second-year Italian medical students			Normative data[a]
	Whole sample, N = 801	Male, N = 354	Females, N = 447	Coll Students, N = 803
FATCOD-B	113.18 + 7.92	112.81 + 8.11	113.48 + 7.75	
TCI HA	16.76 + 6.68[b]	15.12 + 6.36	18.01 + 6.65[b,c]	14.9 + 7.7
TCI NS	18.81 + 5.64[b]	19.13 + 5.65[b]	18.56 + 5.64[b]	20.2 + 6.6
TCI RD	15.24 + 3.96[b]	14.15 + 3.88[b]	16.07 + 3.82[b,c]	17.4 + 3.9
TCI P	5.36 + 2.04[b]	5.11 + 1.98	5.55 + 2.07[b,c]	5.3 + 2.1
TCI SD	31.03 + 6.94[b]	30.08 + 7.39[b]	31.75 + 6.49[b,c]	29.1 + 7.8
TCI C	32.19 + 6.22[b]	31.19 + 6.51[b]	32.97 + 5.88[b,c]	34.3 + 5.8
TCI ST	12.71 + 5.93[b]	12.37 + 6.04[b]	12.97 + 5.84[b]	16.1 + 6.5

Abbreviations: C, cooperativeness; Coll, college; FATCOD-B, Frommelt Attitude Toward the Care of the Dying Scale form B; HA, harm avoidance; NS, novelty seeking; P, persistence; RD, reward dependence; SD, self-directedness; ST, self-transcendence; TCI, Temperament and Character Inventory.[a] TCI normative data represented by the sample of college students tested by Cloninger and colleagues.[21b] TCI dimension significantly different from normative sample (a set at .05); [c] Females' scores significantly higher than males' scores (a set at .05).

Frommelt Attitude Toward the Care of the Dying Scale

Form B Scores

Students obtained a mean total score of 113.18 (SD 1⁄4 7.92), and individual scores ranged from 92.0 to 137.0. To our knowledge, no normative data are available about the FATCOD-B scale in the literature. No significant differences

in FATCOD-B scores were found between males and females (t 1⁄4 1.190, P 1⁄4 .234) or among students who had experience with dying persons, those who had no such experience, and those who did not answer the question (F 1⁄4 1.680, P 1⁄4 .186). Detailed data on gender differences are reported in Table 1. Item-level statistics showed that the mean item rating for the overall sample was 3.77 (SD 1⁄4 0.26) and ranged from 3.07 to 4.57. On the FATCOD-B 5-point Likert-type scale, a score of 3.77 is closer to the response ''agree.'' The highest average score among all the items was found on item 18 (mean [M] 1⁄4 4.50, SD 1⁄4 0.62; ie, ''Families should be concerned about helping their member make the best of his/her remaining life'') while the lowest average score was found on the reverse-scored item 3 (M 1⁄4 2.73, SD 1⁄4 0.91; ie, ''I would be uncomfortable talking about impending death with the dying person'').

Temperament and Character Inventory Scores

Only the total scores for each TCI dimension were analyzed as we did not consider the scores for lower order traits. Females scored significantly higher than males on the HA, RD, P, SD, and C dimensions. Comparison to TCI normative data showed that our entire sample of Italian medical students scored signif- icantly higher on the HA and SD dimensions and significantly lower on the NS, RD, C, and ST dimensions than the sample of college students tested by Cloninger and colleagues.[21] Detailed data on between-group differences are reported in Table 1.

Multiple Regression Models

Upon observing the gender differences in personality traits as measured by the TCI, we decided to examine separate multiple regression models, 1 for males and 1 for females (a previous hierarchical multiple regression model showed that the addi- tion of the independent variable ''gender'' did not improve the prediction of the regression equation). The assumptions of lin- earity, independence of errors, homoscedasticity, unusual points, and normality of residuals were met in both models, and no outliers were detected. For males, the model fit yielded a multiple correlation coefficient of .356, a coefficient of deter- mination of .127, and an adjusted R^2 of .97, with a small effect size (ie, the proportion of variance explained was approxi- mately 10%). Cumulatively, the TCI dimensions (ie, indepen- dent variables) significantly predicted the FATCOD-B total score (F 1⁄4 4.207; P < .001), although only the HA dimension individually contributed significantly to the prediction (P 1⁄4 .022). For females, the model fit yielded a multiple correlation coefficient of .315, a coefficient of determination of .099, and an adjusted R^2 of .076, with a small effect size (ie, the propor- tion of variance explained was approximately 8%). Cumula- tively, the TCI dimensions significantly predicted the FATCOD-B total score (F 1⁄4 4.277; P < .001), although only the HA (P 1⁄4 .007) and SD (P 1⁄4 0.025) dimensions individually

contributed significantly to the prediction. Regression coeffi- cients and standard errors for each predictor are reported in Table 2 for both the models.

Discussion

Overall, findings from the present study suggest a significant link between undergraduate medical students' personality traits and their attitudes toward the care of dying patients. Students who showed more developed attitudes toward the care of the dying than their peers tended to be more self-directed and less harm avoidant than their peers. This peculiar personality pro- file emerged more clearly (ie, HA and SD personality traits are more significant predictors of the FATCOD-B total score from a statistical standpoint) in female students compared to males, suggesting that females' attitudes toward the care of the dying develop more prominently from a synthesis of temperament

Table 2. Summary of Multiple Regression Analyses.[a]Males Females

	Male			Females		
Variables	B	SE_B	b	B	SE_B	b
Intercept	107.664	5.079		111.708	4.337	
TCI HA	-0.208	0.090	-.187[b]	-0.205	0.075	-.195[b]
TCI NS	-0.039	0.098	-.030	-0.055	0.087	-.044
TCI RD	-0.040	0.135	-.022	0.244	0.125	.134
TCI P	0.361	0.253	.101	-0.204	0.214	-.062
TCI SD	0.127	0.080	.133	0.180	0.079	.169[b]
TCI C	0.111	0.085	.101	-0.117	0.084	-.099
TCI ST	0.009	0.086	.008	0.146	0.076	.121

Abbreviations: C, cooperativeness; HA, harm avoidance; NS, novelty seeking;P, persistence; RD, reward dependence; SD, self-directedness; SE, standarderror; ST, self-transcendence; TCI, Temperament and Character Inventory.[a] B is the unstandardized regression coefficient, SE_B is the standard error of thecoefficient; b is the standardized coefficient. $_{24}$ [b] Statistically significant at $P < .05$.

In examining the observed link between high scores on the SD personality dimension and positive attitudes toward the care of the dying, we must proceed cautiously when consider- ing data about the character of young adult participants. In con- trast to temperament traits that are considered stable characteristics of personality, character traits mature over time [21] with life experience ; therefore, it is very likely that undergraduate students are just beginning to develop insight into their own self-concept and social effectiveness. Keeping this premise in mind, self-directed individuals are described in the literature as well integrated, self-reliant, responsible, and goal oriented. In addition, self-directed personality profiles tend to be correlated with positive self-esteem and with the ability to a strong association between acceptance of self and acceptance of others and thus, with helpfulness and concern for others'

Therefore, we could argue that one's ability to uncri- tically accept others' choices, values, and will, as well as the ability to fully understand the quality of their living, emerges from good self-esteem and the ability to accept one's own lim- itations. If this association is true, then newly qualified doctors who are highly self-directed may be particularly suited to those branches of medicine in which the relationship with the patient plays an enhanced role, as in palliative care.

Limitations

This study contains several limitations, the most significant of which is the lack of longitudinal observations. We must con- sider that character traits displayed during medical school may be sharpened or tempered after residency as a result of experi- ential training and individual adaptation to a specific environ- ment. Consequently, attitudes toward the care of the dying could also change, not only due to adulthood but also due to physicianhood, which leads to the shift from the student's idea- lized expectations about helping the patient to the profession- al's processes of adjustment to reality of the clinical practice. A second limitation arose from the specific aim of the study, where we considered only personality traits as predictors of stu- dents' attitudes. This limitation may explain why, in spite of the statistical significance of both multiple regression models (mainly due to the width of the sample), the effect sizes were quite small. Undoubtedly, several other variables might addi- tionally contribute to the prediction of medical students' atti- tudes toward the care of the dying, starting from personal beliefs on death and dying, and then passing through the med- ical curriculum and ending with a wide spectrum of life experi- ences. Furthermore, the lack of multicenter observations reduces generalizability of our findings to a broader population of medical students.

Conclusion

Despite the aforementioned limitations, the present study adds a useful knowledge about the role of undergraduate medical students' personality traits in predicting their attitudes toward

rights.

and character aspects. This is just a speculation for now, but future research could investigate in more detail these preliminary observations, shedding more light on them. The gender differences we observed corroborate previous findings, both in regard to medical students' attitudes toward the care of dying patients[13,16] and their personality traits as measured by the TCI.[16,22] Moreover, the observation that life experiences with dying persons did not seem to significantly influence the development of attitudes toward the care of the dying confirms previous research findings[13,16]; however, this particular result could also have been a function of the high percent- age of missing data. About a third of the participants may have preferred not to expose themselves regarding their own experience with dying people in attempting to protect themselves from emotional painful memories. Being young adults, it is very likely that dying persons who they met may have been relatives or friends. Further studies are needed to investigate in more specific and in depth this intimate aspect as well as its influence on the development of the attitudes toward the care of the dying.

In trying to explain the link between low scores on the HA personality dimension and positive attitudes toward the care of the dying, we must remember that harm-avoidant individuals are described as doubtful, anxious, discouraged, and worried about new situations that they view as harmful and stressful.[21] In our study, this trait clearly emerged when the students imagined themselves in unfamiliar, difficult, and emotionally dangerous situations as in end-of-life care. More specifically, students seemed to particularly feel uncomfortable talking about impending death with the dying person (ie, FATCOD- B item 3) and thus they may prefer to avoid such a situation. However, students seemed to agree that families should be concerned about helping their member make the best of his/her remaining life (ie, FATCOD-B item 18) and such a stance could reflect a good attitude toward the care of the dying or dis- guise an attempt to delegate part of the professional liability, thereby reducing the involvement in the care of the patient.

accept individual limitations.[23] Previous research has shown

the care of dying patients. Findings suggest that more self- directed students could develop a more mature character that may help them to be more conscious of their own and others' life conditions and thus, be more prone to care for suffering or

dying patients than students who are less self-directed. On the other hand, having a high harm-avoidant trait could lead students to become less prone to care for dying patients, as they may prefer to avoid emotionally dangerous situations. Although future longitudinal studies remain necessary to further investigate these links over time, the assessment of personality profiles could be useful for medical students' career counseling.

Declaration of Conflicting Interests

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