A Study of Humanism in Family Physicians

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The purposes of this study were to examine humanism as exhibited in physicians and to develop and standardize an instrument measuring humanism in physicians. This study had four specific objectives: (1) to determine whether family practice residents are more humanistic than internal medicine and surgery residents, (2) to determine whether there is a difference in the level of humanism in residents in different years of training, (3) to determine the relationship of demographic characteristics to level of humanism, and (4) to determine the relationship of family practice residency characteristics to level of humanism.

The Physician Humanism Scale was developed, pretested, modified, and then administered to a sample (600) of family practice, internal medicine, and surgery residents. The study identified that family practice residents are significantly more humanistic than internal medicine and surgery residents, although no difference in level of humanism was identified according to year in residency. Significant relationships were identified between humanism and sex, race, age, marital status, and college major. Residency characteristics significantly related to humanism were numbers of residents, full-time faculty, nonphysician faculty, and associated residencies; hospital size; and moonlighting policy.

The Millis Commission Report of 1966, in addition to calling for a national commitment to produce family physicians, charged those in the discipline as follows:

> There will be opportunities that should be grasped to compare the students who are attracted to comprehensive medicine and do well in it with the students who prefer and excel in other specialties. It is quite possible that comprehensive medicine will have greater appeal to the more humanistically inclined students and those who prefer the behavioral sciences, while those who find greater satisfaction as undergraduates in physics, chemistry, or biology are more likely to want to enter the traditional specialties. If some such difference should be found to be significant, the implications for admissions policy would be obvious.[1]

This charge suggests that humanism is a valuable attribute for the family physician. Two related assumptions emerge: (1) medical students with higher levels of humanism will tend to self-select family practice residencies, and (2) one function of residency training should be the development of

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humanistic attitudes. It appears that the charge by the Millis Commission, to compare the humanism of students selecting family practice and other primary care specialties with those who enter tertiary care specialties, has been largely ignored by the profession. This study was, in part, a response to that call.

The purposes of this study were twofold: (1) the development and standardization of an instrument measuring humanism in physicians, and (2) the measurement of humanism in physicians. The study was undertaken to answer the following questions: (1) Is there a difference in the level of humanism in family practice residents compared with surgery and internal medicine residents? (2) Is there a difference in the level of humanism in residents in different years of residency training? (3) What demographic characteristics, if any, are related to physician humanism? (4) What characteristics of residency programs, if any, are related to physician humanism?

Literature Review

Humanism

In the medical literature humanism has been discussed increasingly in recent years. Of the recently published books in the field of medical humanism, *Humanism and the Physician* by Edmund Pellegrino is the most germane to this discussion. Pellegrino defines humanism as encompassing "a spirit of sincere concern for the centrality of human values in every aspect of professional activity. This concern focuses on respect for the freedom, dignity, worth, and belief system of the individual person, and it implies a sensitive, nonhumiliating, and empathic way of helping with some problem or need."[2]

Throughout his book, Pellegrino identifies characteristics of humanistic physicians and argues that the humanistic physician should encourage such attributes in his patients as freedom of action, freedom to make choices, freedom from the power of others, and integrity of self-image. He reasons that the humanistic physician should have a less paternalistic relationship with his patients and that the patient should participate in medical decision making; thus the humanistic physician may encourage self-determination. Other characteristics of the humanistic physician identified by Pellegrino are moral sensitivity, respect for the patient, social responsibility, compassion, an awareness of psychosocial factors, and an emphasis on care of the patient rather than on disease.[2]

Agnew,[3] Fenninger,[4] and Reiser[5] all emphasize humanism and the necessity for the integration of humanism and technical competence. Additionally, Fenninger argues for physician involvement in community affairs. Robin[6] argues that medicine has become too diagnosis oriented and states that the goal of medical care is not diagnosis but better care.

Physician Attitudes

The attitudes of physicians have been the focus of some study in the literature. Surveys have probed physician attitudes toward family planning, contraception, abortion,[7,8] patient-physician relationships,[9] politics,[10] government involvement in medical care,[11,12] national health insurance,[13,14] and attitudes toward women in medicine.[15]

Medical students have also been the focus of attitudinal research, and a number of studies have examined changes occurring during medical school.[16,17] One of the most often quoted studies is by Eron,[18] who considered the variables of humanitarianism, cynicism, and anxiety in first-year and fourth-year medical students at Yale Medical School. Eron reported that senior medical students were significantly more cynical than were freshmen, but the hypothesis that senior medical students would score lower on humanitarianism than first-year students was not borne out in this study. Eron suggested that the effects of medical education contribute to attitude changes in medical students.

Studies examining physician attitudes according to specialty area have also been reported in the literature. Collins and Roessler[19] compared family practice residents with residents in internal medicine, surgery, obstetrics-gynecology, and pediatrics in terms of cognitive and attitudinal characteristics. They found family practice residents to be significantly different from the other four groups in some of the attitudes studied, although there were no significant differences as measured by performance on the Medical College Admissions Test (MCAT) and other measures of intellectual functioning. The family practice residents scored

higher on affiliation need and lower on aggression and materialism. They also viewed people as being less dominant and materialistic than did the other groups. Holtzman et al[20] studied attitudes toward the aged among medical students and found that those students expressing a preference for family practice had more positive attitudes toward the aged than did those students expressing an interest in non-primary care specialities.

Methods

The Physician Humanism Scale (PHS)* was developed and pretested at the University of Alabama in Huntsville, School of Primary Medical Care. Items for the scale were written and obtained from pre-existing instruments to correspond to the definition, which was based on the literature review, and then reviewed by a panel of experts. Humanism was operationally defined for this study as a philosophy or attitude centered on human beings, their interests, and their values, asserting the dignity and worth of people and their capacity for self-realization and responsibility for self. As exhibited in medical practice, humanism encompasses (1) democratic rather than authoritarian approaches to patients, (2) awareness of and concern with social problems (social conscience), (3) cooperative rather than manipulative approaches to patients, (4) awareness of and concern with psychological well-being of patients, (5) emphasis on treatment of patients rather than disease processes, (6) awareness of and concern with the patient in his environment rather than narrow individualistic attitudes, and (7) special sensitivity to the aged.

The proportionate sample of residency programs was randomly selected according to program type from the *1981 Directory of Family Practice Residency Programs*,[21] excluding military programs. Residency directors were contacted by telephone, asked to participate in the study, and asked to identify directors of internal medicine and surgery residencies associated with their program, who were then contacted by telephone and asked to participate. All residency directors who agreed to participate were mailed Physician Humanism Scales for their residents to complete and return in a prepaid envelope. In addition, family practice residency directors were asked to complete a short residency director questionnaire. A total of 1,764 instruments were mailed; 600 (34 percent) instruments were returned, 269 (46.5 percent) from family practice residents, 237 (31 percent) from internal medicine residents, and 94 (22.3 percent) from surgery residents. Omitting instruments that had 15 percent or more of the items blank, there were 559 usable questionnaires.

All completed questionnaires were coded, keypunched, and verified. Data analysis was conducted using the Statistical Package for the Social Sciences.[22] To analyze the items, refine the Physician Humanism Scale, and identify subscales, a principal components multiple factor analysis utilizing varimax criterion for factor rotation was performed. Reliability of the instrument was tested by the split-half procedure. Content and criterion-related validity were demonstrated on the pilot version of the instrument. To demonstrate construct validity, five items from the ATSIM (Attitudes Toward Social Issues in Medicine)[23] were included in the Physician Humanism Scale, and scores were compared with scale scores by means of the Pearson product-moment correlation. Each of the demographic variables and residency characteristics was compared with total scores on the instruments by means of the analysis of variance.

Results

The results being reported focus on the analysis of demographic and residency variables with total score. The results of factor analysis and the analysis of the relationships between subscales and independent variables are reported elsewhere.[24]

Reliability of the Physician Humanism Scale was tested by means of the coefficient of internal consistency (split-half method) utilizing the reliability subprogram of the SPSS. The correlation between the subsets was .64, which, stepped up with the Spearman Brown formula to .78, was significant ($P < .05$). Content and criterion-related validity were demonstrated during the pilot phase of study. Items for the instrument were selected and judged by a panel of experts to reflect the seven conceptual areas of the operational definition, demonstrating content validity. To test the crite-

*Available upon request to the author

rion-related validity, residents and students of the School of Primary Medical Care were given a copy of the operational definition and asked to rate faculty members' level of humanism on a five-point scale. Means were computed for each faculty member and compared with the faculty member's total score on the instrument. The Pearson correlation formula yielded a value of.52, which was significant ($P < .05$), demonstrating criterion-related validity. Construct validity was tested in this study by comparing total score on the ATSIM items with total score on the instrument. The correlation between the ATSIM items and total score was .54 ($P < .05$).

Table 1. Analysis of Variance Among Specialty Areas Cell Means

Specialty	No.	Score
Family practice	252	110.21
Internal medicine	219	106.23
Surgery	88	101.06
Grand mean	559	107.21
F = 23.41*		

*P < .05

Table 2. Analysis of Variance Among Specialty Areas by Year Cell Means

Year in Residency	Family Practice Score (No.)	Internal Medicine Score (No.)	Surgery Score (No.)
1	109.37 (91)	106.85 (73)	104.95 (21)
2	109.66 (77)	105.49 (68)	96.93 (15)
3	111.50 (90)	105.97 (68)	101.63 (19)
4-6		108.78 (9)	101.63 (30)
Grand mean	110.21 (252)	106.23 (218)	101.12 (85)
F	.76	.40	2.65*

*P < .05

The first objective of this study, to determine whether family practice residents are more humanistic than internal medicine and surgery residents, was met by analyzing the relationships between specialty areas and total scores. The null hypothesis was tested by analysis of variance and rejected (Table 1). Although there was a considerable difference in the numbers of residents from the three specialties, this was not a problem statistically, since SPSS relies on the general linear hypothesis approach to analysis of variance, which is basically a stepwise multiple regression that creates the necessary dummy variables and can cope with unequal cell sizes. Family practice residents scored significantly higher in humanism than did internal medicine residents and surgery residents. Also, internal medicine residents scored significantly higher than did surgery residents.

Although not asked to do so, a number of internal medicine residents identified that they were in a primary care track. The scores of these residents were higher than residents who were not distinguished as primary care internists, although the difference was not statistically significant. This question deserves a further investigation, since it was not addressed adequately in this study.

The second objective, to determine whether there was a difference in the level of humanism in residents in different years of residency training, was met by analyzing the relationship between total score and year in residency within the three medical specialties (Table 2). Family practice and internal medicine residents exhibited no significant differences in level of humanism in the different years of residency training. Among the surgery residents, first-year residents scored significantly higher than second-year surgery residents. Thus, for family practice residents, there appears to be

no significant relationship between year in residency and level of humanism.

The third objective, to determine what demographic characteristics are related to physician humanism, was met by analyzing these relationships. Significant relationships were identified between total score and sex, race, marital status, and college major. No significant relationships were identified between level of humanism (total score) and undergraduate grade point average or size of home community.

The data indicate that female residents are more humanistic than male residents. Culturally, women have been the caretakers, the nurturers of society; thus it was expected that women would score higher than men. Since the number of respondents who identified their race as black, Hispanic, or oriental was extremely small, these were combined into a single category entitled nonwhite. Whites appear to be more humanistic than nonwhites, although the number of nonwhite residents was too small to draw firm conclusions regarding the relationship between race and humanism. A two-way analysis of variance examined the interaction of race and sex on level of humanism and identified a significant interaction effect ($P < .05$). Scores for male respondents were relatively consistent, regardless of race; scores for female respondents were not. White female residents scored significantly higher than nonwhite female residents and male residents, regardless of race. Scores of the nonwhite female residents were closer to male residents' scores than they were to the scores of white female residents. Sex and race may be a double handicap for these residents, and it may be that nonwhite women with the intelligence and drive to go through medical school adopt attitudes of their male peers, perhaps deemphasizing their humanism.

Marital status of the residents in this study was classified into three categories: never married, married, and previously married (divorced or separated). Previously married residents scored significantly higher than their married or never-married peers. A two-way analysis of variance examining the relationship of sex and marital status on total score identified that significant interaction effects were present ($P < .05$). Male residents scored relatively consistently, regardless of marital status. Female residents who had been previously married scored markedly higher than their peers. Thus marital status appears to be more important in explaining level of humanism in female than in male residents. Perhaps humanistic female residents dissolve an unhappy marriage that their less humanistic peers would tolerate, or the dissolution of a marriage may tend to increase the level of humanism in female residents.

Three groups of college majors, psychology, mathematics, and the group identified as other, scored significantly higher than did chemistry and chemical engineering, biology, and premedical majors. Thus, the suggestion of the Millis Commission, that students attracted to family medicine would be more humanistic and come from a behavioral science background compared with other medical specialists with a background in physics, chemistry, or biology, is partially supported by this study.

To meet the last objective of this study, the relationship between level of humanism and residency characteristics of family practice residency programs was tested. Residency characteristics, available only on family practice residencies, were obtained from the *1981 Directory of Family Practice Residencies* and the residency director questionnaire. The residency characteristics that were found to be significantly related to total score were number of residents, number of full-time faculty, number of nonphysician faculty, and moonlighting policy.

Residents from medium-sized programs (13 to 22 residents) scored higher on the humanism scale than those residents in programs with only 4 to 12 residents. Residents in programs with a small number of full-time faculty (one to three) scored lower than those residents in programs with greater numbers of full-time faculty members. The findings regarding number of nonphysician faculty resemble those of the full-time faculty, ie, those residents in programs that had a high number of nonphysician faculty (four to eight) scored higher than those in programs with fewer nonphysician faculty. The higher scores may be due to the influence of social workers, psychologists, and other behavioral scientists, although because of coding limitations this could not be tested conclusively. It may be that behavioral scientists and other nonphysician faculty are influencing residents toward more humanistic values, or the more humanistic residents may select eclectic residency programs that have strong behavioral science components.

These findings regarding numbers of residents and faculty suggest that the interaction of residents with each other, with their faculty, and with nonphysician faculty contributes to a higher level of humanism.

There has been debate among teachers of family medicine regarding the practice of moonlighting. Those opposed to the practice generally believe that the emphasis during the residency years should be on learning rather than earning. Those in favor of moonlighting generally argue that the practice gives residents more opportunities to practice during their training. Additionally, residencies and some hospitals set rules regarding who can moonlight and where. Residents in this study came from three types of programs: those that prohibited moonlighting, those that allowed moonlighting except at the parent hospital, and those that had an open policy on moonlighting. Analysis of variance revealed that residents in programs where moonlighting was prohibited scored significantly higher than residents who were allowed to moonlight.

Implications

Another study on a large sample should be undertaken to ascertain whether significant relationships identified by this study are replicable. A longitudinal study might identify changes in level of humanism during residency training. The assumption that humanism is a valuable attribute of family physicians needs to be examined. Whether humanism is related to technical competence, to patient satisfaction, to patients' therapeutic outcome, and to satisfaction with choice of family medicine as a specialty needs to be determined. Since moonlighting was associated with a lower humanism score, it may be that the effects of a busy practice would also be associated with a lower level of humanism; therefore, examining humanistic attitudes after physicians have been in practice for a few years would be an important area for further study.

If humanism is indeed a valuable attribute of physicians, and the demographic relationships identified in this study are corroborated by replication, family practice faculty would then have the tools to select residents for whom one could predict a good fit between humanistic attitudes, technical competencies, and satisfaction with the role of family physician. Furthermore, if the relationships between humanism and residency characteristics were corroborated, family practice residency programs would then have clearer guidelines for residency design.

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