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Website: www.jehp.net
DOI: 10.4103/jehp.jehp_45_17

Developing a pilot curriculum to foster humanism among graduate medical trainees

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Abstract:

BACKGROUND: Humanism is a central tenant of professionalism, a required competency for all residency programs. Yet, few residencies have formal curriculum for teaching this critical aspect of medicine. Instead, professionalism and humanism are often taught informally through role-modeling. With increased burnout, faculty professionalism may suffer and may compromise resident role-modeling. The objective of this study was to design a pilot curriculum to foster humanism in among residents and assess its ability to do so.

MATERIALS AND METHODS: Two-phase exploratory sequential mixed methods study. Phase 1: a qualitative analysis of residents' narratives regarding challenges to humanistic behavior, and identified themes of compassion, fatigue, communication challenges, and work-life balance. Themes used as needs assessment to build curriculum. Phase 2: three sessions with themes taken from faculty development course. Participants and controls completed baseline and 60-day follow-up questionnaires assessing burnout, compassion, satisfaction, and ability to practice psychological medicine. Phase one included Obstetrics/Gynecology and internal medicine residents. Phase two included residents from the above programs, who attended at least 2/3 interactive sessions designed to address the themes identified above.

RESULTS: Twelve participants began and ten completed curriculum (83%). The curriculum met course objectives and was well-received (4.8/5). Burnout decreased (-3.1 vs. 2.5, $P = 0.048$). A trend toward improved compassion (4.4 vs. -0.6, $P = 0.096$) for participants compared to controls was noted.

CONCLUSION: A pilot humanism curriculum for residents was well-received. Participants showed decreased burnout and trended to improved compassion scores. Development and evaluation of an expanded curriculum would further explore feasibility and effectiveness of the intervention.

Keywords:

Burnout, humanism, humanism curriculum, resident education

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Received: 24-04-2017
Accepted: 06-12-2017

Introduction

Humanism is important to the practice of medicine and has been recently emphasized in medical education, especially among residents.^[1] Patients who perceive their physicians as humanistic have better health outcomes and are more satisfied.^[2,3] Although all accredited residency programs have competencies for professionalism, very few have formal curricula for humanism. Instead, humanism is often taught informally

through role-modeling. With increased burnout, professionalism may suffer and may compromise resident role-modeling.

The objective of this study was to develop a pilot curriculum for graduate medical trainees in any field and assess its ability to foster humanistic behavior.

Materials and Methods

This exploratory sequential mixed methods study was reviewed by the Office of Human Research Ethics and was determined to be

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How to cite this article: Dotters-Katz SK, Chuang A, Weil A, Howell JO. Developing a pilot curriculum to foster humanism among graduate medical trainees. *J Edu Health Promot* 2018;7:2.

exempt from further review according to the regulatory category cited above under 45 Code of Federal Regulation 46.101 (b) on January 20, 2015.

The qualitative phase of the study was comprised of a needs assessment that was conducted with the Obstetrics and Gynecology residents from two centers and Internal Medicine Residents from one center. Residents were solicited by E-mail on a monthly basis between October 2015 and December 2015, to voluntarily submit an anonymous essay with the following prompt: “the following are considered the core humanistic values which physicians should evince: honesty, integrity, caring, compassion, altruism, empathy, respect for others, and trustworthiness. Please write about a time during your residency training in which you were challenged to uphold these values.”

Narratives were collected, de-identified, and qualitatively analyzed by the authors of the study. Dominant themes were coded by the authors both individually and collectively and ranked according to the frequency. The three most frequently mentioned themes were used to select curriculum sessions, which were modified from an existing faculty development course called “passing the torch.” This course was designed by Dr. Branch *et al.*, to teach medical school faculty to be better role models through experiential learning (role-play, storytelling, and reflection exercises).^[4,5] Dr. Branch granted permission for its use in this project. Modifications to the course material were minor and involved changing case scenarios and verbiage in the didactics to reflect resident as opposed to attending physicians.

The quantitative phase included delivery and study of the curriculum using a prospective case-control study model. Residents were contacted by E-mail and asked to participate in the pilot curriculum. The first twelve residents to respond were invited to participate. The small study size was chosen given the interactive nature of the sessions and the limited number of faculty facilitators. Participants had to attend at least two of the three planned 2 h sessions to be included in the analysis. Session 1, “the third thing: a creative trigger exercise,” was designed to address compassion fatigue, the most commonly mentioned of these three themes. Residents were asked to bring an object, which would act as a reflective trigger to stimulate group discussion about what it means to be one's best professional self.^[6] Session 2, “teaching caring attitudes,” was designed to address the theme of difficult communication scenarios and explored a framework that can be used to respond to colleagues who are displaying uncaring attitudes at work through didactics and role-playing. Session 3, “integrating mindfulness,” addressed work-life balance and focused on outcomes of mindfulness in medical

education as well as practical skills such as teaching attentive observation. The 2 h sessions were held monthly from April to June 2015 in the evening and were facilitated by faculty trained in fostering humanism in medical education. Control residents were selected by the respective program coordinators. The choice of controls was left to the discretion of the program coordinators with an attempt to match the number of participants and controls by the type of residency program and gender.

At the conclusion of each session, using standard 5-point Likert scales, participants were asked whether each session met the stated objectives and whether they felt the learned material could be incorporated into their daily practice. The effectiveness of the curriculum was measured at baseline (before the first session) and at 60-day follow-up with questionnaire scores assessing an improvement in humanistic attitudes and medical practice including burnout, compassion, satisfaction, interest in and ability to practice psychological medicine (Psychological Medicine Inventory [PMI]), and the self-reported number of ethical missteps made within the last 30 days.^[7-9] The questionnaires were labeled with a unique anonymous identifier allowing each participant and control to be compared to his- or her-self. Baseline questionnaires were completed before the first session. Follow-up questionnaires were administered 60 days from the last curriculum session in an effort to assess the cumulative effect of integrating the material from the sessions into practice.

Nonparametric methods were used in the statistical calculations assessing differences between the curriculum and control groups at baseline due to the small sample sizes. The demographic categorical variables were compared using a Fisher's exact test, and the continuous variables in the baseline questionnaire data were compared using the Wilcoxon test. The mean differences in each of the domains of the questionnaire scores pre- and post-curriculum between the intervention and control participants were then compared using a two-tailed Chi-square test.

Results

In the needs assessment, seven essays were received out of a total of 59 residents queried, (response rate 13.5%). A convenience sample of ten nonresponders was asked by anonymous survey why they did not participate. All ten stated they wanted to, but forgot. Nine stated lack of time was the barrier, and only one cited lack of interest as a reason. The results of the qualitative thematic analysis are detailed in Table 1. Three dominant themes arose: compassion fatigue, difficult communication scenarios, and work-life balance.

Table 1: Common themes identified in resident essays*

Theme	Number of times mentioned	Illustrative quote
Compassion fatigue	17	"I know that I should display kindness and concern. I know that I should be sympathetic to the misfortune of others... But do all of those things still apply when your patient is irrational, extremist, and ignorant to a fault?"
Difficult communication scenarios	5	"Probably a harder challenge has been interacting with families who want updates at 8:30 pm when I'm trying to leave the hospital to get home to my family. Inevitably, they want to talk to the main doctor, on the primary team and its always about a difficult conversation"
Work-life balance	5	"I get so exhausted from working in the hospital and coming to home to write what seems like endless clinic notes... I end up losing sleep, which makes my temper shorter with those I love at home"
Pressure for perfection	4	"We value intelligence and efficiency. We demand it, thrive on it. But we've grown to hate their counterparts - even to the extent that we stop tolerating them. And who needs more support or patience than a peer who is struggling. but again, this is who we whisper about and blame"
Resiliency	4	"I excused myself from her room feeling defeated. I say in the workroom, hashing out everything she had told me, how it made me feel, then reminded myself; these are the moments that will make me great!"
Duplicity	3	"And it makes me hate myself. I keep saying "we," but I really mean "I," "me." This is a thing that I've been doing. When I zoom out and look at this type of hateful action/speech, I think "I would never..." and yet I do"
Loss of idealism	3	"Since I was 6 years old I've dreamed about saving the world! but I what never dawned on me was what happens when the world doesn't want saving?"

*Themes identified using qualitative analysis

Regarding the humanism sessions, twelve students expressed interest in the curriculum, but only ten completed it (83%). The mean ratings for Session 1 were 4.86 and 5 with regards to meeting objectives and incorporation into daily practice, respectively. Session 2 received average scores of 4.83 and 5.00, and Session 3 received mean scores of 4.83 and 4.67.

There were no significant differences between the curriculum and the control groups at baseline. The demographic variables are shown in Table 2. At baseline, both groups displayed average levels of burnout and compassion satisfaction, although there was a trend toward higher burnout in the participant group ($P = 0.098$). In addition, the baseline PMI scores as well as the self-reported number of ethical missteps were not significantly different between the two groups at baseline [Table 3].

There were no differences in the overall mean scores in the postcurriculum assessment [Table 4]. However, the mean changes in questionnaire domains for each participant individually are presented in Figure 1. Burnout scores improved for the participants compared to the controls (-3.1 vs. 2.5 , $P = 0.048$). There was also a trend toward an improved compassion satisfaction score (4.4 vs. -0.6 , $P = 0.096$) for the curriculum group versus the control group. There was no difference in PMI or reported ethical missteps.

Discussion

This pilot study demonstrated that a medical humanism curriculum for residents is well-received and appears to be effective in decreasing burnout. In this study, we explored possible proxies for humanistic behaviors such as validated indices for physician burnout, compassion fatigue, and the practice of psychological medicine as previously described, as measuring changes in humanistic behaviors is not well-described in the literature. Participants showed less burnout and a trend toward improved compassion satisfaction compared with nonparticipants.

Compassion is considered a major tenet of medical humanism. Compassion fatigue was the most prevalent difficulty faced by the residents in our cohort that participated in the needs assessment. Fortunately, given the trend toward improved compassion, it appears that a humanism curriculum may address this challenge. Moderate-to-severe levels of burnout have been shown to afflict >50% of physicians in graduate medical education, including in OB/GYN residencies.^[1,10] Resident burnout has recently become a focus of the Accreditation Council for Graduate Medical Education (ACGME). In their symposium on physician well-being from November 2015, a task force was formed to effect a transformational change in resident well-being and the creation of more humane training environments.^[11] In addition, several studies by Shanafelt *et al.* suggest a link between burnout, medical errors, and suboptimal patient care.^[12,13] However, there are few well-studied interventions in the medical literature related to improving burnout in graduate medical education.^[14] As a trend toward

Table 2: Demographic details from residents who were involved in the curriculum as participants or controls

Participant Characteristics	Participants (n=10)	Controls (n=10)	P
Female	10	10	<0.99
Age <30	8	6	0.63
Married	7	6	<0.99
Has ≥ 1 child	4	2	0.63
Junior resident*	6	9	0.30
Obstetrics/gynecology resident	8	7	<0.99
Internal medicine resident	2	3	<0.99

*Junior resident was defined as 1st and 2nd year residents

Table 3: Baseline questionnaire responses from residents who were involved in the curriculum as participants compared to controls

Questionnaire element	Participants (n=10)	Controls (n=10)	P
Mean burnout scores ^a	26.7	23.3	0.093
Mean compassion score ^a	37.2	36.9	0.92
Mean PMI score ^b	6.26	6.41	0.80
Number of reported ethical missteps in last 30 days	1.7	0.8	0.16

^aA score of <22 suggests low burnout, while a score of >42 suggests very high burnout, ^bPMI=Psychological Medicine Inventory, measures ability and interest, scale is 1-9, with being high ability/interest

Table 4: Postcourse completion questionnaire responses from residents who were involved in the curriculum as participants compared to controls

Questionnaire element	Participants (n=10)	Controls (n=10)	P
Mean burnout scores ^a	23.6	25.8	0.48
Mean compassion score ^a	41.6	36.3	0.071
Mean PMI score ^b	6.69	6.73	0.90
Number of reported ethical missteps in last 30 days	1.0	0.1	0.19

These represents overall means of the two groups, and do not reflect individual changes of each participant compared to themselves. ^aA score of <22 suggests low burnout, while a score of >42 suggests very high burnout, ^bPMI: Psychological Medicine Inventory, measures ability and interest, scale is 1-9, with 9 being high ability/interest, PMI=Psychological Medicine Inventory

improved burnout was the most significant finding of this intervention, further study of this curriculum is warranted.

The study has many strengths. First, we used readily available and previously validated curriculum material. As previously noted, the curriculum sessions were derived from a faculty development course which has been shown across institutions to increase humanistic teaching practices.^[5] Second, the quantitative phase contained a comparison group. Without a control group, any observed changes in the questionnaire domains could simply be the result of further maturation and experience gleaned from residency itself. Finally, we compared each individual to herself and used mean differences to compare the two cohorts. This approach mitigated any baseline differences between the two

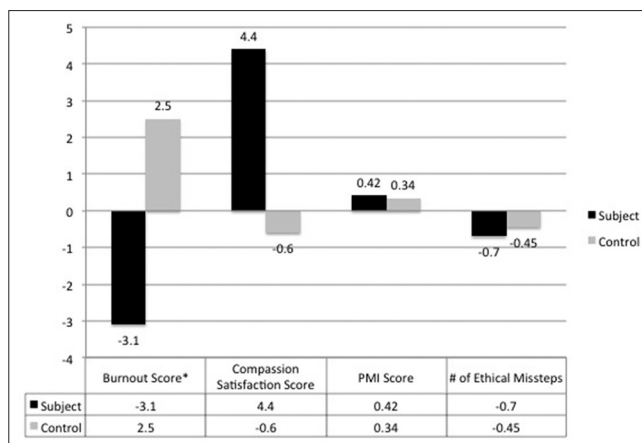


Figure 1: Mean change in questionnaire domains comparing participants and controls * denotes a P < 0.05

groups and prevented the possibility of significant individual changes being obscured by simply comparing the average scores of each entire cohort pre- and post-intervention.

The limitations of the study included low response rates in the needs assessment and the voluntary nature of participation in the study. It is thus difficult to assert that the themes uncovered in the needs assessment are applicable to a wider cross-section of residents. However, nonparticipation likely reflects residents' degree of stress such that volunteering for additional tasks and training is difficult, even if they feel it could be beneficial. In addition, a voluntary cohort is likely to be more interested in medical humanism or perhaps more likely to be struggling with professionalism issues, and therefore, more receptive to this curriculum than the general population of residents. Future study should not be limited to volunteers and should occur during work hours. Furthermore, given the relatively small number of sessions and short duration of follow-up, a more extensive program should occur over a longer period of time with repeated follow-up measures.

Given the high level of satisfaction with the sessions and the positive effect with the small pilot curriculum, it would be worthwhile to deliver this content during the protected time for all residents in a program to ensure a more robust uptake and assessment. The tenets of humanism applied to the practice of medicine are thought to contribute greatly to professional behaviors.^[15] Giving young physicians the training and time to foster this aspect of professional development may promote resiliency and serve as part of a larger strategy for burnout prevention. Continued development and evaluation of an expanded medical humanism curriculum would further explore the feasibility and effectiveness of this type of intervention.

Conclusion

This humanism curriculum served to decrease resident burnout and increase compassion scores; thus use of this sort of curriculum should be considered among graduate medical trainees.

Acknowledgments

The authors would like to acknowledge: APGO advisor: Jody Steinauer, MD, MAS. Curricular development: William T Branch, Jr, MD, Carter Smith Sr. Professor of Medicine, Emory University School of Medicine with support from the Arthur Vining Davis Foundations and the Josiah Macy, Jr Foundation. Statistics performed by The Howard W. Odum Institute for Research in Social Science; University of North Carolina at Chapel Hill.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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