JRMC Journal of Regional Medical Campuses

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DOI: https://doi.org/10.24926/jrmc.vXiX.XXX
Journal of Regional Medical Campuses, Vol. *1*, Issue 4 (2018)

Published by University of Minnesota Libraries Publishing

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A Residency Professional Identity Curriculum and a Longitudinal Measure of Empathy in a Community-Based Program

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Abstract

BACKGROUND

Empathy as an attribute of physicians is considered desirable, and most studies have shown a progressive decline of measured empathy during residency training. Development of a professional identity during residency is also considered desirable. To study this process, empathy measures were used before and after implementation of a structured professional identity curriculum to determine the effect of the curriculum on empathy among a group of family medicine residents.

METHODS

The Jefferson Scale of Empathy was completed by 18 residents at all 3 years of training before, immediately after a 6 month professional identity curriculum intervention, and six months after the curriculum was completed. The curriculum included one-hour luncheon sessions on concepts of profession, burnout, and cynicism as well as thoughtful use of electronic medical records, prevention and management of burnout, mindfulness techniques, and reflective writing and drawing.

RESULTS

Similar to previous publications, a decline in empathy across the academic year was found, with a significant decline six months after the end of the curriculum. Residents who attended more professional identity sessions showed a non-significant smaller decline, and there were large standard deviations among each training level with some individual residents showing little change across the year. Evaluations of the curriculum were largely positive.

CONCLUSIONS

This professional identity curriculum in this group of residents may have temporarily mitigated the decline in measured empathy that has been described among residents in other settings. Results support some aspects of empathy as a trait in some residents rather than a state that is amenable to a training effect. Alternatively, some residents show little change in high empathy scores across time, suggesting resilience despite the stress of training. Further study in this residency including longitudinal empathy measurements, an individual resident's preference for strategies for burnout prevention and the association with changes in empathy, and focus groups is ongoing. Other programs' experience with these issues is needed to add to the sample size and diversity of training environments to discern which changes are significant and generalizable.

INTRODUCTION

Empathy is often listed as a desirable attribute for physicians, but attempts to define it are challenging and measuring it is even more difficult. The developers of the Jefferson Scale of Empathy assign the more emotional aspects to the concept of sympathy, while empathy is more cognitive and includes an inquisitiveness to understand others' feelings without completely joining with them or feeling the full depth of their emotion.[1] In this view, empathy is something that can be developed but requires significant effort and is more accurate and less affected by the physician's own emotional state. Oversimplified, empathy is "I understand your suffering,"

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while sympathy is "I feel your pain."[1] Several publications have shown a significant decline in empathy during the clinical years of medical school[1-2] and a small decline across all years of residency training.[3]

Professional identity is also an important concept in understanding the process of medical education. Professionalism is a code of behavior that physicians in training can learn and follow without internalizing. Professional identity is the state of actually becoming a physician when the values of the profession are internalized. At the final stage of identity development, the self is defined by thinking, feeling, and acting like a physician.[4] This process is complex and is dependent on one's pre-existing identity, socialization including availability of role models, and symbols and rituals. The working definitions used during the development of our professional identity curriculum were that professionalism is what you do when someone is watching, and professional identity is who you are.[5]

There is current interest in studying the experience of medical trainees as they develop identities and learn empathy. Reflective exercises such as composing narratives, participation in organized study of art, film, music, and literature, and opportunities to learn and practice mindfulness have been used to facilitate this development.[6-8]

Efforts directed specifically to enhance empathy have included those for medical students[9] and residents in training .[3,10-11] The general trend regardless of the instrument used was that measured scores increased after the intervention, and some have shown that the change was sustained for at least 10 weeks.[9]

Our intent with this project was to determine the change in empathy among a group of family medicine residents as they were exposed to a structured professional identity (PI) curriculum. Our hypothesis was that the expected decrease in empathy during an academic year would be moderated by the PI curriculum and that the more sessions a resident attended, the effect would be larger.

METHOD

The 3 year family medicine residency is a community-based program with 6 residents at each level, unopposed, established in the mid-1970s, and set in a town of 20,000 in western Kentucky. All 18 residents participated in this project during the 2015-2016 academic year. The host hospital and outpatient facilities were established in the 1950s as an early rural integrated health system, and have also supported a regional medical school clinical campus since 1998.[12] The hospital has 80 physicians representing most specialties of secondary care, but also provides cardiac bypass procedures and a regional cancer center, serving as a referral site for portions of 5 surrounding counties.

As part of a regular lunchtime residency conference series, the first author, who is the dean of the regional medical school campus, provided 6 monthly 45-minute sessions as the basis for the professional identity (PI) curriculum during the 2015-2016 academic year. A family physician, he serves as the primary faculty for the residency in obstetrics and teaches occasionally in both the residency clinic and on the general adult medicine hospital teaching service, and staffs most resident deliveries. These sessions were interspersed with more typical sessions taught by him that were focused on obstetrics topics and actual case reviews of resident patients. The curriculum is shown in Table 1. The conference series is required for all residents on in-town rotations barring true emergencies or documented illness. Residents do have inpatient pediatric and dermatology rotations out of town, and occasionally the inpatient service in town is so busy that the senior resident and intern on service are not able to attend the noon conference. Attendance was recorded by a senior resident each session.

Session	Component
1. Definitions	• A profession is a social role characterized by having special knowledge and not just special skills, pursued largely for the good of others, and its value is not measured only by financial return[13]
	• Burnout is a mismatch between what you thought you'd be doing and what you're actually doing, often associated with disengagement, fatigue, and physical symptoms
	• A cynic is someone who cannot imagine that anyone's behavior is motivated by anything but self-interest
	• Cynicism rises and empathy falls across training time.[14] Group discussion of potential causes
2. The i-patient	• The i-patient is the digital representation in an electronic record that "becomes" the patient (Verghese TED talk shown in its entirety)[15]
	• Discussions of articles on the i-patient[16-17]
	• Why so much effort spent keeping the i-patient healthy? (meaningful use certification, billing, liability)
	• Strategies for keeping the i-patient healthy while making time for connecting with the real patient (empowering medical assistants to document, use of scribes, standing orders for simple issues)[18]
	• Strategies for breaking learned helplessness as a resident
3. Preventing burnout	• Strategies reported by long-time practitioners[19]
	○ Make choices congruent with your values
	○ Make time for friends and family, avoid the "god complex"
	○ Practice some religious or spiritual activity daily
	○ Pay attention to self-care (nutrition, exercise)
	○ Work to adopt a positive outlook, learn to re-frame
	○ Choose a job that gives you control over your workload
	○ Find meaning in daily work rather than hold out for vacations
	○ Find a mentor and stay in touch
4. Mindfulness Techniques	• "Career Eulogy" reflective writing[20]
	• "Mindfulness is the opposite of multitasking"[21]

	• Self-awareness including breathing and tension awareness
	• Cultivate a curiosity of the unknown
	• Practice being completely present: the doorknob pause
5. Managing current burnout[22]	• Recognize your tendencies
	○ Workaholic: responds to challenges by doing more of the same
	○ Superhero: every problem is theirs to solve
	○ Perfectionist: standard is no mistakes, and expects the same from everyone around them
	○ Lone ranger: works best alone, and micromanages tasks that could be delegated
	• The energy account (doctors keep working even when their batteries run down, so learn how to re-charge)
	○ Physical energy account (rest, exercise, nutrition)
	○ Emotional energy account (invest in healthy relationships)
	○ Spiritual energy account (connect with your personal sense of purpose)
6. Group reflective exercise	• Provided with a template, draw a "comic" with stick figures and text balloons[23]
	○ Your best experience with patients in the last 6 months
	○ Your worst experience with patients in the last 6 months
	○ Share what you drew and reflect on what you learned

Table 1
A Professional Identity Curriculum

At the beginning of the first session of the academic year, the Jefferson Scale of Empathy (JSE)[24] was completed by all attendees. Each form had the resident's name included for later matching, but a senior resident placed each into an envelope confidentially, and participants were assured that a research assistant unknown to them would place an ID number and subsequently no one would be able to connect their responses to their name. A residency staff member then had each resident who missed this conference complete the survey within 3 days, again with confidentiality preserved. Anonymous curriculum evaluations were completed after the fifth session. The JSE was completed again after all 6 PI sessions were completed and no sessions were held in the second half of the academic year. The JSE was then completed again at the end of the academic year, approximately 6 months after the last PI session. The Baptist Health Madisonville IRB approved the protocol as exempt.

IBM SPSS Statistics for Windows (version 24.0, 2016, IBM Corporation, Armonk, NY, 877-426-6006) was used to analyze the data. Between groups repeated measures analysis of variance methods were used to analyze the JSE data across the academic year time points and between number of sessions attended (coded into two groups) and academic year of residents. Statistical significance was set by convention at $p < 0.05$.

RESULTS

All absences from PI sessions were excused absences because of verified illness, clinical responsibilities, or out of town rotations. Among all 18 residents, 1 resident attended all 6 sessions, 7 attended 5, 4 attended 4, 4 attended 3, and 2 attended 2 sessions. As shown in Table 2, the anonymous evaluations were largely positive.

	Responses of 18 Residents				
Question	Strongly Agree		Neutral		Strongly Disagree
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
These sessions helped me understand the meaning of being a professional	14 (77.8%)	4 (22.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
These sessions helped me understand cynicism and burnout	14 (77.8%)	4 (22.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
These sessions allowed an opportunity to reflect on my interaction with patients	15 (83.3%)	3 (16.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
These sessions allowed an opportunity to reflect on my interaction with faculty	11 (61.1%)	7 (38.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
These sessions allowed an opportunity to reflect on my interaction with non-physician staff	12 (66.7%)	4 (22.2%)	2 (11.1%)	0 (0.0%)	0 (0.0%)
These sessions provided some useful strategies to prevent burnout	14 (77.8%)	4 (22.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 2.
Professional Identify Project Evaluation Results

The overall JSE scores are shown in Figure 1, with a significant decline across the year, with a much larger decline after the PI curriculum ended.

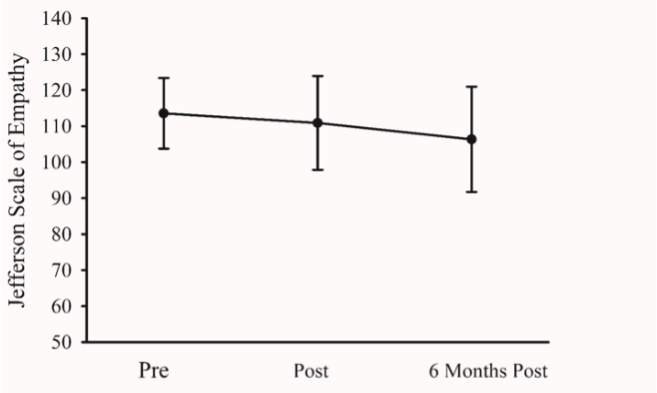

Figure 1.
Jefferson Scale of Empathy scores across the academic year for all residents[a]

[a]The comparison of pre versus 6 months post was significant at $p < 0.05$. No other time comparisons were significant.

The standard deviations were quite large, so we looked at each individual resident by year of training, as shown in Figure 2. The variations were dampened with each

succeeding year with an exception of one PG-2 showing a large decrease, and one PG-3 showing an intermediate decrease.

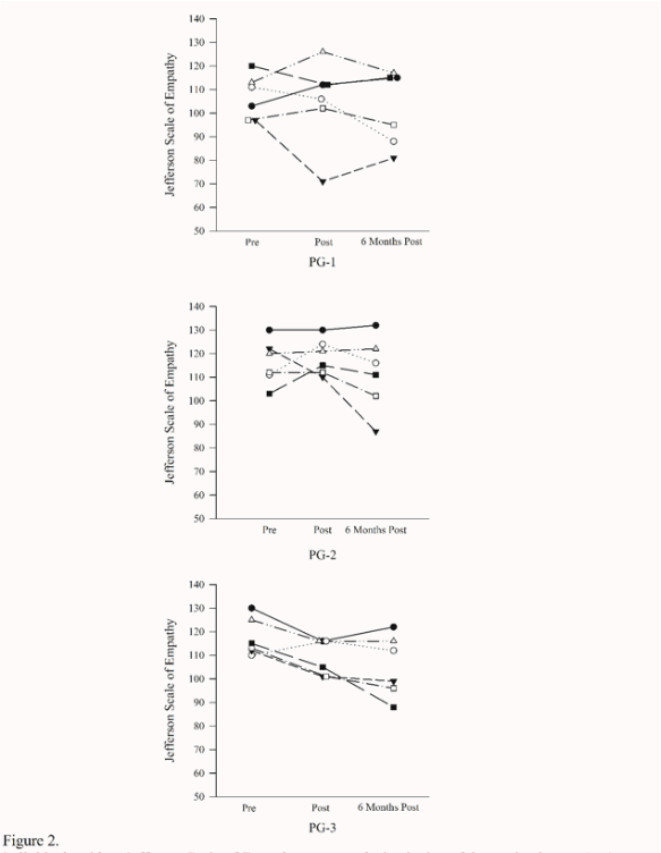

Figure 2.
Individual resident Jefferson Scale of Empathy scores at the beginning of the academic year (pre), after the exposure to the 6 month curriculum (post), and at the end of the academic year (6 months post)

Comparing differences of means, there were no significant differences comparing PG-1 to PG-2 to PG-3 at any of the time points. Across the academic year, there were no significant changes in the means in the PG-1 and PG-2 classes. In the PG-3 class, there was a significant decline in JSE scores from baseline (Mean=117.50) to completion of the PI curriculum (Mean=109.17, p=0.037) as well as baseline to 6 months after the conclusion of the PI curriculum (Mean=105.50, p=0.029).

The decrement in empathy scores was variable after the PI curriculum based on how many of the 6 sessions the individual resident attended, but none were statistically significant. Residents who only attended 3 or fewer sessions decreased by a mean of 6.83 points while residents who attended 5 or more decreased only by a mean 0.38 points. Residents who attended 4 or fewer sessions decreased an intermediate degree, by a mean of 4.50 points.

DISCUSSION

The professional identity curriculum was well received by these residents and may have partially mitigated the decrease in empathy measured by the JSE that accelerated in the second half of the year. We did not use a measure of professional identity itself and it is possible that our sessions facilitated that development. Our findings highlight the issue of whether empathy is a trait that does not change much (inborn, or developed at a very young age) or truly a state (as supported by the developers of the JSE) that could be strengthened as a physician's identity coalesces. Of the few previous reports using the JSE among residents, a cross-sectional study measuring JSE scores showed a non-significant downward trend across the three years in an internal medicine residency, but there were no longitudinal surveys to show how individual residents changed over time.[3] In studies of medical students, JSE scores in the M-3 year correlated to ratings of empathy by residency program directors 3 years later, but this could again support that empathy is a trait with little change over time.[25] Longitudinal studies in one medical school did show a decrease during the M-3 year when compared with measures done in the M-2 year.[1]

With such large standard deviations and marked individual changes, inferential statistics for differences of means may not give the best view of empathy among groups of residents. Supporting our prediction that PI curriculum would have a positive effect on empathy was the "dose effect" of the number of sessions attended showing a differential more positive JSE score, but again the difference of means was not significant. This may simply be a problem with small sample size or the fact that means hide the important individual variability. Empathy for some residents may be predominantly a trait that will be changed little by a curriculum and for others it may be more of a state that is changed both by their everyday experiences and curriculum.

One PG-1 showed a large drop in JSE in the first half of the year despite attending 3 PI sessions, and recovered somewhat. One PG-2 showed a large drop in the second half of the year, after attending 5 PI sessions. Conversely, it appears that some residents are resistant to the expected decline in measured empathy during training. Further detailed analysis of these residents' attitudes and experiences prior to and during residency merit further study. The 2 reflective exercises in the PI sessions were collected and recorded by ID number, and further studies of their content may also provide insight into how these residents differ from the mean.

Limitations

Generalization of our findings must be limited to similar residents in similar environments. The effects of having a faculty member facilitate the "softer" PI elements who is also

recognized as an experienced clinician in the hospital and clinic may make a difference in both acceptability and effectiveness. With our findings of clear trends in means without statistical significance, small group size may be an issue. Other programs can add to our understanding by replicating our efforts with similar measures.

Already mentioned is the possibility that using group means may obscure important individual differences in such a non-quantitative concept as empathy. The JSE is well validated, but it may not measure exactly what is intended. We have group focus sessions scheduled where we will ask participants to predict what changes should be seen at all 3 levels of postgraduate training, share with them what we found, and then listen to their interpretations of their meaning.

As with any educational intervention that is not randomized, there is a possibility of systemic bias, where residents who are predisposed to be affected by the topic choose to attend, or vice versa. The lack of a true control group is an important limitation, but the number of sessions attended is as close to randomly assigned as possible in this environment. The sessions were deliberately held on different days of the week at different points in the month, and there was no systemic pattern for which residents were assigned to out of town rotations or otherwise were unable to attend, and attendance was mandatory. We do not have historical controls in the year before the PI curriculum was begun, but in subsequent years the PI curriculum was diluted and spread across an entire year, and we continue to measure the JSE at the beginning of each academic year.

Further Research Needed

Use of the JSE in other residency programs along with published details of their PI curriculum would be helpful. In our program we will use focus groups to understand the process better as well as to design studies to describe more carefully the residents who appear to be resistant to the expected decline in measures of empathy as training proceeds.

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