Shared Living Experiences by Physicians have a Positive Impact on Mental Health Attitudes and Stigma among Medical Students: A Mixed-Methods Study

Andrés Martin1,2,3, Julie Chilton1, Cecilia Paasche3, Nicole Nabatkhorian3, Hilary Gortler2, Erica Cohenmehr3, Indigo Weller4, Doron Amsalem3,5 and Stephanie Neary6

1Child Study Center, Yale School of Medicine, New Haven, CT, USA. 2Standardized Patient Program, Teaching and Learning Center, Yale School of Medicine, New Haven, CT, USA. 3Tel-Aviv University Faculty of Medicine, Ramat-Aviv, Israel. 4Narrative Medicine Program, Columbia University School of Professional Studies, New York, NY, USA. 5Sheba Medical Center, Tel-Aviv, Israel. 6Physician Assistant Online Program, Yale School of Medicine, New Haven, CT, USA.

ABSTRACT

INTRODUCTION: Medical culture can make trainees feel like there is neither room for mistakes, nor space for personal shortcomings in the makeup of physicians. A dearth of role models who can exemplify that it is acceptable to need support compounds barriers to help-seeking once students struggle. We conducted a mixed-methods study to assess the impact of physicians sharing their living experiences with medical students.

METHODS: Second-year medical students participated, through synchronized videoconferencing, in an intervention consisting of 3 physicians who shared personal histories of vulnerability (e.g. failure on high-stakes exams; immigration and acculturation stress; and personal psychopathology, including treatment and recovery), followed by facilitated, small-group discussions. For the quantitative component, students completed the Opening Minds to Stigma Scale for Health Care Providers (OMS-HC) before and after the intervention. For the qualitative component, we conducted focus groups to explore the study intervention. We analyzed anonymized transcripts using thematic analysis aided by NVivo software.

RESULTS: We invited all students in the class (n=61, 46% women) to participate in the research component. Among the 53 participants (87% of the class), OMS-HC scores improved after the intervention (P=.002), driven by the Attitudes (P=.003) and Disclosure (P<.001) subscales. We conducted 4 focus groups, each with a median of 6 participants (range, 5-7). We identified, through iterative thematic analysis of focus group transcripts, active components before, during, and after the intervention, with unexpected vulnerability and unarmored mutuality as particularly salient.

CONCLUSIONS: Sharing histories of personal vulnerability by senior physicians can lessen stigmatized views of mental health and normalize help-seeking among medical students. Synchronous videoconferencing proved to be an effective delivery mechanism for the intervention in a ‘virtual wellness’ format. Candid sharing by physicians has the potential to enhance students’ ability to recognize, address, and seek help for their own mental health needs.

KEYWORDS: Medical student, mental health, stigma, self-disclosure, lived experience

Introduction

Despite the sobering statistics on burnout,1 depression,2,3 and suicide4 in the medical profession, and their precipitous rise early in training, medical students’ health-seeking behaviors remain incommensurate with their mental health needs. Such a grave discrepancy, in a group already at higher risk for suicide completion than their age-normed peers, is likely related to stigma and limited role-modeling provided by superiors, including attending physicians.2,5 Medical culture, when built upon a hidden curriculum of stoic perfectionism, can make trainees feel like there is neither room for mistakes, nor space to share personal shortcomings among physicians.6,7 A culture short on role models who actively normalize the need for support during any stage of their medical education can, in turn, create needless barriers to help-seeking when students start to struggle.8

In a previous study we showed that medical students can benefit from the availability of, and exposure to senior physicians sharing their experiences living with mental illnesses.9 Theoretically informed by Allport’s contact hypothesis,10 we found that exposure to candid sharing from trusted mentors and role models challenged medical students’ internalized

DECLARATION OF CONFLICTING INTERESTS: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

CORRESPONDING AUTHOR: Andrés Martin, Yale Child Study Center, Yale School of Medicine, 230 South Frontage Road, New Haven, CT 06520, USA. Email: andres.martin@yale.edu
stigma about mental illness and improved attitudes about their own struggles and human fallibility. We remain committed to our overarching philosophy that in order “to stem further stress-driven attrition from the profession and the tragedy of physician suicide, medical students must be shown from the time of matriculation that it is acceptable to struggle and seek help, that treatment works, and that imperfection is what makes us human, just like our patients”.9

Although encouraging in its findings, our initial study, which we conducted in the spring of 2019,9 had several limitations, including: (1) an exclusive focus on psychopathology; (2) a small pilot sample size; (3) outcome measures not optimally aligned with our target constructs of interest; and (4) no way of knowing which specific components of the intervention had proven effective. To address those limitations and build on this promising line of research, we conducted a study with a new cohort of medical students from the same institution and in which: (1) physician-instructors shared broader examples of overcoming missteps and hardship; (2) twice as many students participated; (3) we used a psychometric instrument that more accurately represented the students’ experience, including their willingness to seek psychological help; and (4) we explored the range of active components of our intervention using a qualitative approach.

We conducted a mixed-methods study to assess the impacts of physicians’ sharing their living experiences of overcoming serious life challenges as an educational intervention to combat mental health stigma, self-stigma. Our ultimate goal is to help improve the medical school learning and living environment by enhancing the self-concept and help-seeking behaviors of students at the earliest and most impressionable stage of their medical careers.

A note on terminology is in order at this juncture. In this new study we have opted for “sharing living experience” over “self-disclosure”, the term we had used in our earlier report.9 “Sharing” emphasizes a relational component, whereas “disclosure” focuses on the one proffering the information. Moreover, living highlights the ongoing nature of the shared experience, as opposed to a lived experience relegated to a past tense, which could give a misleading sense of finality and completion.

Methods

Participants and synchronized videoconferencing delivery

Participants were second-year medical students at the Tel-Aviv University Faculty of Medicine’s New York State Program in Israel. Starting in 2016, the Program’s pre-clinical psychiatry course has been led by one of the authors (AM), with two others joining as faculty since 2018 (JC) and 2019 (DA). The 30-hour course, spread over 5 days, included lectures, workshops, team-based learning, flipped classroom activities, and video-enhanced clinical discussions. The fifth iteration of this annual course had been scheduled for the spring of 2020.

The COVID-19 pandemic resulted in the declaration of a national state of emergency in Israel on March 19th, 2020. The course was rescheduled for synchronous online content delivery through the video-conferencing platform Zoom (San Jose, CA), which enabled real-time interaction between faculty and students. Considering the social-contact-based nature of our intervention, we were curious about its efficacy when delivered virtually.

Ethics approval

We obtained institutional review approval from the Yale Human Investigations Committee (Protocols # 2000026072 and 2000026115) and the Tel-Aviv University Institutional Review Board (Protocols # 0000682-1 and 0000946-1) before starting data collection. The study was deemed exempt, with completion of the survey representing tacit consent for the quantitative component. To track individuals’ responses over time, each student provided a de-identified and anonymous unique code. For the focus groups of the qualitative component, participants provided verbal consent, agreed to maintain confidentiality within the group, and were assured that the recordings of the sessions would be transcribed, anonymized, and destroyed after data were analyzed. Participants were assured that all responses would remain confidential, and that neither their willingness to participate nor their specific responses would have any bearing on their course evaluation.

Study intervention

The study intervention was designed to target stigmatized perceptions of mental illnesses among physicians, and of and the various psychiatric treatments available. The intervention was embedded into the course and consisted of 3 components:

1. During the first hour, 3 senior physicians shared their personal histories of vulnerability (e.g. failure on high-stakes exams; immigration and acculturation stress; and personal psychopathology, including treatment and recovery);
2. The class was then divided into 6 small groups, which were staggered to allow each group to be joined by 1 of the 3 senior physicians for processing and discussion. The intervention was deliberately placed near the end of the course, with 2 of the physicians with living experience having taught the students for more than 20 hours by time of the intervention; and
3. Following the interactive small group discussions, materials on mental health and other supports were made available to students. Resources included a website curated by one of the authors (JC): www.seemedooneachone.net.

Quantitative component

Instruments. Participants completed a demographic survey and 3 instruments at baseline:
The Patient Health Questionnaire (PHQ-9)\textsuperscript{11} is a widely used self-administered instrument to help make criteria-based diagnoses of depression, as well as a reliable and valid measure of depression severity. PHQ-9 scores of 5, 10, 15, and 20 represent mild, moderate, moderately severe, and severe depression, respectively.

The Patient-Reported Outcomes Measurement Information System (PROMIS) Anxiety Bank comprises 29 items.\textsuperscript{12} We used an 8-item short form with good psychometric properties, normed scores and clinical cutoffs.\textsuperscript{13}

Two items from the Maslach Burnout Inventory (MBI), “I feel burned out from my work”, and “I have become more callous toward people since I started [medical school]” correlate strongly with the emotional exhaustion and depersonalization subscale scores of the full 22-item inventory. A cutoff of $\geq 10$ is commonly used to determine burnout.\textsuperscript{14}

Participants completed an additional instrument at baseline and endpoint:

The Opening Minds Stigma Scale for Health Care Providers (OMS-HC)\textsuperscript{15,16} is a 15-item questionnaire scored on a five-point Likert scale. The OMS-HC yields an overall score and 3 subscale scores: (1) Attitudes of health care providers toward people with mental illness; (2) Disclosure and help-seeking; and (3) Social distance. The OMS-HC has acceptable internal consistency (Cronbach $\alpha = 0.79$) and has been successful in detecting positive changes in various anti-stigma interventions. A recent systematic review of the psychometric properties of instruments to assess mental health-related stigma among health professionals and students in the health sciences found the OMS-HC to be the most widely used instrument across published studies.\textsuperscript{17}

Data collection and statistical analysis. Students completed surveys through their preferred, WiFi-enabled personal devices during dedicated classroom time on 2 dates in early April 2020. We collected information securely through Qualtrics (Provo, UT), and analyzed data using SPSS version 25 (Armonk, NY).

We compared differences from baseline to endpoint in main outcomes of interest (OMS-HC) using paired-t tests. We then conducted a multiple regression analysis using change in the outcome measure before and after the intervention as dependent variable and the three baseline metrics as predictors. We consider significance at the traditional level of $P<.05$.

Qualitative component

We used qualitative methods to learn about the influence of shared living experiences by physicians on medical students’ perceptions and opted for small focus groups to foster rich discussion. The questions that guided this part of the study centered around understanding active components of the intervention of personal sharing by senior physicians. We were also interested in learning about the students’ views on how the synchronous videoconferencing delivery method affected the course, including its sharing intervention.

All students were invited to join this fourth study component: one-hour focus groups scheduled to take place 2 weeks after completion of the course. The groups were facilitated over Zoom by an impartial investigator not otherwise involved in the course (SN). We circulated sensitizing questions to the students prior to their focus group session. The students were aware that sessions were being recorded and transcribed verbatim. Deidentified transcripts were then uploaded for analysis into NVivo 12 (QSR International, Melbourne, Australia).

We analyzed the transcripts using thematic analysis,\textsuperscript{18,19} which provides theoretical freedom and flexibility to identify commonalities, and in which writing and analyzing data occur recursively alongside one another. Thematic analysis includes a rich and detailed account of the data and welcomes attention to the investigators’ reflexivity. Two authors worked independently to identify and compare codes before sharing them with the other investigators for further refinement and finalization into a streamlined codebook and overarching themes. Each key theme was supported by multiple quotes. In keeping with the tenets of participatory research,\textsuperscript{20} we consider our subjects to be co-investigators, and invited 4 student-representatives (EC, HG, NN, CP) to review and comment on our final codes and conclusions. We analyzed transcripts iteratively until we reached theoretical sufficiency\textsuperscript{21} and followed best practice guidelines for the analysis, drafting, and submission of qualitative studies.\textsuperscript{22,23}

Results

Quantitative component

All students in the second-year class (n = 61, 46% women) were invited to participate in the research component of the course; 53 students (87%) completed both baseline and endpoint assessments. Table 1 summarizes descriptive characteristics for the working sample. One third of students had left Israel by this time in the pandemic, leading to an 11-hour-wide time zone spread. Many students had prior experiences with mental illness: in a friend or relative (77%), or personally themselves (18%). Students reported substantial interest in psychiatry as a possible specialty, with only 28% of them ruling it out altogether.

The group’s mean score for depression ($15.8 \pm 4.9$) fell within the “moderately depressed” range (15-19);\textsuperscript{11} the mean score for anxiety ($17.3 \pm 6.3$) corresponded to the 55th percentile for a healthy adult population;\textsuperscript{13} and the abbreviated MBI score ($8.8 \pm 2.6$) did not suggest clinical burnout in the group as a whole.\textsuperscript{14} Total scores on OMS-HC improved after the intervention ($P = .002$), driven by its Attitudes ($P = .003$) and Disclosure ($P < .001$) subscales (Table 2). We found no significant predictors when using change in OMS-HC score as outcome in a multiple regression analysis.

Qualitative component

Nineteen second-year students (31%) participated in the focus group sessions; they were joined by 6 third-year students who
Table 1. Descriptive characteristics of second-year medical students (n = 61).

| CHARACTERISTIC                      | N   | %  |
|-------------------------------------|-----|----|
| Sex                                 |     |    |
| Female                              | 28  | 46 |
| Male                                | 33  | 54 |
| Age                                 |     |    |
| 24 and under                        | 21  | 34 |
| 25 to 29                            | 40  | 66 |
| Geographic location                 |     |    |
| Israel                              | 43  | 70 |
| Elsewhere                           | 18  | 30 |
| Time zone (UTC)                     |     |    |
| Israel (+3)                         | 42  | 68 |
| EST (−5)                            | 15  | 25 |
| PST (−8)                            | 4   | 7  |
| Hebrew fluency                      |     |    |
| Beginner                            | 19  | 31 |
| Intermediate                        | 23  | 38 |
| Proficient                          | 19  | 31 |
| Would consider specializing in psychiatry |     |    |
| Yes                                 | 13  | 21 |
| Maybe                               | 31  | 51 |
| No                                  | 17  | 28 |
| Experience with mental illness      |     |    |
| Have a friend or relative diagnosed with |   |    |
| Yes                                 | 47  | 77 |
| No                                  | 14  | 23 |
| Ever been diagnosed with            |     |    |
| Yes                                 | 11  | 18 |
| No                                  | 50  | 82 |
| Typical hours of sleep per night    |     |    |
| 7 or fewer                          | 38  | 62 |
| 8 or more                           | 23  | 38 |
| Met in the past year with           |     |    |
| Primary care provider               |     |    |
| Yes                                 | 43  | 70 |
| No                                  | 18  | 30 |

Table 1. (Continued)

| CHARACTERISTIC                      | N   | %  |
|-------------------------------------|-----|----|
| Mental health provider              |     |    |
| Yes                                 | 14  | 23 |
| No                                  | 47  | 77 |
| Comfortable asking program faculty for help in |   |    |
| Academics                           |     |    |
| Yes                                 | 42  | 69 |
| No                                  | 19  | 31 |
| Mental health                       |     |    |
| Yes                                 | 29  | 48 |
| No                                  | 32  | 53 |
| Considered dropping out of program during past year | | |
| Yes                                 | 6   | 10 |
| No                                  | 55  | 90 |

Abbreviation: UTC, Coordinated Universal Time.

had taken the course in person during the previous academic year. Each of the 4 sessions included a median of 6 participants (range, 5-7).

We identified, based on the combined focus group transcripts, three broad epochal themes as active components of the shared living experience intervention. Supporting quotations in the sections that follow are attributed using the following naming convention: focus group number (I–IV); participant (AA–ZZ); medical school year (2 or 3).

Theme 1. Before: Structural elements

1.1 Context within the curriculum. The intervention was embedded within a specific course (preclinical psychiatry) and medical school sequence (second year). These logistics were based on the course instructors’ specialty and availability, rather than on a deliberate determination of the optimal fit within the broader curriculum. The course covered mental health conditions common in the young adult population that were likely to resonate with the students and their cohort: depression, anxiety, suicidal behavior, and substance abuse and eating disorders. As such, students were primed to reflect in a more intentional way about their own mental health during the week. Still, a consistent message they articulated was that the shared experiences and the discussions they fostered didn’t need to be yoked to psychiatry as a subject matter:

I was less surprised that they came from psychiatrists, who I would imagine need a lot of emotional self-reflective intelligence. But I think the message would have been the same for me personally if it happened from any other specialist. (III, NN2)
Table 2. Main outcomes of shared living experience intervention (n = 53).

| SCALE (SCORING RANGE)* | BASELINE | ENDPOINT | DIFFERENCE | STATISTIC |
|------------------------|----------|----------|------------|-----------|
|                        | MEAN     | SD       | MEAN       | SD        | MEAN (95% CI) | PAIRED-T | P     |
| OMS-HC (15-75)         | 60.5     | 7.2      | 57.0       | 7.8       | −2.6 (−1.0, −4.3) | 3.272    | .002  |
| Attitudes (6-30)       | 24.6     | 2.9      | 23.2       | 3.6       | −1.1 (−0.4, −1.83) | 3.118    | .003  |
| Disclosure (4-20)      | 14.4     | 3.1      | 12.9       | 3.3       | −1.3 (−0.7, −1.9)  | 4.020    | <.001 |
| Social distance (5-25) | 10.6     | 2.1      | 10.8       | 1.8       | 0.2 (−0.5, 0.9)   | 0.601    | ns    |

Abbreviation: OMS-HC, Opening Minds Stigma Scale for Health Care Providers; df = 52.
*Higher scores indicate more stigmatized perceptions.

There was a shared sense that the underlying messages of self-care and help-seeking should not “belong” to any one discipline. Indeed, to make it part of psychiatric content could risk making it appear a specialized or niche issue, rather than a broadly relevant necessity.

Having made it clear that mental health and emotional wellbeing should not be cordoned off to psychiatry, students did note the importance of excluding certain insiders too close for them to feel at liberty to have open conversations:

1.2. Relationship and proximity to target group. The fact that the course instructors were not part of the school’s administration or core faculty appeared to have a liberating effect, in that students felt at greater ease to share their more intimate views. This was most relevant during the small break-out group discussion sessions. A senior student reflected on how during the previous year one small group had had a core faculty member participating, an authority figure in the school, which definitely stifled people’s desire to share their feelings and their emotions, especially with the stigma towards vulnerability in medical school. (II, LL3)

By contrast, during the second year of implementation, all 3 instructors involved in the small groups were in a more liminal position. They were not “insiders” with close pre-existing ties to the students, deep knowledge of their programmatic or emotional needs, or a place of evaluative or disciplinary rank over them. But they were not entire strangers either: they had developed ties to the school and the student body over the years, were familiar to students to some extent through “word of mouth” from previous cohorts, and had enough sense of the workings of the school to bring legitimacy and trust to the students. The instructors’ working knowledge of, and current practice in, American medical settings were additionally relevant to this likewise liminal program: based in one country, yet following the educational goals and social mores of another.

1.3 Timing within course. Just like instructors should optimally be neither full insiders nor outsiders, students considered the proper timing of the intervention (not too early, not too late) as important to its impact. By developing a mutual familiarity with each other early on, students gained a level of trust and comfort with the instructors, who in turn became acquainted with activities and challenges of the students’ quotidian lives. Getting a sense of each other’s styles, humor, and even personal quirks helped me remember that professors in these positions are human, but it was something that developed over the week we spent together. I wanted to know more about them, but never realized how personal it could get, and by getting so personal I think it had such a lasting impact. (IV, ZZ2)

Placing the content too early in the course could have proven off-putting: sharing too much too soon, or perhaps giving the unintended message that psychiatry is more concerned with its practitioners than with its patients. Without the context of its broader placement in psychiatry (or another organized curricular component), a stand-alone asynchronous intervention would have lost much of its power. Moreover, by revealing personal vulnerabilities too early in the course, instructors could influence the expectations of the ensuing relationship in a less productive way.

A person is more than their diagnosis. So if a diagnosis is the first thing we learn about them I feel it kind of colors things and all your future interaction. So our first interaction was ‘okay, here are these very successful doctors who are teaching us and it’s a great course’ and then later, only after we have a relationship do we find out more. It’s like, ‘oh, they’re people’. Ingrained biases, I guess. So yeah, I thought it was good, the way that it was, towards the end, after we already had a relationship. (III, OO2)

Had the self-disclosures and discussion groups happened too late in the course, there would have been no opportunity to properly process the experience, nor time to address its impact and the ways to meaningfully incorporate its lessons moving forward in medical school.

Theme 2. During: Instructors’ characteristics

2.1 Enveloping care. For physicians’ personal sharing to “ring true”, the classroom needed to have a sense of mutual trust, respect and care. Such a setting was established early on, starting with a clear sense of purpose and structure:

I think the respect was established immediately upon seeing the calendar and just how much thought and effort was put into coordinating it for us. (IV, TT2)

Throughout the course, students and their time were treated with respect, legitimate engagement, and overt gratitude.
Advocating for the students dealing with administrative issues deepened that trust:

‘Don’t worry, just learn as scheduled, we’ll take care of that.’ What a huge relief to hear that and have an advocate for us. That was a big deal. (IV, TT2)

As students felt cared for, they in turn eased into a place of comfort and willingness to open up:

a lot of the narrative that comes up for residencies where you’re dealing with people who are higher up than you is very negative, in the sense that you’re just going to get treated like garbage for a while until you are a doctor and then you can do whatever you want. But it was great to see someone who is in the role of an instructor being kind, warm and accepting of who you are and also sharing their own vulnerabilities. It made everyone feel like a place to be who you really are. (II, JJ2)

2.2 Unexpected vulnerability. The contrast between the students’ perceptions of their instructors’ professional personas with the glimpses into their fallibility and human imperfection provided for a startling level of engagement:

I was personally just taken aback. I did not expect for something like that to happen. And I think it was great. Something changed a lot, real fast. It was unexpected because I had never experienced it in relation to someone in medicine. (I, DD2)

For some students, the more idealized an instructor was, the more powerful it was to see their fragile sides revealed:

It was especially jarring to hear from someone we’ve all heard so much high praise about, and I can tell why the high praise. But then there is the personal story. And it was reassuring to see someone that successful and who’s made it through being as comfortable speaking up and sharing with us the vulnerabilities of becoming a doctor. (II, JJ2)

By seeing their superiors model comfort in sharing fragile and sensitive aspects of themselves, the instructors provided an invitation for students to be equally open about aspects of their own selves that could have as easily remained unsaid. Such self-silencing when left untended could well foster discontent and further entrench the illusion of superiority and invulnerability in the practice of medicine:

It’s really easy to get intimidated or to lose track of the fact that these doctors are people too. And I think it helped me see a different side to the walls that physicians routinely put up. (IV, ZZ2)

2.3 Content of shared experiences. We deliberately broadened the nature of the shared experiences of personal vulnerability, such that mental illness was one of the topics discussed, but not the only one. Students resonated differently to the various components, with many commenting on that of openness around psychopathology:

I was diagnosed with depression’ takes guts to talk about. It makes you wonder about what our hang-ups still are about the power dynamics of labeling people with certain diagnoses, especially when it comes to the mental health world. (IV, UU2)

At a time when students were preoccupied with their upcoming Step 1 tests and were acutely aware of their future status as international medical graduates (IMGs), sharing similar personal vulnerabilities struck a chord:

the fact that, you know, that Dr. X is also a foreign medical graduate and is honest about things like failing the boards. It was heartening, the fact that you can have issues, make mistakes, and still get to where you deserve to be or where you want to be in your career – even if you might be disadvantaged at certain points or things didn’t work out exactly how you had planned them. (II, HH2)

Addressing acculturation as a discrete form of stress, rather than leaving it as unspoken “background noise” was likewise relevant to this group, in which some two thirds don’t speak the local language or have family in their host country:

His story wasn’t about being diagnosed with this or that, but about acclimating to a new culture, which is also a big strain and something that we’ve all had to deal with, for most of us coming to a foreign country. (II, HH2)

In short, the content of physician’s sharing personal histories should not be a ‘one-size fits all’, but rather tailored to the specific needs and realities of each target group.

2.4. Unarmored mutuality. The small group discussions that followed the instructors’ self-disclosures gave an opportunity for the students to be not just passive witnesses, but rather to engage as full-fledged partners:

it wasn’t a one-way exchange where professors have shared their personal stories, which is admirable. What I particularly enjoyed here was that they not only shared their personal stories but took time to listen to ours. (II, HH2)

This approach provided a counterpoint to the inherently hierarchical nature of medicine, one in which there’s this kind of invisible line between instructors and students. And it took a deliberate effort to break that barrier and engage with students on such a personal level, which made a real difference. (II, KK2)

By establishing a “level playing field” that superseded age, seniority or station of professional development, the intervention set the stage for students to feel trusted through their willingness to share these intimate details about their life with us. It made me feel like they were both trusting me and putting me on the same level, and it made me want to listen to what they had to say because they were so willing to share. (III, OO2)
**Theme 3. After: Enduring and “trickle down” effects.** Students recognized the intervention’s potential to inspire meaningful action on their part beyond the duration of the course. They left the week eager to maintain the dialogue and deepen their relationships with one another. They tried to plan for ways to continue what they’re preaching, which is a trickle-down effect that starts in our education. I’d like to find a way to foster even more conversations, even in their absence – of how to respect each other and make room for mental health and recognize it. (IV, WW2)

Although this appeared to be an aspirational goal by course’s end, and one with no concrete plans for implementation, students welcomed the way in which some of their upper classmates had maintained the momentum through an informal, student-led group

that meets maybe once every two months just to talk about things. It is facilitated by two girls in my class. It’s always related to some food theme. And it’s a forum to talk about things that are on your mind, just an open forum to talk about whatever you need to talk about. The group was actually initiated based on the discussions in last year’s course. (II, LL3)

Although it wasn’t clear whether this class would follow up with a similar initiative, its students voiced increased comfort with talking openly and approaching struggling colleagues:

my mom is a therapist. We talked about mental health all the time. But it was always about other people. And I think personally after this experience, even if I had been less inclined to talk about something I was struggling with, or in the future something like that came up, I would be more open to talk about it personally. (III, QQ2)

Additional student quotes in support of these themes are included in an Appendix, available as online supplemental material.

**Discussion**

In this study, three physician-instructors sharing their personal histories of vulnerability and living experiences with mental illness, followed by open discussion in small facilitated groups, improved stigmatized views of mental illness among medical students. The emerging benefits were comparable to those reported for the well-established Honest, Open, Proud program of self-disclosure for adolescents with mental illnesses. For this study we used the OMS-HC as outcome measure, rather than the similarly well-validated Attitudes to Psychiatry (ATP-30) and Attitudes to Mental Illness (AMI) we had relied on for our previous study. Our rationale was twofold: first, the OMS-HC captures not just attitudes and their degree of stigmatization, but also the key constructs of social distance and disclosure/help-seeking; second, the OMS-HC is broadly used, efficient, and short (15 total items, compared to 30 for the ATP and 20 for the AMI).

Qualitative analysis of focus group transcripts helped us identify important features of the sharing intervention, which we divided into 3 chronological phases: (1) Advanced planning of the intervention, such as placement within the overall medical school curriculum, the sustained relation between the faculty involved and the target group of students, and its sequence within the time constraints of the course; (2) The instructors’ characteristics and the content of the self-disclosure intervention; and (3) the enduring, or “trickle down” aspects of the intervention.

**Unexpected vulnerability and unarmored mutuality**

Theorizing a pedagogy of unexpected vulnerability and unarmored mutuality as they are practiced in each of the three phases above warrants special attention as both form key ingredients for the intervention. First, we draw from Hedelin and Jonsson’s (2003) definition of mutuality as an “interdependence and influence in the relationships with others and the view of self.”

For instructors to be unarmored in their expression requires sharing who they are in the moment, as well as the often-circuituous trajectories that led them to it. As our focus group data attest, students’ appraisals often fail to consider the vicissitudes of their instructors’ professional journeys, obscured by the stacked CVs.

The power of unexpected vulnerability lies precisely in its ability to jolt students into these new possibilities for shared expression and learning that fosters a collegial trust that surpasses the bounds of the intervention. Here, we find Lencioni’s articulation of “vulnerability-based trust” particularly helpful, as it describes the ways leaders can “comfortably and quickly acknowledge, without provocation, their mistakes, weaknesses, failures, and needs for help.”

Crucially, it is practice of recognizing “the strengths of others, even when those strengths exceed their own.”

By creating opportunities for such trust to be modeled, we view our approach as one key starting place to prepare students to be unarmored leaders and physicians who pass on the commitment to remove the enduring obstacles of stigma around seeking help for the following generation of students.

In accordance with Buber’s description of the “normative limits of mutuality” within any clinical relationship, such as between therapist and client or patient and provider, we recognize the immutable asymmetric of power and the constraints in social relationships between students and instructors. Critical pedagogy can serve as a useful theoretical lens through which to consider and leverage this reality for its focus on establishing democratic and non-hierarchical learning spaces that invite reflection-toward-action on real-world problems extracted from the learners’ context. In the tradition of Paulo Freire’s critical pedagogy, outlined in his semina Pedagogy of the Oppressed, we sought to unsettle the hierarchical divide between senior and junior, between teacher and taught, or between supervisor and learner – providing instead a horizontal two-way street in which there is a virtuous cycle of mutual learning and growth. By placing instructors and students on a similar plane of fallibility and vulnerability, the sharing of lived experience can be conducive to a disruption of traditionally vertical hierarchies and preset educational roles.
Virtual wellness

In the context of the COVID-19 pandemic we were still able to conduct the interactive session of physicians sharing their living experiences through synchronous videoconferencing. Our resort to this means of content delivery is not new, and follows other medical specialties that adapted rapidly to the limitations brought on by the pandemic. However, to the best of our knowledge, this is the first study to systematically assess the delivery of emotionally charged and personal content through this format, an initiative that can be construed under the label of virtual wellness. Indeed, we found that collaboratively engaging in candid conversations about sensitive topics in this setting was not only feasible, but may have had unique advantages:

1. No back row: every student was faced-forward and given a level playing field, with no eager students up front while others hid in the back; 2. A portal to the personal: students and instructors were framed in the revealing setting of their natural home environment, creating a unique opportunity to get to know each other in a more intimate way, one that was conducive to openness (in the words of a participant, “it did make a big difference, even something as small as when the doctor picked up the laptop and walked over to show us a really messy home office. It made the person even more real. [II, NN2]); (3) Silent members could still participate: chat functions allowed students who didn’t want to speak up to still be heard; (4) Break-out rooms: small groups and roaming faculty were assigned to virtual rooms, reducing the logistical burden of finding physical spaces and inefficiencies of time getting to them; and (5) One-to-one and one-to-many connections: by making eye contact with several students at once, instructors could effectively ‘read the room’ in a way comparable to live instruction, at times with fewer distractors; and students felt they were up close and interacting personally with the speaker.

We did not address the effects of the pandemic as an a priori objective. However, the all-encompassing influence of the global crisis was palpable throughout the course, and indeed catalyzed an overall emphasis on self-care. The timing of our intervention was fortuitous, and supported one of the immediate actions that has been suggested to prevent a parallel wellbeing pandemic among providers, namely how ‘organizations can empower and encourage clinicians to speak freely about the stressors they face and to advocate for their own health as well as that of their patients’. Moreover, the most common concerns of health care professionals during the pandemic can be addressed through five common requests that our study gave a virtual space to incorporate: ‘hear me, protect me, prepare me, support me, and care for me’.

Limitations

Our study’s single site, small sample size, and individual characteristics of its faculty and students limit the generalizability of our findings and call for independent replication and refinement. We have to consider the possibility of a Hawthorne effect, whereby through social desirability bias, students could have answered the surveys more favorably at the second time point. And even as we were able to derive a rich body of data from our focus group transcripts, we recognize that we may have had a vested interest in our findings. To the best of our abilities we addressed this possibility through our reflexive stance as qualitative scholars. We recognize that within the constraints of a post, non-randomized study design, and in a deliberate effort to minimize survey burden on participants, we may have missed an opportunity to better disambiguate the effects of the overall course from those of the study intervention on: (a) stigmatized views on patients with mental illness; (b) self-stigmatizing views; and (c) health-seeking behaviors. Incorporating instruments like the Self-Stigma of Seeking Help could be a fruitful step to address this shortcoming in the future.

Conclusions

Beyond our explicit goal to better understand salient elements of an intervention to affect positive change in medical culture (by decreasing maladaptive perfectionism and silence around emotional health and obstacles to help-seeking), the unforeseen circumstance of adapting to a pandemic led to the added discovery that synchronous videoconferencing is an effective vehicle for content delivery and meaningful exchange. Although we do not have a head-to-head comparison between in person and virtual delivery of the intervention, we believe the synchronous videoconferencing used to conduct this study will have enduring potential for continued applications beyond the forced adaptations of the pandemic. Addressing personal vulnerability, help-seeking, and shared living experience should not be exclusive to psychiatric, nor indeed, to medical education writ large. We have already started a replication and adaptation of this model to a physician assistant network across the US and believe that all the healing professions can stand to benefit from interventions and guiding concepts such as these.

Compliance with ethical standards/ethical considerations

Approved by the Yale Human Investigations Committee (Protocols # 2000026072 and 2000026115) and the Tel-Aviv University Institutional Review Board (Protocols # 0000682-1 and 0000946-1).

ORCID iD

Andrés Martín https://orcid.org/0000-0001-6425-5158

Supplemental material

Supplemental material for this article is available online.

REFERENCES

1. Dyrbye LN, West CP, Satele D, et al. Burnout among US medical students, residents, and early career physicians relative to the general US population. Acad Med. 2014;89:443-451.
2. Rotenstein LS, Ramos MA, Torre M, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. *JAMA*. 2016;316:2214-2236.
3. Comte R, Figueraza ML. Depression and suicidal behavior in medical students: a systematic review. *Curr Psychiatry Rev*. 2015;19:86-101.
4. GoldkI, Sen A, Schwenk TL. Details on suicide among US physicians: data from the National Violent Death Reporting System. *Gen Hosp Psychiatry*. 2013;35:45-49.
5. Brazeau CM, Shanafelt T, Durning SJ, et al. Distress among matriculating medical students relative to the general population. *Acad Med*. 2014;89:1520-1525.
6. Schwenk TL, Davis L, Wimsatt LA. Depression, stigma, and suicidal ideation in medical students. *JAMA*. 2010;304:1383-1390.
7. Dyrbye L, Eacker A, Durning S, et al. The impact of stigma and personal experiences on the help-seeking behaviors of medical students with burnout. *Acad Med*. 2015;90:961-969.
8. Chew-Graham CA, Rogers A, Yassin N. “I wouldn’t want it on my CV or their records”: medical students’ experiences of help-seeking for mental health problems. *Med Educ*. 2003;37:873-880.
9. Martin A, Chilton J, Gotthelf D, Amsalem D. Physician self-disclosure of lived experiences improves mental health attitudes among medical students: a randomised study. *J Med Educ Curric Dev*. 2020;7:1-10.
10. Allport G. *The Nature of Prejudice*. Reading, MA: Addison-Wesley Publishing Company; 1954.
11. Kroenke K, Spitzer RL, Williams JBW. The patient health questionnaire-9: validity and utility of a short-form mental health status survey. *Med Care*. 2001;39:1246-1253.
12. Pilkonis PA, Choi SW, Reise SP, Stover AM, Riley WT, Cella D. Item banks for measuring emotional distress from the patient-reported outcomes measurement information system (PROMIS®): depression, anxiety, and anger. *Assessment*. 2011;18:263-283.
13. Patient-Reported Outcomes Measurement Information System (PROMIS) scoring manuals. [http://www.healthmeasures.net/score-and-interpret/interpret-scores/promis](http://www.healthmeasures.net/score-and-interpret/interpret-scores/promis)
14. West CP, Dyrbye LN, Sloan JA, Shanafelt TD. Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med*. 2009;24:1318-1321.
15. Kassam A, Papad A, Modgill G, Paten S. The development and psychometric properties of a new scale to measure mental-illness-related stigma by health care providers: the Opening Minds Scale for Health Care Providers (OMS-HC). *BMJ*. 2012;12:1-12.
16. Modgill G, Paten SB, Knazk S, Kassam A, Szteto ACH. Opening Minds Stigma Scale for Health Care Providers (OMS-HC): examination of psychometric properties and responsiveness. *BMJ Psychiatry*. 2014;14:1-10.
17. Sastr-And M, Garcia-Lorenzo A, Lluch-Camut MT, Tomás-Sábado J, Zabalata-Def-Olmo E. Instruments to assess mental health-related stigma among health professionals and students in health sciences: a systematic psychometric review. *J Adv Nurs*. 2009;29:1838-1853.
18. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3:77-101.
19. Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide. *Med Teach*. 2020;42:846-854.
20. Bergold J, Thomas S. Participatory research methods: a methodological approach in motion. *Hist Sci Res*. 2012;37:191-222.
21. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*. 2018;52:1893-1907.
22. Creswell J, Klassen AC, Plano V, Smith KC. Best practices for mixed methods research in the health sciences. *Methods*. 2011;29:1-39.
23. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Heal Care*. 2007;19:349-357.
24. Mulfingen N, Müller S, Böge I, et al. Honest, open, proud for adolescents with mental illness: pilot randomized controlled trial. *J Child Psychol Psychiatry Allied Discip*. 2018;59:684-693.
25. Scior K, Rüsche N, White C, Corrigian PW. Supporting mental health disclosure decisions: the Honest, Open, Proud programme. *Br J Psychiatry*. 2020;216:243-245.
26. Corrigian PW, Larson JE, Michaels PJ, et al. Diminishing the self-stigma of mental illness by coming out proud. *Psychiatry Res*. 2015;229:148-154.
27. Burra P, Kalin R, Leichner P, et al. The ATP—5—a scale for measuring medical students’ attitudes to psychiatry. *Med Educ*. 1982;16:31-38.
28. Singh SP, Baxter H, Standen P, Duggan C. Changing the attitudes of “tomor-row’s doctors” towards mental illness and psychiatry: a comparison of two teaching methods. *Med Educ*. 1998;32:115-120.
29. Hedelin B, Johnson I. Mutuality as background music in women’s lived experience. *J Psychiatr Ment Health Nurs*. 2003;10:317-321.
30. Lencioni P. *The Five Dysfunctions of a Team: A Leadership Fable*. San Francisco: Jossey-Bass; 2002.
31. Buber M. *The Knowledge of Man*. (Friedman M, ed.). New York: Harper & Row; 1965.
32. Brown BJ. Mutuality in health care: review, concept analysis and ways forward. *J Clin Nurs*. 2016;25:1464-1475.
33. Freire P. *Pedagogy of the Oppressed*, 30th Anniversary Edition. New York: Continuum Press; 2000.
34. Caravan Y. Opening up Paulo Freire’s Pedagogy of the Oppressed. In: Dukelow F, O’Donovan O, ed. *Mobilizing Classics – Reading Radical Writing in Ireland*. Manchester: Manchester University Press; 2010:123-139.
35. de Carvalho-Filho MA. *Medical Education Empowered by Theater (MEET)*. Manchester: Manchester University Press; 2010;123-139.
36. Chipps J, Brysiewicz P, Mars M. A systematic review of the effectiveness of videoconferencing-based tele-education for medical and nursing education. *World Rev Evidence-Based Nurs*. 2012;7:87-87.
37. Hilburg R, Patel N, Ambusso S, Biewald MA, Farouk SS. Medical education during the coronavirus disease-2019 pandemic: learning from a distance. *Adv Chronic Kidney Dis*. 2020;17:22.
38. Drau V, Kirch D, Nasca T. Preventing a parallel pandemic — a national strategy to protect clinicians’ well-being. *N Engl J Med*. 2020;383:513-515.
39. Shanafelt T, Ripp J, Truog M. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. *JAMA*. 2020;323:2133-2134.
40. Finlay L. Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qual Res*. 2002;2:209-230.
41. Vogel DL, Wade NG, Haake S. Measuring the self-stigma associated with seeking psychological help. *J Couns Psychol*. 2006;53:325-337.