

Health Care Practitioners and Families Writing Together: The Three-Minute Mental Makeover

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ABSTRACT

Introduction: Expressive writing, the process of self-expression through writing, appears to have beneficial effects. Our hospital's narrative medicine group developed an expressive writing tool, the Three-Minute Mental Makeover (3MMM).

Objective: To evaluate the effectiveness of the 3MMM to reduce stress and optimize communication between health care practitioners and their patients/families.

Methods: Patients and families were recruited from a Chicago-area children's hospital from December 2016 through July 2017, from the neonatal intensive care unit, pediatric intensive care unit, inpatient pediatric unit, and outpatient pediatric clinics. Health care practitioners included a pediatric cardiologist, pediatric residents, child development specialists, and pediatric nurses. Practitioner and patient family participants completed prestudy and poststudy surveys to assess perceived stress and communication levels. Using a standardized script, practitioners led the 3MMM activity, writing concurrently with patients/families. Participants then shared their responses. Presurvey and postsurvey data were compared using nonparametric tests.

Results: Eight practitioners led 96 patient/family members in 3MMM activities and study surveys. At baseline, all patients, family members, and practitioners reported experiencing 1 or more symptoms of stress. After participating in the 3MMM, patients/family members and practitioners reported reduced stress compared with baseline ($p < 0.001$). A significant improvement in communication was reported by practitioners ($p < 0.001$). Eighty-eight percent of patients/families reported that the 3MMM activity was helpful, even though only 35% had used writing or journaling in the past.

Conclusion: The 3MMM is a short writing exercise that reduces stress for practitioners, patients, and families. Future studies may help determine long-term effects of the 3MMM.

INTRODUCTION

It is well established that there is a strong association between illness and stress.¹⁻⁴ In addition to the relationship between stress and disease in the patient^{1,3} and the patient's family,^{2,5,6} health care practitioners are subject to stress and burnout.⁷⁻¹¹ One method used to help cope with stress is *expressive writing* (EW), defined as writing about topics such as traumatic or stressful experiences, thoughts and feelings.¹²⁻¹⁴ Several guided EW techniques have been described to help people manage stress in a wide variety of settings.¹⁵⁻¹⁹

To introduce EW in a children's hospital, our narrative medicine group developed the Three-Minute Mental Makeover (3MMM), a short writing tool for use in clinical practice.²⁰ This was done within the framework of *narrative medicine*,

defined as medicine practiced "with these narrative skills of recognizing, interpreting, and being moved by these stories of illness."²¹ The narrative medicine approach aims to improve the effectiveness of care by encouraging empathy, by promoting authentic dialogue, and by creating a shared experience for health care practitioners and patients.²²⁻²⁴ Many authors have recommended incorporating narrative medicine as part of the education of medical students,²⁴⁻³⁰ residents,^{31,32} and practicing health care practitioners.^{22-24,33} However, to the best of our knowledge, no previous studies have used EW in a dyad consisting of both the health care practitioner and the patient/family.

After using the 3MMM with hundreds of patients and families with apparent success, we wanted to measure its effectiveness. We hypothesized that the 3MMM

would reduce perceived stress and improve communication for patients, family members, and health care practitioners. This study was approved by the institution's institutional review board.

METHODS

The 3MMM consists of the health care practitioner and the patient/family writing concurrently, using the following prompts: "1. Write 3 things you are grateful for (be specific). 2. Write the story of your life in 6 words. 3. Write 3 wishes you have." After writing, the practitioner invites the patient/family participants to join in sharing what they have written.

Seven health care practitioners, including 2 resident physicians, 3 nurses, 1 clinical psychologist, and 1 learning behavioral specialist, volunteered to be trained in the use of the 3MMM. Training sessions for this study started with a brief introduction to the 3MMM activity. The practitioner being trained participated in the 3MMM, writing along with the trainer. Next, the trainee used a standardized script to lead others in the 3MMM activity, until a level of comfort was established. Providers were instructed to incorporate thoughts about and hopes for patient/family members into their writing as a way to enhance connection. Training sessions lasted 15 to 30 minutes each.

Patients and families were recruited from inpatient and outpatient areas of a metropolitan Chicago-area children's

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hospital from December 2016 through July 2017, including from the Neonatal Intensive Care Unit (ICU), Pediatric ICU, inpatient pediatric unit, and outpatient pediatric clinics. Practitioners identified patients and families under their direct care who appeared to be experiencing stress, either by appearance (looking tired, angry, or sad) or by exhibiting behaviors commonly associated with stress (restlessness, lack of focus, or emotional outbursts) and who met the eligibility criteria, which included fluency in English. Families were related to the index patients (the patients being cared for). When the index patients were deemed by the practitioner to be healthy enough and able to write, they were invited to participate in the study.

Using the standardized script, practitioners offered the 3MMM to eligible patients and/or family members. After verbal consent was obtained, the practitioner assigned the patient/family participants a study identification number, which was placed on the packet containing all study materials. All participants (patients/family members and the practitioner) then completed a preactivity survey on paper ranking their perceived level of stress and communication on a scale of 1 to 5; 1 indicated strongly

disagree, and 5 indicated strongly agree (see Sidebar: Preactivity and Postactivity Surveys on Three-Minute Mental Makeover [3MMM]). Signs and symptoms of stress were derived from established criteria.^{34,35}

Next, practitioners guided the 3MMM activity at the bedside of the index patient or in the examination room for outpatients. Practitioners, family members, and practitioners followed the writing prompts of the 3MMM, writing concurrently. Practitioners and patient/family participants were then given an opportunity to share what they wrote.

After sharing responses, participants completed a postactivity paper survey, assessing past use of expressive writing, the helpfulness of the 3MMM activity, and again ranking stress and communication levels (see Sidebar: Preactivity and Postactivity Surveys on Three-Minute Mental Makeover [3MMM]). Patient/family surveys were *not* reviewed by the practitioner at the time of completion. All surveys were placed back into the study packet. If permission was given, the practitioner retained copies of the patient's and family member's writing. At the conclusion of the activity, patients and family members received a brochure that described the activity and listed resources

available at the hospital for addressing stress for patients/family members, such as social work, pastoral care, and Child Life services. This brochure was provided so participants could repeat the activity on their own if they found it helpful and to provide guidance if the activity elicited feelings that they wanted to explore further.

Demographic and other clinical information related to the index patient was collected from the medical record. Survey responses and study data were collected and managed using REDCap electronic data capture tools hosted at Advocate Children's Hospital. Analysis was completed using SPSS (Version 25.0 for Windows, IBM Corp, Armonk, NY). Likert-type rated survey responses, before

Preactivity and Postactivity Surveys on Three-Minute Mental Makeover (3MMM)

Pre-3MMM survey:

1. I feel burned out/stressed: (Likert scale 1-5).^a
2. I have experienced these symptoms of burnout/stress in the last ____ (no. of) months.
3. I feel good about the communication between me and my health care team (Likert scale 1-5).^{a,b}

Post-3MMM survey:

1. I feel burned out/stressed (Likert scale 1-5).^a
2. I feel good about the communication between me and my health care team (Likert scale 1-5).^{a,b}
3. In the past, I have used writing or journaling to help cope with difficult situations (Likert scale 1-5).^a
4. This writing exercise was helpful to me (Likert scale 1-5).^a
5. How did this activity change the relationship with your practitioner?^b
6. What did you like?
7. What didn't you like?
8. Any suggestions to improve the activity?

If all identifying information is removed, I give permission to share my writing (signature).

^a Likert scale: 1) strongly disagree, 2) disagree, 3) neither disagree nor agree, 4) agree, 5) strongly agree.
^b Provider surveys contained same statement in relation to the patient and/or patient's family.

Table 1. Patient demographics (n = 56)

Demographic characteristic	Value
Sex, no. (%)	
Male	24 (42.8)
Female	32 (57.2)
Age, y	
Mean (SD)	7.83 (7.99)
Range	0-24.1
LOS, d (n = 43; inpatients only)	
Mean (SD)	35.13 (47.15)
Range	0-245
LOS (survey), d (n = 43; inpatients only)	
Mean (SD)	23.62 (38.55)
Range	0-214
Race, no. (%)	
White	36 (64.3)
Asian	6 (10.6)
African American	3 (5.3)
Other	2 (3.7)
Not available	9 (16.1)
Ethnicity, no. (%)	
Hispanic	4 (7.1)
Non-Hispanic	36 (64.3)
Unknown	16 (28.6)
Insurance, no. (%)	
Public	9 (16.1)
Private	47 (83.9)
Unit of care, no. (%)	
Inpatient, Neonatal ICU	20 (35.7)
Inpatient, Pediatric ICU	9 (16.1)
Inpatient, pediatrics	11 (19.6)
Outpatient	16 (28.6)

ICU = intensive care unit; LOS = length of stay; SD = standard deviation.

and after the activity, were summarized using medians and interquartile ranges and were compared using the Wilcoxon signed-rank test. The Spearman rank correlation was used to examine the relationship between survey responses, and the correlation coefficient ρ was reported. A p value of less than 0.05 was considered significant.

RESULTS

A total of 152 surveys were completed, with 96 surveys by patient/family participants (56 index patients) and 56 surveys by 8 practitioners. Practitioners often led the 3MMM activity with more than 1 family member of an individual patient. The age of index patients ranged from newborn to 24 years. The index patients included inpatients in the Neonatal ICU, Pediatric ICU, and the general pediatrics unit, as well as pediatric outpatients (Table 1). The primary diagnosis of index patients included prematurity, congenital heart disease, neurodevelopmental disorders, anxiety, cystic fibrosis, and other disorders (Sidebar: Patients' Primary Diagnoses).

Of 102 patients/family members who were initially offered the opportunity to participate in the 3MMM activity, 96 (94%) completed the activity. Patient/family participants in the study included 19 patients (aged 8 to 24 years), 69 parents (49 mothers, 20 fathers), 7 other relatives, and 1 family friend.

Reasons given for not participating in the writing activity included: "I don't like writing" ($n = 3$), "My child is too sick for me to concentrate" ($n = 2$), and "I don't have time" ($n = 1$).

Among the 152 patients, family participants, and practitioners who participated in the 3MMM activity, all completed preactivity and postactivity surveys. All 8 practitioners (100%) and 95 (99%) of 96 patient/family participants chose to share their responses.

Stress

In the preactivity surveys, all patient/family participants and practitioners reported experiencing stress, with a variety of symptoms (Table 2). Patient/family participants and practitioners identified exhaustion and not sleeping enough as

top symptoms of stress. Patient/family participants reported high levels of frustration and irritability; many practitioners reported increased caffeine intake.

Compared with the preactivity surveys, in the postactivity surveys, patients/family members (median score = 4 vs 3, $p < 0.001$) and practitioners (median score = 4 vs 2, $p < 0.001$) reported a significant reduction in stress (Figure 1). Patients/families ($\rho = 0.41$, $p < 0.01$) and practitioners ($\rho = 0.45$, $p < 0.01$) with greater baseline stress had a greater reduction in stress after the 3MMM activity. Although changes in stress did not differ by patient type/unit among patients/families, practitioners experienced the most substantial reduction in stress in the Neonatal ICU (median preactivity vs postactivity score = 3 vs 1, $p < 0.001$) and outpatient areas (median preactivity vs postactivity score = 3.5 vs 2, $p < 0.001$). Among patients/families,

Symptom of stress	Patient/family (n = 96), %	Practitioner (n = 56), %
Decreased concentration	48	29
Exhaustion	72	84
Eating too much	17	9
Not eating enough	34	20
Forgetfulness	40	23
Frustration	60	34
Getting sick more often	15	7
Increased caffeine intake	24	75
Increase in unhealthy choices	20	7
Increased irritability	44	20
Less time for exercise	45	27
Low motivation level	32	7
Poor job performance	11	0
Sleeping too much	9	2
Not sleeping enough	66	84

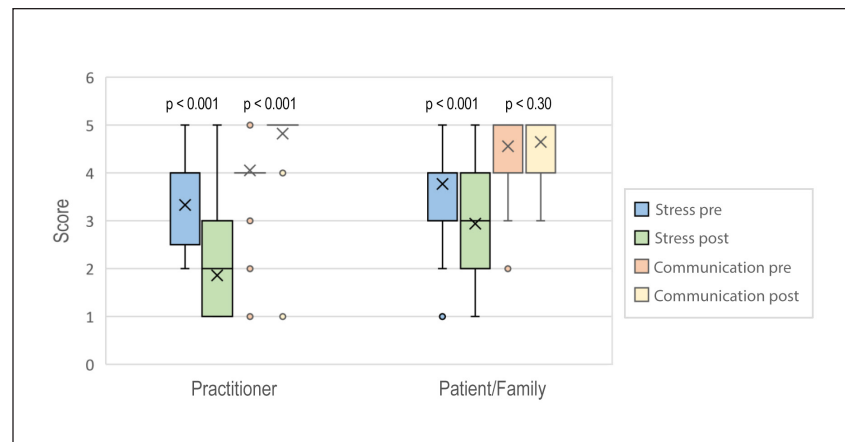


Figure 1. Results of preactivity and postactivity survey responses on the Three-Minute Mental Makeover (3MMM).^a

^a Percentages in left graph do not total to 100% because of rounding.

X (in bars) = median.

Written Comments of Patient/Family Members

How did the writing exercise change your relationship with your practitioner?

Deeper, more personal. Feel like a real team.

One hour ago he was a stranger. Now I have confided some of my deepest secrets and trust him with my daughter's care.

I think it helped my son and myself be more at ease with the doctor. It was nice to see my son actually share information.

What did you like about the writing exercise?

Time, true sincerity, care, concern, passion.

I was able to write something down that I usually don't share.

Made me think of things other than the present.

It's easy to do.

It's short.

there was an inverse correlation between historical use of writing and reduction in stress ($\rho = -0.22, p = 0.03$). That is, there was greater improvement in stress levels among those who had not previously used journaling to help deal with stress. Among health care practitioners, there was a positive correlation between historical use of writing and reduction in stress ($\rho = 0.43, p = 0.001$).

Communication

Patients/families reported good communication with the health care team both before and after participating in the 3MMM (median preactivity vs postactivity score = 5 vs 5 [maximum score of 5]). Practitioners reported improved communication with patients/families after the 3MMM activity (median preactivity vs postactivity score = 4 vs 5, $p < 0.001$; Figure 1). When analyzed by patient type/unit, perceived communication after the 3MMM activity improved significantly among families only in the Neonatal ICU (median change = 0, interquartile range = 0-1, $p = 0.008$).

Eighty-eight percent of patients/families reported that the 3MMM activity was helpful, 12% were neutral, and no patients/families reported that the activity was not useful (Figure 2). This positive response to writing occurred even though only 35% of patients/families had previously used writing to cope with difficult situations (Figure 2).

Written comments by families and patients about the 3MMM were generally positive. The Sidebar: Written Comments

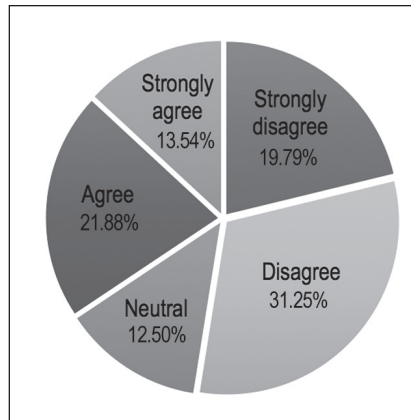


Figure 2A. Percentages of patient/family responders who reported use of writing in the past.

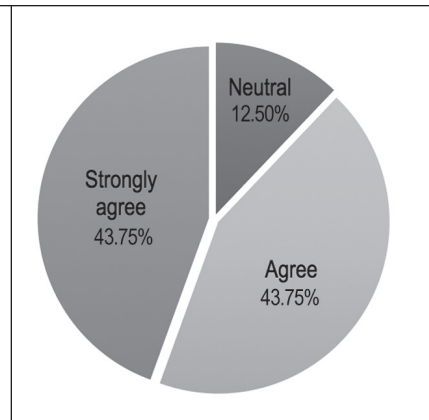


Figure 2B. Percentages of patient/family responders who reported finding Three-Minute Mental Makeover (3MMM) activity helpful.

of Patient/Family Members describes selected comments by patient/family participants.

DISCUSSION

The most important finding of this study is that a brief, shared writing exercise is efficacious in enhancing communication and reducing self-perceived stress for patients and health care practitioners in the medical setting.

EW has previously been shown to improve mental health, including depression,³⁶⁻³⁸ postpartum depression,³⁹⁻⁴² and posttraumatic stress disorder in ICU settings,^{43,44} as well as to increase resiliency in caregivers of chronically ill people.⁴⁵⁻⁴⁷ Additionally, EW can improve physical health in a variety of other health conditions, including asthma and rheumatoid arthritis,^{48,49} hypertension,⁵⁰ wound healing,^{51,52} and HIV.⁵³ In previous studies of health care practitioners, EW has been shown to promote resiliency, enhance empathy, and decrease burnout.^{24-27,30,32,54}

Most EW techniques described in the literature require a very large investment of time in training and execution,¹²⁻¹⁹ which could be a limitation for busy clinicians who may believe they do not have the expertise to use writing with their patients. Although some authors found benefits after participating in short gratitude writing exercises⁵⁵⁻⁵⁷ and others found improvements after writing for just 2 minutes on 2 consecutive days,⁵⁸ we found no reports of writing techniques

used by health care practitioners with their patients in clinical practice.

Unlike previous EW techniques, the 3MMM was designed to be used by practitioners with their patients in clinical settings. Patients, families, and health care practitioners all reported lower stress after participating in this time-limited, guided writing exercise. Most patients and families thought the 3MMM writing exercise was helpful, independent of past use of journaling to cope with stress. The 3MMM activity appears to be different from most previously reported EW techniques in 3 important respects: It is brief, it involves guidance by the practitioner, and it features concurrent participation in a dyad of practitioner and patient/family member.

Because it is brief, the 3MMM may be used within the constraints of a busy clinical practice. Although the 3MMM does involve a small investment in time, our experience is that using the 3MMM often improves overall efficiency because highly stressed patients and families can take up an inordinate amount of practitioners' time. By offering patients and family members a structured way to feel heard, the 3MMM can promote team building, improve overall care, and cut down on the number of "unanswerable," repetitive questions that are often posed by patients and families in difficult medical situations.

The 3MMM is guided by practitioners who know their patients/families well, so they can initiate the 3MMM for those

Patients' Primary Diagnoses

- Behavioral health (depression, anxiety)
- Cancer
- Cardiac disorder (PDA, myocarditis, tachycardia)
- Cystic fibrosis
- Educational difficulties
- Holoprosencephaly
- Hydronephrosis
- Neurodevelopmental disorder (attention-deficit/hyperactivity disorder, conduct disorder, autism)
- Prematurity
- Traumatic injury
- Oncology

who are most stressed and build on and improve the existing therapeutic relationship. In our opinion, this is preferable to being guided by a writing “expert” who does not know the patient/families, as is the case in most previous studies of therapeutic use of EW.^{12-18,36,37}

A distinctive feature of the 3MMM is concurrent writing: Practitioners writing alongside and about the patient/family. It was our impression that positive feelings, for both the practitioner and patient/family, were enhanced when the practitioner wrote something about the patient/family. We believe this simultaneous writing and partner sharing was crucial to the positive findings, and may have helped channel and develop the therapeutic relationship.

The success of the 3MMM in reducing perceived stress for patients, families, and practitioners may be explained by “common factors” such as alliance, collaboration, and empathy, which have been noted in psychology studies to be important for developing an effective therapeutic relationship.⁵⁹⁻⁶¹ These common factors may have encouraged a collaborative approach among practitioner and patient/family members, as suggested by patient/family participants’ and practitioners’ perception of high levels of communication even at baseline (see Sidebar: Preactivity and Postactivity Surveys on Three-Minute Mental Makeover [3MMM]). Practitioners reported that the 3MMM improved communication with patients and families. Written comments suggested patient/family participants experienced feelings associated with common factors, which would be expected to enhance any therapeutic relationship (see Sidebar: Written Comments of Patient/Family Members). Although this connection is positive and desirable, it may also have influenced the postsurvey responses because patient/family participants may have not wanted to disappoint their practitioner’s expectations of helping them relieve stress. To limit the influence of this potential limitation, surveys were not reviewed by practitioners at the time of the study interaction.

Most practitioners in the current study had no previous experience leading writing activities, yet after a short training

session, all were successful in guiding their patients in the 3MMM activity in clinical settings. Results of the current study suggest it would be possible for many health care practitioners to incorporate the 3MMM into their clinical practices.

There are a few limitations to this study. First, there was no control group in this study. It is possible that any expression of compassion by the practitioner may have yielded similar benefits. This was not measured in this study. Future studies might include control patients/families who participate in a neutral writing exercise or who do not participate in any writing exercise, and compare similar prewriting and postwriting responses with those who participate in the 3MMM activity.

A second limitation is the subjective nature of the surveys. That is, the surveys reflect self-reported evaluations of stress and relationships. Future research to evaluate more objective measures of stress might be helpful, such as measurement of cortisol or catecholamine levels. Finally, a third limitation is that because the study required fluency in English, populations who spoke other languages were not included.

It is unknown what the long-term effects of the 3MMM exercise are, whether those who participate in the 3MMM subsequently use journaling to reduce stress and process life events, or how the 3MMM might best be used by practitioners for hospital and outpatient settings. We are currently conducting a follow-up study to assess the long-term effects of participating in a single 3MMM exercise.

CONCLUSION

In an age of time constraints in most clinical settings, the 3MMM is a simple, brief writing exercise that can be used by health care practitioners in a variety of inpatient and outpatient settings. The 3MMM was helpful even for people who had not used journaling or EW in the past. The 3MMM is a new way to help patients and families better cope with stress. Health care practitioners who write alongside their patients may decrease their own stress and improve communication for all participants. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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Authors’ Contributions

David G Thoele, MD, conceptualized and developed the 3MMM writing tool, designed and implemented the study, participated as a practitioner in the study, and directed manuscript development.

Cemile Gunalp assisted with the study and survey design, collected data, and assisted with manuscript development.

Danielle Baran, PhD; Jamie Harris, MD; and Marjorie A Getz, PhD; assisted with tool and study design, participated as practitioners in the study, and contributed to manuscript development.

Douglas Moss collected data, and assisted with manuscript development.

Yi Li, MD, provided statistical assistance and also guidance in content and interpretation of the manuscript.

Ramona Donovan, MS, RD, CCRC, assisted with study design and implementation, and contributed to manuscript development.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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