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Medical Errors

Wisdom through adversity: Learning and growing in the wake of an error

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ABSTRACT

Objective: Medical errors are a nearly universal experience for physicians. An error that harms a patient is one of the most difficult experiences that physicians face. Difficult experiences can result in growth. This study investigates how physicians coped positively with having made a serious mistake. This paper describes common elements identified in how physicians coped positively with these difficult circumstances, and the positive ways in which they learned and changed.
Methods: Physicians were recruited nationally through advertisement and word of mouth. Researchers conducted in-depth interviews with 61 physicians who had made a serious medical error. Verbatim transcripts were analyzed using a grounded theory approach and constant comparative analysis methodology.
Results: Our analysis identified five major elements in the process of coping positively with the experience of a serious medical error. These elements included *acceptance*, *stepping in*, *integration*, *new narrative* and *wisdom*. Subthemes further detail the content within each element.
Conclusion: This study provides evidence that the experience of coping with a serious mistake can be formative in a positive way for physicians and provides a "roadmap" for growth through this experience.
Practice implications: The profession must now seek ways to foster the development of wisdom out of these difficult experiences.

1. Introduction

Medical errors are a ubiquitous experience for health care professionals, including trainees, and an error that harms a patient is one of the most difficult experiences that a clinician can face [1–3]. Hilfiger's account of the emotional impact of errors in medicine was the first to bring the issue to the forefront [4,5]. Since then, a number of studies have documented the negative impact that mistakes can have on clinicians, including guilt, shame, emotional distress, fractured relationships, isolation and negative adaptive behaviors [6–8]. Albert Wu characterized the clinician as "the second victim" in this tragic scenario, and called for appropriate attention to support clinicians in the aftermath of such events [9]. This concern also extends to trainees [10,11]. Scott et al. have described the "natural history" of recovery for providers after adverse patient events, and called for institutional support to help assist clinicians during this recovery process [12].

Recently, a new understanding of the effects of trauma is emerging in the psychological literature termed post traumatic growth (PTG). Studies now demonstrate that some people are able to grow after trauma, an alternative to either post-traumatic stress or simple recovery [13–17]. Psychologists have begun to identify how some people change for the better in facing adversity, and what helps them grow. In the PTG model, people facing serious adversity move through a process of rumination and with self-disclosure and social support are able to re-work their self-understanding and grow. The final product of post-traumatic growth is postulated to be wisdom [13].

Wisdom is not frequently discussed in medicine, but as Branch suggests, perhaps wisdom is what we should be striving for in our development as clinicians and that "seeking wisdom should be embedded in our culture" [18]. Wisdom researcher Monika Ardelt's definition of wisdom reflects most of the commonly accepted attributes of wise persons, and includes: understanding the deeper meaning of things; knowing the limits of knowledge; tolerating ambiguity; compassion; and the capacity to be self-reflective [19–22]. Are there situations particularly conducive to the development of wisdom? Gluck et al. used narrative to study the development of wisdom and found that wisdom narratives differed from "peak experience" narratives in that the wisdom narratives involved events of adversity [22]. There is a growing body of psychological literature that suggests that challenging life events, or what Pasqual-Leone refers to as "limit situations" can be particular opportunities for developing wisdom [23,24]. Is it possible then that errors in medicine may be critical events

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through which physicians can gain wisdom? If so, how exactly does this occur? What kinds of changes are stimulated and how can the development of wisdom be fostered?

The Wisdom in Medicine study investigates how people cope positively with adversity. This study is designed to pay particular attention to those who coped positively and to examine in depth their experience. The study looked at two populations, physicians coping with medical error, and patients coping with chronic pain. In this paper we report on the experience of physicians who coped positively with having made a mistake that harmed or could have harmed a patient and the process of growth they experienced.

2. Methods

Physicians were recruited in three different areas of the country (southeast, northeast and west) using a combination of word of mouth and advertisement. Email announcements requested physician participants who had been involved in a serious medical error (self defined for recruiting) who were willing to be interviewed. Study participants were given $100 for participation.

We performed in-depth hour long interviews using a standardized interview guide. Participants were asked to tell the story of coping with an error, what helped them, how they changed, and what advice they had for others going through similar circumstances. Participants also completed questionnaires that measured post-traumatic growth, wisdom, forgiveness, gratitude, spirituality and personality.

Interviews were conducted by one of two researchers (MPO or NBM). The majority of interviews were in person (67% $n = 41$) generally in the physician's office. Some occurred by phone (33% $n = 20$) when the participant was from a long distance. Interviews were semi structured, using an interview guide constructed with the theoretical underpinnings of post-traumatic growth and wisdom in mind. The interviews began with a scripted introduction and an open ended question "I'd like to start by asking you to tell me the story of the error." Follow up questions were scripted to assure that each interview covered the same material (see Fig. 1), but every effort was made to garner as much information as possible using open ended questions. Interviews were digitally audio-recorded and professionally transcribed. Each transcript was coded using nVIVO 8 to organize the coded material.

This study was approved by the Social and Behavioral Sciences institutional review board (SBS#2008-0295-00). Because of the sensitive nature of the study a NIH Certificate of Confidentiality was obtained to protect the material from any discovery process.

2.1. Analysis

We used a grounded theory approach, employing common coding techniques for qualitative data and the constant comparative method of data analysis [25–28]. The first phase of coding was the development of the coding structure using line by line coding. In this phase researchers (MPO, NBM) each read all of the interviews, and then separately coded the same subset of interviews, extracting themes. Researchers met together to bring these themes into a coding structure and another subset of interviews was coded. This process was repeated until no new themes emerged. The researchers (MPO, NBM) then used that coding structure to separately code another subset of interviews to assure coding reliability between the two researchers/coders (Kappa 0.8). Once this was established, all interviews were coded by one of the two researchers. Following this initial coding, transcripts were scored by two separate researchers who were blinded to the results of the questionnaires, who rated each physician narrative as wisdom exemplar or non-exemplar (kappa 0.7) using Ardelt's 3D wisdom model as a conceptual framework.

Physician Interview Guide

Introductory Script: "Thank you for agreeing to participate in this study of how physicians cope with medical error. We are grateful for your willingness to talk with us. I'd like to remind you that if you are uncomfortable at any point we can stop the interview or shift the discussion. We will be audio-taping the interviews so that we have a full and accurate recording of your thoughts."

"Tell me the story of your journey in coping with a medical error, beginning with a recounting of the event itself it you are comfortable doing so, and taking us up to today."

(at this point the interviewer can use a series of general active listening prompts to encourage the participant to tell their whole story. Examples: "tell me more about that"…can you say a bit more about that…..what else….and then what….what was next in your journey….other things you'd like to mention?…)

"Stories often have turning points in the story line. Reflect for a moment on the turning points in your story of coping with your circumstance and tell me about those turning points."

"Can you tell me a bit about how the patient/family interacted with you during this experience? What is your relationship with them now?"

"Is this something that you felt personally responsible for, or was it a systems error…?"

Once the physician has told his/her story and is ready to move on, the interviewer should begin with the following:

1. "What role did disclosure to the patient or family play in your recovery from this event? What did you say? What was that like? How did it go? What made it easier or harder to disclose?"
2. "What role did disclosure play to peers, your boss, your colleagues? What did you say? What was that like? How did it go? What made it easier or harder to disclose?"
3. "How has this experience changed you as a physician? As a person?"
4. "Do you think that this experience has influenced in any way your relationships, your appreciation of life, your sense of your own strength, your spirituality, your sense of the future?"
5. "Has this experience changed your behavior? Are there things that you do differently now, because of this experience?"
6. "During the course of your journey, what role did any of the following play? "
   - therapy
   - forgiveness
   - family or other support
   - mentors
   - spirituality
   - making concrete changes
   - writing
7. "Can you identify things which hindered your progress toward healing or growth? "

   Prompt when necessary:
   -secrecy
   -blame
   -litigation
   -inability to be forgiven or to forgive
8. "Many institutions are looking for ways in which they can support clinicians through this process. Based on your experience, would any of the following have been helpful?
   Coaching in how to talk to a family or patient about an error (disclosure coaching)
   Access to a peer colleague support at the moment of, or after, the event
   Team support and team disclosure"
9. "Did your training prepare you for this?"
10. "Do you have any practical advice that you would share with another physician who was in your situation?"
11. "And finally, I'd like to ask why you wanted to participate in this study."
12. "Is there anything else you'd like to add? And if you do think of something later, you have my email address, and we can arrange to talk more by telephone, if you'd like."

Fig. 1. Physician interview guide.

An exemplar narrative contained evidence of wisdom based on this 3D model. Any disagreement was resolved through consensus. When all transcripts had been coded and rated, we grouped themes into critical elements involved in the process (path) of coping positively with medical error, with the specific research question "What process or path did the participants go through in responding positively to medical errors?" What follows are the