Social Science & Medicine 156 (2016) 29–38

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Medical errors: Disclosure styles, interpersonal forgiveness, and outcomes

Annegret F. Hannawa [a, *], Yuki Shigemoto [b], Todd D. Little [c]

[a] Center for the Advancement of Healthcare Quality and Patient Safety, Faculty of Communication Sciences, Università della Svizzera italiana (USI Lugano), Via G. Buffi 13, 6900 Lugano, Switzerland
[b] Psychology Department, Texas Tech University, Lubbock, TX 79409-2051, USA
[c] Institute for Measurement, Methodology, Analysis and Policy (IMMAP), Texas Tech University, Lubbock, TX 79409-2051, USA

ARTICLE INFO

Article history:
Received 13 October 2015
Received in revised form
11 March 2016
Accepted 16 March 2016
Available online 19 March 2016

Keywords:
Forgiveness
Medical error
Disclosure
Malpractice
Provider-patient communication
Empathy
Patient safety
Quality of care

ABSTRACT

Rationale: This study investigates the intrapersonal and interpersonal factors and processes that are associated with patient forgiveness of a provider in the aftermath of a harmful medical error.
Objective: This study aims to examine what antecedents are most predictive of patient forgiveness and non-forgiveness, and the extent to which social-cognitive factors (i.e., fault attributions, empathy, rumination) influence the forgiveness process. Furthermore, the study evaluates the role of different disclosure styles in two different forgiveness models, and measures their respective causal outcomes.
Methods: In January 2011, 318 outpatients at Wake Forest Baptist Medical Center in the United States were randomly assigned to three hypothetical error disclosure vignettes that operationalized verbally effective disclosures with different nonverbal disclosure styles (i.e., high nonverbal involvement, low nonverbal involvement, written disclosure vignette without nonverbal information). All patients responded to the same forgiveness-related self-report measures after having been exposed to one of the vignettes.
Results: The results favored the proximity model of interpersonal forgiveness, which implies that factors more proximal in time to the act of forgiving (i.e., patient rumination and empathy for the offender) are more predictive of forgiveness and non-forgiveness than less proximal factors (e.g., relationship variables and offense-related factors such as the presence or absence of an apology). Patients' fault attributions had no effect on their forgiveness across conditions. The results evidenced sizeable effects of physician nonverbal involvement-patients in the low nonverbal involvement condition perceived the error as more severe, experienced the physician's apology as less sincere, were more likely to blame the physician, felt less empathy, ruminated more about the error, were less likely to forgive and more likely to avoid the physician, reported less closeness, trust, and satisfaction but higher distress, were more likely to change doctors, less compliant, and more likely to seek legal advice.
Conclusion: The findings of this study imply that physician nonverbal involvement during error disclosures stimulates a healing mechanism for patients and the physician-patient relationship. Physicians who disclose a medical error in a nonverbally uninvolved way, on the other hand, carry a higher malpractice risk and are less likely to promote healthy, reconciliatory outcomes.

1. Introduction

At least 43 million adverse events occur in medicine every year at a cost of about $132 billion in excess healthcare spending and 23 million disability-adjusted life years, ranking adverse events among the top 10 causes of medical disability in the world (Jha et al., 2013). About two thirds of these incidents are caused by human error (see Leape, 1994), implying that medical errors are a substantial financial burden, but also a major source of preventable suffering for the world's population. These statistics also highlight that coping with medical mistakes is a daily challenge for medical practitioners and patients across the world.

Patients have concrete expectations for providers' disclosures after a medical error has harmed them. Unfortunately, providers generally fail to meet their expectations. Despite ethical obligations, errors are disclosed in less than a third of all cases (Blendon et al., 2002), and in such disclosures, only about half of providers

* Corresponding author.
E-mail addresses: annegret.hannawa@usi.ch (A.F. Hannawa), yuki.shigemoto@ttu.edu (Y. Shigemoto), todd.d.little@ttu.edu (T.D. Little).

http://dx.doi.org/10.1016/j.socscimed.2016.03.026
0277-9536/

explain what happened, only a third offer apologies, and very few discuss the prevention of future recurrences of the event (e.g., Hannawa, 2012a).

Reasons for this "disclosure gap" are manifold. Admitting errors is psychologically difficult for providers because it challenges their professional pride and obligations not to harm the patient. Often times, there is inadequate system support for disclosing errors (Garbutt et al., 2008) and providers commonly lack the skills for conducting these difficult conversations (Iedema et al., 2011). In addition, physicians often conceal errors because they fear that patients may experience distress, get angry, and sue them (Gallagher et al., 2006).

Insufficient provider-patient communication after an error motivates patients to file lawsuits (e.g., Vincent and Young, 1994). Thus, some of the threats providers experience after a medical error could be eliminated if patients experienced satisfactory disclosures (Jones and McCullough, 2013). Given that interpretations of emotional messages (Philipott, 1983), evaluations medical performance, and patient satisfaction (Griffith et al., 2003) are predominantly associated with physicians' nonverbal cues, patients will most likely rely on their physician's nonverbal behaviors during a disclosure in making inferences about the error, the physician's competence, and implications of the error for their health and future medical care.

While some literature in medicine, ethics, psychology, and communication science has alluded to the importance of a respectful and empathic provider-patient relationship, these important dynamic dyadic processes have not received sufficient scientific attention. Instead, they have been overshadowed by a substantial body of emerging research in the domains of patient safety, ethics, and law that aims to identify most efficient institutional responses to errors. The product of these efforts constitutes fragmented results that are difficult to reconcile. For example, defense lawyers focus on protecting providers after they have caused harm, while ethicists are concerned with principles and norms with respect to the harmed patient.

There is an evident need for a research agenda that illuminates the healing mechanisms that can help patients and practitioners cope with medical errors. Such a mechanism that allows them to reconcile their relationship after an error has occurred is facilitated by the forgiveness process (Hannawa et al., 2013). Thus, the goal of this empirical study is to enhance our current understanding of the intrapersonal and interpersonal processes that are associated with forgiveness in the aftermath of an error-induced clinical adverse event, with particular consideration of physicians' nonverbal communication during the disclosure.

1.1. Forgiveness

Forgiveness can restore broken relationships, repair individual well-being, signal continuous commitment, recognize individuals' willingness to reconcile, and reestablish justice within relationships (Waldron and Kelley, 2008). Interpersonal forgiveness consists of decreases in revenge and avoidance, and increases in benevolence toward the offender (McCullough and Hoyt, 2002). Thus, forgiveness operates not only in our feelings, but also in how we think and act toward the offender (Enright and Fitzgibbons, 2000).

McCullough et al. (1998) modeled the antecedents of forgiveness based on their *proximity* to the actual act of forgiving, postulating that the factors more proximal in time to the act of forgiveness are more predictive of forgiveness than factors more distal in time. The least proximal category of antecedents includes personality and individual differences. The next more proximal category to the act of forgiveness are variables related to the victim's relationship with the offender. Next follow offense-related factors that are unique to the specific offense, such as the presence or absence of an apology. Finally, social-cognitive factors (i.e., rumination, attributions, and empathy for the offender) constitute the most proximal category to the act of forgiveness.

While partial versions of this *proximity model* have been tested (see McCullough et al., 1997; McCullough et al., 1998), a test of the full model is needed. The current investigation fills this void, providing a comprehensive test of the *proximal forgiveness model* (see Fig. 1) in the context of health care to answer the following research question (RQ):

***RQ*$_1$:** What antecedents (i.e., personality differences, relationship indicators, offense variables, social-cognitive factors) and intrapersonal (i.e., distress), interpersonal (i.e., closeness, trust, satisfaction, doctor-switching), and contextual outcomes (i.e., patient compliance with corrective treatment recommendations, pursuit of legal advice) are most strongly associated with patient forgiveness and non-forgiveness in response to harmful medical errors?

Research also yet needs to examine the extent to which the distal factors indirectly affect the influence of the more proximal factors on state forgiveness and non-forgiveness. McCullough et al (1998) framework implies that the social-cognitive factors are influenced by the preceding categories. For example, the attributions victims make about an offense are influenced by their relational closeness with the offender (Paleari et al., 2003), and empathy seems to mediate the relationship between apology and state forgiveness (McCullough et al., 1997). To further investigate this *indirect effects hypothesis* (see Fig. 2) as a rival to the proximity hypothesis, the current study examines the following question:

***RQ*$_2$:** To what extent do the distal factors indirectly affect the influence of the social cognitive factors on state forgiveness and non-forgiveness (i.e., revenge and avoidance) in the context of medical errors?

Patients expect an apology from their doctor after having been harmed by an error. Apologies convey a sense of respect, mutual suffering and responsibility (Leape, 2012), decrease anger and blame, and positively impact trust, all of which is desirable for practitioners and patients in the aftermath of a medical error (Robbennolt, 2009). Apologies also have a substantial impact on forgiving (Waldron and Kelley, 2008). Thus, apologizing in response to a medical error may facilitate healing and repair the relationship between practitioners and patient after a medical error.

In the health care context, however, apologizing is a controversial topic. Lawyers and insurers encourage restraint because of concerns that apologizing may be interpreted as an admission of guilt. However, given the emotional contents of error disclosures, patients will likely derive most of the meaning of error disclosures from practitioners' nonverbal communication (Hannawa, 2012a, 2012b, 2013), implying that patients may perceive a sincere apology based on physicians' nonverbal behaviors, even if an apology was not actually verbalized. Thus, the following question will be pursued in this investigation:

***RQ*$_3$:** Does high nonverbal involvement of practitioners during error disclosures elicit a different forgiveness process compared to low nonverbally involved disclosures?

2. Method

2.1. Procedures

Two professional actors (female and male) and a filming crew were hired to create two 4-minute video vignettes of a hypothetical surgeon's error disclosure of a retained surgical sponge after abdominal surgery to a patient. While holding the effective verbal