




Patient Experience and Expression of Unpleasant Emotions During Health Care Encounters

Journal of Patient Experience
2020, Volume 7: 969-972
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2374373520978869
journals.sagepub.com/home/jpx


Richard E Heyman, PhD¹ , Katherine J W Baucom, PhD²,
Jill Giresi, MA¹, Liza J Isaac, BS¹, and Amy M Smith Slep, PhD¹ 

Abstract

To examine the concordance between patients' experience and expression of unpleasant emotions in a health care context, 21 patients presenting to a university dental clinic were observed for expressed unpleasant emotions and patients provided the intensity of their experienced unpleasant emotions. We found low convergence between experience and expression. Most of the time that patients experience unpleasant emotions they do not express them, and 80% of the time patients express unpleasant emotions they are not experiencing them at the time. Providers need to frequently check in with patients regarding their emotional experience during appointments, as it is infrequently accessible to providers.

Keywords

communication, clinician–patient relationship, patient perspectives/narratives, patient feedback

Introduction

Health concerns often evoke a brew of unpleasant emotions: anxiety, fear, uncertainty, dread, and anger, to name but a few (1,2). Health care encounters—like all interpersonal interactions, especially those with a built-in power imbalance—can evoke these emotions on their own (1), can exacerbate these emotions (3), or can soothe them (4,5).

Doctor–patient communication is key to innumerable health outcomes (6–8). Recently, attention has turned to health providers' ability to respond to crucial moments in health care encounters, as denoted by patients' expression of unpleasant emotions (9). A consortium of international experts on doctor–patient communication developed the Verona Coding Definitions of Emotional Sequences (VR-CoDES) (10) system to record instances of patients' subtle (ie, cues) and explicit (ie, concerns) expression of unpleasant emotions.

Thus far, research has been focused only on *expression* of unpleasant emotions, although emotion theory and research since Darwin (11) have emphasized that emotion's constituent elements—expression, experience, and physiology—are related but not redundant (12). Further, situational demands in health care encounters make it likely that patients may suppress, at least sometimes, the expression of unpleasant emotions that they experience (7). If patients' emotion during

health care encounters, and providers' responses to it, is of fundamental importance, then it is critical to know if patients' emotional experience closely tracks their emotional expression. If it does not, then broadening the research focus to incorporate both patient experience, as well as the thoroughly studied expression, of unpleasant emotions will be necessary.

Our study is the first to study to collect patients' moment-by-moment emotional experience and expression in a health care context (in our case, dentistry). We employed a video-recall procedure, which has been validated by demonstrating that participants physiologically relive the peaks and valleys of dyadic interactions when shown a recording (13). We expect moderate concordance between experienced and expressed emotion. We hypothesized that negative expression (ie, cues and concerns) would be expressed during periods of patients' high negative experience. Finally, during periods where patients were experiencing, but not

¹ Department of Cariology and Comprehensive Care, New York University College of Dentistry, NY, USA

² Department of Psychology, University of Utah, Salt Lake City, UT, USA

Corresponding Author:

Richard E Heyman, Department of Cariology and Comprehensive Care, New York University, 137 East 25th Street, 6th Floor, NY 10010, USA.
Email: richard.heyman@nyu.edu



expressing, unpleasant emotions, we were interested in exploring the situational or contextual factors possibly eliciting the unexpressed emotion. This descriptive analysis aims to attune providers to proactively check with patients during situations that are likely to produce unexpressed unpleasant emotions.

Method

Participants and Procedures

All study procedures were approved by the New York University institutional review board. Twenty-one patients provided written consent to participate during their assessment appointment at 2 group practices at the New York University College of Dentistry. Inclusion criteria were that patients (a) understand spoken and written English, (b) be at least 18 years old, and (c) have a provider who also consented to participate in the study. Participants were paid US\$50 on completion of the assessment. Additional recruitment procedure details can be found in the online supplement.

The first 20 minutes of the intake appointment (ie, the verbal portion, comprising medical, and dental history) were video recorded. Immediately following their appointments, participants completed (a) demographic information, (b) several questionnaires that were part of a larger study (and are not germane), and (c) the video-recall task (13). Patients sat in a private room with a computer and joystick. The screen displaying the video of their encounter had an “emotion thermometer” superimposed (0 = “no unpleasant emotion” and 100 = “extreme unpleasant emotion”); patients moved the joystick so that the “thermometer” reflected the moment-by-moment intensity of unpleasant emotions they experienced during the appointments.

Measures

Moment-by-Moment Intensity of Experienced Unpleasant Emotions

The rating dial allowed a 120° range of motion and provided measurement to the closest half-degree. The computer sampled position every half-second. Instructions given to participants can be found in the online supplement. We examined the number of unpleasant emotional experiences by identifying episodes with any increase in the intensity of unpleasant emotions. Episodes began when patients indicated an increase (of any degree) on the rating dial lasting at least one second (to guard against artifacts). Episodes ended when patients indicated a decrease, or the appointment concluded.

Patient Cues/Concerns

Videos were scored for cues and concerns with VR-CoDES (10). Half of videos were scored by 2 coders to calculate interobserver agreement with an interrater reliability of $G = 0.84$. Because of the highly imbalanced cells, Cohen

κ is extremely biased and G , a κ variant, is the preferred statistic (14). Cues are defined (10) as “a verbal or non-verbal hint which suggests an underlying unpleasant emotions and would need a clarification from the health provider” (p4) and concerns as “a clear and unambiguous expression of an unpleasant current or recent emotion where the emotion is explicitly verbalized.” The validity of VR-CoDES (15) was supported by high confirmation of observers’ coded cues/concerns by patients in a video-recall aided interview.

Stimuli Related to Heightened Unpleasant Emotional Experience

To account for situations where unpleasant emotions are experienced but not expressed, we classified stimuli that appeared to be related to patients experiencing unpleasant emotions. The coding system was developed by 4 dental student research associates, who individually reviewed episodes of patients’ self-reported heightened ratings of unpleasant emotions and identified possible sources; these were then combined into categories to form a coding system.

Using the resulting coding system, 2 raters independently coded patient and provider behavior in 30-second intervals. See Table 1 for codes and interrater reliabilities. See the online supplement for code descriptions and examples.

Results

Participants

Participants were 12 men and 9 women, who were, on average, 50.6 years old (standard deviation [SD] = 20 years). Seven participants identified as white non-Hispanic, 7 as white Hispanic, 5 as black/African American, and 2 as Asian. Eight participants had postsecondary degrees (associate’s, $n = 2$, bachelor’s $n = 4$, or graduate, $n = 2$), 2 had technical school certificates, 7 had some college education but no degree, 3 had a high school diploma, and 1 did not complete high school. Nine participants were employed, 6 were retired, 3 were homemakers, 2 were unemployed, and 1 was a full-time student.

Concordance Between Experienced and Expressed Unpleasant Emotions

Fourteen patients reported experiencing unpleasant emotions in mean = 6.36 episodes (SD = 7.12; range = 1-20) that lasted an average of 50.57 seconds (SD = 148.14; range = 2.07-561.52). As shown in Table 1, patients expressed fewer than 2 cues or concerns during these appointments, with only 20% occurring during times when patients rated themselves as experiencing elevated unpleasant emotions. There was no concordance, via Fisher exact test, between unpleasant emotions expression (via cues or concerns) and experience (via patients’ elevated intensity ratings; $P = .53$).

Table 1. Summary Data for Main Study Variables.

Variable	Occurred during unpleasant experience episode		Occurred outside of unpleasant experience episode	Fisher exact test
	Mean (SD)	%	Mean (SD)	P value
Cue/concern (G = .84)	0.36 (0.78)	20	1.43 (2.64)	.53
Observationally coded stimuli				
Patient question (G = 0.98)	0.46 (0.78)	20.69	1.77 (1.64)	.64
Patient discomfort (G = 0.98)	0.54 (1.45)	50	0.54 (1.61)	.152
Patient information/response (G = 0.94)	4.77 (8.13)	23.13	15.85 (11.56)	.319
Patient other (G = 0.88)				
Provider action without explanation (G = 0.97)	0.38 (0.96)	21.74	1.38 (1.98)	.581
Provider action with explanation (G = 0.93)	2.46 (3.91)	33.33	4.92 (4.55)	.693
Provider factual question (G = 0.92)	2.92 (6.50)	20.65	11.23 (8.37)	.057
Provider experience question (G = 0.94)	0.54 (1.13)	17.5	2.54 (2.30)	.666
Provider superficial information/response (G = 0.98)	1.08 (2.02)	60.87	0.69 (0.95)	.028
Provider detailed information/response (G = 0.95)	0.85 (1.28)	21.57	3.08 (1.61)	.721
Provider other (G = 0.88)				

Abbreviations: G, Guilford's G interrater reliability statistic (15); SD, standard deviation.

Situational Factors During Experienced, But Unexpressed, Unpleasant Emotions

Table 1 shows coded patient and provider stimuli and their overlap with unpleasant emotions. Fisher exact tests revealed that providers giving superficial information or responses was more likely to occur when patients experience elevated unpleasant emotions than when they did not ($P = .028$). No other patient or provider stimuli occurred at a significantly higher proportion during episodes of elevated unpleasant emotions.

Discussion

We found low convergence between experience and expression of unpleasant emotions in patients during health care appointments. Most of the time that patients experience unpleasant emotions they do not express them, and 80% of the time patients express unpleasant emotions they are not experiencing them at the time. Because of this low convergence, we explored what stimuli might be associated with patients' elevated experienced unpleasant emotions; we found that only providers' giving superficial information or responses was more likely to occur during these periods than during other periods.

The strengths of this study are (a) the use of a validated (13) method of eliciting patient experience of unpleasant emotions, synced with the expression of those emotions, and (b) the coding of external drivers of unpleasant emotions that may be present during times of experienced, but unexpressed, unpleasant emotions.

Our findings imply that most of the time that patients experience unpleasant emotions during health encounters, they do not outwardly express them. Furthermore, some of the time patients mention unpleasant emotions to providers, they are not currently experiencing those emotions. More research is

needed into the direct connection between provider behavior and patients' experience of unpleasant emotions, especially via studies that use video-recall procedures that include both (a) patients rating their moment-by-moment emotional experience and (b) researchers isolating episodes of unpleasant emotions and interviewing patients about what prompted their experience. Finally, if researchers are interested in currently experienced unpleasant emotions, they may need to modify VR-CoDES to restrict it to those felt in-session.

The practice implications are that providers need to frequently check in with patients regarding their emotional experience during appointments, as it is infrequently accessible to providers.

Limitations

The limitations are the small sample and the possibility that some nonverbal cues of unexpressed emotion were, at times, unobservable due to patients' faces being obstructed during real-world health encounters.

Authors' Note

All study procedures were approved by the New York University Langone Health Institutional Review Board. Twenty-one patients provided written consent to participate during their assessment appointment at 2 group practices at the New York University College of Dentistry. Each of their dental providers also provided consent for their own participation.

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.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Preparation of this manuscript was supported by the National Institute

of Dental and Craniofacial Research as part of the National Institutes of Health Science of Behavior Change Common Fund Program (1UH2DE025980; Drs Heyman and Slep) and the National Institute of Diabetes and Digestive and Kidney Diseases (K23DK115820; Dr Baucom). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

ORCID iDs

Richard E Heyman, PhD  <https://orcid.org/0000-0002-5365-0037>
Amy M Smith Slep  <https://orcid.org/0000-0002-6321-1740>

Supplemental Material

Supplemental material for this article is available online.

References

- Zimmermann C, Del Piccolo L, Finset A. Cues and concerns by patients in medical consultations: a literature review. *Psychol Bull.* 2007;133:438-63. doi:10.1037/0033-2909.133.3.438
- Hall JA, Roter DL, Rand CS. Communication of affect between patient and physician. *J Health Soc Behav.* 1981;22:18-30.
- Roter D, Hall JA. *Doctors Talking With Patients/Patients Talking With Doctors: Improving Communication in Medical Visits.* Greenwood Publishing Group; 2006.
- Hsu I, Saha S, Korthuis PT, Sharp V, Cohn J, Moore RD, et al. Providing support to patients in emotional encounters: a new perspective on missed empathic opportunities. *Patient Educ Couns.* 2012;88:434-40. doi:10.1016/j.pec.2012.06.015
- Shay LA, Dumenci L, Siminoff LA, Flocke SA, Lafata JE. Factors associated with patient reports of positive physician relational communication. *Patient Educ Couns.* 2012;89:96-101. doi:10.1016/j.pec.2012.04.003
- Ong LM, De Haes JC, Hoos AM, Lammes FB. Doctor-patient communication: a review of the literature. *Soc Sci Med.* 1995;40:903-18.
- Street RL Jr, Makoul G, Arora NK, Epstein RM. How does communication heal? pathways linking clinician-patient communication to health outcomes. *Patient Educ Couns.* 2009;74:295-301. doi:10.1016/j.pec.2008.11.015
- Wright A, Humphris G, Wanyonyi KL, Freeman R. Using the Verona Coding Definitions of Emotional Sequences (VR-CoDES) and health provider responses (VR-CoDES-P) in the dental context. *Patient Educ Couns.* 2012;89:205-8. doi:10.1016/j.pec.2012.05.006
- Del Piccolo L, Finset A, Mellblom AV, Figueiredo-Braga M, Korsvold L, Zhou Y, et al. Verona Coding Definitions of Emotional Sequences (VR-CoDES): conceptual framework and future directions. *Patient Educ Couns.* 2017;100:2303-11. doi:10.1016/j.pec.2017.06.026
- Del Piccolo L, De Haes H, Heaven C, Jansen J, Verheul W, Bensing J, et al. Development of the Verona Coding Definitions of Emotional Sequences to code health providers' responses (VR-CoDES-P) to patient cues and concerns. *Patient Educ Couns.* 2011;82:149-55. doi:10.1016/j.pec.2010.02.024
- Darwin C. The expression of the emotions in man and animals; 1872. Retrieved November 30, 2020, from: <https://www.gutenberg.org/files/1227/1227-h/1227-h.htm>
- Mauss IB, Levenson RW, McCarter L, Wilhelm FH, Gross JJ. The tie that binds? coherence among emotion experience, behavior, and physiology. *Emotion.* 2005;5:175-90. doi:10.1037/1528-3542.5.2.175
- Gottman JM, Levenson RW. A valid procedure for obtaining self-report of affect in marital interaction. *J Consult Clin Psychol.* 1985;53:151-60. doi:10.1037/0022-006X.53.2.151
- Xu S, Lorber MF. Interrater agreement statistics with skewed data: evaluation of alternatives to Cohen's kappa. *J Consult Clin Psychol.* 2014;82:1219-27. doi:10.1037/a0037489.supp
- Eide H, Eide T, Rustøen T, Finset A. Patient validation of cues and concerns identified according to Verona Coding Definitions of Emotional Sequences (VR-CoDES): a video- and interview-based approach. *Patient Educ Couns.* 2011;82:156-62. doi:10.1016/j.pec.2010.04.036

Author Biographies

Richard E Heyman is a professor and the co-director of the Family Translational Research Group in the Department of Cariology and Comprehensive Care, New York University College of Dentistry. He is the Principal Investigator for over 60 federally funded grants or contracts. Dr Heyman is a clinical psychologist and co-teaches a class on doctor-patient communication to 390 dental students annually.

Katherine JW Baucom, a clinical psychologist, is an assistant professor in the Department of Psychology, University of Utah. She is currently the principal investigator of an NIH-funded study of health in a relationship context, including both family and patient-provider relationships.

Jill Giresi is an adjunct clinical instructor in the Department of Cariology and Comprehensive Care at New York University College of Dentistry and an assistant professor at Suffolk Community College.

Liza J Issac obtained her BS at Cornell University and is now a fourth-year dental student at the New York University College of Dentistry.

Amy M Smith Slep is a clinical psychologist and the principal investigator of over 60 federally funded grants/contracts. She is a professor and the co-director of the Family Translational Research Group in the Department of Cariology and Comprehensive Care, New York University College of Dentistry. She co-teaches a class on doctor-patient communication each year.