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Can training in empathetic validation improve medical students' communication with patients suffering pain? A test of concept

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Abstract

Introduction: Patient-centered, empathetic communication has been recommended as a means for improving the health care of patients suffering pain. However, a problem has been training health care providers since programs may be time-consuming and difficult to learn. Validation, a form of empathetic response that communicates that what a patient experiences is accepted as true, has been suggested as an appropriate method for improving communication with patients suffering pain.

Objectives: We study the immediate effects of providing medical students with a 2-session (45-minute duration each) program in validation skills on communication.

Methods: A one group, pretest vs posttest design was employed with 22 volunteer medical students. To control patient variables, actors simulated 1 of 2 patient scenarios (randomly provided at pretest and posttest). Video recordings were blindly evaluated. Self-ratings of validation and satisfaction were also employed.

Results: Observed validation responses increased significantly after training and corresponded to significant reductions in invalidating responses. Both the patient simulators and the medical students were significantly more satisfied after the training.

Conclusions: We demonstrated that training empathetic validation results in improved communication thus extending previous findings to a medical setting with patients suffering pain. Our results suggest that it would be feasible to provide validation training for health care providers and this warrants further investigation in controlled studies.

Keywords: Patient-centered communication, Pain, Validation, Training of professionals

1. Introduction

A patient suffering pain desires clear, empathetic communication, but providing this remains a challenge. Communication is known to be essential for accurate diagnosis, treatment choice,[13,20] adherence,[30] patient satisfaction,[29] as well as for enhancing treatment effects.[2] Yet, the evidence indicates that pain patients are often dissatisfied with communication and feel misunderstood or patronized.[11,26,29] This underscores the need for improving communication to ensure high-quality care.[15,17]

One reason why communication may be particularly difficult is dealing with the negative emotion typically surrounding pain problems.[17,22] Indeed, pain problems, eg, chronic pain are exemplified by a host of co-occurring negative emotions ranging from fear to depression.[19,21] Further, health care professionals often feel "stressed" by the negative emotion patients display both before and during consultations.[24] Consequently, communication training programs should include skills for dealing with emotion.

A number of patient-centered communication techniques have been recommended, but there is a need to improve the way we teach communication skills.[15,23] An assortment of models are available that are characterized by emotional empathy, shared understanding, listening, and shared decision-making.[8,15,20,25] However, providing training remains a challenge as no given technique is currently regarded as the method-of-choice, some require considerable time to master, and many deal only indirectly with emotional aspects of communication. Hence, there is a recognized need to provide communication training that enhances a practitioner's skills and specifically includes methods for dealing with emotionally sensitive issues.[15,17]

A psychological approach to communication designed to deal with emotion and with merit for training professionals is so-called *validation*. It is defined as the expression of understanding the patient's experiences, eg, pain or worries as being real and "valid" without judgment.[9,10] It is based on dialectical behavior

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therapy where validation plays a central role in regulating emotion.[9,16] In fact, communication with higher levels of validation is associated with higher levels of satisfaction and understanding, lower negative affect, and the building of trust which promotes engagement.[7,28] Invalidation, on the other hand, is defined by expressions that what the patient is experiencing is doubtful, strange, or could not be true. Even a short 45-minute training session has been shown to increase validating communication and decrease negative affect for people suffering chronic pain.[3,27] Consequently, validation training may be a viable method for training communication skills to medical students.

The aim of this "test of concept" study was to investigate the effects of a short training program in validation for medical students on their communication with patients suffering pain. We hypothesized that the training would increase medical students' validating responses while decreasing their invalidating responses and that this would increase their satisfaction with the doctor–patient interaction. Furthermore, we hypothesized that patient ratings of their student doctor would also mirror an increase in validation, a decrease in invalidation, as well as an increase in ratings of satisfaction.

2. Methods

2.1. Overview of the design

A pretest–posttest design was used to test the immediate effects of the training. Observational (video films) and self-report measures were administered before the validation skills training began. Medical students subsequently received 2 sessions of training over a 2- to 3-week period by a student psychologist and then completed the posttest. To ensure standardization, actors simulated one of 2 cases of a patient suffering pain (acute chest pain, persistent neck pain). Participants met both "patients," but the order was randomized for the pretest and posttests. The participants interacted with 2 different patient simulators at the pretest and posttest. Simulators were also instructed to use various phrases expressing experiences or feelings that would prompt a validating/invalidating response. The patient simulators also completed questionnaires to assess how they experienced the interview.

2.2. Participants

Twenty-two medical students at Örebro University served as volunteers. Of 146 students who were informed of the study, 40 expressed interest in obtaining more information and 27 volunteered to take part. However, 3 subsequently could not participate because of scheduling problems and 2 did not respond to offers to schedule the first session. This left 22 participants, 6 men and 16 females. While 13 were first semester students, 7 were in their second, and 2 in their third semester of studies.

Participants received a coupon for coffee at the end of the first session and a coupon for a meal at the end of the second session. This study followed the recommendations from the Helsinki accord and was approved by the department's internal advisory board on research ethics.

2.3. Measures

A variety of observable and self-rated assessments were used to capture the interview from the perspective of the medical student and the patient simulator.

2.4. Validating and invalidating behavior

Video-filmed interviews of the medical student interviewing the patient simulator were blindly assessed by trained observers to ascertain the number of validating and invalidating responses provided by the medical student. Six observers were trained until they reached a reliability (with a "master") of >0.90 (range = 0.95–0.99).

2.4.1. Coding

Film clips were randomly assigned to the 6 observers and presented blindly with regard to whether it was a pretest or a posttest recording. Observers independently rated validating or invalidating responses according to the Validating and Invalidating Behavior Coding Scale (VIBCS).[3,6] This is a valid and reliable coding method.[3,27] The 7-minute films were divided into 14 segments of 30 seconds each and observers rated the frequency of validating as well as invalidating responses during each segment. To ensure reliability, the ratings of the 2 independent observers were then compared and an interclass correlation (ICC) was calculated. If the ICC was >0.75, which is considered to be excellent reliability,[27] the highest frequency rating was entered into the data set. In 4 of the 44 pre- and postcases (9%), the ICC was <0.75 and these were reviewed by a "master" (S.E.) whose ratings were entered into the data set. Thus, each participating medical student had a frequency measure for the number of validating and invalidating responses using the pretest and posttest interviews.

2.5. Patient simulator questionnaires

Immediately after a video-filmed interview was completed, simulators were asked to complete 2 questionnaires.

2.5.1. Validating and invalidating response scale for health care providers (VIRS-HCP)

The VIRS assesses perceived validation and invalidation in close relationships and has high internal consistency, convergent validity and discriminant validity.[14] It contains a series of assertions that participants rate on a 0 (never) to 4 (almost always) scale. Items were modified for health care providers (VIRS-HCP). After conducting a translation-back translation procedure, this modified version consisted of 14 items in 2 subscales, one measuring validation (9 items, Cronbach's alpha = 0.89) and the other measuring invalidation (5 items, Cronbach's alpha = 0.88).[4] A sample validation item is "*My health care provider is accepting about what I think, feel or want,*" and invalidation item "*My health care provider fails to understand me when I express myself.*"

2.5.2. Patient satisfaction with consultation questionnaire (PSCQ)

The patient satisfaction with consultation questionnaire assesses how satisfied patients are with a doctor–patient consultation in primary care.[5] Seven items are rated on a 1 (not at all) to 10 (completely) scale (Cronbach's alpha = 0.88). We included 5 of the 7 items since 2 could not be answered by our participants. A translation-back translation Swedish version was used. Sample items are "*All in all, how satisfied are you with your visit to the doctor?" and "Do you think that the doctor understood your health problem?"*

2.6. Medical student questionnaires

2.6.1. Doctor satisfaction

This instrument was constructed for the purpose of this study and consisted of 6 assertions that the medical student rated from 0 to 4 (0 = never; 4 = almost always). Scores may range from 0 to 24 and high scores indicate higher levels of satisfaction, but for purposes of graphic presentation we transformed the scale to the same range as the patient satisfaction with consultation questionnaire, ie, 0 to 50. The items reflect communication skills and were reliable (Cronbach's alpha 0.82):

As a doctor, I felt that:

(1) I had good contact with and understood the patient.
(2) I was attentive and listened closely to what the patient was saying.
(3) I really tried to understand the patient's thoughts, feelings and desires.
(4) I really tried to understand the patient by asking open-ended questions.
(5) I was able to treat the patient with respect as a competent and valuable person.
(6) We had a good exchange of information where I provided information that the patient understood and obtained the information I needed.

2.6.1.1. Written validation assessment

Validation was also assessed by written responses to a hypothetical case. Two short case descriptions were provided that ended with a demanding question by the hypothesized patient. Participants were asked to respond to the demand with one sentence: *what would you say to the patient?* One case concerned a patient who demanded a renewed prescription though this was not medically warranted, while the second concerned a parent who wanted medical tests for her child though these were not warranted. The written responses were examined by 2 trained observers who rated each statement with regard to the degree of validation on a 3 point scale: 0 = neutral or invalidating statement; 1 = partially validating; and 2 = mainly validating. The ICC for the ratings was 0.92 on both the preintervention and the postintervention assessments.

2.7. Patient-simulated scenarios

Patient simulators were provided with 2 case scenarios and carefully trained for the purpose of the study. Eight actors (3 M/5 F) were recruited from the last year of the clinical psychology program.

2.7.1. Cases

The 2 cases purposefully contained challenging statements reflecting emotions or experiences that could trigger either validation or invalidation. One case involved a persistent cough and chest pain while the other involved a patient with persistent diffuse pain with possible misuse of analgesics. The patient simulators were blind to whether it was a preinterview or postinterview.

2.7.2. Training of simulators

Patient simulators were provided with a case description and phrases that were to be used at least once per minute. These expressed emotions or experiences that were meant to be a trigger for validation or invalidation and simulators were instructed to "act" the part. Examples of the phrases are: *"This medicine has not worked at all!" "I can't stop thinking that this is something serious" "I'm so down in the dumps, I can't deal with more pain" "Every move I make hurts".* Subsequently, the patient simulators practiced their parts and were provided with feedback by the authors.

2.8. Skills training in validation

The skills training was based on earlier work where patients or their partners had been taught validation.[3,9,18] In short, medical

Table 1

An overview of the validation skills training program.

	Description of content	Purpose
Session 1 A	Overview of the value of empathetic communication	To set the stage and make the training relevant
B	Definition of terms and demonstration	To clarify the goal behavior
C	Role play. Teacher first demonstrates and then the student role plays with a "patient." Frequent feedback is provided to shape the validation response.	Demonstrates the goal behavior, provides practice, and variation. Positive reinforcement used profusely to shape the student's response.
D	Homework: practice and keep notes in a diary	Generalization and practice of the skill
Session 2 A	Review of the homework. Reinforce application. Troubleshoot any problems. Reinforce generalization and underscore use in communication in health care.	Reinforces and generalizes the skill.
B	Examination of how the student feels about using validation, eg, whether it improves communication, reduces student's anxieties etc	Reinforce good usage and deal with any problems that have arisen
C	Use of difficulties in homework to enhance training	Reinforce good usage and deal with any problems that have arisen
D	Role play continues	Practice
E	Clinical application training. Discussion and practice of situations thought to be difficult, eg, time-pressure	Generalization and maintenance
F	Closing of the training	

students participated individually in the training during 30 to 45 minute sessions and were asked to practice with a homework assignment between sessions. **Table 1** summarizes the training program. As seen in the table, the training began with a very short explanation of the concept of validation and how it can be used to improve communication. Role play was used extensively to demonstrate validation and subsequently to provide the participant with feedback. Positive feedback was used to shape progressively more validating responses. Two clinical psychology students, familiar with validation, in their last semester of the clinical program received special training in the method and conducted the training sessions using these materials.

2.9. Procedure

Participants were invited to the CHAMP research clinic where they were greeted by the experiment leaders and provided with verbal and written information about the study and informed consent was obtained. Unknown to the participant, randomization to the case and trainer was achieved by opening the sealed envelope with a computer-generated randomization of the patient case and trainer. Pretest measures were administered including the filmed interview with the simulator. The participants were given brief medical information about the "patient" before meeting them and notified that they were patient simulators.

The first training session focused on empathetic communication and validation using information, examples, and demonstrations. Then, the participant was asked to engage in a role play with the teacher employing validating responses. Prolific feedback was provided to shape the response and discussion enhanced reflection and support. A homework assignment was given for practicing validation during the interim until the next session. The student was asked to practice validation at least once a day and fill out a diary form to help analyze the situation in which the student used validation. The form included questions such as *How did you use validation? How did it make you feel? How did it make the other person feel? What was difficult?*

Session 2 was held about 1 week later (Mean = 8.2 days) and continued the skills training. The homework assignment was used as a point of departure for troubleshooting and practicing validation skills. After the training was completed, participants were administered the posttest including the filmed interview.

2.10. Statistical analyses

The data were first summarized using descriptive statistics. After checking that the distribution was normal, repeated measures of co-variance were used to examine the differences between pretest and posttest values while controlling for gender, semester of study, as well as whether the homework assignment had been completed. Since none of the control variables entered into the covariate analyses was significant, we report the main effect.

To determine the size of the effect of the skills training, Cohen's *d* was employed (with 95% confidence intervals) with the recommended cutoffs of >0.20, small effect; >0.50 medium effect, and >0.8 large effect.[1]

3. Results

We tested whether there was a significant change in the frequency of observable and self-rated validation and invalidation responses between pretest and posttest. In addition, we examined the effects of validation on ratings of patient as well as medical student satisfaction.

3.1. Validation

Figure 1 shows the frequency of validating and invalidating responses according to the video-filmed segments. A significant increase in validation was observed ($F_{(1,21)} = 15.73$, $P < 0.001$) and Cohen's *d* was 1.28 (95% CI = 0.63–1.92), indicating a large effect size. Similarly, a significant decrease in the frequency of invalidation was observed ($F_{(1,21)} = 10.90$, $P < 0.003$). The effect size was also large (Cohen's $d = 1.09$; 95% CI = 0.45–1.72).

Patient simulators' ratings of perceived validation and invalidation also changed significantly. According to the ratings, there was a significant and large increase in experienced validation ($F_{(1,21)} = 30.88$, $P < 0.0001$; Cohen's $d = 1.70$; 95% CI = 1.00–2.39). There was also a significant and large decrease for experienced invalidation ($F_{(1,21)} = 7.89$, $P < 0.01$; Cohen's $d = 0.84$; 95% CI = 0.22–1.45).

Finally, the medical students provided written responses to short vignettes, which were blindly coded for level of validation. There was a significant 5-fold increase in the level of validation (X pre = 0.73; X post = 3.86; $F_{(1,21)} = 273.9$, $P < 0.0001$), which produced a large effect size (Cohen's $d = 4.44$; 95% CI = 3.32–5.55).

3.2. Satisfaction with communication

Both medical students and patient simulators completed ratings of satisfaction with the communication during the interview. Patient simulators' ratings increased significantly from the pretest to the posttest ($F_{(1,21)} = 8.03$, $P < 0.01$) with a large effect size (Cohen's $d = 0.98$; 95% CI = 0.35–1.60). The medical students also increased their satisfaction with their communication significantly ($F_{(1,21)} = 7.71$, $P < 0.01$), which indicates a moderate effect (Cohen's $d = 0.58$; 95% CI = 0.03–1.18).

4. Discussion

This study demonstrates that a short, intensive training program in empathetic validation resulted in improved communication skills in medical students. Not only did we observe large increases in validation, but also we found that both the student doctors and the patient simulators were more satisfied with the communication during a doctor–patient interaction. Thus, training in validation skills is a method that appears to improve patient-centered communication

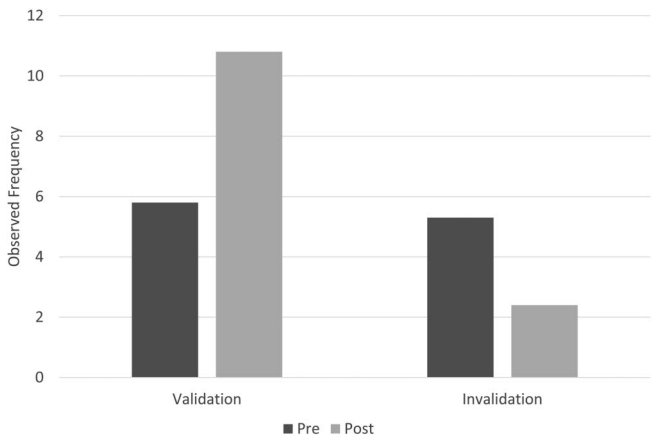

Figure 1. The observed frequency of validating and invalidating responses according to video recordings of the medical student–patient simulator interaction showing a significant increase in validation and decrease in invalidation between the premeasures and postmeasures.

that sets the stage for better care and consequently deserves further research. Our results suggest that it is feasible to employ training in empathetic validation for health care practitioners.

We found that medical students quickly learned to use validation techniques. Indeed, in merely 2 relatively short training sessions, they demonstrated large objective improvements. Moreover, participants reported that they were positive to the training program. It also directly addressed dealing with sensitive emotional issues. Thus, validation might be applicable for medical school and continuing education courses not least for the pain context. Since it is well established that good communication is advantageous, our results suggest that training in validation skills may be a viable means of achieving this goal.

Some methodological issues should be kept in mind when considering these results. First, because we employed patient simulators, we could not evaluate the effects of the training on symptom outcomes. At the same time, patient simulators are typically used because they reduce variance by providing a standardized pain problem. Future research should, however, be conducted with actual patients so that additional measures can be obtained. We suggest that such research employ patients suffering chronic pain since these patients often experience invalidating communication in health care.[12,26] Second, there are limitations to our measurement techniques because communication is difficult to capture in a valid and reliable way. While we were able to obtain observable and self-report data, better measurement is needed in forthcoming research. Third, since this was a controlled implementation study, no comparison group was employed. Future research should use a control group and follow-up to evaluate the relative effect size and maintenance over time. Finally, this research was conducted with medical students. We look forward to studies investigating other students in health care as well as health care professionals in practice to investigate how well the effects of the training generalize to other groups.

In conclusion, this study shows that a 2-session program training validation skills was successful in improving communication and leads to greater satisfaction for the medical students and patient simulators. Thus, it provides a feasible method for providing health care providers with communication training. It also extends previous results to a medical setting showing the positive effects of validation. Given the dire need for improving communication in interactions with patients suffering pain, these results warrant further research.

Disclosures

S. J. Linton and I. K. Flink have provided educational lectures for fee. The remaining authors have no conflict of interests to declare.

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References

[1] Cohen J. Statistical power analysis for the behavioral sciences: New York: Academic Press, 2013.
[2] Colloca L, Klinger R, Flor H, Bingel U. Placebo analgesia: psychological and neurobiological mechanisms. PAIN. 2013;154:511–14.
[3] Edlund SM, Carlsson ML, Linton SJ, Fruzzetti AE, Tillfors M. I see you're in pain–the effects of partner validation on emotions in people with chronic pain. Scand J Pain. 2015;6:16–21.
[4] Edlund SM, Wurm M, Holländare F, Linton SJ, Fruzzetti AE, Tillfors M. How patients with pain experience communication with their doctor: the effects of validation on pain, distress and treatment outcome. Submitted.
[5] Frostholm L, Fink P, Oernboel E, Christensen KS, Toft T, Olesen F, Weinman J. The uncertain consultation and patient satisfaction: the impact of patients' illness perceptions and a randomized controlled trial on the training of physicians' communication skills. Psychosom Med. 2005;67:897.
[6] Fruzzetti AE. Validating and invalidating behavior coding scale. Book Validating and invalidating behavior coding scale. Reno: University of Nevada, 2001.
[7] Fruzzetti AE, Worrall JM. Accurate expression and validation: a transactional model for understanding individual and relationship distress. In: K Sullivan, J Davila, editors. Support processes in intimate relationships. Oxford: Oxford University Press, 2010.
[8] Joosten E, DeFuentes-Merillas L, De Weert G, Sensky T, Van der Staak C, De Jong C. Systematic review of the effects of shared decision-making on patient satisfaction, treatment adherence and health status. Psychother Psychosom. 2008;77:219–26.
[9] Koerner K. Doing dialectical behavior therapy: a practical guide. New York: The Guilford Press, 2012.
[10] Koerner K, Linehan MM. Validation principles and strategies. In: WT O'Donohue, JE Fisher, SC Hayes, editors. Cognitive behavior therapy. Hoboken: John Wiley & Sons, 2003. pp. 456–462.
[11] Kool MB. Understanding lack of understanding: invalidation in rheumatic diseases. Book Understanding lack of understanding: invalidation in rheumatic diseases, PhD dissertation. Utrecht: University of Utrecht, 2011.
[12] Kool MB, van Middendorp H, Boeije HR, Geenen R. Understanding the lack of understanding: invalidation from the perspective of the patient with fibromyalgia. Arthritis Care Res. 2009;61:1650–6.
[13] Langewitz WA, Loeb Y, Nübling M, Hunziker S. From patient talk to physician notes—comparing the content of medical interviews with medical records in a sample of outpatients in internal medicine. Patient Educ Couns. 2009;76:336–40.
[14] Lee J, Lee M, Hyun M, Fruzzetti A. The validity study of the validation and invalidation scale (VIRS) among college women with dating violence. Korean J Stress Res. 2012;20:159–67.
[15] Levinson W, Lesser CS, Epstein RM. Developing physician communication skills for patient-centered care. Health Aff (Millwood). 2010;29:1310–18.
[16] Linehan MM. DBT skills training manual. New York: Guilford Publications, 2014.
[17] Linton SJ. Intricacies of good communication in the context of pain: does validation reinforce disclosure? PAIN 2015;156:199–200.
[18] Linton SJ, Boersma K, Vangonsveld KL, Fruzzetti A. Painfully reassuring: the effects of validation on emotions and adherence during a pain test. Eur J Pain. 2012;16:592–4.
[19] Linton SJ, Flink IK, Schrooten MG, Wiksell R. Understanding co-occurring emotion and pain: the role of context sensitivity from a transdiagnostic perspective. J Contemp Psychother. 2016;46:129–37.
[20] Lloyd M, Bor R, Blache G, Eleftheriadou Z. Communication skills for medicine. Amsterdam: Elsevier Health Sciences, 2009.
[21] Lumley MA, Cohen JL, Borszcz GS, Cano A, Radcliffe AM, Porter LS, Schubiner H, Keefe FJ. Pain and emotion: a biopsychosocial review of recent research. J Clin Psychol. 2011;67:942–68.
[22] Lumley MA, Sklar ER, Carty JN. Emotional disclosure interventions for chronic pain: from the laboratory to the clinic. Translational Behav Med. 2012;2:73–81.
[23] Morrison V, Bennett P. An introduction to health psychology. London: Person, 2012.
[24] Ptacek J, Eberhardt TL. Breaking bad news: a review of the literature. JAMA. 1996;276:496–502.
[25] Rubak S, Sandbæk A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. Br J Gen Pract. 2005;55:305–12.
[26] Salmon P. The potentially somatizing effect of clinical consultation. CNS Spectr. 2006;11:190–200.
[27] Shenk CE, Fruzzetti AE. The impact of validating and invalidating responses on emotional reactivity. J Soc Clin Psychol. 2011;30:163–83.
[28] Vangronsveld KL, Linton SJ. The effect of validating and invalidating communication on satisfaction, pain and affect in nurses suffering from low back pain during a semi-structured interview. Eur J Pain. 2012;16:239–46.
[29] Weiland A, Van de Kraats RE, Blankenstein AH, Van Saase JL, Van der Molen HT, Bramer WM, Van Dulmen AM, Arends LR. Encounters between medical specialists and patients with medically unexplained physical symptoms; influences of communication on patient outcomes and use of health care: a literature overview. Perspect Med Educ. 2012;1:192–206.
[30] Zolnierek KBH, DiMatteo MR. Physician communication and patient adherence to treatment: a meta-analysis. Med care 2009;47:826–34.