Patient Education and Counseling xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Patient Education and Counseling

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

Research paper

Do doctors' attachment styles and emotional intelligence influence patients' emotional expressions in primary care consultations? An exploratory study using multilevel analysis

M. Gemma Cherry[a,*], Ian Fletcher[b], Damon Berridge[c], Helen O'Sullivan[d]

[a] Department of Psychological Sciences, University of Liverpool, UK
[b] Division of Health Research, Lancaster University, Lancaster, UK
[c] Swansea University Medical School, Swansea University, UK
[d] School of Medicine, University of Liverpool, UK

ARTICLE INFO

Article history:
Received 9 May 2017
Received in revised form 28 September 2017
Accepted 24 October 2017

ABSTRACT

Objective: To investigate whether and how doctors' attachment styles and emotional intelligence (EI) might influence patients' emotional expressions in general practice consultations.
Methods: Video recordings of 26 junior doctors consulting with 173 patients were coded using the Verona Coding Definition of Emotional Sequences (VR-CoDES). Doctors' attachment style was scored across two dimensions, avoidance and anxiety, using the Experiences in Close Relationships: Short Form questionnaire. EI was assessed with the Mayer-Salovey-Caruso Emotional Intelligence Test. Multilevel Poisson regressions modelled the probability of patients' expressing emotional distress, considering doctors' attachment styles and EI and demographic and contextual factors.
Results: Both attachment styles and EI were significantly associated with frequency of patients' cues, with patient- and doctor-level explanatory variables accounting for 42% of the variance in patients' cues. The relative contribution of attachment styles and EI varied depending on whether patients' presenting complaints were physical or psychosocial in nature.
Conclusion: Doctors' attachment styles and levels of EI are associated with patients' emotional expressions in primary care consultations. Further research is needed to investigate how these two variables interact and influence provider responses and patient outcomes.
Practice implications: Understanding how doctors' psychological characteristics influence PPC may help to optimise undergraduate and postgraduate medical education.

1. Introduction

Effective patient-provider communication (PPC) is an integral part of high-quality healthcare [1,2]. In addition to aiding effective diagnosis, treatment, referral and decision-making, effective PPC confers a number of patient benefits, including greater satisfaction with the standard of care, increased understanding of health concerns and treatment options, better recall of information and increased treatment adherence [3–10]. As such, PPC is identified by regulatory bodies as a core component of clinical practice [11,12], and is an integral part of undergraduate and postgraduate medical education curricula worldwide [1,13–16].

Effective PPC arguably plays a particularly valuable role in primary care, given that, in the United Kingdom, primary care consultations often represent patients' first access to medical or mental health services [17], yet last, on average, only 7 to 10 min [18]. However, there remains substantial variation in primary care providers' ability to identify and respond to patients displaying signs of emotional distress, indicating a need for targeted investigation of the factors associated with individual differences in their PPC [19]. Two related psychological theories may provide a theoretical framework for understanding why providers demonstrate different PPC behaviours when faced with the same situational stimuli: attachment theory, and the theory of emotional intelligence (EI) [20–34].

Attachment theory is a theory of psychosocial development, which posits that individuals form enduring patterns of interpersonal behaviour through internalisation of interactions with their primary carer(s) in infancy [35]. These patterns are represented cognitively in the form of an internal working model (IWM) of

* Corresponding author at: Department of Psychological Sciences, B212, Block B, Waterhouse Building, University of Liverpool, Dover Street, Liverpool, UK.
E-mail address: gcherry@liv.ac.uk (M. G. Cherry).

https://doi.org/10.1016/j.pec.2017.10.017
0738-3991/

attachment, which subsequently influences behaviour in close relationships throughout the lifespan, particularly care-giving or care-seeking relationships such as the patient-provider relationship [23,35]. Two main dimensions of adult attachment have been proposed: attachment anxiety (characterised by habitual preoccupation and over-involvement in close relationships combined with fear of abandonment), and attachment avoidance (characterised by difficulty in trusting others, devaluation of close relationships and avoidance of intimacy) [36]. Emotional intelligence develops in childhood partly as a function of attachment style [37], and can broadly be defined as the ability to understand, perceive, use and manage their own and others' emotions [38]. As such, EI is a multifaceted ability which encompasses skills in not only empathy (the ability to understand and share another's emotions) but also in emotional regulation, management and self-perception [38].

Prior research indicates that both attachment style and EI are independently associated with PPC, particularly providers' abilities to acknowledge and respond to patients' cues of emotional distress [20,22,39–42]. However, whilst attachment is thought to remain relatively stable throughout the lifespan [43], EI is developmental [44] and can be enhanced throughout medical education using targeted educational interventions [45,46].

Informed by these data, we developed a theoretically-informed model of PPC in which we hypothesised that attachment would indirectly influence providers' PPC by negatively influencing their EI. We tested this model in first- and second-year medical students, communicating in a summative Objective Structured Clinical Examinations (OSCE) [20,22]. In both studies, support for this model was gained, but interestingly, EI had a stronger influence when more global PPC competence was considered [47]. Collectively, these data provide insight into the influence of early-year medical students' attachment styles and EI on their PPC during early undergraduate medical education, and have important educational implications for undergraduate medical curricula. However, the generalisability of these findings to real life clinical practice is unclear, given that medical students' PPC with patients in simulated settings may differ significantly from their PPC with real patients in a clinical setting [48,49]. The current study aims to builds on the findings of Cherry et al. [20,22] by investigating whether and how doctors' attachment styles and emotional intelligence (EI) influence real patients' emotional expressions in general practice (GP) consultations. By doing so, we will be better able to make theoretically-informed and evidence-based suggestions on how to improve undergraduate and postgraduate training and education.

2. Methods

2.1. Ethical approval

UK National Health Service (NHS) ethical approval was granted (reference 10/H1005/64).

2.2. Participants and procedure

Junior doctors and their patients were recruited from 20 GP practices within North West England, UK. Doctors were recruited during their GP placement; patients (aged 18 years or over) were recruited in the order that they attended consecutive appointments with participating GPs. Participation was voluntary and informed written consent was sought. Consultations were video-recorded; the camera was only directed at the doctors, no physical examinations were recorded and only the doctor and patient were present during the consultation.

2.3. Measures

Patients completed a demographic questionnaire assessing age range, perceived health status, and whether they had seen the doctor before. Doctors completed a demographic questionnaire (assessing age, gender and ethnicity), a measure of adult attachment and a measure of EI.

Adult attachment was assessed using the 12-item Experiences in Close Relationships: Short Form (ECR-SF) questionnaire [50]. Participants rate the extent to which each item describes their feelings about close relationships (e.g. "I need a lot of reassurance that I am loved by my partner") using a 7-point Likert scale. Responses produce two subscale scores, attachment avoidance and attachment anxiety, which correspond to the two-dimensional model of adult attachment [36]. Both subscales range from six to 42, with low scores indicating low levels of attachment avoidance and/or attachment anxiety. The ECR-SF demonstrates acceptable construct validity with the original ECR, and displays good internal consistency and six-month test-retest reliability [50]. We did not estimate the internal consistency of the ECR-SF in this sample because our sample size did not exceed the minimum recommended sample size for calculating Cronbach's alpha [51].

EI was assessed using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) [44], a 141-item ability-based measure of the perception, facilitation, understanding and management of emotions in oneself and others. Responses produce four Branch scores, from which Area and Total EI scores can be calculated. All are computed as empirical percentages positioned on a normal distribution curve (mean = 100; standard deviation = 15). The measure demonstrates high reliability (total EI score of 0.92, experiential EI score of 0.90 and strategic EI score of 0.85 [44]); as above, it was not possible to determine the psychometric properties of the MSCEIT in this study given the sample size.

2.4. Coding cues and concerns

The Verona Coding Definition of Emotional Sequences (VR-CoDES) [52], a well-validated coding scheme, was used to code patients' utterances of emotional distress. The VR-CoDES handbook defines a cue as "a verbal or non-verbal hint which suggests an underlying unpleasant emotion and that lacks clarity", and a concern as "a clear and unambiguous expression of an unpleasant current or recent emotion where the emotion is explicitly verbalised" [52]. MGC was first trained in the use of the VR-CoDES by IF, an expert coder who helped to develop the VR-CoDES. A random sample of 20 practice transcripts were coded to establish inter-rater reliability; Krippendorff's alpha was 0.93, indicating the MGC was competent to code data independently. MGC coded all videos directly so as to preserve tone of voice and context. Coding was overseen by IF.

2.5. Analysis

Cues and concerns were collapsed together (referred to as 'cues/concerns' from hereon in). Pearson's product-moment correlations, independent sample *t*-tests, Chi-squared tests and one-way ANOVAs were used as appropriate for preliminary data exploration. Relevant patient-level and doctor-level variables were then transformed into dummy variables for analysis. A series of multilevel models investigated the predictive value of both patient-level and doctor-level variables on the outcome measure. As patients (Level 1) were grouped within doctors (Level 2), the general framework of multilevel models was assumed where the dependent variable(s) were assumed to follow a distribution belonging to the exponential family. A two-level random intercept Poisson model was fitted, in which patients were assumed to be

Please cite this article in press as: M.G. Cherry, et al., Do doctors' attachment styles and emotional intelligence influence patients' emotional expressions in primary care consultations? An exploratory study using multilevel analysis, Patient Educ Couns (2017), https://doi.org/10.1016/j.pec.2017.10.017