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Editorial Board for the International Journal of Clinical Skills

Foreword

Clinical skills change lives…

Dr. Abigail Boys & Regina (October 2010)

Amidst the fast paced achievements in international healthcare and education, it is important not to forget what clinical skills mean in reality for our patients – clinical skills change lives.

After having initiated the charitable society Willing and Abel in 2008, many health care professionals have had the pleasure of using their specialised and expert clinical skills to help children of developing nations requiring specialist surgery. An example is 13 year old Regina who was born with a tumour fatally spreading across her face (congenital lymphangioma) – she successfully underwent major surgery at The Royal London Hospital (United Kingdom) in December 2010 and now continues to lead a normal life in Ghana, West Africa (www.bbctelevision.co.uk).

Such success exemplifies a fundamental strength of the clinical skills community in its ability to evolve and adapt to meet the challenges and expectations of a modern healthcare arena. Healthcare professionals need to have clinical skills training which will allow them to meet present and future challenges, which include an ageing population, multiple morbidities and increasing patient expectations.

There is no doubt that the International Journal of Clinical Skills provides an excellent forum for the global healthcare community to further clinical skills research, as well as advancing the training of students, academics and health professionals. I wish the International Journal of Clinical Skills continued success for its admirable work in this important field.

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Emotion and concealed motivation in the clinical interview

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Abstract

Accurate understanding of a patient's motivations and concerns by the physician improves patient satisfaction with a medical encounter. Conversely, discernment of concealed motivation is necessary to help identify potential malingerers, drug seekers or dissembling patients. However, physicians receive little training in emotion recognition or structured interview techniques that may help expose concealed motivations.

Emotional expressions are powerful indicators of a patient's motivation, and concealed emotional expressions may indicate the existence of information that may better inform the patient's medical history.

There is also significant potential for error when interpreting emotional expressions. Even amongst experienced interviewers, motivation, overconfidence and the mis-interpretation of non-verbal cues lead to the mistaken attribution of motivations to a subject.

Techniques that improve recognition of patient motivations (emotion expression training, 'micro-expression' analysis and interview strategies) have significant potential for application in clinical medicine.

Introduction

Patient-centered models of care require physicians to give wide consideration to emotional and psychosocial, as well as biomedical causes [1]. Emotional and psychosocial states are not permanently visible and none are unique to a specific disease diagnosis. However, the evaluation of facial features is valuable as it provides insight into emotions and therefore the motivations of the patient. Emotions are the strongest motivator humans have. Consequently, emotional expressions elicited in the course of a structured interview (while taking a patient history or while watching others interview a patient) are highly informative of underlying motivation. Differences in facial expression morphology, timing and symmetry distinguish genuine from feigned emotional expressions, in a manner that may facilitate better diagnosis.

Inspired by observation of emotional recognition in infants, and the work of neurologist Guillaume Duschenne, Charles Darwin posited the existence of heritable, 'universal' emotional expressions that can be observed across cultures (*The Expression of the Emotions in Man and Animals,* 1872: reviewed in [2]). The psychologist Silvin Tomkins [3], Paul Ekman [4] and others [5] revived interest in universal expressions of emotion from the 1950's. Ekman later proposed the hypothesis that subsets of facial muscle expression patterns are consistently observed in multiple cultures to associate with seven discrete emotional states (sadness, anger, surprise, fear, enjoyment, disgust, and contempt) [6].

Genuine emotions and motivations in the clinical interview

Evaluation of emotional states contributes positively to the interaction between physician and patient, building rapport in a manner that associates with improved outcomes [7]. Discernment of non-verbal cues in patients may clarify the meaning of ambiguous verbal messages and may also reduce consultation times [8. 9]. On a practical level, the recognition of facial expressions is useful for the evaluation of pain levels in emergency department patients, and in the evaluation of cognitively impaired residents of nursing homes [10, 11]. Discussion of emotional impacts of treatments on the patient may elicit responses that might otherwise be missed by the physician [10]. Altered frequencies of emotional states associate with pathology, and may prompt further examination. For example, in patients with coronary artery disease, frequent facial expressions of anger associate positively with an increased risk of subsequent ischemic episodes [12]. The loss of an ability to recognize emotions in others, particularly fear, occurs in schizophrenia [13].

Despite these findings, physicians are poorly equipped to detect emotional cues in the context of a medical consultation, and may be unwilling to use non-verbal cues in the development of a diagnosis. Physicians respond positively to the detection of emotional cues in only 38% of surgery cases, 21% of primary care cases, and 28% of oncology cases [8, 14]. In the evaluation of patients at risk for subsequent lethal self-harm, physicians were disinclined to use observations of emotional cues and non-verbal cues, and restricted themselves to verbal cues [15].

Feigned emotions and motivations in the clinical interview

In some clinical interviews, physicians find themselves having to distinguish genuine from feigned patient motivation in order to provide correct treatment (Box 1). The failure to identify signs of feigned emotions, which may represent concealed motivations, may have significant clinical consequences. For example, signs of child abuse perpetrated by the parents can remain undetected, for over a year, by a physician responsible for monitoring the child's health [16].

In general, how accurately can someone identify a feigned motivation, deception, or lie? In a meta-analysis of 206 studies that examine deception, individuals achieve an overall average of approximately 54% accuracy for lie-truth judgments. People correctly identify true emotions approximately 67% of the time, and false emotions approximately 44% of the time [17]. The ability to discriminate lies is improved by lie sender motivation, lack of preparation, and prior exposure to the receiver. Detection of lies is impaired by the receiver's age, and the sender's perceived credibility (the extent to which the sender is always judged to be telling the truth by the receiver, regardless of accuracy) [18, 19]. Surprisingly, receiver accuracy may also be improved by the loss of verbal processing skills. Patients suffering from brain-injury induced aphasia (an inability to process and understand words) detect genuine facial expressions more accurately than non-aphasic, brain-damaged patients and uninjured controls [20].

Box 1: Evaluation of motivation as an adjunct to diagnosis

Malingering

Malingering, where the genuine motivations of the patient are concealed from the physician, is a conscious and voluntary act of deception where the deliberate intention is to obtain personal advantage (i.e. to gain the benefits of the sick role through the deliberate pretence of disease). Clinically, malingering complaints presented overwhelmingly with neurological symptoms [36]. One study observed that physicians detect fewer than 25% of malingerers [37].

Dissembling

In direct contrast to malingering, patients may seek to conceal genuine pathology even when it is in their apparent interest to not do so. Examples include employment health checks, social welfare checks, and criminal cases where the diagnosis of insanity is less preferable to prison [38].

Psychiatric conditions

The accurate differential diagnosis of several psychiatric conditions depends on discernment of whether patient motivation is genuine or concealed [39]. Conversion disorder, dissociative disorder and factitious disorder ("Munchausen's syndrome") are somatoform conditions that are involuntary and out of the subject's conscious control [16, 36].

Drug seeking behavior and non-compliance

Drug seeking has been defined as a set of behaviors where an individual makes a concerted effort to obtain a medication [40, 41]. Conversely, patients may conceal their non-compliance with a prescribed drug regimen. In a recent study of compliance with bronchodilator medication in a randomly controlled trial, up to 30% of participants were observed to not use their medications for at least one month out of a four-month follow-up period [42].

Several studies have suggested some populations have better than average abilities in the discrimination of false emotional expressions. In one study, psychiatrists and US Secret Service agents achieved accuracies in emotion detection higher that 75%, relative to college graduates and police professionals (approximately 45%) [21]. However, later studies have suggested that differences between professions, in discerning deception, are minute [19].

'Othello's Error': sources of bias in the structured interview

From a clinical perspective, the presence of an emotion that is incongruent with the existing patient history serves as a clue to obtain more information. It does not permit accurate identification of the concealed motivation(s). In Shakespeare's *Othello*, the Moor mistakenly interprets Desdemona's despair as confirmation of her alleged infidelity with Cassio, rather than as a reaction to her certain, imminent death. Ekman (1987) characterized the incorrect attribution of a motivation to observed emotions as 'Othello's Error'. Othello's Error is driven by three forms of bias: motivation, over-confidence, and misinterpretation of non-verbal cues.

In police interviews, anecdotal evidence derived through personal experience coupled with institutional traditions has driven the incorporation of non-verbal cues such as increased gaze aversion, fidgeting, self-manipulation, head movements and elevated voice tone as reliable indicators of concealed motivation or deception. However, little empirical evidence exists to support a positive correlation between non-verbal cues and concealed motivation. On the contrary, recent meta-analyses of eleven non-verbal behaviors indicated that only three (reduced nodding, reduced foot movements and reduced hand movements) reliably associated with concealment of motivations. However, even the positive indicators had variable effect sizes, cautioning against their application as indicators of concealed motivations [22, 23].

The enthusiasm of the interviewer has long been thought to correlate positively with interview effectiveness [5]. However, interviewer motivation may also contribute to bias. Porter and colleagues (2007) observed that, when interviewer motivation is manipulated prior to interrogation, motivated interviewers performed worse than when poorly motivated. One consequence of elevated motivation was inflated confidence in one's assessments [24]. The confidence bias refers to the preconception of the interviewer that they are able to discern another's motivations accurately, even when their performance is consistently little better than chance [25, 26]. Enthusiasm, over-confidence and mediocre judgement represent a potentially dangerous combination in law enforcement [27], and the same may equally be true of the medical profession. Therefore, caution is warranted in the interpretation of emotional expressions.

Improving the detection of motivation and its concealment

Emotional recognition training
As a first step in training emotional observation skills, physicians should familiarize themselves more with emotional expressions. Lavelle (1989) observes that training in the observation of full, cardinal, emotional facial expressions improves the capacity to interpret dynamic, more complex facial expressions correctly [28]. An innovative teaching programme launched by the ANU medical school in 2005 uses the resources of the National Gallery of Australia for the purposes of bioethical training and engagement with the humanities. Conceivably, this might also be adapted to the study of static, complex emotional expressions [29].

'Micro-expression' training
Of particular recent interest are 'micro-expressions', a class of posited momentary expressions that are extremely brief (less than a second). These are a topic of considerable discussion in academic and popular scientific literature (Box 2). Ekman and others [30] have argued that micro-expressions are nearly impossible to hide and therefore provide insight into genuine emotional expression and (by inference) the possible existence of concealed motivations. On the basis of this hypothesis and existing data, a micro-expression training tool (METT) was developed to improve the capacity of individuals to recognize 'micro-expressions'. This has been employed to improve emotional recognition skills [31].

Box 2: 'Wizards', Lie to Me and the SPOT program

The finding of twenty-nine 'wizards' of emotional expression reading, who are accurate in discriminating correct emotional states in >90% of psychological tests conducted, have provoked interest in the topic of micro-expressions [43]. The 'Wizards Project' was popularized in articles in the *New Yorker* and *Wired* [44, 45] and inspired a TV series, *'Lie To Me'*. Bond and Uysal (2007) have contested the statistical rigor of the results, arguing that a similar number of prodigies might have been obtained by random chance (an argument disputed by the authors) [46].

Concerns over the scientific basis and validity of micro-expressions, non-verbal cues and behavioral profiling strategies imported directly from traditional intelligence work has not deterred the recent development and implementation of the "Screening of Passengers by Behavioral Techniques" (SPOT) program in 2006 by the United States Transport Safety Authority (TSA). This programme, employing some 3,000 personnel across 161 US Airports trained to recognize micro-expressions, non-verbal cues, and behaviors coupled with computerized behavioral profiling and biometric analysis. Data from this massive project, which (from 2006-2009) screened over a billion passengers, selected 232,000 for secondary screening, and arrested 1,710 (none of which were for counterterrorism offences) is, as yet, not in the public domain [47].

In a pilot study of micro-expression training in high-performing, first-year medical undergraduates, Endres and Laidlaw (2009) observed a modest improvement in the students' ability to recognize emotions. Students reportedly found the training useful, but the effect of these training programmes to improved patient-physician interaction was not subsequently studied [32]. Russell (2006) used micro-expression training tools to successfully improve the emotional recognition capability of schizophrenic patients, who (after training) were comparable to control patients [13]. Importantly, later studies indicated that trained schizophrenic patients had an improved capacity to recognize emotions in others [33]. In a recent review, Porter and ten Brinke (2010) acknowledge the anecdotal evidence for, and popular interest in, micro-expressions. However, they also note the small body of empirical evidence, and emphasize the need for further research [34].

Interview skills and strategies
Verbal and physical mirroring techniques (matching verbal predicates like verbs, adverbs and adjectives to those used by the patient, subtly mirroring patient head angle after a noticeable delay, and verbally mirroring back answers rather than merely acknowledging them) may be useful in building patient rapport that may subsequently facilitate emotional expression in the presence of the physician [35]. The application of theory based interviewing techniques is also useful in eliciting verbal and non-verbal cues of concealed motivation (Box 3).

Box 3: Structured interview techniques: some examples

Cognitive Load

This interview strategy attempts to reduce the cognitive resources available to suppress non-verbal and verbal cues. For example, asking people to recall events in reverse order creates higher cognitive processing demands in people who pretend to experience an event relative to people who actually experienced the event [48, 49].

Unanticipated Questions

Two or more individuals who conceal the facts about an event tend to get their stories straight on the basis of what questions are likely to be asked. People telling the truth about an event rely on their accurate accounts and tend to invest their faith in the 'illusion of transparency'. Based on this observation, asking the former group to recall unanticipated information, rather than reasonably anticipated questions results in more inconsistencies in responses; the number of inconsistencies, and delays in responses, suggest concealment [50].

Devil's Advocate

In response to a particular statement that an individual says they agree with, the individual is asked to argue at first for, and then against, that opinion. People normally think about more reasons to support their personal view. Thus, those who actually agree with the statement have shorter latency times, and provide more information, which tends to be more plausible and exhibits more emotional involvement. Those who only pretend to agree with the statement reliably exhibit the converse pattern [51].

Conclusions

The perception of overt and concealed emotional expression is a neglected component of the clinical interview. Physicians are not directly trained in the recognition of emotional signs that may indicate the presence of pertinent clinical information. In order to improve appreciation of the psychosocial aspects of illness, there is scope for explicit training in the recognition of emotions and education about sources of bias that may distort the interpretation of emotional cues.

Declarations

The authors have no financial or other interests to declare in relation to this paper, except that Steve Longford currently provides micro-expression and structured interview skill training programmes in the Canberra region (www.newintelligence.com.au).

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