

# Placebo Response and Culture

## Introduction

Cultures define who we are, how we are brought up, how we describe distress and how we seek help as well as the sources of help we choose. Medicine as a discipline has its cultural values which at times may conflict with broader cultural values. Understanding the culture of medicine may help the patient engage better with physicians and may make the right therapeutic intervention readily acceptable. Cultures encourage individuals, their carers and families to accept what is acceptable in treatment at all levels. Cultures can influence whether individuals see tablets, capsules, injections, or syrups as more potent as well as readily acceptable. In addition, cultural factors embedded in individuals and their families play a major role in the therapeutic alliance, even though often these are ignored. Cultural variations in treatment responses have been studied, but not widely, while the role and type of medication have not been explored at length. In this essay, we explore the role of placebos and their acceptance for treatment, as well as the roles the placebo can play and the cultural understanding of various factors.

## Disease and illness:

The practice of medicine focuses on disease, and physicians are trained to explore and diagnose diseases which are seen as abnormal structures, or the functioning of the body or organs related to medical understanding of pathology and abnormal physiology.

These are thus medically constructed, and physicians are trained to identify these and deal with them. On the other hand, patients and their carers and families are often interested in the altered state of being and functioning which interferes with their daily living. This experience is defined as illness and is socially and culturally constructed.

<sup>1</sup> Thus, these differences are not only constructed differently according to patient and physician perspectives, but they will also have different models explaining these experiences, the resulting distress and where and how help is sought to deal with these experiences.

Cultures and societies define what is seen as abnormal or deviant, and how health resources are allocated. It is worth emphasising that despite common experiences of what may be deviant or abnormal, the experience of illness is far broader than disease and they do not map clearly onto each other, while their respective trajectories and outcomes may well be distinct. <sup>2</sup>

Dinesh Bhugra  
FRCP, FRCPE, FRCPSych, FFPH,  
MPhil, PhD\*  
Professor of Mental Health &  
Cultural Diversity, Institute of  
Psychiatry, King's College London  
PO 25, Health Service & Population  
Research Department, London, UK  
Email: [dinesh.bhugra@kcl.ac.uk](mailto:dinesh.bhugra@kcl.ac.uk)

Antonio Ventriglio  
Department of Clinical and  
Experimental Medicine, University  
of Foggia, Italy, Via G. Marconi, 3;  
71041, Carapelle (FG), Italy;  
email: [a.ventriglio@libero.it](mailto:a.ventriglio@libero.it)

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A key aspect of the therapeutic alliance is the commonality of explanatory models which is often rare, as physicians may well have medical explanations whereas patients and their families may believe in natural, supernatural, social, or mixed causes; this would add to a disjunction between the patients and their doctors. In addition, both patients and doctors have certain expectations from the therapeutic encounter. Kleinman<sup>3</sup> observed that in Taiwan, patients expected their Western doctors to provide injections and not to spend time answering questions or giving explanations, whereas Chinese medicine practitioners were expected to provide herbal treatments, to remark on symptoms and diet and to answer questions. This indicates patient expectations which may well have changed of late due to increased and easy access to information about symptoms. When seeking help, patients and their families also expect certain levels of healing which have been of three types: natural, interpersonal, and technological.<sup>4</sup>

### Placebo:

The word placebo is derived originally from Latin, and its literal meaning is 'I please'. Placebos in medicine have been used for centuries. It is well established that even inert substances can and do produce significant effects on individuals, even though sometimes it is not entirely clear how these effects occur. Often their effect is seen as a negative one." Placebo response: It has been argued that the response to a placebo is very strongly affected by several factors including colour, name, origin, appearance, and route of administration of the substance. Inevitably, individual personality traits of patients will also play a role in the placebo response.

Cultures influence cognitive schema through child-rearing patterns which can be very culture-specific, and thus directly and indirectly affect personality development. Interestingly, it has been argued that the placebo effect occurs because of classical conditioning.<sup>10</sup> There is no doubt that information processing plays a major role in the placebo effect. <sup>11</sup> Cultural patterns of information processing will influence the processing of information. Miller et al<sup>3</sup> suggest that the placebo effect primarily influences

illness and affects disease only minimally, if at all. As mentioned above, expectations drive the placebo effect. <sup>18</sup> In cultures where the patient has different expectations from their doctors and would want their doctor to make the decisions for them, it will be interesting to explore the effect of the placebo. The placebo effect has been compared to that of the healing effect shown by shamans.<sup>19</sup>

In a systematic review, De Craen et al <sup>15</sup> confirmed that red, yellow, and orange drugs were associated with a perceived stimulating effect, whereas blue and green tablets were seen as calming.

These authors <sup>15</sup> note that stimulant medication was marketed in 'hot' colours - red, yellow, or orange tablets – whereas antidepressants tended to be marketed in 'cool' colours such as blue, green or purple. Schapira et al<sup>16</sup> observed that symptoms of anxiety were most likely to respond to green tablets, while those with depressive symptoms appeared to respond to yellow tablets. Among student volunteers, red tablets tended to act as stimulants, whereas blue ones acted as depressants; two tablets were seen as having more effect than one.<sup>17</sup>

### Cultural variations:

As cultures determine the cognitive schema and the interpretation of symbols, their impact on individuals needs further exploration. Buckalew and Coffield <sup>13</sup> reported that white capsules were seen as analgesics by Caucasians, but as stimulants by African-Americans; whereas black capsules were seen as stimulants by Caucasians and as analgesics by African-Americans. These studies need to be replicated to ascertain whether these effects are still in existence. Sedating agents produced more sedation in individuals who were passive and intellectually-oriented, whereas those who experienced paradoxical reactions (i.e. agitation and anxiety) were more likely to be action-oriented and athletically inclined; thus personality traits may influence the pharmacodynamics and pharmacokinetics. As mentioned above, cultures influence personality development, which requires further exploration. In many cultures explanations of their illness and perceptions about their faith affect responses to illness and treatments. Faith in the medical system and the

prescribing doctor will affect engagement, as well as the therapeutic alliance. Often in clinical trials, these aspects are not explored at all, whereas in some cultures they may well play a major role in producing a therapeutic effect. This observation, therefore, raises significant questions about what individual perceptions and causations of illness and expectations from the treatment in general and medication in particular are. It is possible that any strong expectations of the Colour of medication: Not surprisingly, patient compliance with medication is strongly associated with how the medicine is perceived to be and what its actions are likely efficacy or expectancy (defined as the experienced likelihood of an outcome or an expected outcome) may well give rise to the experience of benefit, thereby becoming a self-fulfilling prophecy. to be. <sup>12</sup> The actual size and colour of tablets play a major role in giving a clear message to the patient. It has been shown that blue tablets are seen as more depressant-sedative, while yellow capsules are seen as stimulant-antidepressants.<sup>13</sup> Blue preparations are generally seen as more soothing, whereas red, yellow, or pink are seen as stimulating. <sup>14</sup> As noted above, as classical conditioning plays a role in the placebo response, so do the verbal suggestions and behaviours of health professionals, <sup>10</sup> which vary across cultures and thus require further study.

## Cognitive modulation:

Cultural symbols and their meanings determine therapeutic adherence and alliances. In traditional (technologically less advanced) societies, patients and their carers seek explanations for natural or supernatural causes but expect the healer to identify the cause and propose appropriate rituals for its negation. On introduction of Western medicine into these cultures, in the early stages, both systems may well be used simultaneously, simply to complement each other.

## The Way Forward:

Researchers need to explore cultural factors in acceptance of medication and the role that plays in the therapeutic alliance and adherence. The symbolism of physical treatment options

available to patients, their carers and families, and the therapeutic interaction must be explored in both qualitative and quantitative manners. How cultural and ethnic groups see the form of medication and associated factors, and whether that determines engagement and perceived and real outcomes must be explored. The perceived potency of the pills or capsules needs to be incorporated into the therapeutic encounter so that adherence and alliance can be improved.

Understanding patients' explanatory models and their pathways into care must form the basis of the start of the therapeutic interaction. Physician communication affects the therapeutic alliance, and that in turn influences a response which may be attributable to the placebo effect.<sup>20</sup> Evaluating the efficacy of any therapeutic interaction must consider the placebo effect and cultural variations and expectations, as the placebo effects are mediated through symbolism as well as the perception of the healer by the patients and those who care for them. As most clinical trials are now being conducted in China, the Indian subcontinent, and Eastern Europe, it is an opportune time to explore relationships between psychological mediators in the placebo response and their cultural and biological substrates. Dietary habits, smoking patterns, and pharmacodynamic and pharmacokinetic differences in the metabolism of drugs vary according to ethnicity and affect drug absorption, metabolism, and excretion. These need careful exploration and assessment in drug trials as well as clinical practice. Mind-body relationships can be better explored in the context of the placebo response, and healthcare professionals need to be aware of the impact which placebos can have on psychiatric as well as physical conditions.

## References

1. Eisenberg L. Disease and illness. *Culture Medicine and Psychiatry* 1977; 1:9-23.
2. Stoeckle J, Zola IK, Davidson G. The quantity and significance of psychological distress in medical patients. *Journal of Chronic Disease* 1964; 17: 959-970.
3. Kleinman A. Medical and psychiatric anthropology and the study of traditional medicine in modern Chinese culture. *Journal of Institute of Ethnology. Acad Sinica* 1975; 39: 107-123.

4. Miller FG, Colloca J, Kaputchnik T. The placebo effect: illness and interpersonal healing. *Perspectives in Biology and Medicine* 2009; 52: 518-539
5. McQueen D, Cohen S, St John-Smith P, Rampes H. Rethinking placebo in psychiatry: the range of placebo effects. *Advances in Psychiatric Treatment* 2013; 19: 162-170.
6. Ross S, Buckalew LW. On the agenting of placebo. *American Psychologist* 1979; 34: 277-278.
7. Huculak S. Attempting to define placebos and their effects: a keywords approach. *BioSocieties* 2013; 8: 164-180.
8. Shapiro AK, Wilensky H, Struening EL. Study of the placebo effect with a placebo test. *Comprehensive Psychiatry* 1968; 9: 118-137.
9. Janke W. Response variability to psychotropic drugs: overview. In W Janke (Ed.) *Response Variability to Drugs*. New York: Pergamon, 1983, pp 217-260.
10. Foot D, Ridge D. Constructing the placebo effect in the placebo wars: what is the way ahead? *Sociology Review* 2012; 21: 355- 368.
11. Colloca L, Miller FG. How placebo responses are formed: a learning perspective. *Philosophical Transactions of the Royal Society B* 2011: 366, doi:10.1098/rstb.2010.0398 accessed June 19, 2014.
12. Buckalew LW, Sallis RE. Patient compliance and medication perception. *Journal of Clinical Psychology* 1986; 42: 49-53.
13. Buckalew LW, Coffield KE. An investigation of drug expectancy as a function of capsule color and size and preparation form. *Journal of Clinical Psychopharmacology* 1982; 2: 245-248.
14. Buckalew LW, Ross S. Relationship of perceptual characteristics to efficacy of placebos. *Psychological Reports* 1981; 49: 955- 961.
15. De Craen AJM, Ross PJ, de Vries AL, Kleijnen J. Effect of colour of drugs: systematic review of perceived effect of drugs and of their effectiveness. *British Medical Journal* 1996; 313: 1624-1626.
16. Schapira K, McClelland H, Griffiths NR, Newell DJ. Study on the effects of tablet colour in the treatment of anxiety states. *British Medical Journal* 1970; 2: 446-449.
17. Blackwell B, Bloomfield SS, Buncher CR. Demonstration to medical students of placebo responses and non-drug factors. *The Lancet* 1972 (June 10); 1279-1282.
18. Justman S. Placebo: the lie that comes true. *Journal of Medical Ethics* 2013; 39: 243-248.
19. Kaptchuk TJ. Placebo studies and ritual theory: a comparative analysis of Navajo, acupuncture and biomedical healing. *Philosophical Transactions of the Royal Society B* 2011; doi: 10.1098/rstb.2010.0385 accessed 19/06/2014.
20. Verhulst J, Kramer D, Swann AC, Hale-Richlen B, Beahrs J. The medical alliance: from placebo response to alliance effect. *Journal of Nervous and Mental Disease*, 2013, 201(7), 546-552.