Editorial Comment

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What do we mean by "biopsychosocial" in pain medicine?

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In 1977, psychiatrist George L. Engel published a paper in *Science* in which he introduced the biopsychosocial (BPS) model of health and disease as an alternative to the then dominating biomedical model [1]. The BPS model has had a huge influence [2], not least in the field of pain medicine [3]. According to Engel, medical science needed a holistic reframing, a new way of looking at things. He wrote that the physician "must weigh the relative contributions of social and psychological as well as biological factors implicated in the patient's dysphoria and dysfunction as well as in his decision to accept or not accept patienthood and with it the responsibility to cooperate in his own health care" [1]. Hence the combination of "bio", "psycho" and "social" into one term.

The BPS model has not been without its critics. On a theoretical level, the question has been asked whether the BPS model really is a scientific *model*, or if it should instead be labelled as a scientific *theory*, a *meta-theory* or even a *paradigm* [4]. Biopsychosocial advocates have been accused of seeking an "eclectic freedom" which "borders on anarchy", meaning that one can pick and choose whatever aspects of "bio", "psycho" and "social" that one wants without any rule or guiding principle as to how the choice is done [5]. Hence, the meaning of "biopsychosocial" is far from self-evident. However, it is hardly justified to use the term "anarchy" to describe the situation. Instead, what philosopher Patricia Smith Churchland says about consciousness can be applied also to how we understand the term biopsychosocial:

> "If we cannot begin with a solid definition, how do we get agreement on what phenomenon we are trying to study? Roughly, we use the same strategy here as we use in the early stages of any science: delineate the paradigm cases, and then try to bootstrap our way up from there. Using common sense, we begin by getting *provisional* agreement on what things count as *unproblematic* examples" [6].

Just as the absence of a clear definition of consciousness does not preclude us from using the term, the absence of an exact definition of "biopsychosocial" does not mean that the term is meaningless. One way of tackling the issue is to state some things that are *not* implied by the BPS model. I will briefly discuss four such misunderstandings.

The first misunderstanding is the view that the BPS model is merely about adding a component of human warmth, empathy, and humanism to the traditional biomedical model. Simply put, this misunderstanding can be expressed mathematically as follows: BPS model=biomedical model + human warmth. It has been claimed that such a view is common in health care personnel [7]. It is certainly true that a biomedical view completely devoid of empathy and kindness risks leading to a dehumanized health care system. Such a "cold" practice of medicine should not be condoned [8]. The point here however is simply that the BPS model is much more than just a dose of humanism added to biomedicine [7]. In other words, the BPS model is not first and foremost about ethics or about the relationship between patient and health professional [9, 10]. What the BPS model does postulate is that the traditional biomedical model is deeply insufficient from a practice-of-medicine point of view, i.e., that the biological perspective is not enough to make sense of health and disease. If we want to understand the patient, e.g., in a chronic pain setting, it is of paramount importance to understand the psychosocial context and how the patient is an active actor (and not only a passive recipient) in that context. Pain clinicians need to be informed by key concepts from pain psychology and behavioural medicine, such as for instance the fear-avoidance model [11].

The second misunderstanding is of a different kind. A clinician who is aware of the importance of psychosocial factors will of course ask the patient about his or her psychosocial context. However, although thoroughness

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in medical history taking is of paramount importance, the BPS model is not merely about detailed history taking in the three fields of "bio", "psycho", and "social". Of course, when meeting a patient with a complex and multifaceted pain problem, the clinician must "dig" deeper than is usually the case, not least concerning psychosocial issues. In the context of chronic pain, it is for instance crucial for the clinician to ascertain whether the behaviour of the patient is dominated by avoidance or by its opposite (behavioural overactivity and dysfunctional persistence). To evaluate the behaviour of the patient takes time, and attendance to details is indeed important. However, the "digging" into details is not the point! Meticulousness is only a means, not an end in itself. The point of a BPS analysis in the chronic pain setting is to identify the *dynamics* involved, i.e., to be able to clinically interpret the situation of the patient from the point of view of the real-life interaction of "bio", "psycho", and "social". Such dynamics can for instance lead to "vicious circles", unhelpful behaviours worsening the problem in a negative spiral of mutually reinforcing factors. The physician who merely looks at details without being able to spot such dynamics will not be working according to the BPS model – no matter how thorough he or she is in "psychosocial" history taking.

Third, some criticise the BPS model for being unscientific in its view of psychology. When for instance Ghaemi states that "psycho" in the BPS model usually means "psychoanalytical" [5], he seems to be saying that the BPS model is unscientific, i.e., that it basically entails reintroducing something as doubtful as Freud's theories by the back door. If this is the way one has to view "psycho" in the BPS model, then I understand Ghaemi's reservations. But I have never, as a pain physician and researcher, encountered any BPS proponent who has argued from a Freudian stance. As I see it, "psycho" in BPS is about acknowledging the importance of serious psychological research, not about outdated beliefs based on sheer speculations.

Finally, and partly related to the previous misunderstanding, is the view that the BPS model is essentially anti-biological. As a physician involved in biomarker research in the field of chronic pain, I am sometimes concerned by the lack of biological emphasis when the BPS model is discussed. At times, I feel like using the words of Schweinhardt when she aptly asks, "Where has the "bio" in bio-psycho-social gone?" [12]. In my opinion however, the BPS model is not in itself less biological than the biomedical model. Viewing the BPS model as anti-biological is a mistake, the B in BPS being essentially equivalent to "biomedical". The BPS model adds extra dimensions and a way of understanding how these different dimensions interact in a dynamic way. Hence, the BPS model, rightly understood, is no less biological than its historical competitor, the biomedical model.

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