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Complementary medicines in medicine: Conceptualising terminology among Australian medical students using a constructivist grounded theory approach

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A B S T R A C T

Terminology around the use of complementary medicines (CM) within medical discourse is ambiguous. Clear collective discourse within the medical context is required. This study reports the findings of a Constructivist Grounded Theory Method study used to explore medical students' conceptualisation of terminology and associated value components around CMs as evidenced within their discourse community. The results show that terminology surrounding CMs within medicine is politically charged and fraught with value judgements. Terms used to describe CMs were considered, many of which were deemed problematic. Categorisation of specific medicines was also deemed inappropriate in certain contexts. Conceptualisation of CM terminology, categorisation and value implications, discriminated between levels of evidence for CMs and provided insights into the social change of medicine towards emergence of an evidence-based integrative approach. The results show that terminology surrounding CM is a social construct consistent with fluid conceptualisation and operationalisation in different social contexts.

1. Introduction

Complementary medicines (CM), within the umbrella term complementary and alternative medicine (CAM), encompass a plethora of practices, therapies and classifications [1,2]. Value judgements are implicit in the term 'CM' itself. Deciding what should be categorised as a CM – as distinct from a religious ritual or cultural practice – from among diverse CAM practices is a decision with important value implications. The reasons for defining practices as 'CM' are not only scientific but also political, social, and conceptual [3]. Historically, these have included lack of an accepted explanatory model (e.g. homoeopathy) [3]; the origin of the practice (e.g. acupuncture) located outside of the dominant medical system [3,4]; the amount or type of data considered insufficient or inadequate (e.g. herbal medicine, megavitamin therapy) [3,5]; and marginalisation of use within hospitals (e.g. chiropractic); or university medical teaching (e.g. nutritional therapy) [3,6,7].

In political terms, some authors contend that 'complementary' medical practices complement conventional medicine [8], while others suggest 'alternative' means alternate to conventional methods [9]. However, Angell and Kassirer [5] argue that there cannot be two kinds of medicine – 'conventional' and 'alternative'. Terminology used to describe these practices remains controversial and confusing. Many commonly used terms (e.g. 'alternative', 'unconventional', 'unproven', 'natural') are judgemental and may inhibit collaborative inquiry and discourse necessary to distinguish useful from useless practices [2,3,6,10]. In recent times, this has led to ideological misrepresentation [11].

While historically there has long been discussion about CMs in health care, the benchmark work of Eisenberg [6,7] highlighted the need to consider more closely the terminology, categorisation and value components surrounding these medicines. Since then, various binary and dichotomous terms have been used across various communities to describe CMs [2,10]. While some are more specific when defining a particular practice (e.g. acupuncture, massage therapy, nutritional supplements or herbal medicines), and how they fit into the schema of healing, others are used

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interchangeably and incorrectly [1–3,12–14] or are historically inaccurate [15]. Adding to this confusion, contemporary terms and social practices involving CMs are emerging such as 'integrative medicine' (IM), which refers to CMs within the whole scope of medicine leading to synergistic therapeutic effects [16]. CM nomenclature has been widely contested in recent years and has become an increasing focus of academic attention [2]. Terminological and linguistic ambiguities around CM may have negative implications for medical practice [10,17,18].

In this paper CMs are defined as: *herbal medicines, vitamin and mineral supplements, nutritional and food supplements, traditional Chinese medicines*, *homoeopathic medicines, and other ingestible non-pharmaceutical medicines* to differentiate from therapies such as chiropractic or acupuncture, which are often subsumed in the term 'CAM' [19,20].

CM derives from diverse social, philosophical and historical backgrounds [15,21]. When something is labelled 'CM' and practices are differentiated, it is important to recognise the diverse social and political value judgements at play [3]. These value judgements are embedded in scientific, medical, and educational rationales. Currently, no clear and consistent terminology or categorisation for CMs within medicine exists. In keeping with the historical development of CMs in health care and social change in medicine [15,22], this paper explores medical students' conceptualisation of terminology around CMs as evidenced within their discourse community as well as intrinsic value components. This paper draws upon findings from a study that aimed to facilitate CM literacy education development within medical curricula in Australia. Addressing these gaps may help reduce the likelihood of misunderstanding and miscategorisation of CMs in medicine and enable informed delineation in the context of medical practice.

2. Methods

Constructivist Grounded Theory Methods (CGTM) of constant comparison of data, reflexive memoing, theoretical sensitivity, and theoretical sampling used in this study were based on those described by Charmaz [23]. Analysis of the findings is presented using storyline, a Grounded Theory method developed by Strauss and Corbin [24], and later advanced by Birks and Mills [25]. This study was approved by Monash University Human Research Ethics Committee (MUHREC). Pseudonyms have been used in reporting findings.

2.1. Participant recruitment

Thirty medical students, from metropolitan and rural campuses and clinical schools across 10 ranked university medical schools for medicine 2013, were recruited [26]. The aim was not to obtain a representative sample but rather to capture a wide variety of experiences. Following ethical approval, students self-selected for the study after flyers were distributed via each university medical student society inviting students to participate. Criteria for participants included that students must be at least second-year medical students full-time in Australia. Nine medical courses were undergraduate (including graduate-entry) and one was postgraduate, all between four and six years' duration. Most participants recruited had previous exposure to CMs; 16 had a professional background involving CMs, e.g. as community pharmacists. Twelve students held representative chairs on various curriculum committees and had affiliations with various professional bodies, e.g. Australian Medical Association.

2.2. Data generation

From April to September 2013, the principles of CGTM were rigorously applied in a process of simultaneous and concurrent data generation and analysis [25]. Data were generated from anonymised in-depth semi-structured one-on-one interviews [23]. Purposive sampling was employed followed by theoretical sampling to focus on the developing concepts and categories as the study progressed [23]. Twenty-eight telephone and two face-to-face interviews were conducted. Open-ended questions were used which became more focused and refined as the interviews progressed to develop the emerging categories and properties. Contemporaneous field notes were kept to record important features of the therapeutic interaction. Interview length ranged from 45 min to 3 h. With participants' permission, all interviews were audiotaped and subsequently transcribed verbatim by the first author. The researcher's interpretations were discussed, as necessary, with participants to ensure the students' voices were heard [23].

2.3. Data coding and analysis

Data were analysed using initial and focussed coding [23,25]. Analytic reflexive memos were written throughout the research process, consisting of theoretical notes about the data and their conceptual connections. In keeping with the tenets of CGTM, data generation and analysis continued concurrently and simultaneously until theoretical saturation was reached following 30 interviews; that is, when further data generation elicited no new theoretical insights around key patterns in the data, and the relationship among categories was well established [23]. Constant comparative technique [27] was used to test developing categories and to compare categories and data. Categories and subcategories were validated by way of regular supervisor review ensuring credibility and intersubjectivity of the findings. Evolving from these it was possible to write the storyline of what was happening in the data [24,25].

3. Results

The findings report the analysis of medical students' conceptualisation of terminology surrounding CM within medicine and intrinsic value judgements. *Clarifying terminology ambiguity* is the constructed category from the data. This category has three subcategories: (1) context of medical practice, (2) context of patient use, and (3) context of changing health care delivery. At the centrepiece of these subcategories is the 'level of evidence' which was found to dominate the influence of all other factors identified. This differential enabled categorisation of CMs and their value components based on different social contexts.

3.1. Context of medical practice

From a medical perspective, students were clear that the key distinction to be considered when using the term 'CM' was that although there were various ways to consider this term, it was always in relation to medical practice. Students did not see the term 'CAM' as an appropriate interchangeable term for CMs as the two mutually exclusive categorical terms (i.e. 'complementary' and 'alternative') were not considered linguistically or conceptually synonymous. In particular, the hybrid term reflected the unsatisfactory bundling of a plethora of different therapeutic categories associated with CAM (i.e. both ingestible

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