

Analogies and metaphors in clinical medicine

Gwinyai Masukume and Alimuddin Zumla

ABSTRACT – Medicine is traditionally known as an ‘art’, and not an exact ‘science’. Medical images of clinical signs and pathology were communicated through ‘metaphors’ in the 19th and early 20th centuries to make recognition easier in anticipation of the clinical counterpart when encountered in medical practice. They have served as teaching aids, enhancing memory retention for medical students, nurses and doctors and have withstood the test of time. Standard medical textbooks contain metaphors that have become entrenched in teaching, learning and examining in medical schools and hospitals worldwide. The continued use of metaphors has given rise to an ongoing debate, particularly in Africa, due to the usage of inappropriate or unfamiliar metaphors which are not locally or culturally relevant. Despite this, medical analogies will no doubt continue to be useful for medical education, clinical practice and ‘aide memoirs’ for examinations, and bring light humour, for a long time to come.

KEY WORDS: analogies, clinical medicine, clinical signs, medical textbooks, metaphors, teaching

Medicine is traditionally known as an ‘art’, and not an exact ‘science’, with the practice of bedside medicine being nurtured by experience and everyday encounters. Standard textbooks written in English contain vivid descriptive terminology using metaphors that have become entrenched in teaching, learning and examining in medical schools and hospitals worldwide.^{1,2} These texts, written by British authors in English, arose from traditional medical practice in the UK and thus the terms are influenced by local culture. Doctors of all disciplines have been fascinated, and sometimes obsessed, by naming and relating abnormal symptoms, signs and pathology seen in clinical practice to analogous states seen in real life.

Translating medical images of clinical signs and pathology encountered in practice through ‘metaphors’ was necessary due to lack of accurate diagnostic services in the 19th and early 20th centuries. Metaphors relating to familiar analogous items make recognition easier in anticipation of the clinical counterpart when encountered in medical practice and serve as teaching aids, enhancing memory retention for medical students, nurses and doctors. For example, before the advent of microscopy and

microbiology, naked eye examination of stools was an essential component of a thorough medical consultation. This experience was related to day-to-day analogous items seen at lunch or dinner with recognition of similarities with items of food.^{3–6} It is not surprising that these resulted in classic descriptions of stools such as ‘rice water’ stools of cholera, ‘pea soup’ stools of typhoid, ‘red currant jelly’ stools of intussusception, and ‘anchovy sauce’ stools of amoebic dysentery.

Over the past century, over 450 metaphors have accumulated in the medical literature^{1,5,7} related to fruit, vegetables, cereals, seafood, dairy products, fauna, flora, astronomical bodies, weapons, dining table utensils, laboratory equipment, drinks and colours. These continue in use today. For example, the term ‘grape’ is used across many medical specialties. It was used in a recent clinical picture case report ‘Hydatid pericardial tamponade: a grape soup’ published in the *Lancet* to vividly describe the multiple cystic formations of hydatid daughter cysts.⁸ ‘Grape-like vesicles’ is used to describe hydatiform mole, an abnormal pregnancy in which the placenta contains chorionic villi distended by fluid vesicles visible with the naked eye. ‘Carswell’s grapes’ alludes to multiple tubercles of active pulmonary tuberculosis clustered around the finer bronchioles which open into the alveoli. The infiltration of muscular and elastic tissues, and its extension along the walls of the bronchial tubes themselves, assume a ‘racemose’ distribution of pulmonary tubercles giving them a ‘grape-like’ appearance. The malignant tumour, sarcoma botryoides, is seen in the walls of hollow, mucosa-lined structures such as the vagina, nasopharynx, and common bile duct of young children. The name ‘botryoid’ is derived from the Greek for ‘bunches of grapes’. Endocrine and other glands have branching ducts that end in acini resembling a bunch of grapes. Finally, ‘grape endings’ is a descriptive term applied to synaptic terminals at the ends of short, stalk-like axon branches of neurones.

The establishment of new medical schools in English-speaking African countries over the past 40 years led to importation and usage of textbooks in English by British authors. The continued use of metaphors in these textbooks has given rise to an ongoing debate.⁹ Medical students come from culturally and geographically diverse backgrounds. Many have had no exposure to British culture and find the use of some metaphors rather perplexing and culturally inappropriate, especially in situations where the analogues are not familiar in the local home environment. A study from Nigeria confirmed that medical students and residents had a relatively poor knowledge of food-related medical terms derived from Western country settings.⁹ The dilemma posed to medical students in Africa due to the usage of inappropriate or unfamiliar metaphors merits further

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consideration.⁷ This could be resolved as new texts are developed by indigenous authors who are conversant with the local environment and culture and current inappropriate metaphors may fade out of current medical textbooks with time. However, metaphors are deeply entrenched in medical schools and will no doubt continue to be useful for medical education, clinical practice and 'aide memoirs' for examinations, and bring light humour, for a long time to come.

Conflicts of interest

GM and AZ share a fascination for food-related medical analogies. GM is the author of the blog <http://foodmedicaleponyms.blogspot.com>

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