

Cognitive errors in the management of skin conditions: Rash decisions and alternative facts

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One special advantage of the skeptical attitude of mind is that a man is never vexed to find that after all he has been in the wrong. – William Osler
To err is human – Alexander Pope

We all make mistakes, but some mistakes are far more costly than others. Whether electing to perform a particular investigation, electing to prescribe a medicine, or electing a government official, failure to make the right choice can sometimes result in dire consequences. The systematic analysis of errors is especially developed in fields where the consequence of an error is immediate and life-threatening, such as in medicine. Studies to identify different types of cognitive errors have created a taxonomy that can be used for categorisation of errors, with the ultimate goal of prevention.

Availability errors occur when a clinician misjudges the likelihood of a disease because of a recent experience.¹ In other words, the memory of the experience is fresh in the mind and therefore immediately available. An example of this would be a doctor who had recently missed a diagnosis of malignant melanoma and, as a result, tends to see melanoma in all pigmented lesions.

Premature closure is a common error where a diagnosis or decision is made without proper consideration of other possibilities.² In their article on rosacea, Maor and Chong³ provide not only a description of the subtypes of rosacea and their clinical presentations, but also a

list of important differential diagnoses that may appear very similar to rosacea or even overlap with the condition. Getting the right diagnosis by considering all the possibilities can potentially avoid inappropriate and unnecessary treatment.

An important part of making the correct diagnosis is obtaining as much relevant information as possible, and an appropriately performed skin biopsy can provide essential information. Harvey, Chan and Wood have contributed two excellent articles on skin biopsy in the management of inflammatory and neoplastic skin conditions.^{4,5} They emphasise the importance of appropriate technique and the necessity of providing as much information as possible to the pathology service, in order to optimise diagnostic accuracy.

Affective errors occur when the clinician avoids potentially uncomfortable examinations or procedures out of sympathy for the patient. Liquid nitrogen, which has a boiling point of -196°C , is undoubtedly uncomfortable when applied to the skin but is extremely effective at treating a variety of skin conditions, as outlined in the article on cryosurgery by Cranwell and Sinclair.⁶

As a final example of cognitive error, an attribution error may occur when clinicians are blinded by negative stereotypes that lead them to ignore or minimise the possibility of serious illness. In their article on scabies, Hardy, Engelman and Steer⁷ provide an overview, from frontline clinical considerations to public health issues, of this condition, which often occurs in vulnerable populations.

Recognising the various types of cognitive errors that can occur is an

important step towards their prevention. Proposed interventions for further reducing the chance of error include the cultivation of self-awareness, an ongoing re-examination of thought processes and assumptions, and routine consideration of alternatives.^{8,9} Promoting such a vigorously sceptical attitude may help to improve patient outcomes and when applied to other fields, such as public health policy, may further the health of individuals and society.

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