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Litchfield, Ian; Moiemmen, Naiem; Greenfield, Sheila

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Barriers to evidence-based treatment of serious burns: The impact of implicit bias on clinician perceptions of patient adherence

Ian Litchfield PhD ^{1*}
Naïem Moïemen, FRCS (Plast)²
Sheila Greenfield ¹

Affiliations

¹Institute of Applied Health Research, College of Medical and Dental Sciences, University of Birmingham, B15 2TT

²Plastic & Burns Dept., University Hospitals Birmingham NHS Foundation Trust, Queen Elizabeth Medical Centre, Birmingham, B15 2TH

*Corresponding Author: Dr Ian Litchfield, email: i.litchfield@bham.ac.uk Tel: 0121 414 6006

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Abstract

The underlying assumption of modern evidence-based practice is that treatment decisions made by health care providers are based solely on the best available scientific data. However, the connection between evidence informed care guidelines, and the provision of care remains ambiguous. In reality a number of contextual and non-clinical factors can also play a role, amongst which is the implicit bias that affects the way in which we approach or treat others based on irrelevant, individual characteristics despite conscious efforts to treat everyone equally. Influenced by the social and demographic characteristics of patients, this bias and its associated perceptions have been shown to affect clinical decision making and access to care across multiple conditions and settings.

This summary article offers an introduction to how the phenomenon of implicit bias can impact on treatment compliance in multiple care contexts, its potential presence and impact in burns care and describes some of the strategies which offer possible solutions to reducing the disconnect between the conscious attempts to deliver equitable care and the discrepancies in care delivery that remain.

Keywords:

Chronic burns; patient adherence; self-management

Introduction

It is a common assumption that medical practice is led solely by the objective application of clinical and biomedical knowledge, weighing the probabilities of various outcomes and informing recommendations for optimum care [1]. The evidence underpinning this approach is typically informed by randomised controlled trials before being formalised as care guidelines or recommendations designed to improve the consistency of care [2, 3]. Despite these attempts at consistency variations in the content and quality of care remain which when reflecting the needs of individual patients can be appropriate and beneficial [4, 5] but it is not always warranted and in the worst cases can actually lead to suboptimal care [4, 6-8].

Such variations are perhaps unsurprising when considering the dynamic nature of a healthcare environment that accommodates a range of contextual influences on clinical decision making that include organisational culture [9, 10], geographical location, patient needs, preferences and expectations [11]. Amongst these influences are the clinical judgement of individual care providers, impacted by their varying experiences and subjective preferences [9, 12, 13] and including their implicit bias [14]. This widely acknowledged psycho-social phenomenon is a result of an individual's subconscious interpretation of irrelevant, individual characteristics which may include gender, race or socio-economic background [15][16]. In healthcare provision it can be particularly problematic as it appears to be resistant to the conscious efforts of providers to treat everyone equally [16]. That it can persist despite assumptions that unwarranted preconceptions are avoided means its influence has impacted on numerous aspects of care

and has been widely cited as one of the underlying causes of care inequality [17][18, 19].

Though reported across numerous care settings for a number of years [17] it has only recently been observed in the treatment of burns [20] where it emerged during a multi-centre feasibility trial exploring the measurable benefits of using pressure garment therapy in treating chronic burns and their scars [20].

In the United Kingdom's (UK) National Health Service (NHS) burn care is typically provided by a series of specialist centres with access to equivalent training, resources and clinical evidence, and informed by standardised clinical guidelines [21][22]. However discrepancies in clinical decision making regarding the 'aftercare' i.e. the post-discharge, patient moderated care of chronic burn injuries and their resultant scars were discovered [20]. The underlying reasons for which are yet to be explored but now appear to include the implicit bias observed in other health care domains. Here we begin the discussion of if and how it might specifically impact on burns care and its potential influence on perceptions of patient adherence; in doing so we describe the broad influence of implicit bias across a range of healthcare settings, its potential impact on the aftercare of more serious burns, and the strategies available to mitigate its effect.

The adverse effect of implicit bias on clinician perceptions of adherence

Modern healthcare in the UK is provided by a range of clinical and non-clinical staff working within organisations of varied scope and size amidst diverse and ageing communities [23].

There is an expectation going back decades that this care is consistent across the country, supported by policy and practice based on robust clinical evidence, extensively researched and mediated by expert consensus [1, 24]. The financial pressures being experienced by the

NHS [25], similar to those being experienced globally across a range of health care systems [26], have helped focus attention on the importance of optimising service utilisation by converting research into the most effective and consistent evidence-based practice. To help meet this end clinicians are asked to follow numerous clinical guidelines and care recommendations containing information on the most appropriate medication, therapy or procedure in line with current clinical evidence. However, they are also expected to incorporate their assessment of a number of individual patient characteristics' both clinical and non-clinical and include their ability or likelihood to respond or adhere to the treatment they select, including follow-up appointments [27] [28].

The concept of adherence, defined as the degree to which a person's behaviour coincides with their medical or health advice [29] is a critical element of any treatment decision that requires some degree of independent patient compliance in its fulfilment [10]. However, despite the availability of tools that can measure medication adherence such as the Morisky scale [30] there is no formal guidance of how they might be integrated into routine practice [31]. Instead clinicians typically make such judgements based on their interaction with the patient where they are vulnerable to implicit bias based on subconscious assessments of the socio-economic [32] or cultural [33] backgrounds of their patients. The precise nature and impact of this bias can vary between providers as it appears to be informed by personal values, previous experience, training as a clinician, and organisational culture [4, 7, 8, 12, 34]. Whatever the source of implicit bias it manifests along the lines of gender, race, ethnicity, socio-economic status [13] and mental health [11].

The impact of implicit bias specific to assumptions of adherence have not only been found in secondary care where they negatively affected decision making in a range of long-term conditions such as Human Immunodeficiency Virus [35] or Type 1 Diabetes [36] primary care where clinicians reduced the frequency of follow-up appointments for patients of low socio-economic status [37].

How to mitigate negative perceptions of patient adherence

Now widely acknowledged as a potential issue in the delivery of equitable care [17], attempts have been made to better understand the sources of implicit bias in clinicians, for example whether it existed prior to beginning a medical career or if it reflected the training process or the environment where they practice [38]. In the United States discussions around training medics in the management of implicit bias began some years ago [17] though calls to improve this aspect of their medical education continue [39]. A number of interventions that might reduce the prevalence or impact of misplaced preconceptions of patients have emerged[17] [35]. These included counter-stereotypic imaging, which involves imagining the individual as the opposite stereotype [40], or allocating time within a consultation for the clinician to place themselves in the position of that patient [41] [42].

Another way of approaching the issue more specific to perceptions of patient adherence is by increasing the confidence of clinicians that no matter their background, patients are capable of complying with their recommended treatment. One way that has previously proved effective in improving patient adherence as well as enabling more equitable patient/clinician decision making is supported self-management. This has produced demonstrable benefits in adherence in multiple chronic conditions many with complex care

regimes [43, 44]. This support can take many forms including decision support aids, online interventions, and patient education materials with the combined effect that they increase the engagement of patients with their health, well-being and treatment [29, 44].

Meeting the challenge of implicit bias in burn care

The care recommendations for serious burns in the UK encompass a wide range of treatments, employed either individually or in combination including massage, pressure garment therapy, silicone gels, and ultrasound [45-50]. The inconsistencies that remain in how these various options are prescribed are due in part to the lack of robust evidence of which combination of treatments work in specific circumstances [20, 51, 52]. They may also be a result of a decision-making process shared with patients and the explicit incorporation of their preferences [53]. However, the scope remains for the influence of individual clinician preferences and their implicit bias [54].

Any decision made about the post-discharge aftercare of patients with chronic burns injuries [55] involves a clinician's conscious and sub-conscious assessment of a patient's ability to adhere to the selected treatment [11]. Such judgement is based on a number of patient characteristics which include socio-economic status and mental function [32, 33]. The implications of decisions informed by implicit bias might be particularly relevant in a context where patients are expected to independently maintain their treatment following discharge [20, 55]. The negative impact of implicit bias in the treatment of burns care may be considerable when considering the direct correlation between severity of burn, deprivation, and mental illness [56-59].

The implication is that if the “Implicit Bias” that exists in other healthcare settings emerges in burns care then patients with psychosocial characteristics that increase the likelihood of receiving a serious burn might not receive the resource intensive treatment their injury might warrant.

As yet there is no mandatory element in the training of burns clinicians that addresses the potential impact of implicit bias though the techniques and strategies that can be implemented and tested in other settings might be readily appropriated[17] [42]. Their successful incorporation in the training of burns clinicians particularly in relation to their prescribing behaviour might help them balance the clinical needs of the injury with the perception that costly treatments might be squandered. Another approach which would complement this is to increase provider confidence in patient adherence by systematically supporting patient self-management. In the UK a number of recognised self-management strategies have been independently adopted by patients with chronic burns [60] and though there are limited examples even modest self-management support has seen improved adherence in those with more serious burns [61, 62].

Conclusions

None of us are immune to the influences of our personal, educational, social and cultural experiences. That the implicit bias they generate can inform the actions of the general population, as well as health care providers in multiple settings means it is likely that it can also unwittingly play a role in those providing burns care. We are not implying that there is an intentional or proactive disregard for a patient’s well-being based on a care provider’s conscious ‘prejudice’ towards patients of a particular socio-economic background, ethnicity,

or gender. However there is growing evidence that it is a phenomenon that persists despite the best efforts of individuals to act equitably.

If we are to optimise treatment regimes in all burns patients but particularly those that require lengthy periods of post-discharge aftercare, we must acknowledge the role of implicit bias in clinical decision making. It can be mitigated and the targeted training and education of providers complemented by self-management support will allow clinicians to be more confident that the treatment they prescribe will have the desired effect.

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