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journal homepage: www elsevier com/puhe

Review Paper

Defining health and health inequalities

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R T I C L E I N F O

Article history:
Received 9 December 2018
Received in revised form
29 March 2019
Accepted 31 March 2019
Available online 31 May 2019

Keywords:
Health
Health inequalities
Definition
Theory
Population health

B S T R C T

Objectives: To examine existing definitions of health and health inequalities and to synthesise the most useful of these using explicit rationale and the most parsimonious text.
Study design: Literature review and synthesis.
Methods: Existing definitions of health and health inequalities were identified, and their normative properties were extracted and then critically appraised. Using explicit reasoning, new definitions, synthesising the most useful aspects of existing definitions, were created.
Results: A definition of health as a structural, functional and emotional state that is compatible with effective life as an individual and as a member of society and a definition of health inequalities as the systematic, avoidable and unfair differences in health outcomes that can be observed between populations, between social groups within the same population or as a gradient across a population ranked by social position are proposed. Population health is a less commonly used term but can usefully be defined to encompass the average, distribution and inequalities in health within a society.
Conclusions: Clarifying what is meant by the terms health and health inequalities, and the assumptions, emphasis and values that different definitions contain, is important for public health research, practice and policy.

Background

Health is an outcome, a state of being, which is highly valued and prioritised within society.[1] It is also a ‘resource for living , in that it allows people to function and participate in the assortment of activities that characterise any society.[2] It is therefore a subject of importance for the people, and by extension, for those in positions of power.[3]

Public health research and action is built upon a shared understanding of ‘health and the related term ‘health inequalities . Differences in how these terms are understood and defined and how this translates into measurement, analysis and interpretation have been discussed in the

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https://doi.org/10.1016/j.puhe.2019.03.023

literature,[3] but the assumptions, emphasis and values underlying the use of different approaches are less often explicit. Without these being clear, there is a risk of researchers, practitioners and policymakers talking at cross purposes. There is also the possibility that some definitions become used extensively without the underlying assumptions, emphasis and values being understood or accepted.[4]

This article identifies commonly used definitions of health and health inequalities before extracting the key features of each. These features are then tabulated by theme to identify commonalities and areas of diversity. The implications of using a definition containing or lacking these features are then described and discussed to make the process of definition explicit. Finally, a series of propositions are made for definitions that contain the most useful combination of features as justified by their utility, strengths, weaknesses and parsimony.

Methods

Commonly used definitions of health and health inequalities were identified from relevant literature. The Embase and Medline databases were searched without time limits, limiting to studies published in English on human subjects. The following terms were searched for in the article titles: ‘definition$ OR ‘glossary ; AND, ‘health OR ‘inequ$‘. A similar search was performed in Google to identify relevant Grey literature. A total of 671 citations after duplication were identified in the research databases, of which 30 were screened as potentially relevant. Sixteen citations were identified from the authors own collections and the Grey literature. All of these papers were then obtained in full text and read for relevance to research question, in particular whether they proposed a relevant definition. The key features of each of the definitions were extracted and tabulated iteratively such that any new features from subsequent definitions were added to the list and any similar features integrated. Each of these key features were then critically appraised using the logic and argumentation presented for each of the definitions by the original authors. In this way, the case and against particular features of definitions were drawn out. Using explicit reasoning, new definitions synthesising the most useful aspects of existing definitions were then created.

Results

Definitions of health

The starting point for defining health since 1948 has been that of the World Health Organisation (WHO). It originally defined health as:

‘… a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity .[5]

In 1986, the WHO sponsored work (published as the Ottawa Charter) revisited and expanded on this definition:

> ‘Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realise aspirations, to satisfy needs and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasising social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being .[6]

These definitions emphasise the positive nature of health and the multiple dimensions that constitute health and articulate a high aspiration (‘complete). However, they have been critiqued for the following: conflating happiness with health;[7] for failing to recognise that some of the dimensions of health described can be in tension with each another;[8] and by defining health in such aspirational terms that attainment is near impossible even where fulfilling lives are being lived.[7,9] Others have supported the high aspiration approach (using the term ‘euxia to describe an ‘optimal health-fitness standard characterised by physical vigour, long lifespan and freedom from chronic disease.[10]

Alternative definitions of health have sought to temper the aspirational and absolutist definition of health:

> ‘[health is] the extent to which an individual or group is able, on the one hand, to realise aspirations and satisfy needs and, on the other hand, to cope with the interpersonal, social, biological and physical environments. Health is therefore a resource for everyday life, not the objective of living; it is a positive concept embracing social and personal resources as well as physical and psychological capacities .[11]

> ‘[health is] the capability to cope with and to manage one s own malaise and well-being conditions. [12]

> ‘Health is the experience of physical and psychological well-being. Good health and poor health do not occur as a dichotomy, but as a continuum. The absence of disease or disability is neither sufficient nor necessary to produce a state of good health. [13]

These definitions avoid the binary and absolutist difficulties of the WHO and instead introduces an analogous concept (‘the extent to which) based on the realisation of aspirations, the ability to satisfy needs and to cope with a range of environments. A possible strength of this approach is that health is contextually defined by societal norms around aspiration and need and therefore evolves over time. Yet, this could also be problematic in failing to recognise potentially vast differences in mortality or morbidity between populations (e.g. Sierra Leone and France) or changes in expectations over time based on the contemporaneous and local mortality and morbidity experience. Because the interpretation of health always involves some form of comparison between populations or between points in time, it is important to recognise the intrinsically relative nature of health measurement and the importance of the choice of comparator populations. This includes the income level and development

history of populations within nations and within nations, who is counted and excluded from the definition of a population.[14,15]

These are the insights that help understand the health of populations rather than just the health of individuals.[16]

Others have defined health as a collective condition with the property of a public good, i.e. whereby the enjoyment of it by one person does not diminish its use by others:

> 'Health is a condition in which people achieve control over their lives because of the equitable distribution of power and resources. Health is thus a collective value; my health cannot be at the expense of others nor through the excessive use of natural resources .[17]

However, this latter definition, through its focus on achieving control and its description of health as a collective value, may preclude an adequate lens through which to understand different individual experiences of health within a population. It may be better to have a definition which allows discussion of both the health and determinants of health for both populations and for individuals.[18] For example, it would be possible to have a high degree of control over one s life yet die prematurely because control may be a cause of cases but not of incidence within a population. It also limits the definition of health to that which is obtained through the equitable distribution of power and resources, which are not necessarily the only routes through which health can be achieved. Similar limitations apply to the suggested definition by the International Union for Health Promotion and Education which defines health in terms of its determinants (power and control over life and where needs and rights are supported):

> 'Health is created when individuals, families and communities are afforded the income, education and power to control their lives, and their needs and rights are supported by systems, environments and policies that are enabling and conducive to better health. [19]

Last s dictionary of public health offers two alternative definitions of health that have merit:[20]

> 'A sustainable state of equilibrium or harmony between humans and their physical, biological and social environments that enables them to coexist indefinitely ;
>
> 'A structural, functional and emotional state that is compatible with effective life as an individual and as a member of family and community groups .

The former of these definitions derives from an ecological perspective whereby health is dependent on its sustainability and its interrelation with the surrounding environment (similar to Charlier et al.[21]). The attraction of this definition is that a longer term perspective is adopted, and it avoids a purely anthropocentric approach. However, it fails to provide a conceptualisation of health that describes the experience of health; it is possible to be in equilibrium at a level of health that is low (or characterised by illness and disease). It is also interesting that it defines it in such a way as to suggest that it may not be akin to a 'public good in that the achievement of health may be at the expense of others (both human and other species).

The latter definition offered by Last contains the multidimensional components of the earlier WHO definition, including an experiential element that is missing from many of the proposed definitions but avoids an absolutist position of health having to be a 'complete state. Furthermore, this definition relates health to the ability to participate socially, the lack of which is a feature of many definitions of poverty and well as to function individually.

Table 1 provides a summary of the common features and themes of the definitions described above. This approach is similar to that of Leonardi who identified nine features by which health should be defined.[12]

Defining health by the achievement of an absolute standard rather than a context specific one is contested. However, the disadvantage of a purely contextual definition is that causes of better or worse health within populations can only be uncovered through comparison, and this would not be possible if health was not defined to a common standard. For this reason, avoiding a definition that follows a purely context-specific approach is preferable. However, this does not necessarily mean that health needs to be defined aspirationally such that people cannot be defined as healthy if they do not meet an 'ideal standard, but there is a tension with adopting a common standard for comparison.

Another difference between definitions is whether health should be defined as something people experience and an end in itself or whether health should instead be defined in terms of the capacity it gives people to function and participate in society.[22]

Some of the proponents of the former are at risk of ignoring the importance of being healthy in order to be a social being and to participate; whilst some proponents of the latter are at risk of reducing health merely to a factor of production in the economy. A more balanced perspective might recognise the value of both. Clearly health is a state of being that is experienced to be in pain or to enjoy positive mental health is real and important. However, the capacity that health provides to participate and function is also essential and provides a contextualisation of how health is a relative phenomenon.

As noted above, some have proposed that health should either be defined by its determinants and the control people have over their lives or by the extent to which it is sustainable (both in terms of the sustainability of health and how this is interdependent on environmental sustainability). Although clearly each of these are important issues, it is not useful to define health by its causes as this can confuse cause and effect and create a circular logic. It is however useful to have a definition which incorporates the different dimensions of health, including physical and mental health, and which is applicable to both individuals and populations.

Taking all of these factors into account, it is argued here that the best available definition is that used by Last. However, to make the definition more parsimonious, it is proposed that it should be amended slightly such that health is defined as:

A structural, functional and emotional state that is compatible with effective life as an individual and as a member of society.

Table 1 – Features of different health definitions

Feature	Sources	Commentary
Health is achievement of a common standard.	WHO[5]	Some define health as the achievement of a defined (aspirational) standard, whilst others describe a more analogue scale whereby health can be achieved to a greater or lesser extent (and possibly with lower expectations given contextual and personal circumstances). For epidemiological study, a common definition that is not context specific can help identify exposures which create limits on the experience of positive health which might otherwise be ignored.
Health is achievement of an 'ideal outcome.	WHO[5] Elrick[10]	The definitions of health which categorise people into healthy or not on the basis of whether they have achieved a 'complete state of health or well-being are good for recognising aspiration and potential. However, they may not recognise that people can see themselves as healthy whilst living with some forms of disability or conditions, and they may not recognise the process of 'healthy ageing whereby some loss of functionality may not represent a loss of health.
Health is experiential.	Card[13]	The experience of positive or negative health as an experience in and of itself (i.e. separate from the capacity this may provide to function or participate in the economy or society) is not a ubiquitous feature of definitions. Some argue that it is not the experience of health that matters (or indeed that can be defined) but instead the capacities it provides which are important. Clearly, the two are linked, and it is difficult to envisage a scenario whereby negative health is experienced without capacity being reduced. However, this may reduce the human experience to an overly functional or mechanistic phenomenon (or even to reduce health to the ability to be productive in society) and therefore undermine the experience and value of health for its own sake.
Health is the ability to function and participate.	WHO[6] Starfield[11] Leonardi[12] Last[20]	Some define health solely on the (in)ability to participate in society (otherwise framed as a resource for living or the ability to 'function), whilst others include this as an essential component alongside the physical and mental aspects. Defining health narrowly on the basis of participation in society means that experiential elements (pain, low mood, etc.) are only relevant to the extent that they impact on the ability to participate. The advantage of including this aspect is that health is recognised as a contextualised phenomenon in which the extent to which a society enables and includes (for example) people with particular disabilities influences the experience of health.
Health is defined by its determinants.	IUHPE[19]	Without a definition of the outcome or experience of health, defining health by its determinants alone is imprecise and unsatisfactory. For example, if health is determined by adequate income, all outcomes that are due to adequate income would constitute 'health . This would be too broad a definition to be useful. In this way such definitions of health are better covered within a theoretical framework of health causation than in a definition of health.
Health is an individual and population phenomenon.	Starfield[11]	Some definitions focus only on health as a population phenomenon, but this restricts its applications.
Health is a multidimensional phenomenon.	WHO[5] WHO[6] Card[13]	This recognises the holistic nature of the experience of health. Most recent definitions of health recognise the physical and mental components of health and so this is uncontentious.
Health is defined by the control people have over their lives.	WHO[6] Scott Samuel[17]	Health is clearly a resource which determines the control people have over their lives, their ability to realise expectations and to satisfy needs, but it is not the only determining factor (for example, the political and socio-economic context are also very important).
Health has to be sustainable.	Scott Samuel[17] Last[20]	Some definitions of health focus largely, or entirely, on its sustainability. However, this confuses the outcome of interest (health) with the processes through which health is determined.

WHO, World Health Organisation.

Definitions of health inequalities

Health experiences can vary widely between different individuals and groups. Much of the difference in health outcomes between individuals is due to chance.[23,24] Nonetheless, the systematically different outcomes for groups that share common characteristics and the changes over time in the health of populations are both the substrate for public health research (by facilitating the research into why some people experience different health outcomes that others) and the

purpose of public health action (to improve the health and health inequality outcomes).[15]

Like health, health inequalities have been defined in many different ways. At the outset, it is important to recognise a particular continental difference in the lexicon. In the Americas, it is common to use health inequalities to refer to variations or differences between groups that are not necessarily unfair, such as might be the case if elderly people are more likely to die than young adults.[d, 25] Health inequity is the term used, and linguistically most correctly, to define unfair differences where there is an issue of social (in)justice.[26] However, in Europe, the term health inequity is not used routinely, and the term 'health inequalities is used instead.[3] Further confusion can arise with the use of the term 'health disparities which has been defined either as simple differences between groups or differences after accounting for a variety of other explanations.[27]

It is worth noting that the mean health of a population is often very dependent on the extent to which there is inequality in health outcomes within that population. This is demonstrated by showing that populations with the greatest lifespan variation also have the highest mean mortality rates.[28]

If the differences between ranked groups are considered in terms of the simple difference (i.e. subtraction of one from another) between or across groups, this is termed the absolute inequality (even though it is a difference of one or more groups relative to another). Alternatively, the difference can be considered as a ratio (i.e. one divided by the other), and this is termed the relative inequality. This is important because, on a declining mean trend, it is frequently the case that the absolute inequality decreases at the same time as the relative inequality increases.[29] This is not only an arithmetical phenomenon but also the importance put on relative and absolute measures also raises a question of values. It is further complicated that with the same data, a trend can be increasing or decreasing depending on whether it is presented as a positive or negative measure (i.e. life expectancy or mortality).[30]

A definition used in a prominent WHO report from 1990 stated that health inequalities can be defined as:

> 'Social inequities in health are systematic differences in health status between different socio-economic groups. These inequities are socially produced (and therefore modifiable) and unfair. [31]

The key components of this definition are that the differences of interest are in health outcomes and that the differences occurring between social groups are therefore systematic rather than random and have to be understood at a population rather than individual level. Finally, these differences are avoidable.

A similar, if more perfunctory, definition has been offered by Graham (2009), but it omits reference to their avoidability:

> 'Health inequalities … are the systematic differences between more and less advantaged groups .[32]

In a more extensive definition, Krieger defines social inequalities in health as:

> '… health disparities, within and between countries, that are judged to be unfair, unjust, avoidable, and unnecessary (meaning: are neither inevitable nor unremediable) and that systematically burden populations rendered vulnerable by underlying social structures and political, economic, and legal institutions .[26]

This adds three additional components to the definition. First, the systematic differences between populations are unfair or unjust, and in the surrounding text to the definition given here, the necessity of taking action to redress the injustice is made clear. Second, the inequalities are a result of underlying social structures and institutions. Third, the differences are avoidable and can be changed (in common with other authors).[33]

The extent to which a health outcome is understood as avoidable or remediable also changes over time. Disease processes that in the past were either misunderstood, not appreciated and for which no effective preventative or treatment measures were available, have often subsequently become avoidable, preventable or treatable. As such, what is defined as an inequality can also change. Furthermore, even when a disease process is poorly understood and if other populations have a lower burden of that disease, it suggests that it is avoidable and treatable and therefore represents an inequality.

A quite different approach to defining health inequalities has been taken by other authors. For example, Kawachi et al. define health inequalities as:

> 'a term used to designate differences, variations and disparities in the health achievements of individuals and groups .[34]

The only common feature between this definition and the others is the interest in differences in health outcomes, and the other definitional aspects are all either implicitly or explicitly contested.[26]

Related to the definition of health inequalities, Braveman et al. have provided a range of definitions of 'health equity with varying brevity and differently for general and technical audiences.[35] The most detailed definition for a general audience they offer is:

> 'Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments and health care .[35]

Two versions for a general audience are also offered, depending on whether health equity is defined as an outcome or process:

[d] Note that this does not preclude the possibility of intergenerational unfairness and inequalities.

Table 2 – Features of different health inequality definitions

Feature	Sources	Commentary
Differences in health are the outcomes of interest.	All	This is the only aspect that is common across all of the definitions.
Differences in health are systematic and not random.	WHO 1990[31] Graham[32] Krieger[26]	That the differences in health are systematic is important because it indicates that the health outcomes are due to some causal forces which cannot be explained by random variation.
The differences are avoidable and unnecessary.	WHO 1990[31] Krieger[26]	This is a more contentious part of the definition and makes clear that the observed differences require political attention. It is also helpful, however, in focussing on aspects of health which are genuinely due to injustice. For example, differences in the prevalence of dementia between age groups would not necessarily be deemed an injustice (although differences in medical research funding for dementia as opposed to heart disease might be). This definition does not entirely protect against claims that some observed differences are unavoidable (as has been claimed in the past in relation to racial differences in health), but it does force people to justify such claims.
The differences are unfair and unjust.	WHO 1990[31] Krieger[26]	This aspect naturally flows from defining health inequalities as being systematic and avoidable and in some ways should not be necessary in the definition. However, stating that the differences in health outcomes are unfair and unjust makes clear that they are important and require political action.
The differences are observed between different social groups.	WHO 1990[31] Graham[32] Kawachi[34] Braveman[35]	There are two implications of this aspect. First, that health inequalities are a population or group phenomenon (and between groups with common sociological features) rather than an individual phenomenon. The second is that variations within a population, if they are not ranked or categorised as being differences between social groups, would not constitute a measure of inequality.
The differences can be observed between categorical social groups or as a gradient across the whole population of ranked social groups.	WHO 1990[31]	Categorical social groups can include ethnicity, sex or nationality. It is proposed that health inequalities can be observed between such groups because such differences are unjust and avoidable, and the definition must therefore be able to incorporate this. However, ranked social groups (such as social class, educational attainment, income bracket, deprivation of the area of residence), which often cover all or most of the population, can provide another view of health inequalities which constitutes a stepwise gradient in the health outcomes. The definition therefore requires to be able to incorporate both views of inequality and, ideally, the concept of the gradient.
The differences are due to the vulnerabilities created by social structures and institutions.	Krieger[26]	This aspect of the definition seeks to include information about the causal processes but may thereby exclude other relevant exposures.

WHO, World Health Organisation.

'Health equity means that everyone has a fair and just opportunity to be as healthy as possible .[35]

'Health equity means removing economic and social obstacles to health such as poverty and discrimination .[35]

And the definition for a technical audience is as follows:

'For the purposes of measurement, health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalised groups .[35]

The criteria that Braveman et al.[35] argue that the definition should:

'Reflect a commitment to fair and just practices across all sectors of society; be sufficiently unambiguous that it can guide policy priorities; be actionable; be conceptually and technically sound, and consistent with current scientific

knowledge; be possible to operationalise for the purpose of measurement, which is essential for accountability; be respectful of the groups of particular concern, not only defining the challenges they face but also affirming their strengths; resonate with widely held values, in order to garner and sustain broad support; and, be clear, intuitive, and compelling without sacrificing the other criteria, in order to create and sustain political will (p.3).

Missing from all the definitions is an explicit recognition that for ranked social groups such as social class or income bracket, the inequalities in health can be seen to occur stepwise as a gradient across the entire population. This gradient cannot be described where the social groupings are not rankable (e.g. gender or ethnicity), but it is (arguably) an important feature of health inequalities to capture in the definition because all social groups with the exception of the most advantaged within a society are negatively affected,[36] and a failure to recognise this can make the phenomenon less relevant for the majority of the population and/or tend to feed a narrative of 'othering . Moreover, if the most advantaged within any particular society were to compare themselves within similarly advantaged groups in other societies, they may also find that they do less well. Wilkinson and Pickett have suggested that this is the case within the most unequal societies.

Norheim and Asada make the point that definitions of health inequality should recognise that equality should not necessarily be prioritised over the overall level of health in the population or other social goods such as education. Although this may be the case, it is a question of priorities and values rather than definition.[37]

Table 2 summarises the key features proposed in the different definitions of health inequalities. Although all definitions start from the point of describing a difference in health between groups, only some are explicit that the differences of interest are systematic and non-random. More contested is whether the definition should state that the differences between groups are avoidable and unnecessary or whether they are unfair. Given that health inequalities have varied over time and between populations and that their causes are because of class and political economy,[38] it seems important to state their systematic, avoidable, and unfair nature and that they arise between social groups who occupy different positions of power in society. As social groups may or may not be rankable, as with social class and gender, a definition needs to be able to describe both forms of inequality. Finally, some definitions seek to define health inequalities by their causes. We feel this confuses cause and effect and have avoided this approach.

To best encapsulate the best aspects discussed above, a new definition is therefore proposed:

Health inequalities are the systematic, avoidable and unfair differences in health outcomes that can be observed between populations, between social groups within the same population or as a gradient across a population ranked by social position.

Discussion

We contend that to possess comprehensive properties, any definition of health must contain experiential and functional elements, physical, mental and social dimensions and be applicable to both individuals and populations. Defining the outcome by the causes or the sustainability of the outcome is arguably better covered within a causal theory framework. We therefore argue that an adaptation of Last s (2007) definition is best for public health policy, practice and research:

A structural, functional and emotional state that is compatible with effective life as an individual and as a member of society.

For health inequalities, there is a strong reason to include all of the features in Table 2 with the exception of the inclusion of the causal factors. As none of the existing identified definitions does this, an amalgam is proposed:

'Health inequalities are the systematic, avoidable and unfair differences in health outcomes that can be observed between populations, between social groups within the same population or as a gradient across a population ranked by social position.

'Population health is a much looser term that has been used to describe both the mean (or median) health and the distribution of health within a population.[39–42]

Alternative approaches to generating definitions have started with qualitative research which has then been thematically analysed to identify the key relevant components.[43]

This type of approach could be further used to develop the experiential aspects of a health definition.

Conclusion

This article proposes definitions for health and health inequalities after reviewing commonly used definitions for their common and divergent features, examining the assumptions and value underlying these features and then combining those with greatest utility into a short and accessible definition for use within public health research, policy and practice. In doing so, it makes the rationale for the use of these definitions explicit and would also facilitate the development and use of alternative definitions for other purposes.

It is likely that other definitions have been proposed that have not been included in this article, and these may include other valuable themes. Further work to systematically review the available definitions and to expand on the themes they propose, the values that underlie them, the assumptions they use and their utility for different purposes would be worthwhile.

Definitions of health and health inequalities are important if a shared understanding between researchers, policymakers and practitioners is to be achieved. The wide range of definitions that are available reflects the inclusion or exclusion of different components and emphases, use varying assumptions and have differing underling values. We propose definitions in this article that we believe are combining the

greatest utility for those working in public health with brevity and accessibility. The rationale we use for these is explicit but could be improved on in the future with systematic reviews of definitions and their critical analysis.

Author statements

Ethics approval

No ethical approval was sought or required for this work as it is a theoretical contribution.

Funding

No funding was received for this study. GM is undertaking this work as part of PhD study where the fees are being partly paid by NHS Health Scotland. F.P. is by the Medical Research Council and Chief Scientist s Office (MC_UU_12017/13 and SPHSU13), as part of the core funding for the MRC/CSO Social Public Health Sciences Unit.

Competing interests

The authors declare that they have no competing interests.

Authors contributions

G.M. drafted the manuscript. F.P., R.M. and A.C. all contributed substantially to the intellectual content of the manuscript and approved the final draft.

Consent for publication

Not applicable.

Availability of data and material

Not applicable.

Acknowledgements

Not applicable.

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