Towards less confusing terminology in reproductive medicine

Clarifying medical ambiguities to the benefit of all

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It has been argued that terminology in reproductive medicine related to reproductive success is ambiguous, confusing and misleading. A proposed solution is the conditional use of the term ‘fertility’ which is qualified according to statements concerning description, diagnosis and prognosis, and for which a grading system is proposed. We argue that there already exists (from 1989) a well-articulated conceptualization of fertility that does not appear to have been well disseminated within reproductive medicine. Within this conceptualization there is an important place for separate terms that clearly distinguish aetiology from outcome. We therefore see a central role for maintaining and articulating the terms fecundity and fertility. It is also suggested that one source of confusion within reproductive medicine stems from the conflation of interests for clinicians and patients when discussing infertility as both a cause and an outcome. Unpacking the meaning of the term ‘infertility’ reveals a complex of interdependent concepts that are both social and biological in origin.

Key words: terminology/fecundability/fertility

Introduction

For the purpose of giving patients more realistic expectations of treatment and non-treatment outcomes, the notion that diagnostic and prognostic clarity should be achieved in reproductive medicine is to be applauded. To suggest that this can be achieved by avoidance of the use of ambiguous terminology may oversimplify a complex situation.

Given extensive literature in the social sciences that discusses the use of language in constructing commonsense and expert understandings, the issue of ambiguity in definitions of infertility needs to be considered in broader perspective.

The use of the terms ‘infertility’ and ‘subfertility’ create a medically and socially liminal state in which patients hover between reproductive capacity and incapacity (Sandelowski and de Lacey, 2002). One view is that this linguistic ‘grey zone’ is confusing and unhelpful in the clinical application of medical knowledge where predictive values would enhance advice that maximizes the chance for spontaneous pregnancy and thereby minimizes the use of invasive and expensive procedures (Habbema et al., 2004). To achieve this, Habbema suggests a strategy of summarizing statements from fertility investigation reports into one of three types: (i) descriptive or observational statement; (ii) diagnostic or causal statement; (ii) prognostic or predictive statement.

The social context of fertility

The three-step approach recommended by Habbema gives the appearance of enhancing both medical and commonsense understanding by articulating the purposes for which statements about fertility are made, and thereby having the effect of giving patients increased choice, of decreasing or eliminating unnecessary distress and risk, and of reducing public expense. However, the strategy proposed reflects a singularly clinical focus as it is designed to assist in streaming patients through treatment and does not reflect well commonsense interests in fertility, or those of other professions without a clinical focus. The emphasis on the clinical, biological, the pathological and the pathogenic—in other words on infertility as disease—is not lessened or relieved by Habbema’s model. Rather it is reproduced. Commonsense understandings (to which we all subscribe) define whether physical states are problematic, the appropriateness of treatment, and the nature of what constitutes a desirable outcome. In this sense, fertility is more than mere reproductive success.

Further, the problem of ambiguity of terms is added to by infertility being culturally located not in individuals as is presupposed in the model offered by Habbema, but between them (Sandelowski and de Lacey, 2002). In other words, ‘infertility’ as we understand it in the context of assisted reproductive technologies is related more to sexual or reproductive partnership (involving several participants possibly) than it is to predictive individual biology.

Unteasing existing distinctions

We propose that rather than eliminating terms and distinctions, they should be made explicit with regard to the range of
significances that surround the use of ‘infertility’ as a term. One way forward is to consider the usefulness of distinctions as defined by others. In particular, we here attempt to parse ‘fertility’ into the constitutive parts in line with the conceptualization developed by Wood (1989), and with specific regard to the interests of the patients and the practitioners of reproductive medicine.

It is necessary to commence with some definitions.

Broadly speaking, ‘fecundity’ is the biological capacity for reproduction, while fertility is the actual production of offspring (Wood, 1989). In addition to reproductive capacity, a further element required for reproductive success is exposure to the semen. Hence, we can use the term ‘fecundability’ to define the monthly or cycle-wise probability of conception for a couple that is sexually active, not using contraception and capable of achieving pregnancy. This definition adopted by Wood was developed 80 years ago (Gini, 1924). For the purpose of explaining this concept to patients, fecundability can be operationalized as the likely waiting time to pregnancy.

Wood then forms the further distinctions. ‘Total fecundability’ is defined as the maximal underlying monthly or cycle-wise probability of conception, and which cannot be ascertained in a free-living population due to limitations in detecting very early pregnancy loss that distort calculations of conception rates. Hence, it is common in fertility research and clinical practice to employ the concepts (if not the terms) of ‘apparent fecundability’, which is the monthly or cycle-wise probability of conception using a particular technology to detect a pregnancy. Finally, ‘effective fecundability’ is the monthly or cycle-wise probability of conception that actually results in a live birth. As noted, we cannot observe total fecundability, as we do not have the technology for continuously monitoring pregnancy. However, in frequently observed clinical populations, apparent fecundability may serve as a reasonable approximation of total fecundability.

Within this broad framework, fertility is the actual production of live offspring (Last, 1988). Fertility is a categorical outcome that is contingent on a series of biological and social preconditions. It can be expressed as a ratio or a rate where the denominator is the number in the population within a ‘normal’ child-bearing age. Infertility is simply the absence of offspring among that reference group. Infertility is not a disease state and alone conveys nothing of aetiology. Infertility defined as the simple absence of offspring is commonly the product of active decision-making and contraceptive practices. It is a state that is increasingly both desired and managed, as reflected in the rising maternal age at first birth and smaller family size in the Western world.

**Relocating infertility with regard to social roles**

We therefore need to consider the interests of the individual when interpreting the meaning of fertility status, and the use of the language. When considering the clinical population of individuals presenting at a fertility clinic, we can presume that their state of childlessness is undesired as the presenting problem is infertility. Within a language group with a homogeneous interest, the outcome becomes synonymous with the cause of the problem. By assuming equivalence in exposure to intercourse and no contraceptive use, the outcome of infertility (childlessness) is an indicator of impaired fecundability. Infertility as a term becomes ‘ shorthand’ for a series of assumptions about the intentions of the subject, their practices, and thereby their fecundability. Hence, with regard to this special circumstance, the status of infertility, quite reasonably, becomes conflated with notions of aetiology. We argue that it is preferable to ‘unpack’ the assumptions that have become blurred through frequent but narrow use, rather than seek to generalize such meanings.

For the purposes of developing terms that are of broad applicability to demographers, biologists, clinicians and patients, it is important to maintain the understanding that an infertile population in clinical care is unrepresentative of the entire population with regard to the significance of infertility. It is illustrative to consider fertility within an existing disability framework. The World Health Organization (1980) has a model that expresses aspects of ‘health’ from the individual’s point of view. The model uses three categories to describe disturbances in health:

- Impairment: loss or abnormality of structure or function.
- Disability: a restriction or lack of ability to perform an activity in the normal manner or within the normal range due to impairment.
- Handicap: the adverse consequences or disadvantage resulting from impairment.

Hence, impaired fecundability can have the disabling consequence of infertility. However, infertility is not necessarily a handicap as it may convey no disadvantage or perceived adverse consequences, depending upon cultural expectations. Returning to particular examples, we can now see that infertility contains a compression of meaning within a language group characterized by a common interest. For the couple who are managing their fecundability through contraception, and thereby their fertility, there may be no handicap associated with infertility. Similarly, for a child, the status of infertility is normal and within the biological and social development of the child. By extension, the post-menopausal woman may not necessarily associate infertility with disability. Whether infertility becomes problematic depends upon the perceptions of those affected and their role expectations. The role expectations of others also plays a part in debates over the appropriateness of treatment, for example, among women who may be near the age at which fecundity declines to zero, as there can be a conflict between the disabling consequences for the infertile patient compared to established age-specific social roles regarding the age of parents. Hence, the infertility may have been arrived at by quite different paths, or conversely, the meaning of a status of infertility is contingent on a range of contextual features that reflect our role expectations and intentions. A simple schematic (Figure 1) can demonstrate that not all infertility is the product of disease—indeed the majority of paths exclude a disease entity. Clinical concerns deal with the subpopulation of individuals where there is impaired fecundability combined with unintentional infertility, or in the event of sterilization, where it is no longer desired.
Clarifying terminology in assisted reproduction treatment

Summary

In summary, there is no simple ‘grading’ of infertility that can deal with the categorical distinctions that apply across the range of uses of the term ‘infertility’ both within commonsense understandings, nor across disciplines that are involved with fertility. It is important to consider the assumptive base when attempting to define a physical status. With respect to fertility, there is a detailed and established vocabulary for describing the reproductive status of an individual status that can be applied meaningfully to a clinical context. It is also a vocabulary that allows us to engage in discussions about the role of cultural factors that condition our views of under what circumstances infertility is problematic. This is an important debate, and one that will continue to develop together with the technology that allows disjunction between established social roles and biological competencies.

References


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