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# The impact of freedom on fertility decline

Martha M Campbell,<sup>1</sup> Ndola Prata,<sup>2</sup> Malcolm Potts<sup>3</sup>

<sup>1</sup>Lecturer in Global Health, School of Public Health, University of California, Berkeley, CA, USA

<sup>2</sup>Associate Professor in Residence, School of Public Health, University of California, Berkeley, CA, USA

<sup>3</sup>Fred H Bixby Professor, School of Public Health, University of California, Berkeley, CA, USA

## Correspondence to

Dr Martha M Campbell, School of Public Health, University of California, 229 University Hall, Berkeley, CA 94720-7360, USA; [campbell@berkeley.edu](mailto:campbell@berkeley.edu)

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## ABSTRACT

Although fertility decline often correlates with improvements in socioeconomic conditions, many demographers have found flaws in demographic transition theories that depend on changes in distal factors such as increased wealth or education. Human beings worldwide engage in sexual intercourse much more frequently than is needed to conceive the number of children they want, and for women who do not have access to the information and means they need to separate sex from childbearing, the default position is a large family. In many societies, male patriarchal drives to control female reproduction give rise to unnecessary medical rules constraining family planning (including safe abortion) or justifying child marriage. Widespread misinformation about contraception makes women afraid to adopt modern family planning. The barriers to family planning can be so deeply infused that for many women the idea of managing their fertility is not considered an option. Conversely, there is evidence that once family planning is introduced into a society, then it is normal consumer behaviour for individuals to welcome a new technology they had not wanted until it became realistically available. We contend that in societies free from child marriage, wherever women have access to a range of contraceptive methods, along with correct information and backed up by safe abortion, family size will always fall. Education and wealth can make the adoption of family planning easier, but they are not prerequisites for fertility decline. By contrast, access to family planning itself can accelerate economic development and the spread of education.

## INTRODUCTION

It has long been assumed that poor couples in the developing world want to have many children until an improvement in socioeconomic conditions such as education or greater wealth leads them to decide to reduce their desired family size.

## Key message points

- ▶ The default position for human reproduction is a large family, and access to means to separate sex from childbearing is a prerequisite for fertility decline.
- ▶ Patriarchal drives often deny women access to contraception and safe abortion.
- ▶ Fertility decline driven by access to family planning facilitates growth in wealth and education.

Thinking in a similar way, economists have constructed microeconomic explanations in which couples or individuals are seen as weighing the costs and benefits of having a next child.<sup>1 2</sup> Another common assumption is that reduced infant and child mortality has this effect. All of these beliefs have come with the idea that couples will then somehow find a way to achieve their smaller family size. From the economists' viewpoint, although they vary among individuals, there is a persistent belief that market forces will take care of availability of contraception.<sup>3</sup>

There are problems with this set of assumptions, notably that they are inconsistent with the biology of human reproduction. In contrast to these long-held and well-respected beliefs, we suggest that the timing of fertility decline is less dependent on distal factors such as enhanced wealth and education, and more dependent on the degree to which the woman has freedom from unjustified and sometimes hidden barriers to family planning, wherein she can obtain both the technologies and the supporting information she needs to manage whether or when to bear a child.

## ENTER BIOLOGY

Across virtually all societies worldwide, human couples have sexual intercourse many hundreds or even thousands of times more frequently than is needed to



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achieve the number of children that they want. In the absence of modern fertility regulation, this reality obviates the possibility of making rational decisions about when to have a baby. Given frequent intercourse, we are forced to take repeated steps *to separate sexual intercourse from conception*.

Darwinian evolution is driven by reproductive competition, in which biological 'success' is judged by the ability to pass successfully your genes to the next generation.<sup>4</sup> Biologically, it is puzzling that rich and powerful people do not have more children than they do.<sup>5 6</sup> An explanation of this conundrum is that men are evolved to seek frequent sex, without necessarily desiring many conceptions.<sup>7</sup>

The most parsimonious model of human sexuality is to postulate that (a) unlike most mammals, which copulate only when the female is ovulating, humans beings (especially men) are evolved to seek frequent sexual intercourse and (b) both sexes (especially women) are predisposed to treasure and nurture any children they produce. A complication, to the disadvantage of women, is that men were evolved to have a natural drive to maintain control over women.<sup>7</sup> Because of this, over the millennia those men who had the most frequent sex with the most women left the most genes to the next generation, perpetuating this behaviour among males.<sup>8</sup> There may be deep-seated reasons behind the human patriarchal control of women's reproduction.<sup>7 9</sup> Biology provides a useful perspective on the virtually universal double standard in sexual behaviour among mammals.

In many countries around the world, cultures that were previously based on patriarchy have changed, modifying male behaviours to the advantage of women through health, economic opportunity, education, property rights, voting rights and reduced marital violence. However, today the ingrained patriarchy still persists in many other societies. Formalised religions are commonly used for justifying patriarchal male behaviours. For example, in the Philippines Catholic bishops deny women access to contraception. In societies where child marriage is common, as in the Sahel and parts of India and Afghanistan, young mothers are denied the autonomy they need to manage their childbearing. This situation is often also seen in polygamous societies where the bride, a young girl, is being married to a man 20 or 30 years older. Some cultural practices that have developed to ensure paternity and to control females' reproductive lives involve extreme cruelty, such as the cutting of girls' genitalia.

In all societies, matters of sex and human reproduction are often characterised by intense feelings, jealousies, competition and some aspects of control. In societies or cultures that are not structured for co-operation between men and women, women are often viewed as property, with little or no decision-making power about when to be pregnant or whether they can use contraception, nor when they will have

sexual intercourse. We acknowledge that the most harmonious and efficient pathway toward managing family size is for couples to make joint decisions on these matters, but for hundreds of millions of women this remains a distant dream. Given the universality of frequent sex, in many societies where women have no choice about whether or not to have sex on a particular night, and where contraception is not an available option for them, frequent pregnancies have remained for women the default pattern.

## THE POWER OF OPPORTUNITY

As noted, we suggest that the timing of fertility decline is highly dependent on the degree to which the woman has freedom from unnecessary barriers to fertility regulation, wherein she can obtain both the technologies and the supporting information she needs to manage whether or when to bear a child. This is in contrast with widely accepted assumptions that fertility decline is dependent on distal factors and that "development is the best contraceptive". It does indeed make sense that women – and depending on the situation, couples where they have a co-operating relationship – will make cost-benefit analyses, whether implicitly or not, about their family size, based on the information they have available. The problem is that because of frequent sexual intercourse, women who are constrained by the many barriers to the family planning methods and correct information they need are often unable to implement the results of such analyses.

We call our perspective on these matters an 'opportunity model', or more poetically the 'freedom model', and we recognise that it can be seen either as a major modification of the traditional assumptions noted above, or as a new paradigm or theory.

The concept that women's success in managing their childbearing is largely dependent on their opportunities appears to have been already on the minds of a number of leading demographers, although not necessarily using the same terminology.<sup>10-14</sup> In addition, Mason has observed that high rates of contraceptive use can occur in the absence of large-scale socioeconomic change,<sup>15</sup> and in some studies explicit survey evidence exists documenting the downward shifts in fertility. This has been documented in, for example, Nigeria,<sup>16</sup> Bangladesh,<sup>5 17-20</sup> Morocco,<sup>13 14</sup> Guatemala,<sup>21 22</sup> West Bengal, India,<sup>23</sup> Pakistan<sup>24</sup> and Ghana.<sup>25</sup> Fertility declined similarly in South Korea and Cuba with extremely different economic profiles.<sup>26</sup>

## NORMAL CONSUMER BEHAVIOUR

Women have always wanted a way to control fertility, long before modern contraception arrived.<sup>8</sup> In recent decades, poor and uneducated women in a number of countries who said they did not want to use contraceptives have suddenly shown rapid uptake of them when this option became realistically available.<sup>13 14 27 28</sup>

These documented actions by women are consistent with normal consumer behaviour.<sup>29</sup> We should not be surprised, because there are many examples of products where demand arose only after the product has shown up, for example, the copy machine, television remote controls, disposable nappies, personal computers, garage door openers and adhesive notes.

Experts in consumer behaviour have long recognised this pattern. Rex Campbell posits that consumers may follow a rational problem-solving process in either of two ways: when the consumer becomes aware of the problem and then looks for a solution, or when he or she recognises the problem only after becoming aware of an innovation.<sup>30</sup> In simpler terms, “An individual may develop a need when he or she learns that an innovation exists. Therefore, innovations can lead to needs as well as vice versa”.<sup>31</sup>

In the light of these observations it seems plausible that we, as consumers, have naturally viewed contraceptive methods in the same fashion as any other products that *we never knew we wanted* until they arrived as new options in our lives.

### BARRIERS TO FAMILY PLANNING

Casterline *et al.* have pointed out “the scant empirical attention to the magnitude of contraceptive costs and their effects on contraceptive decision making reflects less than full respect for the potential power of the various possible obstacles to contraceptive use”.<sup>32</sup> The ICPD 1994 Programme of Action states clearly, “Governments should make it easier for couples and individuals to take responsibility for their own reproductive health by removing unnecessary legal, medical, clinical and regulatory barriers to information and to access to family planning services and methods”.<sup>33</sup> In spite of this clear statement, little if anything has happened to reduce the stated barriers since 1994.

In countries where fertility is high, a wide range of barriers separate women from the information and technologies they need to limit their childbearing.<sup>34–36</sup> Many of the barriers to family planning appear to be either unknown or ignored by ministries of health as well as a number of international donor agencies, and accordingly they are not resolved and often kept in place inadvertently. These include arbitrary medical rules and restrictions before contraception can be used, unaffordable prices, shortfalls and breaks in commodity supplies, and laws restricting the provision of safe abortion. They also include extreme distance of contraception from women’s homes. This latter barrier often reflects policymakers’ reluctance to allow the easiest forms of birth control for women, mainly oral contraceptives and the popular injectables, to be distributed by volunteer citizens at the community level after very brief training, in the form of ‘task shifting’.<sup>37</sup> Widespread misinformation about contraception is an invisible but giant barrier. Cultural

barriers translated into the low status of women are, in contrast, highly visible.

### Unjustified medical rules

We see the persistence of patriarchy in some of the medical rules that make contraception unjustifiably difficult to obtain in many countries. For example, in parts of Francophone Africa blood tests are required before hormonal methods can be obtained, and although there are no clinical indications for such tests they are often deeply entrenched and surprisingly difficult to remove. These kinds of barriers are not unique to Africa; indeed, even in Europe unnecessary tests are too often required before contraceptive methods are approved.

In several parts of Africa, women who reach a family planning clinic are refused contraception unless they are menstruating that day, even though there are simple rules based on a woman’s history for determining pregnancy. In a study involving 200 women in Ghana a common pattern was found: the women feared contraception because they assumed if they used it, they would lose their ability to have a baby later. This belief was considered a ‘side effect’, where it was actually misinformation (unpublished data, Keesara and Sirina, 2010). In Madagascar nulliparous women are refused oral contraceptives, while in Tanzania women with five or more children are denied this method. Contraceptive implants are not permitted in India. Injectable contraceptives are excluded from the Indian government health programmes, even though this method is used, or eagerly sought, by women in many other parts of the world. By contrast, Ethiopia has taken significant steps to make 3-month contraceptive injectables available at the village level after volunteers are appropriately trained, as this is the preferred and fastest growing method for the majority of women in rural areas. The Ethiopian government is leaving the decisions for this route of distribution to the rural governments.

### Misinformation and fear

Fear of side effects is widespread, and it is one of the most important explanations for non-use of contraception.<sup>38–46</sup> In anything to do with sex and reproduction the diffusion of information occurs continuously and may be helpful or misleading. In many cultures oral contraceptives are perceived as more dangerous than childbirth,<sup>46</sup> although in a low-resource setting having a baby can be up to a thousand times as dangerous as taking the contraceptive pill. Many African women believe that pills and injectables can cause infertility. Fear of the detrimental effects of contraceptives on health is important in Pakistan and the Philippines, where “women with an unmet need were more likely to view the pill and tubal ligation as more or equally harmful to health, compared with pregnancy”.<sup>46</sup> Although safety is not a

problem, oral contraceptives remain on prescription in many developing countries, reinforcing the idea to both health workers and consumers that this method is dangerous.<sup>47</sup>

### Abortion

Abortion remains illegal in many countries, and even where it is legal, as in India, it is not universally available – except for rich women in all countries, who can obtain safe abortion regardless of the laws. Each year in Africa more than 6 million women undergo unsafe methods of abortion in their desperation not to have another child, and 29 000 of these women die from the procedures.<sup>48</sup> Multiples of the women who die suffer lifelong medical injuries.

All societies use a combination of contraception and abortion to limit family size.<sup>49–53</sup> In 1975, Tietze and Bongaarts<sup>49</sup> observed that “levels of fertility required for population stabilization cannot be easily obtained without induced abortion”. Conversely, we cannot find a country with replacement level fertility that does not have access to safe abortion, either *de jure*, as in much of Europe, or *de facto* as in the Republic of Ireland where women go to England to obtain safe abortions. When safe abortion is accessible in a country, the total fertility rate (TFR) is likely to be one child lower than if abortion is not accessible.<sup>54 55</sup> Forty-five years ago demographer Kingsley Davis observed: “Induced abortion ... is one of the surest means of controlling reproduction, and one that has been proved capable of reducing birth rates rapidly .... Yet this method is rejected by nearly all national and international ... programmes”.<sup>56</sup> Today, in spite of powerful evidence of the safety of misoprostol for medical abortion,<sup>57</sup> especially in low-resource settings,<sup>58</sup> this tablet has not been approved for use by women at home for this purpose.<sup>59</sup> However, the ministries of health of Ethiopia, Zambia and Nigeria have approved this medicine for use at home for controlling postpartum haemorrhage after childbirth. The World Health Organization (WHO) and the International Federation of Gynecology and Obstetrics (FIGO) have both established new guidelines permitting the use of misoprostol at home for controlling postpartum haemorrhage in the presence of a trained community health worker.

Highlighting the value of misoprostol is not to belittle the combination of mifepristone with misoprostol, which is the most effective medicine for safe medical abortion. In most countries where abortion is not yet legalised, misoprostol is not available to most poor women.

Barriers to access for abortion can include price, pain, sexual exploitation, imprisonment and death, fears based on actual events reported in the media.<sup>36</sup> In some places safe abortion has been made available even in the face of restrictive laws, where the availability of safe abortion not only helped limit family size,

but also improved the adoption and continuation of contraceptive use. This occurred successfully, for example, in Bali, Indonesia.<sup>60</sup>

### Culture

Culture as a barrier to family planning is easy to see in societies where women suffer low status. Religious rules and value systems often limit the mobility and the decision-making capacities of women. In Afghanistan, Pakistan and other countries often a woman cannot leave home without her husband's permission, and then only when accompanied by a chaperone.<sup>32</sup> For a young woman in Bangladesh to visit a clinic she must talk to her husband who in turn will talk with his mother, and in such a setting the social costs of managing contraception may actually be greater than the cost of bearing and raising another child.<sup>17</sup>

### The consequences

The barriers to family planning are often so vast and deeply infused into cultures together with the unnecessary guidelines and rules of health services provision that the idea of having a smaller family is not even viewed by women as an option in their lives. We suggest that the reduction of barriers to fertility regulation where fertility is high (with the exception of societies with widespread child marriage) may be both necessary and sufficient for lowering average family size, regardless of women's or couples' education or other socioeconomic factors.

Caldwell has recognised that one of the factors generating any fertility transition is the increased ability of women to control their own fertility.<sup>12</sup> He concludes that few people will express a preference for a smaller family before they have access to contraception. In a broad review of the demographic transition, he describes the absence of preference for a smaller family when family planning is not available.

*“For 40 years we have been asking, in surveys and one-on-one anthropological investigations in sub-Saharan Africa, rural South India, and rural Bangladesh, both of contraceptive users and nonusers, whether their parents used contraception or worried about the inability to control family size. The answers have been the same. The parents had not practiced birth control because they had no access to services. They had never contemplated restricting family size because, without the methods for doing so, it was unimaginable.”* (Caldwell, 2001, p.103).<sup>61</sup> [Emphasis added by present authors.]

### Education

Educating girls and young women in particular is immensely important for their empowerment, health and the well-being of their families and communities. Education helps women to become critical consumers of information, able to distinguish between correct facts and the improbable. However, while education is

valuable and can be influential in many ways, and is much desired across most societies, it is neither necessary nor sufficient for fertility decline to take place. In Bangladesh, for example, education has not proved a prerequisite for fertility decline.

In most poor societies boys are more likely to be educated than girls, because men are more likely to be the breadwinners. However, in many societies female education is often seen as a threat because patriarchal societies know intuitively that more educated women are more likely to assert their independent thinking and are more likely to seek equality. News on the Iranian government's reduction of education for women seems to fit this concern: "In the coming academic year, 36 universities will implement exclusion of women from 77 fields of study, including chemistry, computer science, nuclear physics, engineering, business management, education and English".<sup>62</sup>

As noted, an exception is those high fertility societies with a TFR of 4–7 and above, which also have child marriage. Here it is essential to delay the age of the first birth, as both a human rights imperative, and a demographic need. Raising the age of the first birth in such societies by 5 years (1) reduces the TFR by 15–20%<sup>63</sup> and (2) gives a young woman the freedom to understand that she has the potential to manage her own fertility.

Not educating girls and boys, nor young women, is exceedingly sad. Unfortunately the reality is that in high fertility countries, where more children are born each year than the year before, it is either difficult or impossible for governments to expand their education systems, or health systems, fast enough to keep up with the rapidly growing needs. In other words, high fertility rates must decline in order to make education (and also health services) widely available.

An important puzzle around education is that we don't know how to define it. When Lesthaeghe examined Belgium's fertility decline between 1800 and 1970 he found that the one factor that consistently accompanied fertility decline was secularisation.<sup>64</sup> In the analysis of Nepal's drive for mass education and its impact on fertility, based on massive data covering many dimensions of information, published in 2001, the authors found that women who had had schooling had smaller families. The odd part is that women who had grown up in a community with a school in it, but without schooling themselves, even if they moved to another part of Nepal, also had small families later.<sup>65</sup> One way we could interpret this is that what mattered most with respect to fertility decline was learning to think independently, rather than solely through traditional or religious beliefs.

## CONCLUSIONS

We contend that wherever women have access to a range of contraceptive methods with correct information and backed up by safe abortion, fertility will fall.

This is the basis of our 'opportunity model'. Conversely, as long as the international community fails to focus on family planning, the barriers to family planning are allowed to stay in place, and the shortfall in money and commodities persists, there will be further stalls in fertility decline (or an actual rise in family size), particularly among the poorest economic quintiles in low-income countries. Fortunately the landmark London Summit on Family Planning, which took place in July 2012, represents a turning of the tide in favour of an international focus on the value of family planning in all countries.<sup>66</sup> The Summit highlighted the need to let women have the means to make decisions about their childbearing. It is also time for policymakers across many countries to respond to the writers of the ICPD 1994 Programme of Action to recognise the "unnecessary legal, medical clinical and regulatory barriers" to family planning.<sup>33</sup> An end to these barriers can be remarkably inexpensive and, when finally adopted, will save many lives, strengthen families, and give communities greater opportunities for education and better health.

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Martha M Campbell, Ndola Prata and Malcolm Potts

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