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The 'natural' body, God and contraceptive use in the southeastern United States

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Abstract

Data collected among African-American and Caucasian women and men in the southeastern USA indicate that participants' perceptions of nature, God's will and the human body influence reproductive health and decision-making. Attitudes about the health care system, pharmaceutical companies and government programmes for fertility regulation reinforce these views and may negatively affect willingness to use contraceptive methods consistently and correctly.

Introduction

You start taking birth control, you start messing with your life. You start messing with your cycle, you start messing with your tubes ... We have all kinds of problems, even heart trouble. Everything is not made for us to take or to use. We are human beings. All that stuff is synthetic and not made for your body. (Older African-American woman)

Correct and consistent use of contraceptives has long commanded the attention of reproductive health researchers, and although strides have been made in contraceptive acceptance and use, research on pregnancy and STI prevention in the USA also shows persistent resistance to using hormonal and barrier methods. Efforts to alleviate this resistance have focused on increasing awareness of risk, improving knowledge of method efficacy (including condom efficacy for dual-purpose protection), and issues of women's empowerment for contraceptive and condom negotiation skills. Little attention has been paid to cultural knowledge systems and spiritual beliefs, which can influence adherence to contraceptive regimens.

Such knowledge and belief systems may constitute significant factors in contraceptive decision-making. In this paper, we explore closely intertwined perceptions of nature, God's will and the human body, using data collected from African-American and Caucasian women and men in the southeastern United States. We describe knowledge held about the body and reproductive health, and the integration of contraceptive information. The paper serves to add to the literature and inform programme planners about how such knowledge

systems and values influence fertility decisions and behaviour, including choice of contraceptive methods and use adherence.

Background

Advances in contraceptive technology in the 1960s–70s, that were hailed as providing women with means to take more control over their reproductive lives, were countered by arguments that fertility regulation serves the larger interests of society while ignoring or discounting the interests of individual women (Hardon 1992, Cochran and Mays 1993.) In 1973, a WHO Task Force on the Acceptability of Fertility Regulating Methods (Marshall 1973) initiated studies to advise on the development of culturally appropriate contraceptive technology and delivery strategies in developing countries. Subsequent studies expanded the knowledge base of cultural concepts regarding reproductive health and other health issues (Shain 1980, Shedlin and Hollerbach 1981, WHO 1981, Severy *et al.* 1993). This research led to the recognition that multiple contextual factors influence method use, which prompted research on contraceptive knowledge, attitudes and beliefs.¹

However, research that endeavoured to elicit cultural knowledge systems and the meaning of reproductive roles within different cultural contexts (Smith and Radel 1976, Warwick 1988, Russell *et al.* 2000), was primarily concerned with efforts to increase the acceptability of contraceptives (Caldwell *et al.* 1992). Although some called for increased attention to contextual and quality issues related to contraceptive use (Bruce 1990), the global expansion of family planning programmes that used highly effective hormonal methods was hailed, with Donaldson and Tsui (1990: 5) noting that acceptance was due, in part, to a 'growing sense of individuality and a corresponding decline in the perceived need to follow traditional ways'.

Family planning eventually came to be recast as a means to improve women's and children's health. However, lost in debates over individual reproductive rights, gender issues and the need for population control, was an appreciation for deeply held views women often hold about their bodies, and their role as mothers within a religious cosmology. Although social science research argued for culturally appropriate approaches to contraceptive service delivery (Bongaarts and Bruce 1995), the demographic and bio-medical studies dominating this field largely discounted the potential influence of indigenous health knowledge systems and religion (Warwick 1982). Although much of the work on cultural views about family planning was conducted by US researchers, the research lens was turned mostly on 'developing countries' and not the USA.

Contraceptive methods

Contraceptive discontinuation and 'user-failure' are persistent problems. Attribution of the causes of such problems ranges from misperceptions about duration of effect (Marshall and Polgar 1976) and low self-efficacy (Bandura 1989) to side effects (Scott 1975, Etkin 1992), poverty and contraceptive access problems associated with chaotic life situations (Burton 1995, Miller 1986), and partner discordance (Severy and Silber 1993). Efforts to reduce incorrect use and discontinuation have focused on overcoming barriers through interventions to increase contraceptive access, improve instruction in correct use, raise self-esteem, inculcate an appreciation for the value of family planning and increase awareness of potential adverse consequences of unintended pregnancies.

Additionally, pharmaceutical companies have developed lower dose contraceptives with fewer side effects, and long-acting methods such as Norplant and Depo-Provera. However,

¹Now more appropriately referred to as 'knowledge systems'.

contraceptive products currently available continue to be fraught with user-error and discontinuation issues, and resultant continued high rates of unintended and sub-intended pregnancies (Tanfer *et al.* 2000, Ranjit *et al.* 2001, Koo *et al.* 1999). They also have tended to maintain or increase women's dependence on medical practitioners to dispense the methods (Tone 2001).

Body knowledge

Varying cultural perspectives about bodily functions influence acceptance, adherence and discontinuation of contraceptives (Polgar and Marshall 1976, Shain 1980, Shedlin, 1979). As Russell *et al.* (2000: 7) note:

Contraceptives do not just 'work', they work in bodies in a wide variety of perceived ways and with a wide variety of additional effects, amongst them the so-called 'side effects.' The ways that they work, and are perceived as working, are mediated by a variety of relationships, institutions, knowledge and beliefs.

Such knowledge and beliefs may be discounted when practitioners describe side effects as 'minor', to be ignored or tolerated, and when women who do not accurately follow a contraceptive regimen are blamed for 'user-failure'. This overlooks the reality that women may not adequately comprehend or accept the scientific premise of how methods affect their bodies and their perceived health and wellbeing.

Culture and cognition filter, organize and affect interpretations of all body structures, processes and change. As Ford (1986: 38) observes, 'the female reproductive cycle has been misunderstood and shrouded in mystery for over 2000 years'. World-wide, men and women have scant understanding of how their bodies work (Gollub 2000). Furthermore, a woman may be more concerned with getting out of the family planning clinic than engaging in a difficult learning process with a health practitioner who may be uneducated about counter-mainstream beliefs, and without the training, time, or inclination to help her learn about the reproductive system.

Service providers routinely discount traditional knowledge systems that explain health, illness and the body and they do not incorporate these views into reproductive health instructions about contraceptive regimens and HIV/AIDS treatment protocols (Flaskerud and Rush 1989, Nelson 2000). What is perceived as 'normal', 'natural', 'correct' and 'healthy' for bodily appearance and functioning, and the behaviours that influence it, are defined by culture, not biology (Shedlin 1979). In the USA and elsewhere, views about the natural body may be accompanied by scepticism about anything that interferes with it and these knowledge systems can influence decisions and behaviours (Wyatt 1991, Wardell and Engretson 1995, Honkanen and von Hertzen 2002). Snow (1993) notes:

Whereas the scientist is likely to view natural forces as something to be harnessed by technology to serve humankind, a follower of the traditional system is more likely to see nature as a powerful entity with which one must cooperate to live. (p. 47)

Health knowledge systems can constitute a powerful counterpoint to formal medicine, serving as justification for disregarding biomedical information. Studies of health issues have tended to focus on social, economic and political factors, and their demographic markers. While these factors have important implications for access and adherence to health care services, awareness and appreciation of alternative health knowledge is also necessary for facilitating correct use of contraceptives (Braithwaite and Taylor 1992, Quimby 1992).

Distrust of health-related institutions

Traditional health knowledge and commonly held assumptions about what is normal and natural can form bases of scepticism or distrust of health care systems, their practitioners and the government that supports them (Fry 1975, King 1992). Documentation of this distrust in the USA centres largely on the Tuskegee syphilis study, which is particularly salient for, but not exclusive to, African-Americans (Dalton 1989, Thomas and Quinn 1991, Jones 1993). Northington (2000: 431) states that '[Tuskegee] has come to symbolize racism in medicine, misconduct in human research, the arrogance of physicians and government abuse of Black people'.

Among USA minorities as well as Caucasians, broad mistrust of medical services includes concerns about Agent Orange, radiation experiments, and clinical trials research (Freimuth *et al.* 2001). Germane to this distrust are widely publicized debacles concerning reproductive pharmaceutical products, including inappropriately high-level oestrogen-progesterone drugs, the Dalkon Shield, thalidomide, DES links to vaginal cancer (Tudiver 1986), and recent concerns about hormone replacement therapy and cancer (WHI 2002). Views of fertility regulation as potentially genocidal (Thomas and Quinn 1991, Guinan 1993), and similar views about HIV/AIDS, resonate well with beliefs that government aims to reduce the size of the minority populations through the provision of subsidized birth control services (Flaskerud and Rush 1989, Gollub 2000).

Thus, the interplay between the pharmaceutical industry, the medical establishment and government regulations is held in suspicion by many, with drug companies being seen as interested only in profits, the medical establishment as interested in generating prestigious careers and more research dollars, and government supporting both in order to reduce the surplus population that might require government services. The high popular regard that the pharmaceutical industry enjoyed up to the 1950s, due largely to the development of 'miracle' drugs, has been replaced by suspicion and mistrust. Companies are often viewed as interested more in profits than health and wellbeing, and the medical profession and government as complicit partners, particularly with regard to contraceptives (Corbie-Smith *et al.* 2002, LaCheen 1986, Tudiver 1986).

God and contraception

During the 1970s, as the availability of hormonal methods of contraception expanded in the USA, Christian churches articulated positions on fertility regulation. In addition to the Catholic position, a number of conservative Protestant churches discouraged the use of contraceptives (Goldscheider and Mosher 1988, Eng and Hatch 1991). Globally, most churches assume a moral expectation of abstinence before marriage, and sexual fidelity thereafter, and surveys document the continued dominance of Christian religious affiliation on contraceptive use and sexual activity in the USA (Brewster *et al.* 1998).

This is especially true in the southern USA, where spiritual beliefs form multi-generational social, economic and geographic ties in the African-American population as well as in the Caucasian population—ties not easily observed during the Sunday morning worship hour (Eng and Hatch 1991, Mansfield *et al.* 2002). Even though many are not churchgoers, a belief in the Christian god runs wide and deep, and influences normative perceptions of what is natural and right for the human body. These beliefs influence people's willingness to 'tamper' with the body to regulate fertility, particularly when it causes side effects affecting how the body looks and functions.

God is viewed as having established a natural order that includes body functions, and manifesting a continuing concern for the wellbeing of humanity. Menses and childbearing are part of this natural order, manifesting perhaps the deepest connection to life—the

generation of new life. Although the Christian god is seen as interested in individuals' well being, and accessible through prayer, interfering with menses and childbearing is potentially against God's will. Thus, knowledge systems about the body and God's will combine with distrust in health delivery systems to create disincentives to contraceptive use.

Study design

This study builds upon a longitudinal cohort study of contraceptive choice among low-income, primarily African-American, women choosing a contraceptive method at family planning and postpartum clinics in Atlanta, Georgia and Charlotte, North Carolina in 1993–1994 (Koo 1995, Woodsong and Koo 1999). The contraceptive choice study interviewed women in a baseline and two follow-up interviews through 1997. Subsequently, an 'Unintended Pregnancy' study was conducted with the same sample, to investigate adult unintended pregnancy, using integrated qualitative and quantitative methods to generate and test hypotheses about unintended pregnancy, and develop better measures of pregnancy intendedness. For the Unintended Pregnancy study, qualitative research was conducted in 1998–1999, among participants who were aged 20–29. The results of the qualitative study were used to develop a third follow-up survey, conducted in 2000. This paper presents results from the qualitative research component of the Unintended Pregnancy study.

It is important to note that at baseline, 95% of the 2477 participants enrolled in the parent study were choosing highly effective contraceptive methods at the time of enrolment: 41% oral contraceptives; 30% Depo-Provera; 12% Norplant; and 12% female sterilization. A profile of the population participating in the full study is presented in table 1. The Unintended Pregnancy study explored the influences of relationship characteristics, including partners, family and health practitioners on contraceptive choice and use, and knowledge and perception of pregnancy and STI risk.

The qualitative study employed a complement of qualitative methods, including individual interviews, focus groups, case studies, the creation of kinship charts and ethnographic observations. Participants were stratified according to experience with unintended pregnancy at the time of the contraceptive choice second follow-up, and a sample was drawn for recruitment into the Unintended Pregnancy qualitative study.

To further investigate contraceptive and fertility decision-making in the context of lived relationships, focus groups and individual interviews were conducted with a subset of the study women's mothers and male partners. For comparison, focus groups were also conducted with low-income women selected from the local community who shared similar socio-economic characteristics of the Unintended Pregnancy participants. Qualitative data collection components are presented in table 2.

In the initial qualitative phase, 19 focus groups were conducted to explore concepts and vocabulary, surface salient pregnancy issues and explore preliminary hypotheses. Subsequently, 69 individual in-depth interviews were conducted to learn how pregnancies and contraception are interwoven into the fabric of people's lives, and to explore and generate hypotheses. Women were distributed among the different types of pregnancy experiences, and interviews were supplemented by interviews with some of their mothers and partners, to create case studies of experiences with intended and unintended pregnancies.²

²In some cases these interviews were not conducted the woman's mother, but rather with an older significant female member of her family, such as an aunt or mother-in-law.

Data were analysed with Nud*ist software, using a hierarchical and iterative approach to coding. Coding was done by two analysts, with intercoder agreement maintained at 85%. The primary aim of the qualitative component was to develop new measures of 'unintended pregnancy' which were incorporated in the Unintended Pregnancy questionnaire (Koo *et al.* 1999). However, as is often the case with qualitative data, unanticipated areas of influence emerged from the data during analysis. Although not included specifically in the data collection instruments, views about God, nature and the body were raised spontaneously in two-thirds of the focus groups and more than two-thirds of the individual interviews, prompting the focus and analysis summarized in this paper.

Results

Views about nature, God and the human body intertwine to create a trusted and comforting knowledge base about God's natural order for the world, and women's place in it as the physical vessels for bearing children. This sphere is reinforced and counterbalanced by distrust in formal health care systems, including practitioners, pharmaceutical companies and the government. In discussing these closely related spheres below, we present excerpts from interviews with women and men participating in our study. The abundance of excerpts from African-Americans reflects their larger proportion of our study population, but it is important to recognize that the views held by African-Americans did not differ markedly from those of Caucasians in the study.

We also include five illustrative cases with excerpts from interviews and a figure summarizing the referent participant's contraceptive history from the baseline through the second follow-up survey of the contraceptive choice study. In these figures, 'Unpl.Preg' refers to pregnancies not wanted either at that time or ever, 'Pl.Preg' refers to pregnancies intended at the time, 'Non-Use' to periods when no method was used, 'Depo' to use of Depo-Provera, 'OCs' to oral contraceptives, and 'x mo.' indicates the number of months a method was continuously used.

Beliefs about God's plan for childbearing

Participants in the study, both African-American and Caucasian, frequently evoked beliefs about God when talking about childbearing, sexuality and contraceptive use. Such beliefs were not necessarily grounded in affiliation with a religious organization, but rather reflected a widespread cultural belief in a god who has an interest in peoples' lives and has established a natural order to life that is assumed to be an expression of God's will. Consonant with this belief is the notion that one should not interfere with this order, for to do so could entail God's displeasure and consequent risk to a person's wellbeing.

Participants perceived a woman's body as having a natural order and rhythm, which includes menstruation, sexual desire and childbearing. Anything disrupting this natural flow (e.g., contraceptives) may be viewed as dangerous, because it interferes with God's plan on two levels: God's plan for how the body works (e.g., monthly menstruation as a cleansing mechanism) and God's plan for childbearing as a natural role for women (Case 1).

Participants were users of highly effective contraceptive methods when they enrolled in the longitudinal study. When queried, most saw no conflict between God's will and decisions to use contraceptives. However, a number of participants consider that women who plan for pregnancy have the most difficulty conceiving. This idea nests within the larger view that God holds ultimate power to cause or prevent pregnancy.

God will lead you to what's best for you, and God can put birth control in your path. However, if it [pregnancy] happens, it happens. That's God's decision. (Caucasian man)

You should never plan your kids anyway. If the Lord wants you to have them then he is going to give them to you. It don't matter what you do to plan a child. You ain't never going to get it when you planned it. (African-American woman)

People credit God's will with the directions their lives take, and commonly view children as blessings bestowed by God. One Caucasian participant tried for years to get pregnant and then finally prayed, saying: 'If we're meant to be together, let me get pregnant. That would be a sign from God'. Upon learning that she was pregnant at the time of this prayer, she considered that the spirit of the unborn child prompted her prayer.

Perceptions of the body and fertility

Individuals vary in their conceptualizations of their bodies, and attitudes toward their bodies develop through personal experiences. A number of participants believed themselves sub-fecund, at least at some time, due to a variety of reasons, including factors such as a 'tilted uterus' and irregular periods, as well as accidents (e.g., fell off a swing) and illnesses (Case 2). Often these notions were suggested by family members or health practitioners, yet they were not associated with a clinical diagnosis of infertility. Some women who experienced repeated episodes of unprotected sex without conception drew conclusions about their own sub-fecundity.

I didn't think I was very fertile and that's why I didn't always use birth control. I would go for long periods of time without getting pregnant and not using any birth control. (African-American woman)

Participants considered that fertility status could be affected by previous experiences with hormonal contraceptive methods, which were seen as either inhibiting or enhancing fertility (Case 3).

...[the pill] is going to make you not be fertile when you get ready to have a baby. Or it's gonna mess up your system. (African-American woman)

Another common perception among participants is that fertility is influenced by pregnancy experience, such that once a woman has experienced pregnancy, she becomes more fertile.

I think after your body is actually pregnant whether you carry it to term or if you have an abortion it's just easier for you to turn around and get pregnant again. (African-American woman)

The 'natural' body

Misperceptions about fertility included confusion about when in the menstrual cycle conception occurs. Data revealed erroneous assumptions and/or lack of knowledge about the internal body. Both male and female participants talked about 'hormones', which were believed to play many roles, both positive and negative, in health, sexuality and fertility. Concerns about artificial or chemical alterations of the body were concordant with the importance placed on all things natural. However, very few participants correctly described the ovulatory cycle and the safe period within it.

Although often ill-informed about normal body functions, participants spoke of a desire for things that are 'natural'. 'Natural' is a catch-all concept with mixed meanings in contemporary US culture (Tiefer 1996), but for participants this concept was evoked in reference to reproductive and other biological systems that ideally should operate without interference from contraceptive methods.

[Depo-Provera] basically renders the female reproductive system ineffective. That scares me to death, man ... That shot is unnatural for your body. So is anything fucking with your hormones. (African-American male)

...back in the cave days, they didn't say well I've got to take my pill today. It's not a natural everyday thing. (Caucasian woman)

A common side effect of hormonal contraceptives is disruption of menstruation. Although contraceptive counsellors had provided women with information on possible alterations in bleeding patterns, these were presented as expected for many women and thus, normal (Etkin 1992, Hardon 1992). However, this runs counter to commonly held beliefs about blood as a central governing agency in maintaining good health of the body (Snow 1974, Snowden and Christian 1983). Because monthly bleeding is viewed as an indication of health, normalcy and fertility, its absence, even as explained by medical professionals, is a cause of concern. Additionally, since menstruation is seen as cleansing the body, retention of blood was worrisome (Case 4).

To me, it's a normal thing to have a period. To take medicine that's going to make you not have one, I think that is not normal ... What happens over a period of time to your body when you are not releasing what is normal for your body? (Older African-American woman)

Given that women and men stated a preference for things that are natural and do not disrupt the normal body systems, it is worth considering health professionals' explanations of how contraceptives work. The most common explanation reported by participants was that contraceptives 'tricked' the body, and this concept contributed to a sense that this was not natural and somehow wrong. Another common misperception is about duration of method effectiveness. Women and men expressed concerns about how long a contraceptive method remains 'in your system' after discontinuing use, both how long it remains effective as a contraceptive and the potential long-term side effects (e.g., sterility, cancer).

I took birth control unknowing what it would do to me. Eventually I could not have children. (African-American older woman)

Depo is still in my system. It made me sterile. (African-American woman)

Distrust of pharmaceutical and medical systems

Contraceptives were also viewed with suspicion because of their synthetic chemical (and thus un-natural) composition, and because they are manufactured by companies seen as more interested in profits than people's wellbeing.

[Drug companies] really don't know a lot of times what they giving you ... and then a lot of times the medicines they give you don't really work they just hurt you ... so you don't know what to trust. [African-American woman]

Every drug, every procedure there is, is always approved for some people too early, by whatever organization that's supposed to be taking care of the people and the consumers and everything ... They just want to fling up on people. [African-American man]

Compounding these suspicions was distrust of the medical system, often viewed as profit oriented, disrespectful of low-income clients and more intent on experimentation than provision of quality medical care. Tuskegee was evoked by African-Americans participants as a metaphor for distrust in medical and pharmaceutical establishments, and similar concepts of distrust were mentioned by Caucasian participants.

It just seems like when they first produce these [contraceptives] they just skip all the rats and everything and just dump it in the black community and use us as guinea pigs. (African-American woman)

Both the pharmaceutical and medical industries were frequently viewed as motivated by greed and personal benefit to practitioners, concomitant with disregard for individuals being served by these systems. Participants expressed concerns about substances prescribed for use in the body, particularly those used to regulate fertility. They spoke of not knowing what long-term effect the chemicals included in contraceptives might ultimately have on their bodies, ranging from future potential difficulties with conception to developing cancer.

...when you read the brochures on these birth controls, I mean all the things that can go wrong with your body ... I'm married. If I get pregnant, I get pregnant. That's God's will, you know, but I don't want to get pregnant right now so I need to use some form of prevention. But I don't want to take the risk of some doctor telling me, 'You got a brain tumour because you opted not to get pregnant'. (African-American woman)

How many pills do you have to take to get cancer? ... It's a hurting thing to think about how God created us and what we are supposed to be about, and how we try to stop his work. (African-American older woman)

Uncertainty about possible long-term effects of chemical substances, distrust of the health care system that provides them, belief in God's will as the paramount authority on childbearing, and a cosmology of natural order are, therefore, all intertwined in one of the deepest emotional processes that commonly confronts adult human beings—the development and maintenance of familial and sexual relationships. It should be no wonder that 'user-failure' and discontinuation rates are so high.

Discussion

Considerations about nature, God's will and the human body are combined in people's cultural beliefs and knowledge systems about health and well-being. These include views about the motivations of health care systems, including those assisting in fertility regulation. In addition to commonly recognized influences of low socio-economic status and gender, our study illustrates similarities in African-American and Caucasian views about the body. For many participants, these views influence contraceptive behaviour and may be working to counter acceptance of formal medical knowledge and practice.

While the qualitative study aimed to explore the meaning of unintended pregnancy from the perspectives of women and men, the issues discussed here emerged as salient factors in understanding contraceptive behaviour and thus merited more detailed analysis. Since we did not specifically inquire about these knowledge systems and beliefs in our study, we cannot use these data to determine how widespread they are, nor do we exclude the possibility that some participants use the concept of 'God's will' as an excuse for their lack of adherence to a contraceptive regimen.

However, these findings illustrate clearly that in contemporary US society, women from traditionally disenfranchised groups, (e.g., low socioeconomic status) do not always trust the medical establishment to have their best interests at heart with regard to contraceptive choice and fertility decision-making. In this context, it is not surprising to discover that deeply held religious beliefs, as well as a preference for things 'natural' influence choice of contraceptive methods and how they are used. Additionally, side effects such as weight gain or hair loss may be unacceptable for personal appearance reasons as well as concerns that these are symptoms of harmful effects on the body.

To date, an appreciation of the cultural and sub-cultural factors which can influence acceptance, acceptability, use-effectiveness and continuation of contraception has not been incorporated effectively into contraceptive education or counselling content, either formally (e.g., within a health care setting) or informally (e.g., popular magazine articles). However, it is possible that the development and implementation of service delivery approaches that build on these knowledge systems could result in improved adherence to contraceptive regimens. Gollub (2000: 1378) notes that '...women welcome [the] opportunity to be proactive about their own bodily welfare and to reverse lifelong ignorance about the body'. Thus, for example, messages that convey an idea of contraceptives that work with the body's natural rhythm might be better received than those which explain contraceptives as 'tricking' the body. Similarly, contraceptive counselling could include a discussion of fertility and the function of menstrual flow, while respectfully dispelling misinformation about the reproductive system. A frank presentation of data on long-term method use and side effects, in concrete terms (e.g., how many tampons may be needed during 'heavy menstrual flow'), and a simple overview of the rigorous testing requirements for pharmaceutical products could be made available.

It is also clear from these data that meaningful sex education programmes in schools, churches and civic groups is an important need. Misinformation about the body, particularly the reproductive system, is pervasive. Sex education in public schools has made progress over the past decades, but curricula vary widely between states and between public and private schools. In many school systems, parents are allowed to request that their children be excused from receiving the basic information that is provided. Many parents are not knowledgeable about the basic functions of the reproductive system, and may be uncomfortable with topics related to the body and sex.

Conclusions

We agree with Mansfield *et al.* (2001: 406) that 'Regardless of whether there is a faith factor and irrespective of whether the physician can be (or should be) convinced of it, there is value in broadening the bio-psychosocial model to include the spiritual'. We must reach a point where potentially conflicting views of medicine and beliefs about nature, god and the body can be accommodated within cultural knowledge systems, and formal health care delivery systems. Otherwise, these views will contribute to lack of adherence with contraceptive protocols, high rates of method discontinuation, and unintended pregnancies. This is not to suggest that women should violate their personal beliefs and values to comply with societal expectations for their fertility, nor that formal health care systems should attempt to undermine them. Rather, the reality of alternative knowledge systems should be acknowledged as meaningful sources of information for potential contraceptive users.

Additionally, these knowledge systems will likely affect acceptability of new contraceptive and STI prevention methods as they become available. Topical microbicides, for example, may provide a women-initiated method of STI and pregnancy prevention. Thus far, however, studies of the acceptability of such a product have centred primarily on product characteristics, and to a lesser extent, male-female relationships and power issues (Elias and Coggins 1996, Darroch and Frost, 1999, Bentley et al. 2000, Woodsong and Koo 2002). They have not examined the potentially complex way that such a new product will fit into a cosmology that includes concerns about nature, god and the body.

The HIV/AIDS epidemic has resulted in greater awareness of the variations in culturally-based health knowledge systems and their effect on health seeking behaviour, the widespread mistrust of the medical establishment among disenfranchised populations, and the need to develop culturally appropriate health messages and delivery programmes. The

scope and scale of HIV/AIDS has commanded this attention in a way that recent work on contraceptives has not. There is now a unique opportunity to use this knowledge to its best advantage, in programmes to reduce STIs as well as unintended pregnancies.

We consider that people need adequate and appropriate information for contraceptive and fertility decision-making, and barriers to contraceptive use should be overcome. This paper illustrates continued inaccurate views about contraceptives and the reproductive body. Inherent in much of the family planning information being provided to low-income women is the mistaken assumption that the body, its processes, and modifications to it (i.e., disease, side effects, etc.) are universally experienced and conceptualised in the same way. Furthermore, service providers routinely discount men's and women's cultural and religious knowledge which affects health behaviour and contraceptive decision-making. This discounting affects contraceptive acceptance and use as well as the tenuous trust in a medical system frequently insensitive to the norms and values of the clients.

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Table 1

Selected characteristics of participants in the survey and qualitative components of the unintended pregnancy study.

	African-American		Caucasian	
	Survey	Qualitative^a	Survey	Qualitative^a
Age (mean)	23	24	24	25
Education level ≥ grade 12	70%	96%	69%	71%
Experienced 1 unplanned pregnancy	32%	38%	28%	57%
Experienced 2 or more unplanned pregnancies	47%	51%	41%	33%
Number of participants	1326	45	249	21

^aThese data were collected from focus group participants only, and do not include data from the 'older women' participating in the study.

Table 2

Number of qualitative data collection units.

	African-American			Caucasian		
	Women	Men	Older Women	Women	Men	Older Women
Focus groups	7	4	2	4	1	1
Individual Interviews	32	5	11	16	3	2
Case studies ^a	13			4		

^aCase studies were based on individual interview data.

Case 1

African-American woman—influence of God's will

Woman	<i>Even with contraception, I don't think that God has ever planned for a woman to be able to manipulate her body to prevent from having children.</i>
Partner	<i>... from my religious beliefs I believe that kids are assignments given to us by God to fulfil a purpose ...</i>
Woman's Mother	<i>God's time is not our lime. That's so true. When he's ready [for us to have children] that's when it'll be.</i>
Woman's contraceptive history	
Comment	This woman's switch to less-effective non-hormonal methods is consistent with her and her family's views about God's will for childbearing.

Case 2

Caucasian woman—perception of the body

Woman	<i>If you stop your bodily functions from working for too long, that just doesn't seem good. We used condoms but... it didn't feel as natural to me.</i>
Partner	<i>(My wife) didn't think she could get pregnant because of some type of inverted uterus or something like that...so we just didn't use birth control. And along came (the baby).</i>
Woman's contraceptive history
Comment	For this couple, the combination of misperception of sub-fecundity, distrust of hormonal methods and a preference for the “natural” resulted in an unplanned pregnancy.

Case 3

African-American woman perceptions of fertility

Woman	<i>Some women are more fertile than others. It depends on what type of birth control they've been on prior to getting pregnant. A woman on Depo, as soon as she gets off she gets pregnant. That happened to a couple of friends. As soon as they off the shot and had unprotected sex they got pregnant. If you're on the pill you are not as fertile, and once you stop taking the pill you're still not fertile because all that built up in you for so long.</i>
Woman's contraceptive history	
Comment	This woman discontinued her hormonal method for a period of time prior to a planned pregnancy, yet has chosen not to return to hormonal methods.

Case 4

Caucasian woman—concerns about chemicals

Woman	<i>There, is some medicine in Depo that affects your oestrogen and makes you not have a menstrual cycle. I don't like that because you need your body cleaned out. The body cleanses itself.</i>
Woman's contraceptive history	
Comment	This woman switched from an initial hormonal method associated with menstrual disruption, to methods associated with “user-failure,” and then experienced a pregnancy that she did not plan.

Case 5

Caucasian woman—concerns about chemicals

Woman	<i>...it wasn't right for my body not to have a period. My husband doesn't believe in birth control pills because he thinks it's dangerous chemicals.</i>
Woman's contraceptive history	<pre> graph LR A[Depo 4 mths.] --> B[Condoms 30 mths.] </pre>
Comment	This woman's long-term use of condoms is consistent with her husband's disapproval of hormonal methods.