Chapter 5
Motherhood, Infertility, and HIV: The Maasai Context of Northern Tanzania

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1 Introduction

In a culture emphasizing procreation and sexual relations as an integral part of everyday life and success in society, the Maasai of Northern Tanzania face a difficult task when confronting HIV/AIDS. Reproduction and motherhood are inextricably linked to prosperity and growth for the Maasai, which privileges sexual intercourse as a necessity of life related to good health, responsibility, and procreation (Talle 2007). In fact, Talle (2007: 355) asserts that "to produce children is life's (and marriage's) fulfillment" for both Maasai women and men. Thus, it is certain

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that a woman without children is to be pitied, thereby receiving license to "go to sexual extremes" to cure her affliction of so-called infertility (Talle 2007: 355). HIV/AIDS becomes of particular concern when infertility is a factor for Maasai women trying to achieve motherhood. These concerns arise from increased exposure to the disease through a great number of sexual partners – as a result of culturally unique sexual practises – as well as cultural expectations to produce many children (see also Chap. 6 in this volume).

The purpose of this chapter is to describe HIV in the Maasai context in Northern Tanzania and to link Maasai women's experiences of motherhood and fertility with the risk of HIV. We will examine the juxtaposition between the desire of Maasai women to experience motherhood and the risk to get infected with HIV in their attempt to become a mother. We will highlight and discuss challenges of achieving motherhood in the face of infertility, HIV, and specific cultural practises, like polygamy. We conclude the chapter by articulating the implications of our findings, which can help to inform HIV policy makers and to develop effective HIV prevention strategies, while maintaining respect for Maasai cultural practises that seek to mitigate infertility and achieve motherhood.

2 The Maasai: Social and Cultural Contexts

2.1 Maasai Culture and History

The Maasai are a seminomadic, pastoralist population of approximately 840,000 people living in Northern Tanzania and Southern Kenya. Until the late 1800s and early 1900s, the Maasai functioned largely as an egalitarian society with distinct and separate gendered and age-related roles where *both* men and women occupied sections of the domestic and public (i.e., economic and political) spheres (Hodgson 1999a, b). Women maintained the Maasai production system by functioning as traders of surplus milk, hides, donkeys, and small livestock with groups of non-Maasai women traveling through their homesteads or with other permanent trading settlements for goods such as grains and other foodstuffs (Hodgson 1999a, b). By trading with other groups, women were "crucial intermediaries in the extensive and active trade networks that enabled the Maasai to sustain their specialized production strategy by linking them to commodities of regional and global commerce" (Hodgson 1999a, b: 48). Hodgson (1999a, b) asserts that while men were more central in the political sphere, women occupied a more central role in the sphere of ritual.

Contemporary Maasai social structure is governed by such age and gender distinctions that were in place prior to German colonialism in the late 1800s. Although German colonialism (1890–1910) had an influence on the Maasai, it was inconsistent and had limited long-term impacts on Maasai social, economic, and political structures. Following World War I, British colonialism in Tanzania significantly altered Maasai society with profound implications for Maasai gender

roles. British colonial leadership designated Maasai men as the "authorities" in communications between Maasai communities and the British colonists (Hodgson 1999a, b). British fears of unpredictable young male Maasai "warriors" motivated colonialists to reinforce the power of elder male authorities while disregarding the vital social roles of both young men (moran) and women in guiding and governing Maasai society (Hodgson 1999a, b). At once, the British eroded Maasai women's economic power as traders and caregivers of livestock, political power as ritualistic leaders, and social currency as a valuable part of the Maasai identity by relegating women to domestic duties (Hodgson 1999a, b). Men became the dominant and most important members of Maasai society, which is now understood by Maasai themselves as "being a pastoralist and a warrior: a dominant masculinity forged in "modernity" and sustained by certain economic and social interventions" introduced and propagated by British colonists (Hodgson 1999a, b: 122).

For Maasai women, the consequences of the colonial-induced shift in Maasai society from an egalitarian system to a patriarchal structure are far-reaching. Most notably, Maasai women have been affected in terms of their rights to livestock, property, ritualistic roles (i.e., facilitating rites of passage for both men and women), and political participation. By and large, Maasai women have been marginalized by being limited to domestic duties with little to no power beyond that sphere, which has further emphasized an already existing stress on female reproduction.

2.2 Gender, Social Constructs, and Sexuality of the Maasai

As mentioned previously, Maasai society is governed by "distinct social, developmental and social-sexual phases according to age-gender sets" (Birks et al. 2011: 585). Primary to the age-set system is the division of the male population into hierarchal age groups, which also govern sexual and gender relations in this patriarchal society (Talle 1994). Each male age-set is marked by a rite of passage, starting with circumcision between the ages of 16–18 years, upon which time Maasai men become "warriors" (moran or the preferred term is *ilmurran*) (Talle 1994). Morans are under the authority of elders, are recognized as protectors of people and livestock, and must refrain from marrying, reproducing, or associating sexually with married women (Talle 1994). During the 7–8 years that Maasai men are part of the moran age-set, they are viewed as "separate" from the rest of society and engage in ritual practises of solidarity such as slaughter, physical togetherness, and commensality, which aim to build their physical and sexual strength (Talle 1994). While building physical strength is important for the protection of people and livestock, the building of sexual strength is an essential part of moranhood and Maasai social structure because moran sexuality is considered to be directly linked to female fertility. In fact, female fertility is a culturally mediated process that does not occur naturally (Talle 1994).

Female fertility is developed over a period of time with the help of morans, who start engaging with young girls in a process of gradual coital penetration, which is

ultimately consummated when the girl's mother and moran agree that she is sufficiently mature (Talle 1994). The early sexual debut of Maasai girls is based on the cultural idea that semen of the morans promotes the development of young females' breasts and sexual "health," thus making the "services" of the moran imperative for women's physical development and attainment of fertility (Talle 1994). Once young women have fully developed physically, have attained fertility through regular sexual interactions with morans, and have been circumcised, they are considered to be ready for childbearing and are married to men 10–15 years their senior (Talle 1994). The implications for women's sexual and reproductive health are seen in their elevated risk of exposure to sexually transmitted infections, such as syphilis, and more recently HIV. That Maasai gender roles threaten women's sexual and reproductive health is largely due to the subordination of women and the value ascribed to them as vehicles for propagating as many children as possible.

3 Theoretical Framework: Introducing Participatory Action Research and the Study

We used participatory action research (PAR) methodology to gather data in a culturally sensitive manner, to emphasize a participatory approach, and to encourage action – based on research findings. By combining participation with action, research is made contextually relevant. In order to foster an understanding of people's problems, the roles of the researchers and the researched are interchanged to promote communication and encourage mutual development of knowledge and learning (Swantz 2008). The PAR approach enables ordinary people (i.e., Maasai women) to directly engage the research process rather than remaining at arm's length (Swantz 2008). Greenwood and Levin (2007) refer to this process of direct engagement as *cogenerative inquiry*, where knowledge is cogenerated through collaborative communication between the researcher and the coresearchers. Fundamentally, the knowledge and experiences shared between researchers and coresearchers coalesce to reveal new knowledge about the investigated phenomenon (i.e., Maasai women's knowledge about, and experiences of, motherhood, (in)fertility, and HIV/AIDS). PAR methodology ensured that our inquiry into Maasai women's experiences of motherhood, (in) fertility, and HIV/AIDS would encourage action for social change, relevant to the local context and local knowledge, the very essence of PAR (Greenwood and Levin 2007). Central to the PAR approach is a critical assessment of social experiences that drives both participants and researchers toward identifying social needs and achieving social transformation. Employing cogenerative inquiry and corresponding iterative critical interpretation generates knowledge that then calls for the new ideas or new ways of such knowledge to be translated into new practise (Wadsworth 2006: 330).

In addition to direct engagement that was culturally sensitive, we acknowledged the historical impact that previous research has had on many Maasai communities. Although Maasai have been the subject of much social sciences-based research and are familiar with the concept of research, they have rarely been asked to participate

in studies that seek to include them as coinvestigators. Rather, like other researched populations, they are more familiar with traditional research methods that take people as objects of research (Swantz 2008). Therefore, by emphasizing participation of both the researchers and the local people in the research process, a bidirectional exchange of existing knowledge fostered an enriched understanding of motherhood, infertility, and HIV. In this way, PAR became the mechanism by which Maasai women codirected our study and formulated solutions to the problems they identified through the research process.

Participants were selected after seeking advice from local hospital staff familiar with women that would be consistently participatory during the research sessions and were from villages within walking distance to the local hospital (maximum 2 h). In order to respect cultural and community hierarchies, we sought to involve traditional birth attendants (TBAs) and women representing a cross section of the local community while still holding separate meetings to request permission from and inform local community leaders about our research topic and process.

4 Principle Issues

4.1 Examining HIV Prevalence and Risk in the Maasai

The primary hospital serving the Ngorongoro Conservation Area population is a faith-based (Roman Catholic) hospital, and is the only hospital in the area that offers HIV/AIDS care and treatment (CTC), voluntary counseling and testing (VCT), provider-initiated counseling and testing (PICT), and prevention of mother-to-child transmission (PMTCT) services, as regulated by Tanzanian government policy. Aside regular outreach clinics for Mother and Child Health (MCH), special outreach camping trips are done. During these special trips, hospital staff sets up camp in remote corners of the catchment area for 2 weeks at a time to offer these services locally (funded by the Elizabeth Glaser Pediatric AIDS Foundation). Around 80% of the catchment population of the hospital is Maasai.

To date, data on HIV prevalence among Tanzanian Maasai remains sparse. Local hospital surveillance estimates HIV incidence at approximately 1.7% as compared with the national prevalence at 6.5% (UNAIDS 2009; Hospital Records 2010). While HIV prevalence among Maasai seems notably low, hospital surveillance reflects only an estimated 12.4% of the total NCA population (i.e., 10,040 people from 2007 to September 2010, out of an estimated population of 81,071) (Census Report Ngorongoro District 2010). Hence, surveillance of HIV may not be reflective of the actual incidence and prevalence of HIV among these Maasai communities. The limited number of people tested for HIV can be explained by several factors including a remote and dispersed population located far from the hospital (the area of the NCA is approximately 8,300 km^2), limited access to services, limited medical outreach capacity, stigma associated with both HIV testing and diagnosis, and lack of knowledge and understanding about HIV/AIDS.

Lack of access to healthcare, combined with unique sexual practises, places Maasai at greater risk for health-related problems, including high rates of HIV transmission (Morton 2006). Such risk factors include the cultural practise of polygamy, the widespread perception that HIV is not a Maasai or a rural problem, a reluctance to use condoms due to the belief that fertility and masculinity can be negatively impacted by condoms, as well as difficulties around translating and interpreting the concept of HIV (Coast 2006; Coast 2007; TACAIDS 2008).[1] Additional factors that may amplify the impacts of HIV/AIDS for the Maasai women include the slow decrease in female HIV infections – in Tanzania, 6.6% of women in reproductive age are HIV positive as compared to 4.6% of men (TACAIDS 2008) – Maasai cultural practises (discussed in detail below), exclusion from health education, food insecurity, gendered divisions of labor and decision making, and urban migration (Morton 2006). These factors, linked with the Maasai viewpoint that achieving motherhood is an integral element of successful womanhood, create high risk for HIV infection in Maasai women of childbearing age (approximately ages 14–40 years). Thus, understanding the local cultural setting and applying culturally appropriate prevention and relevant testing and treatment strategies are essential to attenuating the risk of HIV infection in pregnant mothers. The importance of reproduction and children in Maasai culture must be acknowledged as a priority, as the role of mandatory motherhood adds significant complexity to achieving HIV prevention. Therefore, while considering the status of a potential HIV epidemic among these communities, we employed a culturally sensitive research methodology to investigate this emotive topic.

4.2 Emergence of (In)Fertility and Motherhood as Salient Factors in Risk of HIV Infection

Initially, we set out to examine women's knowledge and experience of HIV/AIDS and how such knowledge relates to prevention of mother-to-child HIV transmission. Our questions focused on defining HIV, establishing local knowledge of HIV, discussing HIV transmission (vertical and horizontal), and pregnancy. According to the participatory and collaborative tenets of PAR, these questions were posed in conversational style sessions that enabled women to introduce their own experiences of motherhood and pregnancy, beyond the topic of HIV and HIV transmission. Such experiences of motherhood and pregnancy included birthing practises, hospital care, obstetrical difficulties, sexually transmitted infections, family planning, and fertility issues.

As the research progressed, fertility concerns became increasingly apparent. This realization required us, as researchers, to adjust our research approach and to

[1] In KiMaasai, the Maasai language, *biitia* is the word used to refer to HIV/AIDS. *Biitia* is used to represent multiple diseases that are associated with significant weight loss, as its meaning is literally "to shrink." Consequently, multiple meanings for HIV and other diseases with similar external symptoms lead to confusion about how to define HIV, as well as how to address causation, prevention, and treatment.

focus on including an in-depth examination of Maasai maternal health, traditional birthing practises, and (in)fertility-related cultural practises. The emergence of safe motherhood issues and fertility concerns signified that participants began to feel comfortable enough to bring up issues such as infertility and its associated risks (both socially and physically) as a major concern that extended beyond HIV. By being open to their identified concerns, our approach to formulate HIV prevention and treatment strategies became more relevant to their aims of achieving fertility and becoming a mother. By incorporating hospital staff, knowledge about sexual and reproductive health from a medical perspective was contributed throughout the research process. Thus, stakeholder interaction was amplified by the PAR approach, as questions and answers of Maasai women, as well as the hospital staff about pregnancy, infertility, and STI prevention were considered. Both women and hospital staff, to improve maternal health, could immediately use knowledge gained from our interactions with the women.

Reproduction and motherhood are inextricably linked to prosperity and growth for the Maasai. This linkage privileges sexual intercourse as a necessity of life related to good health, responsibility, and procreation (Talle 2007). In fact, Talle (2007: 355) asserts, "to produce children is life's (and marriage's) fulfillment" for both Maasai women and men. Because "fertility is linked to clan or ethnic or family name continuation," Maasai culture emphasizes the importance of reproduction (Coast 2007: 389). The success of Maasai men is directly proportional to the number of children they father; similarly, successful Maasai women are those who are able to bear children. Hence, motherhood can be seen as mandatory in Maasai culture. In other words, it is not socially acceptable for Maasai women to *choose* not to have children.

The implications of mandatory motherhood are far-reaching, both in terms of social ramifications and in terms of biological effects. The maternal mortality ratio among women attending antenatal clinics in the Ngorongoro area is estimated at 642 per 100,000 live births (Magoma et al. 2010). Moreover, the local hospital has no blood bank and relies on local transfusion services only. Thus, pregnancy poses a fatal risk to Maasai woman. For these women, working toward fertility and motherhood starts with the very first sexual contact. Maasai girls start having sexual relationships prior to puberty with young male adults (*ilmurran*) (Talle 1994). Talle (1994) describes how young Maasai girls are gradually introduced to sexual contact with young men, mostly under supervision of an older woman. Further, Talle (1994: 281) describes that once girls are considered to be mature enough, they "comply to be penetrated, but not without fear or anger sometimes, because they know that the making of their "hole" opens their way to birth giving and finally social adulthood." Girls choose male sexual partners, announcing their choice through a milk-drinking ritual (*Inkipot*)[2] (Talle 1994). Coast (2007) and Talle (1994, 2003) describe how

[2] *Inkipot* is a milk-drinking ritual initiated by Maasai girls, where each girl "publicly" selects moran boyfriends (usually three). The girl provides the selected morans with milk, and then each reciprocates with semen (Talle 1994). Before the girl presents the milk to the moran and his age-mates, it must be clean and prepared well. This ritual is seen to be the exchange of two bodily fluids that symbolizes a complimentary although not equal relationship between Maasai men and women (Talle 1994).

exposure to sperm and semen from the *ilmurran* helps young Maasai girls to become full-grown, fertile females. Because the development of physical puberty traits (i.e., growth of breasts) and achievement of female fertility (i.e., menstruation) are believed to be enhanced by male sperm, female contact with sperm must be direct (i.e., without a condom) for the sperm to stimulate fertility and female sexual development (Talle 1994; Coast 2007). Once a woman is fertile, the role of sperm transitions to that of procreation and maintenance of sexual health (Coast 2007).

Though female circumcision is illegal in Tanzania, it is still practised among Maasai communities. Traditionally, when considered sexually mature and ready for marriage, the girl is circumcised in order to "[…] avoid pre-marital pregnancy" (Coast 2007: 391). Furthermore, Talle (1994: 282) asserts "clitoridectomy and marriage transfers the sexually "free" girl into a potential childbearer." Female circumcision involves excision of the clitoris (clitoridectomy) and labia minora, which results in the female genitals getting a more "open look" (Talle 1994: 282). The clitoris is removed to prevent continued growth that may not only obstruct childbirth but also male sexual penetration (Talle 1994). Our findings confirmed that female circumcision is recognized by the local community as a risky practise for HIV infection, particularly because the same knife is often used for various circumcisions, thus potentially leading to cross infection of HIV (Birks et al. 2011). In addition, if a woman is infected with HIV and becomes pregnant, female circumcision increases the risk of mother-to-child HIV transmission during childbirth, as usually the joined labia tear during labor and delivery (personal communication with hospital staff).

4.3 Toward Motherhood by Enhancing Fertility: Planning a Family

In our discussions with Maasai women, it became clear that the cultural practices discussed above are not only an integral part of developing sexual maturity but also in achieving fertility and ultimately motherhood. By giving birth and becoming a mother, Maasai women meet social norms and attain social adulthood. What also became clear was that in the absence of motherhood, Maasai women live on the margins of their society and, in some cases, can be ostracized by other women. Motherhood is, by and large, considered to be a mark of success, thus making mothering somewhat mandatory. As our understanding of the Maasai female experience of mandatory motherhood began to expand, we were privileged with questions from our coresearchers about family planning, contraception, and birth spacing. At the same time, similar questions from local women were beginning to manifest in the outpatient department (OPD) at the hospital. Therefore, we decided to directly address these questions in our research sessions, as well as with local hospital staff. We discovered that, in the past, Maasai had perceived family planning approaches as offensive. Although we were unable to confirm reasons for such offense, we suspect that it is because contraception and the idea of avoiding reproduction and motherhood fly in direct contradiction to traditional Maasai beliefs. Furthermore, NGOs practicing in the area had been using "family planning" as a synonym to

contraceptive use, which is in line with common use of this term, although family planning according to (inter)national definitions includes infertility care (WHO 2010). Of particular note is that while the Maasai people have had little interest in preventing conception, they have had an interest in *planning a family*. In planning a family, infertility plays a particularly distressing role. Our coresearchers clearly linked the need for planning a family to the cultural norm of mandatory motherhood, not only in terms of appropriate birth spacing, but also in terms of addressing the concerns of infertile women. Bringing the discussion back to how HIV influences family planning, we were also able to address questions and concerns about adequate HIV prevention, in spite of the desire and requirement of motherhood. For example, we emphasized the importance of testing for STIs and HIV prior to pregnancy or upon conception, as well as the rationale of a hospital delivery under skilled attendance (increased care in case of complications for all women, availability of medication to prevent PMTCT in case of HIV infection).

Infertility is a major concern for Maasai women, and contraception is rarely considered. Women who are unable to conceive due to infertility face potential social isolation and judgment. Although circumstances occur where families who are close to one another will "share" children with women who are unable to conceive by gifting a child to the afflicted woman, infertility is still an embarrassing and difficult experience (Talle 2004). A woman without children is to be pitied and licensed to "go to sexual extremes" to cure her affliction (Talle 2007: 355). Women who try to achieve motherhood through increased sexual activity are subject to increased risk of HIV infection. Concerns about HIV infection related to infertility and motherhood stem from two principle factors: (1) the exposure to greater numbers of sexual partners correlates with greater exposure to STIs, including HIV (Talle 1994; Birks et al. 2011); and (2) societal norms regarding development of female fertility and mandatory motherhood compel females to perform sexual practices from an early age. A protracted period of sexual activity combined with the encouragement to have sexual intercourse with multiple partners situates these women closer to HIV infection.

As mentioned, Maasai culture has many unique practises around sex and sexual development. In case of infertility, women seek help from local traditional healers, who mostly attribute infertility to social imbalances. Women organize separate meetings with women only at local spiritual places, to ask for blessing from Engai, the Maasai god (Johnsen 1997). Men can ask friends from the same age-set to help his wife get pregnant, to strengthen their friendship (Talle 1994). For infertility, once every couple of years, a big ceremony is organized: the *Olamal,* meaning "blessing ceremony." The ceremony is officially announced and can be attended by Maasai women from anywhere, even across borders. It therefore mostly is a far and ritual journey that Maasai women undertake to enhance their fertility and/or to address infertility. Central concept in the ceremony is the cleansing of any sin that can cause infertility and to be cleansed of the sin that infertility is itself. During Olamal, a traditional healer or important elder facilitates rituals and prayers to overcome infertility (Johnsen 1997; Llewelyn-Davies 1985). The film "The Women's Olamal" gives an insight on Olamal practises by Kenyan Maasai women (Llewelyn-Davies 1985). It is well known, and anecdotally confirmed by our research, that

Tanzanian Maasai women also engage in the fertility practises of Olamal. While it is not openly discussed in public, it is widely understood that when practicing Olamal, women are engaging in sexual intercourse with multiple sexual partners to enhance existing female fertility and/or to overcome infertility by increasing the likelihood of pregnancy (male infertility issues aside). Consequently, the risk of STI infection, especially HIV, becomes exponential.

Maintaining cultural sensitivity during our research process required us to challenge our own ideologies and assumptions about what is more important: prevention of HIV or fertility and achievement of motherhood. We necessarily acknowledge that shifting our emphasis from HIV transmission toward infertility posed a considerable digression from our original research objective. Still, our experiences with these women provoked us to accord our original research agenda with the needs of our coresearchers. Ultimately, the way to improve HIV prevention is through better understanding the needs of this community. We thus see primary prevention of HIV in (to be) mothers, as a strategy in PMTCT. The rationale then is that a reduction of HIV infection in (to be) mothers leads to less HIV-infected pregnant women and leads to a decreased risk of mother-to-child transmission, thus less HIV-infected children.

We suggest that our decision to reorient our research objectives is persuasively illustrated by one of our coresearchers/participants:

> Children are the most important to us, Maasai. When we become a mother, and have children, we feel the blessing of God. We have the burden of life. Being a mother helps us to tighten our relationship with the children's father. We can also ensure that the cattle will be inherited by our children. So, then we will always have cattle and income to take care of us mothers.

By establishing an in-depth cognizance of the role of infertility, as related to mandatory motherhood in the Maasai, we come to comprehend why women are not willing to use protective measures, such as condoms, to protect against HIV and other STIs. Essentially, sex with multiple partners and exposure to diseases are, on balance, worth the risk if it means successful conception and the achievement of motherhood. As illustrated by a quote from Coast (2007: 396):

> Even if a young girl gets this disease, she will still have a baby, so it is Enkai (God) telling you to have children, but just die sooner.

Our participants expressed concern about HIV infection, trying different sexual partners in an attempt to conceive. They requested to learn more about infertility, and we realized there was more to learn about the Maasai perspective on infertility.

4.4 Infertility Causes: The Maasai Perspective and the Medical Perspective

Maasai women recognize different reasons for infertility. For example, syphilis (*emireka*) is known to cause internal boils that may "harm the womb" (Johnsen 1997: 271–272). Sins and a "bad look" of particular individuals are documented as

potential reasons for infertility (Johnsen 1997). The "softness" of children and "the child in the back" are also important concepts relating to infertility. A child that is born is considered a "soft child," which is a child that first needs to prove its existence by surviving the first years of life (Johnsen 1997). Similarly, in the first trimester of pregnancy, Maasai women regard the conception "not ready" or as "being in a fluent state that gradually becomes solid under the influence of semen [from intercourse] in the first three months of pregnancy" (Johnsen 1997: 271–272). This might not be surprising, as when a miscarriage occurs in the first 3 months, the fetus is undifferentiated amidst blood clots.

Strange cravings of a mother with a *young* pregnancy are seen as the "blood" desire of the fetus. When something goes wrong in this blood flow, the fetus can "dry out…leaving only an empty child" (Johnsen 1997: 263), thus becoming a "child in the back." The vital role of sperm to resolving this condition is conveyed by Johnsen (1997: 263): "The condition is only terminated when the dry, undeveloped fetus once more becomes filled with blood, with life that is, after having met with men."

Therefore, it becomes clear that semen, which Maasai men and women refer to as blood (*sangre*), is important in establishing fertility and in addressing infertility (Coast 2007). For Maasai, the importance of semen not only plays a role in fertility and conception but also plays a role in a community-wide aversion to condom use. The Maasai culture views collection of sperm in a condom, whether it is for contraception or for STI prevention, as wasting semen (Coast 2007). Wasting semen, either with condom use, oral sex, or masturbation, is viewed as less than desirable in the Maasai culture because every sperm is seen as a potential life and therefore valued above all else, including protection from STIs (Coast 2007). Coast's assertions regarding condoms and the corresponding wasting of semen have significant implications for HIV prevention. Furthermore, observations during ultrasounds at the outpatient department of the local hospital, which were confirmed in research discussions with participants, confirm the existence of the cultural concept of "the child in the back" in the local community. When women with infertility have an ultrasound, many of them ask if "the child in the back" can be seen. If not aware of the importance of this child in the back (being able to conceive, but just having a child inside that does not grow), one could easily reply "no." More cultural sensitive in this case is to reply that the machine that is used (ultrasound) is not able to display such a dry child in the back. This is actually true and respecting the status of the woman as possibly having "conceived" in another meaning than medical.

Factors that are known in the etiology of infertility are many, among which are tubal pathology (after ectopic pregnancy, pelvic inflammatory disease, STIs), endometrial granuloma (tuberculosis, schistosomiasis), ovulation defects, a history of spontaneous abortion, complications after delivery, STIs, semen pathology, and higher age (Larsen et al. 2006). Though no research on causes of infertility is conducted in the local community, several of these factors are present at the local hospital: it is located in a tuberculosis endemic area; STIs and pelvic inflammatory disease are frequently diagnosed at the outpatient department and

wards. Syphilis incidence at antenatal controls is 3–4% (Endulen Hospital data 2009). Of deliveries in the district, only 7% take place with skilled attendance (Magoma et al. 2010). Complications/illness during pregnancy covered 15% of the annual female hospital admissions in 2008 (Endulen Hospital data 2009). Most couples attending OPD with infertility had a history of STIs, most notably of syphilis. Syphilis is a frequent diagnosis, mostly in the top ten of Endulen Hospital diseases among adults. Although it is understood that the disease can be prevented through barrier methods, the preference of Maasai to refrain from condom use remains unchanged. Hospital staff reports the Maasai value antibiotic treatment with injections as a "good therapy," thus decreasing the perceived need for prevention of infection. In addition, Maasai men lack motivation for partner treatment when their wife is the symptomatic case, thus allowing for reinfection and a ground for both infertility and HIV superinfection. The Maasai's familiarity with syphilis treatment may have contributed to the local idea that HIV can be cured as well, therefore encouraging a lack of condom use. Moreover, hospital staffs have consistently reported difficulties in explaining to patients that antiretroviral medication does improve health, but does not cure HIV. Therefore, while there is a significant overall understanding of HIV in the Maasai community, such complete understanding does not extend to knowledge about prevention and effective treatment.

Although we did not collect quantitative data on infertility in the community, prevalence of infertility cases in consultations by the medical officer started at zero and increased to approximately 25% of the female consultations in the outpatient department (OPD). We suspect that the increase in numbers of women experiencing infertility presenting at the OPD was due to word spreading through the community that infertility was an acceptable medical topic and that potential treatment could be provided at the hospital. In fact, couples attending the OPD mentioned their increased trust to discuss the topic of infertility and increased awareness of services in counseling on infertility in the hospital. At the same time, hospital staff became more aware that infertility is a concern and referred couples to the medical officer for review. During counseling, aside full medical history and physical examination, diagnostic and treatment options are discussed, including referral possibilities. It is made clear that no successful outcome, a pregnancy, can be guaranteed. After basic diagnostics, counseling, and treatment at the hospital, five couples chose to be referred to a larger hospital outside the NCA for more comprehensive diagnostics and treatment of infertility, after which two couples had a successful pregnancy. One led to hospital-based delivery in collaboration with the traditional birth attendant, who made explicit that because of great infertility care, she had more trust in the hospital institution as a whole. There is anecdotal evidence on satisfaction with the infertility service, even when not leading to a pregnancy. At the same time, more fertile couples presented at OPD with questions on birth spacing (both natural and contraceptives). Creating successful stories in a narrative culture, as the Maasai, is a strategy that is not to be underestimated.

4.5 Implications for HIV Prevention and Care and Treatment in the Face of Infertility

When conception is the goal of sexual contact, as is the case in infertility, use of condoms is contradictive. Vaginal application products that reduce STIs/HIV transmission risk could be a solution to the STI/HIV risk that semen contact brings, while keeping the procreative function and cultural appreciation of semen. Recent research shows promising but also ambiguous results (Mc Cormack et al. 2010; McCoy et al. 2010). Two different applicants, one with and one without contraceptive effect, would be ideal for the Maasai setting, allowing women to make own reproductive choices.

In addition to this background not in favor of condom use, culture-sensitive education on and availability of condoms are low throughout Ngorongoro district. In a local village, an advert sign by a condom provider was put in the center of the village, showing a happy non-Maasai couple, a man and one woman (and no cattle). This picture does not reflect the ideal Maasai family picture at all. Although condoms are on sale at the local shops, our participants felt not in charge of the decision to use them and find them expensive. This makes accessibility to condoms low, in addition to remote and dispersed populations and religious beliefs (Catholic hospital service only). Interestingly, the women denied that the condom would not fit the Maasai male genitals, something believed by outsiders due to the specific male circumcision technique, which leaves the foreskin hanging loosely aside the glans penis.

However, it is also futile to push HIV prevention in the face of cultural practises that emphasize mandatory motherhood, enhancement of fertility, and sexual practices that attempt to mitigate infertility when such practises are an essential cultural norm. By neglecting the importance of cultural practises, HIV prevention efforts are likely to be unsuccessful. Moreover, a lack of cultural respect discourages the community from discussing infertility issues. By incorporating Maasai knowledge of fertility and infertility with knowledge of HIV prevention, we are more likely to maintain the respect and engagement of the community in biomedically derived strategies that seek to mitigate HIV transmission while relieving major concerns about infertility.

The action and knowledge translation from this research has led to the adaptation of maternal health services, including infertility care at the local hospital. Attention to infertility at OPD and awareness of traditional practises can lead to an open discussion of treatment options and the application of basic diagnostic tools (physical examination, laboratory investigation, and ultrasound).

The research discussed in this chapter has been collected over the course of 2 years, between 2008 and 2010 in the Maasai community of the Ngorongoro Conservation Area (NCA) in Northern Tanzania. Although the original research purpose was to examine women's knowledge and experience of HIV/AIDS and how such knowledge relates to pregnancy, motherhood and prevention of mother-to-child HIV transmission, safe motherhood issues, and fertility concerns emerged during the research process as equally significant matters for Maasai women. It is notable that the emergence of safe motherhood issues and fertility concerns in the context of this research signifies differences in perceptions of salient cultural

interests between the researchers and the Maasai women. Participatory action research is a useful tool in overcoming such barriers and can be used in any local setting.

5 Conclusion

Mandatory motherhood has significant implications for risk of HIV infection in women. In particular, the Maasai women living in the Ngorongoro Conservation Area of Northern Tanzania face not only the expectation of procreation and motherhood but also the expectations associated with other unique cultural and sexual practices of the Maasai as potential risk factors for contracting HIV. Most notably, these unique cultural practices include polygamy, fertility-inducing sexual practices, female and male circumcision, extramarital sexual practices, and traditional birth outside hospital circumstances. Ultimately, our exploration of HIV and motherhood in the context of the Maasai of Northern Tanzania has showed us that mandatory motherhood leads to significant distress when women experience infertility because of failure to achieve womanhood and social isolation. Therefore, it is notable that when Maasai women experience infertility, the imperative nature of motherhood leads them to pursue sexual practices that will increase their risk of HIV infection. The risk of HIV infection is not without acknowledgment; however, HIV infection is less important than the experience of motherhood and ability to procreate within the Maasai context of social norms and cultural expectations.

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References

Birks LK, Powell CD, Thomas AD, Medard E, Roggeveen Y, Hatfield JM (2011) Promoting health, preserving vulture: adapting RARE in the Maasai context of northern Tanzania. AIDS Care 23(5):585–592

Coast E (2006) Local understanding of, and responses to, HIV: rural-urban migrants in Tanzania. Soc Sci Med 63:1000–1010
Coast E (2007) Wasting semen: cultural context of condom use among the Maasai. Cult Health Sex 9(4):387–401
Endulen Hospital (2009) Patient statistics report. Ngorongoro Conservation Area, Tanzania
Greenwood DJ, Levin M (2007) Introduction to action research: social research for social change. Sage, Thousand Oaks
Hodgson DL (1999a) "Once intrepid warriors": modernity and the production of Maasai masculinities. Ethnology 38(2):121–150. http://www.jstor.org/stable/3773979. Accessed 5 July 2010
Hodgson DL (1999b) Pastoralism, patriarch and history: changing gender relations among Maasai in Tanganyika, 1890–1940. J Afr Hist 40(1):41–65. http://www.jstor.org/stable/183394. Accessed 25 June 2009
Hospital Records (2009, 2010) Patient statistics report. Endulen Hospital, Ngorongoro Conservation Area, Tanzania
Johnsen N (1997) Maasai medicine: objectifying iloibonok and fertility – the interrelationship of bodily perfection, morality and magic. In: Practicing health and therapy in Ngorongoro Conservation Area, Tanzania. PhD dissertation. Institute of Anthropology, University of Copenhagen, Denmark
Larsen U, Masenga G, Mlay J (2006) Infertility in a community and clinic-based sample of couples in Moshi, Northern Tanzania. East Afr Med J 83(1):10–17
Llewelyn-Davies M (1985) The Women's Olamal (1985), film via Documentary Educational Resources. www.der.org. Accessed 30 June 2010
Magoma M, Requejo J, Campbell OMR, Cousens S, Filippi V (2010) High ANC coverage and low skilled attendance in a rural Tanzanian district: a case for implementing a birth plan intervention. BMC Pregnancy Childbirth 10(13):1–13
Mc Cormack S, Kamali A, Rees H, Crook AM, Gafos M, Jentsch U et al (2010) PRO 2000 vaginal gel for prevention of HIV-1 infection (Microbicides Development Programme 301): a phase 3, randomized, double-blind, parallel-group trial. Lancet 376:1329–1337
McCoy SI, Watts CH, Padian NS (2010) Preventing HIV infection: turning the tide for young women. Lancet 376:1281–1282
Morton J (2006) Conceptualising the Links between HIV/AIDS and pastoralist livelihoods. Eur J Dev Res 18(2):235–254. http://www.tandfonline.com.ezproxy.lib.ucalgary.ca/doi/pdf/10.1080/09578810600708247. Accessed 22 Feb 2008
Ngorongoro District (2010) Census report. Ngorongoro Conservation Area, Tanzania. Ngorongoro Conservation Area Authority
Swantz ML (2008) Participatory action research as practice. In: Reason P, Bradbury H (eds) The Sage handbook of action research: participative inquiry and practice, 2nd edn. Sage, Thousand Oaks, pp 31–48
TACAIDS (2008) Tanzania Commission for AIDS – Tanzania HIV/AIDS and malaria indicator survey 2007–2008. http://www.tacaids.go.tz/hiv-and-aids-information/current-status-of-hiv-and-aids.html. Accessed 19 Nov 2010
Talle A (1994) The making of female fertility: anthropological perspectives on a bodily issue. Acta Obstet Gynecol Scand 73:280–283
Talle A (2004) Adoption practices among the pastoral Maasai of East Africa: enacting fertility. In: Bowie F (ed) Cross-cultural approaches to adoption. Routledge, Oxfordshire/New York, pp 64–78
Talle A (2007) 'Serious games': licenses and prohibitions in Maasai sexual life [Electronic version]. Africa 77(3):351–369
UNAIDS & World Health Organization (2009) 2009 – AIDS epidemic update. http://www.unaids.org/en/HIV_data/2007EpiUpdate/default.asp. Accessed 20 Nov 2009
Wadsworth Y (2006) The mirror, the magnifying glass, the compass and the map: facilitating participatory action research. In: Reason P, Bradbury H (eds) Handbook of action research, Concise paperback edition. Sage, Thousand Oaks, pp 322–334