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The Global and the Local: Health in Latin American Indigenous Women

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From the highlands of the Andes to the lowlands of the Amazon basin, from subsistence farmers to hunter-gatherer groups, indigenous populations are changing their lifestyle so rapidly, and sometimes so dramatically, that it is difficult to follow the pace of the transformation. In this work, which is based on my research among the Toba and Wichí of Argentina and among the Tz'utujil Maya of Guatemala, I attempt to elaborate on the kaleidoscopic experience of indigenous people in transition, particularly with respect to the impact of transitions on women's health. By favoring a dialectic model that looks simultaneously at the local and the global, the quantitative and the qualitative, the insider's (or emic) views and the external (or etic) interpretations, and their interaction among all, I hope to draw a framework within which we can explore questions that are relevant to us as researchers and to the communities with which we work.

Being indigenous in Latin America: From global to local biologies

Latin American indigenous groups are numerous, usually fragmented into small communities, and culturally very diverse. Some countries in Latin America, such as Bolivia, Peru, Ecuador, México and Guatemala, have large indigenous populations. While in others, such as Argentina, Chile, and Uruguay, native peoples represent just a small fraction of the overwhelmingly large European-descended population (MRGI 2007). More than one thousand different indigenous languages are spoken in the Americas, with millions of people speaking the many Mayan languages (Mesoamerica), Guaraní (Paraguay and parts of Brazil, Bolivia, and Argentina) and Quechua (South American Andes).

Amerindians have historically practiced a variety of subsistence styles from full-time hunting and gathering to complete reliance on agriculture and/or aquaculture, and anything in between. Traditional subsistence practices are still very much alive for a considerable number of indigenous groups. However, westernization and globalization processes are rapidly reaching even the most remote areas deep in the Amazonian forest and high up in the Andes. These changes, which are marching relentlessly and inevitably, have far reaching consequences in all aspects of their lives: the economy, the demography, the epidemiology, the subsistence patterns of indigenous people in Latin America are undergoing a deep transition. Of all the life dimensions that are being shaped by transition processes, I am particularly interested in women's fertility and sexual/reproductive health. My initial interest in studying reproductive biology in a natural fertility population has led me to work with

several indigenous groups in Central and South America and has taken me, almost by force, to ponder about and to appreciate their predicaments.

In the era of *Global Health* Initiatives, which are being proposed and developed in the most prestigious academic centers of the Western world and certainly deserve much praise and support, I would like to emphasize the need to look at the *local amidst the global* when we discuss health issues. That is, within the context of a globalized world and globalized experiences, local ecological and sociocultural landscapes interact with individual biologies to produce (or, better, coproduce) health and illness alike. This is hardly a new idea; medical anthropologists have been pointing at the need to recognize that, as Lock (2001) aptly puts it, “all medical knowledge and practice is historically and culturally constructed and embedded in political economies, and further, subject to continual transformation both locally and globally”. However, this has not been, at least in my experience, the philosophy behind most global health initiatives. This brings about, of course, the age-long issue of the dichotomy between the western biomedical model and more holistic models and between nature (biology) and nurture (culture). These dichotomies are still very patent and it is virtually impossible to circumvent them. However, if we are to get a glimpse of an understanding of the pressing health problems of millions of people, it is about time we all recognize that both the body and the social elements are intricately intertwined and respond to a local context.

With this model in mind, and going back to my attempt to make sense of the multi-layered components of sexual and reproductive health in women of indigenous populations in Latin America, I will take Margaret Lock's concept of *local biologies*:

“This concept does not refer to the idea that the categories of the biological sciences are historically and culturally constructed (although this is indeed the case) nor to measurable biological difference across human populations. Rather, *local biologies* refers to the way in which the embodied experience of physical sensations, including those of well-being, health, illness, and so on, is in part informed by the material body, itself contingent on evolutionary, environmental, and individual variables”. (Lock and Kaufert 2001)

This concept is central to my argument because it recognizes the importance of generating knowledge about the biological being and the social being, both co-dependent, both contingent upon the local circumstances. Next, I present two examples of local biologies that are most familiar to me, with the intention to create some common understanding and, hopefully, some level of consensus about the need to go across disciplinary boundaries and support a biocultural approach to health issues.

The Toba of Argentina

The Toba are one of several indigenous groups that currently live in the Gran Chaco region in northern Argentina. Traditionally, the Toba were nomadic or semi-nomadic hunter-gatherers with rudimentary agriculture (Arenas 2003; Braunstein and Miller 1999). Martinez Sarasola (1992) points at historical documents which suggest that the first contact with Spanish colonizers occurred around the 1550's, the Gran Chaco people successfully resisted

colonization and “civilization” attempts by the nation-state. It was not actually until the beginning of the 20th century that major changes in their traditional lifestyle began to occur (Martinez Sarasola 1992). The restrictions on access to large tracts of land, their partial integration in the labor market, and the arrival of missionaries from various Christian denominations have been major determinants in the settlement process for these communities (Braunstein and Miller 1999; Gordillo 1995; Gordillo 2002; Mendoza 2002; Mendoza and Wright 1989). Depending on their location, different communities have been exposed to varying degrees of these forces. As a result, Toba settlements can be found in a variety of social and ecological conditions, ranging from a rural, more traditional lifestyle that is relatively dependent foraging, to an urban, sedentary lifestyle that relies on wage labor and store-bought goods for sustenance.

I have focused my work on this acculturation gradient and the biological, social, and cultural variables that interact with and directly impact fertility and sexual and reproductive health of indigenous women, men, and children. I have been working in this region for more than thirteen years now. Needless to say, the picture gets more complex as we continue our research, but we have been able to highlight some emergent themes that are allowing us to assess of what it is like to be an *aborigen* (indigenous person) in the Gran Chaco today.

When you ask someone in a Toba village, either in the remote bush or in the peri-urban *barrios*, what they think are the major differences between life “in the past” and the current situation, the first change to which most of them would refer is diet composition. We have collected quantitative and qualitative data on the food consumed by a few villages along the acculturation gradient (Valeggia and Lanza 2005; Valeggia et al. 2005). In his long term analysis of animal and plant use by the Toba, Arenas (2003) indicates that their traditional diet had been rich in animal protein from a great variety of game and fish, and fibers and starch from wild fruits and tubers and the produce of an incipient horticulture. Nowadays, isolated villages are still relying on hunting, gathering, fishing, and collecting honey during the good seasons, but they fall back to store-bought items during the dry and cold winter. Urban and peri-urban communities have completely replaced foraged items in their everyday diet with the least expensive items they can obtain in the food market, i.e., white bread, noodles, rice, polenta, and a few vegetables like potatoes, squash, and onions. Meat and dairy products are acquired only during pay days; it is quite conspicuous to see which family received their pay on a particular day because they would be having beef, chicken, or cold cuts for lunch. Children snack on pieces of hard candy, crackers, potato chips, and fried dough, but are able to receive a more nutritious lunch at a few community kitchens in the village. “Game and fish are better options, but they are things of the ‘ancient ones,’ says Roberta, “besides, we are not allowed to hunt anymore around here”. The overall general feeling in these more urban communities is that foraging is, in fact, a custom of the past.

It is impossible not to link the change in dietary items to a shift in subsistence economy. As Gordillo (2002) argues, a crucial force in this shift has been the internalization of hegemonic discourses about the importance of *trabajo* (work), particularly in the public sector employment. Under the influence of state and religious (mainly Anglican and Evangelical) agents, who place value in cash-labor, Chacoan communities are incorporating and reproducing non-indigenous values and changing the very notion of subsistence. At the core

of this shift, and particularly among the Toba, is the ambivalence that the bush now generates as a symbol of *passé* “old ways”, yet a place that brings life (De la Cruz 1995; Gordillo 2002). “We have not eaten yet”, a man responded to our diet recall questions. However, upon further conversation, he told us that he had some fish and *doca* (a local fruit) in the morning. When we asked about the omission of this in the diet recall, he simply said that foraged items were not “*comida*”, only store-bought food is to be considered real food, perhaps a reflection of the what is now more valued. However, given that all interviewers were non-indigenous, it could also be taken as the man's interpretation of what the interviewer might think was real food. At the same time, another man in the same community pensively expressed that as long as they had fish and honey, they would survive. And this ambivalence lingers in their minds and extends to other western-influenced changes.

How do these dietary changes and the changing conception of what constitutes food impact the nutritional status of indigenous women? Historical documents suggest that Chacoan populations were well-nourished, tall, and robust (Lehmann-Nitsche 1908). They still are: Toba women are among the tallest Amerindians (average height 1.59 ± 4.4 m). However, as it has been the trend all over Latin America, the prevalence of overweight and obesity is rampant (Peña and Bacallao 1997; Popkin 2001). Surprisingly, both rural and more urban populations suffer from these high rates at similar levels. More than half of the adult Toba women are either overweight or obese (Valeggia and Lanza 2005; Valeggia and Ellison 2003) and the consequences of this over-nutrition are starting to have a profound impact on their health. High blood pressure, high cholesterol, diabetes, gall bladder disorders, all of them associated with overweight, are becoming the top morbidity causes among women (Dr. M. Baia, personal communication, 12 July 2012). This represents a serious challenge for public health for several reasons. First, from an etic perspective, overweight women are at higher risk for cardiovascular disease, but we find mothers and grandmothers in the same household as undernourished children. Can we address these different needs with a comprehensive program? Second, from an emic perspective, is the local understanding of healthy body shapes and sizes. Although young women, mainly those with access to the media, express their interest in losing weight, most women would equate being overweight with being healthy, which is a wide-spread notion among Latino communities everywhere (Gibbons et al. 2006). Third, from a political-economic perspective, the reality of poverty cannot be circumvented. As has been amply documented for urban settings in industrialized societies, low SES populations cannot afford a diet rich in fruits, vegetables, lean meat and fat-free milk, even if they believed them to be healthier (Peña and Bacallao 1997; Popkin 2001). We did collect a number of notes from a nutritionist that had indicated a diet based on beef steaks or grilled chicken and salad to some of the Toba women who suffered from high blood pressure. All of them just laughed sarcastically at the notes and mentioned that the doctor probably did not realize they were poor.

Nutrition has also an impact on women's capacity to afford a metabolically expensive pregnancy and lactation period. The link between nutrition and fertility is part of our shared human biology and it has been shown across populations, across subsistence patterns and across species (Ellison 1991; Ellison 1994; Ellison 1995; Ellison et al. 1993; Valeggia and Ellison 2004). However, in populations with no or infrequent use of artificial contraception,

this link becomes the regulator of reproductive pace. Our own studies with a group of breastfeeding Toba mothers have shown that women who are gaining weight during the postpartum period tend to resume ovulation earlier than those who remain in balance or lose weight. Breastfeeding is a demanding process in terms of calories, and exclusive breastfeeding, which is common practice among the Toba, can exert its toll on the mother's energy reserves if it is not accompanied by an increase in dietary intake and/or a decrease in physical activity levels. In the case of the Toba, this physiological mechanism interacts with sociocultural changes in such a way that it has a direct impact on women's fertility (Valeggia and Ellison 2001; Valeggia and Ellison 2004; Valeggia and Ellison 2002). Women who live in more transculturated communities, who have a diet rich in calories from starchy and fat food items, tend to have shorter periods of postpartum infecundity and, in the absence of contraception, this results in shorter periods in between births. The overall consequence is an increase in the number of births per woman, and in the personal, social, economical impact on her life.

Free contraception was not available to Argentine women until 2003, after the sexual and reproductive health federal law was passed at the end of October 2002 (Ley sobre Salud Sexual y Procreación Responsable, Ley 25.673). Public hospitals and local health centers and posts were stocked with contraceptive pills, progesterone injections, intrauterine devices (IUD's) and condoms; however, no concerted effort was made to train public health personnel to give support to contraceptive users. Toba women are still learning about the different methods by word of mouth and through sporadic development programs organized by different NGO's. The arrival of western-style family planning options was (and still is) met with the same ambivalence and hesitation of the many other changes brought by the *doqshe* (white/wealthy) people. During our interviews or during social meetings, women have asked us what to do to stop having children or to space pregnancies. The demand for fertility control is certainly present, particularly among women (most of them in their late 20's or early 30's) who already have 3 or more children and who consider their families to be complete. At the same time, they do not trust the pill, they do not like the idea of having a foreign object inserted in their bodies and have a hard time attending the local health center to discuss these issues with the unfriendly professional midwife. Add that to the discourse promoted by their husbands and in-laws (specially, older mothers-in-law), who may say that married women use contraceptives to cover up infidelities. Or to the pro-natalist discourse of some indigenous leaders, who criticize family planning programs because they see the "white man need to control the indigenous population." A little over seven years after the passing of the law, Toba women are still trying to make sense of the what, the how, and the why of western contraception.

In sum, life is changing rapidly for the Toba of the Gran Chaco. The impact of westernization and globalization changes extends to all dimensions of life and they shape the embodiment of local biologies, with particular impacts on their nutritional status and their fecundity.

The Tz'utujil Maya of Santiago Atitlán

The Tz'utujil Maya are one of the 21 Maya groups that live in Guatemala. They have inhabited the Lake Atitlán region, in the western highlands, since the 13th century. Spanish conquistador Pedro de Alvarado conquered the Tz'utujil Maya in 1524 and Franciscan missionaries intending to evangelize the Tz'utujil Maya organized them into the current town structure around 1545 (Early 1970). Located between the southwest shore of Lake Atitlán and the base of the volcano Tolimán, Santiago Atitlán lies at an altitude of 5000 feet and has a population of roughly 32,000 (Censo de Población, 2006). The primary language for 94% of the residents is Tz'utujil, one of the Mayan languages spoken in Guatemala; however, 54% of the villagers speak and 13% read some Spanish (Schram and Etzel 2005).

Farming of maize, beans, coffee, tomatoes, carrots and avocados are staples of the Tz'utujil economy and many of these products are exported. Traditionally, corn, black beans and sugar have provided the major energy needs in the Tz'utujil diet. Corn is often consumed in the form of tortillas or *tamalitos* (steamed corn dough) and may be eaten with black beans, *chirmol* (homemade salsa), cheese, eggs or meat. An indoor market located near the village central plaza opens daily and provides much of the food for Tz'utujil residents. Although Santiago Atitlán has become a popular tourist destination in the Lake Atitlán region, many Tz'utujil Maya, particularly women, have retained much of their traditional lifestyle in terms of clothing, religion, and subsistence activities.

My work with the Tz'utujil Maya is associated with my participation in the Guatemala Health Initiative (GHI) of the University of Pennsylvania'. The GHI is an organization of students and faculty from Penn who work in partnership with Guatemalan communities, particularly the one in Santiago Atitlán (<http://www.med.upenn.edu/ghi/>). In 2005, the GHI started a community-based participatory research project on the culture and ecology of motherhood in this town. The long-term objective of this project, which was prompted by conversations with the Tz'utujil community, is to find culturally sensitive health interventions to lower the staggering maternal and infant mortality rates affecting the region. With the invaluable help of about 20 undergraduate and graduate students, medical students, and residents, we have been collecting quantitative and qualitative data on many dimensions of Atitecos (people from Santiago Atitlán) life and are currently working on them to develop an information base upon which we can work with the community and establish new specific objectives.

My experience with Atitecas has been invaluable for strengthening the importance of the concept of local biologies, their underpinnings and their outcomes in my research. Like their South American counterparts, these indigenous communities are also experiencing a dramatic process of change. Transitioning economies are also bringing changes in dietary patterns and lifestyles, families do not work their fields as much as they used to and do not consume as much fresh produce as they used to because of its market cost and because transportation to the local market has become prohibiting. Again, following the trend observed in poor communities in many Latin American countries, there are disturbingly high overweight and obesity rates. In a cross-sectional study we have conducted, we found that almost half of the adult women surveyed were classified as overweight and obese (Nagata et

al. 2009) Epidemiological surveillance is not in place in Santiago Atitlán, and we have not yet evaluated the impact that obesity prevalence has on the health of the adult population and on its concept of healthy body size. However, it is not unreasonable to predict that this population will follow the steps of other Guatemalan populations and other Latin American indigenous groups. Metabolic and cardiovascular diseases will soon be, if they are not already, prevalent.

A preliminary analysis of qualitative data collected over the summers of 2007 and 2008 highlighted two important interacting themes that seem to contribute heavily in shaping women's attitudes and beliefs towards reproductive health. One is the expression of *machismo* in the Atiteco culture and the other is religion and religious beliefs. Machismo, i.e. the cult of manliness, is by no means endemic to the Tz'utujil culture but it is prevalent all over Latin America (Meleis et al. 1996). Although the concept of machismo brings up negative stereotypical images of male dominance, aggression, bravery, authoritarianism, sexual promiscuity, and oppressive and controlling behaviors (the *macho Latino*), it is more appropriate to understand it as a representation of a masculine ideal of strength, dignity, respectability, honor, and a capacity for protecting and providing women and children (Torres et al. 2002). Among other gender-related dynamics, machismo influences the role that both men and women take in health care decision making; within this context, men are perceived to be responsible for the health of the family. A local doctor in Atitlán, for example, explained that if a family had a sick child and the father worked in Guatemala City or nearby towns (which is quite frequent), then the mother had to wait until her husband returned to take the child to the doctor. The same would happen if it is the woman who had a gynecological or obstetric problem. If the husband is not available, then the in-laws are responsible for taking care of the woman's or her child's health. Important decisions, such as whether to go to a hospital in the city or to undergo a medical procedure are always taken by the husband (but he often consults with his mother and other kin). Machismo (and the related lack of women empowerment) was cited by non-indigenous physicians as the most important barrier for family planning in general and the use of condoms in particular. Women who want to use artificial contraception must sometimes resort to clandestine injections and face severe consequences if she is discovered. This is an increasingly important problem because women are now becoming more educated about contraceptive options and the demand for them is starting to increase. Further research would be necessary to explore how women and men are negotiating this change in availability of information and resources in sexual and reproductive health and how that negotiation can be used as a possible space for public health intervention.

It must be noted, however, that monolithic representations of machismo, which emphasize the negative aspects of this cultural trait, fail to capture the variation in how men experience the traditional cultural demands of masculinity. For some Latino men, strict adherence to the machismo ideals, particularly in this age of rapid cultural change, may represent a stressful situation (Torres et al. 2002). Atiteco men are usually the first to be blamed if their wife and children family are perceived as being “unattended” and express the role of being the “head of the household” as sometimes a burden. The varying experiences of machismo are an aspect of the Atiteco culture that has not been sufficiently evaluated and could result essential for integrating the male vision in health care strategies.

The sphere of machismo also seems to be compounded with that of racism in important ways. In Atitlán, being “indígena” *per se* is seen as a barrier for proper health care and many times doctors in the biomedical system state that “*the problem with these people is their culture*”. The state's structures are still based on patriarchal and racist notions of authority and they appear to offer Tz'utujil women little space to contest male, Ladino, and elite power. This echoes the situation of millions of Amerindian women who are experiencing what constitutes, in the words of an Otomi woman in Mexico (<http://audio.urcm.net/Mujer-indigena-y-rural-la-triple>) a “triple discrimination: being poor, being a woman, and being indigenous”.

The realm of religion is certainly not separate from that of machismo either. Usually, they reinforce each other in defining gender roles and decision-making power. Machismo ideals are supported by peoples' interpretations of the Bible, and thus, the churches. Biblical education, as expressed in Sunday sermons and in other religious celebrations, states that the man is the head of the house and has the right to exert his will on his wife and family. Until very recently, a very conservative Catholicism (with some important syncretic Mayan elements) was the “official” religion. As it has been the case all over Latin America, Evangelical churches have massively expanded in the region and they are now as prevalent as the Catholic Church (Prandi 2008; Valeggia et al. 2010). A discussion about the reasons for the success of these Christian denominations goes beyond the scope of this paper, but it is worth noting the pervasive influence they are having on the everyday life in Atitlán. Activities during the weekend, and some weekdays, revolve around meetings at the many churches spread in the town and around the lake. Although each congregation has its “personality” and its followers, the largest divide is between the Catholic Church and the rest of the Christian churches, of which the Evangelical cults constitute the majority. It is clear that Evangelical churches tend to serve the middle- and upper-classes, while the Catholic churches serve the people of lower socioeconomic status. Evangelical churches seem to have a more tolerant stance towards sexual and reproductive issues than the Catholic Church. Pastors and evangelical community leaders promote smaller family sizes and have discussed family planning with their congregations. On the other hand, Catholics consider that the use of contraception is a capital sin and view children as God sent blessings.

In sum, machismo, racism, religion, and socioeconomic status all contribute to shape the way Tz'utujil Maya women experience life in Atitlán. This is hardly a groundbreaking statement: the same can be said of most populations, indigenous and non-indigenous, in Latin America. However, the way Atiteca women embody the interactive forces already described is predicted to be unique, local, individual.

And back to global biologies

The previous examples illustrate how the embodiment of co-production of local biologies and culture is contingent (Lock and Kaufert 2001). However, humans, because we are all products of evolutionary processes, share many embodied experiences, i.e., there are universal human biology responses that can be identified and integrated into research models and applied science. For example, Ellison and colleagues have repeatedly shown that the nutritional status of a woman or, more technically, her “metabolic energy status” is a major

determinant of the return to postpartum fecundity (Ellison 2001; Valeggia and Ellison 2004). Development programs that either provide dietary supplements to women or reduce their physical activity levels have an impact on their metabolic budget and, many times unwittingly, also on their fecundity. In a Xculoc Maya community of the Yucatán Península, for instance, a development program installed a water pump and a maize mill with the aim of lessening the work of women and, thus, improving their nutritional status. The unexpected result of this improvement in the quality of life of women was a reduction in the age at first birth and an increase in fertility measures (Kramer and McMillan 1999). The surplus of energy provided by the reduction in physical activity levels was, in the absence of contraception and/or family planning intentions, channeled to the production of more children. This mechanism has been interpreted as an adaptive response of female reproductive biology: from an evolutionary point of view, it makes sense to reproduce when the environment is energetically supportive. Being part of our mammalian heritage, the link between nutrition and natural fertility can be considered *global*. However, the biological capability of a woman to withstand another *energetically* expensive pregnancy need not mean that she can afford it *socially* or *economically*. And it is precisely here where the concept of local biologies reveals once more its potential as a powerful tool for understanding human nature and discourses about the body, health, and illness.

Conclusion

The differences between Atitecas and Toba women are striking in many respects: Toba women come from a hunter-gatherer past, have relative good access to biomedical care, raise relatively well-nourished children, and enjoy social and political power in their quite egalitarian communities. Atitecas come from a much harder subsistence system that required long hours of strenuous activity in the fields, have many barriers for accessing biomedical care, and experience gender inequality. We can find other examples of singular experiences in other indigenous populations. Despite these differences, indigenous women in Latin America certainly share common elements with regard to the state of women's health and its determinants. Most Latin American indigenous populations are, to varying degrees, experiencing a process of westernization and globalization. Westernized diets may be cheaper to obtain, but they are rich in calories and poor in micronutrients, which leads to serious nutritional disorders and cardiovascular disease. Westernized customs regarding child feeding practices often place formula above breast milk in quality of nutrients and convenience. This distorted image that women receive through the media (and from some doctors) may cause an increase in poorly managed bottle feeding with the subsequent impact infants' nutritional and immunological status (Dewey 2009). An increasingly globalized economy obliterates the value of small-scale economies and severely damages the very fabric of these population's traditional ways of obtaining and exchanging goods. Why buy an expensive handmade woolen mat made by a Toba woman, when you could purchase a "Made in China" one, for a tenth of the price? Poverty, discrimination, marginalization and endurance are defining characteristics of their everyday life.

Global health initiatives and programs represent excellent opportunities for addressing these blanket issues. However, as is the case with many international development programs, global health initiatives are at risk of being short-sighted, ethnocentric and paradigm-centric.

It would be wise and highly beneficial if our global health programs could break disciplinary boundaries and invite actors with different perspectives to a dialog that does not emphasize biology over culture (or the other way around) or academic over community expertise. In that context, anthropological approaches are particularly well-suited to capture the complexity of health/disease dynamics in indigenous populations. As Campbell states, “anthropology is involved in seeing the entire situation in a given community.” (Campbell 2011). Furthermore, anthropologically inspired community-based participatory research (CBPR) conducted by a multidisciplinary (biocultural) team is excellently suited to this purpose and should be encouraged as a model for addressing health related issues. Community-based participatory research is a “collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community, has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities.” (Community Health Scholars Program 2007). A change in mind frame for CBPR is not easy to achieve, its logistics are daunting (to say the least), and funding agencies tend to frown upon community-based initiatives. But the prospects of a sustainable positive change in women's health in Latin America are worth the effort.

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