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Protecting our Khmer daughters: Ghosts of the past, uncertain futures, and the HPV vaccine

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Abstract

Objectives—The FDA approved the first HPV vaccine in 2006. Research into parental decision-making and concerns about HPV vaccination highlight questions about parenting and parents' role in the crafting of their daughters' future sexuality. In contrast to much of this literature, we explore narratives from interviews with Cambodian mothers of HPV vaccine age-eligible daughters who experienced genocide and came to the United States as refugees.

Design—We conducted in-depth, in-person interviews with 25 Cambodian mothers of HPV vaccine-age eligible daughters. Interviews were conducted in Khmer and translated into English for analysis. We followed standard qualitative analysis techniques including iterative data review, multiple coders, and 'member checking'. Five members of the research team reviewed all transcripts and two members independently coded each transcript for concepts and themes.

Results—Interview narratives highlight the presence of the past alongside desires for protection from uncertain futures. We turn to Quesada and colleagues' (2011) concept *structural vulnerability* to outline the constraints posed by these women's positionalities as genocide survivors when faced with making decisions in a area with which they have little direct knowledge or background: cervical cancer prevention.

Conclusion—Our study sheds light on the prioritization of various protective health practices, including but not exclusive to HPV vaccination, for Khmer mothers, as well as the rationalities informing decision-making regarding their daughters' health.

Keywords

uncertainty; cervical cancer; HPV; Cambodian immigrants

Chantou's voice sounded distant as she recounted her experiences growing up in *Srok Khmer* (Cambodia) in her small Seattle apartment. Her mother had passed away while giving birth to her younger brother, followed by her grandmother's death seven days later leaving Chantou with her father and siblings. She was nine years old when Pol Pot's regime

dispersed her family. ‘They all disappeared,’ she said, ‘except me.’ She looked but was unable to find them; they had all been killed. Similarly, Lena recounted feelings of loneliness and longing while her mother travelled to find food for her family. Lena stayed with relatives who treated her poorly, beating her and forcing her to work while her mother was away. Later she lived on her own, trading rice she scavenged in the fields and fruit from trees. When asked how her mother cared for her during that time Lena said, ‘it’s really hard to say because after Pol Pot, she couldn’t do much. During that time all we needed was to have enough food to eat. There was no time to think about keeping good health.’ In contrast, these are the very things Lena thinks of and ensures that her own daughter knows about. Her voice softened as she spoke of holding and cuddling her daughter continuously since her birth, making sure she has had the right foods to eat, clothes to keep her warm and, since she is growing older, talking with her about how her body is changing. As she said, ‘since I lacked everything before, I try my best to provide her with everything so that she is better off than I was.’

Chantou and Lenaⁱ are just two of the twenty-five mothers we interviewed about experiences caring for their daughters and being cared for by their own mothers. Part of a mixed method study of human papillomavirus (HPV) vaccine understanding and decision-making, these interviews explored how mothers managed their daughter’s health and care, and how their decisions and concerns surrounding their daughters’ development and growth linked with their own experiences growing up. As such, the interviews explored mother daughter relationships across three generations, from the perspective of those in the middle (e.g. at the same time both mothers and daughters). In contrast to much of the literature on parental decision-making regarding childhood vaccination (Brewer and Fazekas 2007; Fazekas, Brewer, and Smith 2008; Reiter et al. 2009; Dempsey et al. 2006; Fernandez et al. 2009), the narratives we explore in this paper highlight the presence of the past alongside desires for protection from uncertain futures. As women reflected upon their own experiences growing up in war torn *Srok Khmer*, and compared these with their daughters’ experiences growing up in the United States, their narratives outlined the ways in which their own exposure to violence informed their desires to protect their daughters from any current or future disruption. Close analysis of the relationship between these memories and imagined futures suggests a prioritization of actions parents, specifically mothers, can take in the present to prevent problems for their daughters in the future.

Women we interviewed constitute a small part of the Cambodian American population, virtually all of who came to the United States as refugees or immigrants over the last three decades (Niedzwiecki and Tuong 2004). These refugees make up 1.8% of the US Asian population, the majority of whom have resettled in California, Washington, Texas, Pennsylvania, and Massachusetts (Kem and Chu 2007). Most Cambodians traveled to the United States from Thai refugee camps where they spent from one to ten years and where they experienced hunger and hardship following the Khmer Rouge genocide (1975–1979) (Kiernan 2004; Becker 2002). Twenty percent of the population (1.5 million out of 8 million) was killed during the Khmer Rouge regime. Those who survived, like Chantou,

ⁱAll names have been changed to protect the anonymity of participants. P1, P2, etc. refers to ‘Participant 1,’ ‘Participant 2,’ etc.

witnessed the deaths of their family members and often experienced starvation, exhaustion, relocation, forced labor, and ‘re-education’ (Kiernan 1996; Chandler 1991). This history of suffering impacted reception of Cambodians into the United States and their often troubling integration into the US medical system (Ong 1995; Mueke 1995; Pickwell 1999), including participation in cervical cancer screening programs (Taylor et al. 2002; Kem and Chu 2007).

HPV, Cervical cancer, and Khmer Women

Southeast Asian women have higher cervical cancer incidence rates than any other ethnic group, and the incidence among Cambodians is twice the incidence among non-Hispanic whites (15.0 versus 7.7 per 100,000) (Miller et al. 2008; Kem and Chu 2007; Saraiya et al. 2007). Persistent HPV infection, primarily HPV types 16 and 18, has been shown to cause almost all cervical cancers (Schiffman and Castle 2003). The US Food and Drug Administration has approved two HPV vaccines: Gardasil (approved in 2006) protects against cervical cancer caused by HPV types 16 and 18, as well as genital warts caused by HPV types 6 and 11; and Cervarix (approved in 2009) targets HPV types 16 and 18. The Advisory Committee on Immunization Practices currently recommends routine HPV vaccination for girls ages 11–12, catch-up vaccination for girls and women ages 13–26 who have not yet been vaccinated, and vaccine use at a healthcare provider’s discretion for girls ages 9–10 (Centers for Disease Control and Prevention 2010).

Researchers argue that HPV vaccines, if adopted widely, could prevent up to 70% of cervical cancer in the United States (Smith et al. 2007; Villa et al. 2006). Critics question the recent focus on cervical cancer in the United States, where most HPV infections are resolved early, caught by routine Pap testing, and never lead to cancer (Wailoo et al. 2010). High rates of cervical cancer do occur in developing countries where Pap testing and routine cancer screening are not accessible (Dailard 2006; Wailoo et al. 2010).ⁱⁱ Importantly, availability of the vaccine in settings where cervical cancer screening infrastructure is underdeveloped is undercut by the high cost of the vaccine (US\$350–390 for three doses). This cost makes universal vaccination virtually inaccessible in the low-resourced countries that are most in need (Ramogola-Masire 2010). Reflecting this seemingly illogical distribution of resources – emphasis on and availability of the HPV vaccine in the United States and Europe where cervical cancer rates are relatively low versus lack of access in countries where cervical cancer rates are on the rise – Wailoo and colleagues argue, ‘the vaccine is most needed in the global South, and yet the debate has been most intense in the global North’ (Wailoo et al. 2010).

Merck developed the first HPV vaccine, Gardasil, and marketed it directly to consumers shortly thereafter in the now infamous “One Less” campaign which targeted consumers of a specific age, gender, class, and cervical cancer risk profile (Braun and Phoun 2010; Mamo, Nelson, and Clark 2010). The vaccine, and its marketing, targets young women because Merck’s clinical trials found stronger immunological response in girls aged 10–15 than in women aged 16–23 (Dailard 2006) and the vaccine was found to be more efficacious among

ⁱⁱThe CDC estimates that about 80% of US women have been exposed to HPV. It often goes away on its own. Each year, however, hundreds of thousands of women develop persistent infections, more than 10,000 contract cervical cancer, and approximately 3,700 die from cervical cancer (Casper and Carpenter 2008)

women who had not yet had vaginal sex (Kaiser Family Foundation 2007). One study found that Gardasil was 99% effective in preventing cervical cancer and pre-cancerous lesions in women who had never had vaginal sex but only 44% effective in women who had previously had sex and therefore had potentially been exposed to HPV (Ault 2007).ⁱⁱⁱ

Whether or not parents choose to have their daughters vaccinated has been a hotly debated topic in both popular media and public health research, and one that has led to several statewide efforts to include the HPV vaccine in the vaccination schedule required for school admittance. This push for mandatory HPV vaccination has been uneven, however, ranging from Governor Rick Perry's 2007 Executive Order (later overturned) making the vaccine mandatory for Texas girls entering the sixth grade to the Arizona legislature approval of a bill prohibiting the state's health department from requiring the vaccine in May of the same year (Casper and Carpenter 2008). In 2008 Homeland Security added Gardasil to the required vaccine protocol for female immigrants ages 11–26 to the United States. The National Coalition for Immigrant Women's Rights (NCIWR) issued an online position statement soon after strongly opposing the mandate and detailing how the requirement created an additional financial barrier to citizenship, and unfairly forced immigrant women to subject their bodies to a new vaccine with unknown long-term side effects (Lee Pizzardi 2010). Lifted by the US CDC in 2009, the mandatory vaccination of female immigrants marked a stark departure from the previous vaccination protocol which focused only on infectious diseases likely to spread through the population (Canales 2009). In 2009, the National Immunization Survey–Teen reported that the proportions of females ages 13–17 that had received at least one dose of the HPV vaccine series were: 44% among all ethnic groups in the United States, 42% among all Asian Americans, and 60% among Washington State residents (Centers for Disease Control and Prevention 2011). A previous population-based survey conducted in the Seattle-Tacoma Metropolitan Area by our team suggests that 26% of Cambodian girls and adolescents in the 9–18 age group had initiated the HPV vaccine series (Taylor et al. 2012).

Structural Vulnerability

The combination of immigration status, high cervical cancer rates, and genocide survival suggest that Cambodian immigrants are a “vulnerable population.” Importantly, the concept of vulnerability is used in biomedicine and in social science in subtly different, yet often unacknowledged, ways. In biomedicine, vulnerability indexes individual frailty by labeling as “vulnerable” people who are poor, elderly, have existing health problems, do not have health insurance, are racial and ethnic minorities, or live in rural areas. On the other hand, anthropologists and other social scientists most often examine vulnerability through the theoretical lenses of structural violence and risk, locating knowledge, practices, and people in the social contexts where they experience health (Burke et al. 2009). Quesada and colleagues argue for the analytic utility of the concept of structural vulnerability to understanding the ways in which experiences of discrimination, exclusion, and inequality become embodied and result in disparities in health outcomes (Quesada, Hart, and Bourgois

ⁱⁱⁱGardasil and Cervarix are noninfectious, recombinant vaccines; they stimulate an immune response but cannot cause HPV because they are made with proteins that contain only part of the virus (Wheeler 2007).

2011). Defined as ‘a positionality that imposes physical-emotional suffering on specific population groups and individuals in patterned ways,’ structural vulnerability results from ‘class-based economic exploitation and cultural, gender/sexual, and racialized discrimination’ (Quesada, Hart, and Bourgois 2011). Conceptualized to identify and name the structures that perpetuate and reproduce health disparities among undocumented Latino immigrants, the concept of structural vulnerability is also useful for thinking through the ways in which experiences of violence and exclusion, and memories of these experiences, inform and impact health actions and decisions individuals make on behalf of themselves and for those under their care. Specifically, we find the concept of structural vulnerability useful for understanding the ways in which the women we interviewed referenced their own experiences as children in Cambodia when discussing their hopes and concerns for their daughters in the United States, and how they understood and made decisions about HPV vaccination on their daughters’ behalf.

This approach differs from much research on parental decision-making about HPV vaccination which tends to highlight parents’ role in decision-making for their children and in the crafting of the outcomes of their future sexual encounters and/or behaviors (Casper and Carpenter 2008; Brewer and Fazekas 2007; Reiter et al. 2009; Dempsey et al. 2006; Fernandez et al. 2010). Much of this research has focused on the controversial link between HPV and sex – it is a sexually transmitted virus.^{iv} By 2007, the National Poll on Children’s Health found that only 44% of US parents were in favor of mandatory HPV vaccination, compared with 68% in favor of the combined tetanus-diphtheria-pertussis vaccine. The authors claimed that parents’ attitudes toward HPV vaccine mandates were largely due to concerns about vaccine safety, not promiscuity (Casper and Carpenter 2008). Decisions about whether or not to vaccinate one’s daughter with the HPV vaccine, some argue, require that parents imagine possible futures for their daughters fraught with risk for genital warts, STDs, and cervical cancer. Vaccination offers a concrete behavior in the here and now that enables these parents to transform their daughters’ futures. This anticipatory action, as Adams and colleagues have argued (Adams, Murphy, and Clarke 2009), creates a different engagement with the present and suggests preventive actions to ensure protection against risk.

Much of the research that has highlighted these forms of engagements and future-making has been limited to survey methodology, allowing parents to choose between pre-designed answers about their concerns and intentions regarding HPV vaccination (Brewer and Fazekas 2007; Fazekas, Brewer, and Smith 2008; Reiter et al. 2009; Constantine and Jerman 2007; Dempsey et al. 2006; Olshen et al. 2005). Our research, however, asked women to reflect on their concerns about and priorities for their daughters as they grow and develop. In the course of these conversational interviews, we explored women’s understandings of the HPV vaccine and experiences with decision-making around vaccination for their daughters within the broader context of their lives. In our analysis of these narratives, we asked: what place does HPV have in Cambodian mothers’ understandings of and engagements with their daughters’ future health? And how do memories from the past inform these mother’s

^{iv}A major etiological shift occurred in the 1990s when cervical cancer became widely understood to be a sexually transmitted disease (STD) caused by HPV infection (Koushik and Franco 2009).

decision-making and understanding of actions, such as vaccination, they may take in the present?

Methods

We invited twenty-five Khmer mothers of at least one girl aged 9–17 living in the Seattle-Tacoma Metropolitan Area to participate in a one-on-one conversational interview as part of a mixed method study designed to inform the development of culturally appropriate HPV vaccination interventions. Mothers with daughters who had (N= 9) and had not (N=16) received the HPV vaccine were included. Ms. Ros conducted all interviews, which lasted approximately one hour. Interviews were audio recorded with the explicit consent of participants. All research activity was approved by the University Institutional Review Board for the Protection of Human Subjects. Recordings were translated from Khmer into English for coding and analysis.

Interviews were conducted in community centers and participants' homes. Participants were identified through community coalition members' and team members' social networks and through a community-based organization serving Cambodians. Participants were offered a small stipend (\$20) in appreciation for their time.

We focused specifically on Cambodian mothers, rather than both parents, due to their primary responsibility for their children's health. We knew from our previous work that understanding and recognition of the HPV vaccine would be relatively low (Taylor et al. 2012). A previous population based survey we conducted in the Seattle Tacoma Metropolitan Area showed that only about one-third (36%) of Cambodian mothers interviewed had heard of HPV vaccination (before it was described to them) (Taylor et al. 2012). Since the goal of the overall mixed methods study was to provide data necessary to inform culturally appropriate intervention development, we focused our interviews on mother-daughter relationships, understandings of health and prevention, experiences with the healthcare system, and finally concerns about and experiences with vaccination and the HPV vaccine in particular. Table 1 details demographic information on participants, all of who were born in Cambodia.

We followed standard qualitative analysis techniques in this study, including iterative data review, multiple coders, and 'member checking' (Bernard 2009). Importantly, our data was limited to text generated from the 25 interviews; we did not incorporate an ethnographic or observational component into this study. Five research team members reviewed all transcripts and two members independently coded each transcript for concepts and themes. Other research team members developed 'summary documents' which highlighted new concepts, recurrent concepts, and patterns or themes noted across transcripts. These summary documents were shared among the team and discussed in meetings following each set of two to three interviews, and prior to the next set being conducted. This scaffolding approach enabled the incorporation of findings into questions for subsequent interviews. Following this inductive approach meant that interviews changed over time to follow important emerging themes and did not always cover the same topics.

Findings

Overall, the narratives included in this study address a desire for protection. On the one hand, a longing for protection lost - that of parents, the state, and the community in Cambodia during the Khmer Rouge. On the other hand, a vehement desire to protect their own daughters despite confusion with how differently these daughters behave when compared with their own relationships with their mothers. As they balanced the importance of remembering and maintaining their identities with the needs of daughters raised in a completely different environment, mothers struggled. As one participant noted, 'I would tell her [my daughter] about my growing up, my war story, how I was growing up and she was very intrigued by that. But thank god she doesn't have to go through it' (P22). A mother of two daughters reflected on the seeming futility of these conversations, stating, 'no matter what, we have to remember where we come from. And I try to tell my daughter that and she's like "Mom, I'm from Kirkland." I have to remember I created her totally different from where I came from' (P16).

In the following we discuss the vulnerabilities exposed by reflections on the past and their influence in the present, the ways in which women express their desires to protect their daughters, the futures they imagine for them, and ultimately, how these uncertainties relate to HPV vaccination decision-making.

Vulnerabilities

Like Chantou and Lena, other women we interviewed experienced vulnerability at multiple points in their lives; first in *Srok Khmer* (Cambodia), next in refugee camps, and later as young immigrants in the United States. Many women we interviewed were separated from their parents during the war, and were mistreated by relatives. Several chose to live on their own in order to be able to attend school. One woman reported living alone in a deserted house between the ages of nine and fourteen, learning to cook porridge and eggs and eating dried fish to survive. Another was separated from her mother when she was thirteen, and did not see her again until she was twenty. If parents were still present, relationships often centered around survival. For example, one participant told us, 'After Pol Pot, the important thing for my mother was not thinking about taking good care of health so that you wouldn't get sick. Instead the most important thing was to find enough food to feed the kids' (P12). Another clarified, 'my generation was during Pol Pot's regime and no one was educated. Unfortunately during my teenage years, my life was in the time of war, so I was not educated much about health' (P21). It was a time of deprivation and scarcity: 'As to food, we did not have enough. We lacked food. We lacked clothing. We lacked everything' (P23). This crisis orientation was reiterated by another participant; 'Let's say we did not have to worry about food like were they good or bad for your body. If it was tasty, we just ate. We never thought of...' (P24). Care, at this time, was equated with food:

The ways my mother cared for me are different [from how I care for my daughter] because I was the kid who grew up in Srok Khmer and my mother tried to work or trade to feed us so that we could grow. *For her to care for our health was by feeding us*' (P25).

Once in Thai refugee camps, participants recounted vague memories of a liminal time, ‘just running around’ without any ‘particular thing to remember...may be just little things’ (P7). This contrasted with clearer memories of war, ‘like I used to run from place to place. When we heard the sound of the guns popping and the airplanes we were running from home to other places’ (P7). Several women discussed receiving vaccinations while in the refugee camps, while others recounted continual movement:

My mom said that I was five months [old] and then we got evacuated from our house and all of a sudden we were living in the jungle. And then the war came and we went to Koa I Dang and then Chonbury, Transit [camps in Thailand], the Philippines, and then here, the United States. There you go. It is like a whole new world (P16).

This new world brought its own challenges and vulnerabilities. As one mother told us, ‘when I was young and I came here, my mom didn’t speak English. And she didn’t drive. And that made it all hard together. And she didn’t know the country all that well’ (P22). Another compared her orientation toward her own children to that of her parents:

My parents are so different because we were all foreign when we came here and to them it was survival. That’s totally different, right? Because they just came from the war. To them, when they came here, just to live was fine. What I found out is that just to live, just to survive isn’t enough. You’ve got to be involved like family, spend time with your kids, show up for their performances, show up for their school conferences (P16).

Protection

The need to be involved with family and to ‘show up’ identified by this participant was further addressed by many mothers as a form of protection for their daughters. Protection was discussed as physical, social, and psychological. For many, protection included not only proximal actions such as ensuring good healthy food and a clean allergy-friendly home, but also vaccination against future diseases like cervical cancer. As one mother noted ‘it is good to have the vaccination for protection. It would help us in the future. It is good to have a protection better than not’ (P1).

Tola, who had only come to the United States five months before talking with us, worried about how to protect her daughter from her sadness at missing her friends and family in Cambodia. She also worried about bullying at school. Vanna seemed to feel somewhat powerless in her ability to protect her daughter from an unsure future. Her fears and worries ranged from concern that her daughter would get involved with drugs, to experiencing loneliness and depression. This consistent worry and desire to protect was present even for women who felt their daughters were healthy and not in need of any special care, including vaccination. As one mother noted, ‘I don’t know what my concerns are. But that doesn’t mean I don’t worry. I always worry’ (P4). Mara, despite not having her daughter vaccinated, noted the importance of vaccines for lessening mothers’ worries. In answer to a question about how Cambodian mothers feel about HPV vaccination, she responded, ‘Good, the mother would be pleased. She wouldn’t have to worry any more. Without the vaccines she might be worried because we can’t know. But with the vaccines, it helps protect’ (P19).

Future

Mina, mother of a 17 year old, worried that her daughter would not be able to take care of herself in the future, and would be ill equipped to care for the family she would eventually have. She used to be so easy to talk to, Mina lamented, until she started middle school and her grades declined. Despite the time spent making sure her daughter eats well and at the right times of day, Mina feared she was not passing on the self-care lessons she learned from her own mother. Kolab's worries about her daughter's future were grounded in her daughter's stress and worry over the family's welfare, which Kolab felt was causing her daughter's recurrent stomach pain. Kolab's husband had spent two years in Cambodia, leaving her to care for the children. She had to learn to drive, get a license, and to find a job for the first time in her life. Difficult in normal circumstances, Kolab's experience was compounded by her limited English and inability to read. She worried that her own daughter might end up in similar circumstances in the future. The only thing she could do in the present, she felt, was spend as much time with her and be as available to her as possible.

Most mothers who had discussed the HPV vaccine with their doctors were told that their daughters should be vaccinated in order to 'protect them in the future.' This vague information unsurprisingly resulted in confusion about what their daughters would be protected from, and when. For example, one mother told us, 'maybe when she is reaching her fifties or more, this will help her for protection or...I'm not sure' (P1). Another stated, 'I know the vaccine is available to prevent. If I love my daughter and do not want her to have any diseases and if there is a prevention, why not! I must have it for my daughter!' (P4). Another mother noted,

And just recently, about a few months ago I took her to get an HPV vaccine, because after we met the doctor the doctor recommended that she should have this HPV vaccine for prevention in the future. Maybe it is not to protect your whole life, but it can help some (P21).

Others expressed confusion due to unclear communication and English-only information; 'I don't really know for sure. I don't really know what it actually is. So I'm assuming because something has to do with the cervix' (P7). Another mother stated 'from what we have been told, it was just the way to protect a girl from having ovarian cancer in the future and that's all I gather from it. I don't know much about it' (P15). A mother of a 13 year old said, 'I think I saw that but it was written in English so that is why I don't really know. It might explain what the vaccine is for' (P23). Misunderstandings about the function of the vaccine (e.g. addressing ovarian versus cervical cancer) and lack of linguistically and literacy appropriate information (e.g. English-only materials) undermined mothers' confidence in their ability to explain why they decided or not to have their daughters vaccinated, as well as what their reservations were.

For many mothers, concerns about the future were linked to how different their daughters were from themselves. 'The kids in this country, their characters are like the culture of this nation,' a mother stated. 'But my character or our characters are from the culture of our country, the country where we were born' (P8). Another noted that she did not blame anyone for the differences, instead she saw them as inevitable: 'the way we lived in our

country was different and in this country, the culture is different and our kid's mind is completely American' (P21). Importantly, being completely 'American' exposed one to risks;

I live in American society and I believe there are crazy kids in the United States doing crazy things like that [having sex] and I know my kids wouldn't do it but I just want to do it [have them vaccinated], to protect for the future (P14).

The feelings mothers expressed about the vaccine, concerns regarding their daughters' future and current health, and the closeness of relationship mothers had with their daughters did not differ consistently based on whether or not they had had their daughters vaccinated. For example, within the group of mothers whose daughters had not been vaccinated (N=16), feelings expressed about the vaccine ranged from emphasis on its importance (e.g. 'I say that every mother should have her daughter get the vaccine. If you love your daughter you should protect her.' (P2)) to ambivalence (e.g. 'I don't know, because everybody has their own opinions and their own minds. You know some people might agree with it and some people are kind of like me. If you don't have a problem, why would you want to start anything?' (P7)). The quality or closeness of the mother-daughter relationship also varied inconsistently across those who did and did not have their daughters vaccinated. In both groups mothers discussed how much closer they were with their daughters than they had been with their own mothers. Estrangement from their daughters due to their difference in upbringing also emerged in both groups (e.g. 'Daughters should be like mothers, but daughter here, not very much' (P17)).

One of the mothers we interviewed stood out from the others in her reasoning around HPV vaccination. Unlike the others, she did not assume the authority of the physician or base her decision-making on concerns about the uncertainty of the future. Instead, she based her decision on the uncertainty of the vaccine. Like many critics of the fast adoption of the HPV vaccine and direct to consumer marketing (Mamo, Nelson, and Clark 2010; Braun and Phoun 2010), Chendra researched the vaccine's history prior to making her decision. 'I remember why I decided I didn't want to do it,' she told us. 'I googled to see. I realized it was still brand new at the time when she [my daughter] had the doctor's appointment' (P18). Chendra was not necessarily opposed to vaccinating her daughter at some point in the future, but wanted to be sure the vaccine had been around long enough to assure safety first. She wanted to protect her daughter from vaccine uncertainty (Kaufman 2010).

Discussion

Women in our study imagined many possible futures for their daughters, and both their past and present experiences informed these possibilities. Perhaps based in their own experiences of hunger, deprivation, and loss, mothers in our study discussed proximal, practical actions such as preparing healthy Cambodian food, keeping a clean home environment, being aware of their daughter's social networks, and ensuring that their daughters get enough exercise and sleep, things they were unable to obtain or experience in their own childhoods, in a manner on par with, and more important than, biomedical interventions such as HPV vaccination. While the futures they imagined for their daughters were fraught with worry in

a manner not so different from many other parents, their past experiences also informed a present in which they struggled with daughters experiencing an Americanized childhood.

Much of the research on parental decision-making processes around HPV vaccination assumes a rational and value-driven cost benefit analysis (Fernandez et al. 2010; Reiter et al. 2009). The processes described by women in our study were informed by the positionalities of these mothers as immigrants and genocide survivors. The concept of structural vulnerability supports critique of the assumed agency underlying the rational actor model of vaccine decision-making as it demands ‘analysis of the forces that constrain decision-making, frame choices, and limit life options. It identifies “spaces that configure a specific set of conditions in which people live, and set constraints on how these conditions are perceived, how goals are prioritized, what sorts of actions and responses might seem appropriate, and which ones are possible”’ (Leatherman 2005: 53, Cited in (Quesada, Hart, and Bourgois 2011). Contextual factors influencing understandings of the possible include the very different understandings and expectations that Cambodian mothers brought to HPV discussions in the clinic, when they happened. Women interviewed reported that information shared was often in English only, or at a high literacy level which assumed an understanding of biology and sexuality that may not have been shared. For example, when discussing their daughters experiences of menstruation, the mothers we interviewed contrasted their own supportive roles (e.g. providing information about menstruation, checking in on how their daughters were feeling, bringing them to Ob/Gyn doctors to ensure all questions were answered) with their own experiences of complete ignorance about the process and having to seek out other young women to gather information. Thus, when confronted with the decision to vaccinate their daughters with the HPV vaccine, they were being asked to make decisions in an arena in which they had little direct knowledge or experience. Some women we interviewed accepted and trusted things they knew little about but that experts (doctors) did, so they allowed their daughters to be vaccinated. Others decided to wait because of the lack of much communal knowledge circulating about why the HPV vaccine is a good thing. Others prioritized social, psychological, and proximal physical health (e.g. lack of sickness, good nutrition, quality sleep) over a vaccine they were not sure about or which had not been adequately explained to them. As such, mothers considered many different factors when making decisions about their daughters’ health and care, their understanding of the scope of those factors was quite broad, and their decision-making was not linear nor were they all positively predisposed toward HPV vaccination. Quite the contrary, mothers were often unaware of the vaccine and its purpose unless brought up to them by providers in which case some acted on that advice while others did not. Attending to the contexts within which some decisions are possible and others just assumed – e.g. ‘if the doctor recommends it it must be the thing to do,’ or ‘if I love my daughter I must do it,’ or ‘it must be okay if it is required to enter the United States’ – elucidates different priorities and possibilities informing ‘vaccine choice’ among Khmer mothers.

Our study has a number of limitations. While we conducted an in-depth iterative analysis of our qualitative data, the data was limited to narratives generated in qualitative interviews. We did not include an ethnographic component. We do not have data on the provider’s perspective on the communications around HPV vaccination that the women reported. We also do not have individual data on the impact of cost on participant’s decision-making. The

majority of our participants were eligible for the Vaccine for Children's Program ("CDC - VFC Eligibility Criteria - Vaccines for Children Program" 2014). However, their awareness of and access to this program's benefits were not raised in the interviews.

Conclusion

The public health impact of the HPV vaccine will not be known until there is uptake in the general population and in groups affected by the conditions (cervical cancer, genital warts) targeted by the vaccine. Recent estimates indicate that 25% of girls in the target age range have received the full vaccine and that rates are lower among those at highest risk (Fernandez et al. 2010). A previous population based survey conducted by our team showed that only about one-third (36%) of Cambodian mothers living in Seattle/Tacoma had heard of HPV vaccination, and only about one-quarter (26%) indicated that any of their daughters had received HPV vaccination (Taylor et al. 2012). Public health researchers argue that parental decision-making and attitudes toward the vaccine will directly impact widespread uptake (Brewer and Fazekas 2007; Fazekas, Brewer, and Smith 2008; Reiter et al. 2009; Fernandez et al. 2009; Fernandez et al. 2010). Our study sheds some light on the prioritization of various protective health practices, including but not exclusive to HPV vaccination, for Khmer mothers, as well as the rationalities informing their decision-making regarding their daughters' health. These rationalities, informed by the past and experiences of an Americanized present, frame future possibilities and the types of choices that seem appropriate and possible.

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REFERENCES

- Adams V, Murphy M, Clarke AE. Anticipation: Technoscience, Life, Affect, Temporality. *Subjectivity*. 2009; 28(1):246–265.
- Aul KA. Effect of Prophylactic Human Papillomavirus L1 Virus-like-Particle Vaccine on Risk of Cervical Intraepithelial Neoplasia Grade 2, Grade 3, and Adenocarcinoma in Situ: A Combined Analysis of Four Randomised Clinical Trials. *Lancet*. 2007; 369(9576):1861–1568. [PubMed: 17544766]
- Braun, L.; Phoun, L. Three Shots at Prevention: The HPV Vaccine and the Politics of Medicine's Simple Solutions. The Johns Hopkins University Press; 2010. HPV Vaccination Campaigns: Masking Uncertainty, Erasing Complexity; p. 39-61.
- Brewer NT, Fazekas KI. Predictors of HPV Vaccine Acceptability: A Theory-Informed, Systematic Review. *Preventive Medicine*. 2007; 45(2–3):107–114. [PubMed: 17628649]
- Canales CV. HPV Vaccination Requirement for Female Immigrants: An Example of Discrimination. *Journal of Gender, Race & Justice*. 2009; 13:779.
- Casper MJ, Carpenter LM. Sex, Drugs, and Politics: The HPV Vaccine for Cervical Cancer. *Sociology of Health & Illness*. 2008; 30(6):886–899. [PubMed: 18761509]
- [Accessed April 8] CDC - VFC Eligibility Criteria - Vaccines for Children Program. 2014. <http://www.cdc.gov/vaccines/programs/vfc/providers/eligibility.html>.
- Centers for Disease Control and Prevention. FDA Licensure of Bivalent Human Papillomavirus Vaccine (HPV2, Cervarix) for Use in Females and Updated HPV Vaccination Recommendations

- from the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Reports*. 2010; 59
- Centers for Disease Control and Prevention. [Accessed June 6] Vaccination Coverage in the United States. 2011. www.cdc.gov/vaccines/stats.
- Constantine NA, Jerman P. Acceptance of Human Papillomavirus Vaccination among Californian Parents of Daughters: A Representative Statewide Analysis. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*. 2007; 40(2):108–115. [PubMed: 17259050]
- Dailard C. The Public Health Promise and Potential Pitfalls of the World's First Cervical Cancer Vaccine. *Guttmacher Policy Review*. 2006; 9(1):6–9.
- Dempsey AF, Zimet GD, Davis RL, Koutsky L. Factors That Are Associated with Parental Acceptance of Human Papillomavirus Vaccines: A Randomized Intervention Study of Written Information about HPV. *Pediatrics*. 2006; 117(5):1486–1493. [PubMed: 16651301]
- Fazekas KI, Brewer NT, Smith JS. HPV Vaccine Acceptability in a Rural Southern Area. *Journal of Women's Health (2002)*. 2008; 17(4):539–548.
- Fernandez ME, Allen JD, Mistry R, Kahn JA. Integrating Clinical, Community, and Policy Perspectives on HPV Vaccination. *Annual Review of Public Health*. 2010; 31(April):235–252.
- Fernandez ME, McCurdy SA, Arvey SR, Tyson SK, Morales-Campos D, Flores B, Useche B, Mitchell-Bennett L, Sanderson M. HPV Knowledge, Attitudes, and Cultural Beliefs among Hispanic Men and Women Living on the Texas–Mexico Border. *Ethnicity & Health*. 2009; 14(6): 607–624. [PubMed: 19953392]
- Kaiser Family Foundation. Fact Sheet: HPV Vaccine: Implementation and Financing Policy. 2007 www.kff.org.
- Kaufman S. Regarding the Rise in Autism: Vaccine Safety Doubt, Conditions of Inquiry, and the Shape of Freedom. *Ethos*. 2010; Vol. 38(Issue 1):8–32.
- Kem R, Chu KC. Cambodian Cancer Incidence Rates in California and Washington, 1998–2002. *Cancer*. 2007; 110(6):1370–1375. [PubMed: 17654663]
- Koushik, A.; Franco, ELF. Epidemiology and the Role of Human Papillomaviruses. In: Joseph, A.; Jordan, MD., editors. *The Cervix*. Blackwell Publishing Ltd; 2009. p. 257-276. FRCOG FRCPI(Hon) and Albert Singer, DPhil, FRCOGessor of Gynaecological Research Consultant Gynaecologist
- Lee Pizzardi, O. Thesis. Oberlin College Honors Theses; 2010. Power to Choose?: An Analysis of the Implications of Gardasil for Immigrant Women. http://etd.ohiolink.edu/view.cgi?acc_num=oberlin1307129881.
- Mamo, L.; Nelson, A.; Clark, A. *Three Shots at Prevention: The HPV Vaccine and the Politics of Medicine's Simple Solutions*. The Johns Hopkins University Press; 2010. Producing and Protecting Risky Girlhoods; p. 121-146.
- Miller BA, Chu KC, Hankey BF, Ries LAG. Cancer Incidence and Mortality Patterns among Specific Asian and Pacific Islander Populations in the U.S. *Cancer Causes & Control: CCC*. 2008; 19(3): 227–256. [PubMed: 18066673]
- Olshen E, Woods ER, Austin SB, Luskin M, Bauchner H. Parental Acceptance of the Human Papillomavirus Vaccine. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*. 2005; 37(3):248–251. [PubMed: 16109349]
- Quesada J, Kain Hart L, Bourgois P. Structural Vulnerability and Health: Latino Migrant Laborers in the United States. *Medical Anthropology*. 2011; 30(4):339–362. [PubMed: 21777121]
- Ramogola-Masire, D. *Three Shots at Prevention: The HPV Vaccine and the Politics of Medicine's Simple Solutions*. The Johns Hopkins University Press; 2010. Cervical Cancer, HIV, and the HPV Vaccine in Botswana; p. 91-102.
- Reiter PL, Brewer NT, Gottlieb SL, McRee A-L, Smith JS. Parents' Health Beliefs and HPV Vaccination of Their Adolescent Daughters. *Social Science & Medicine*. 2009; 69(3):475–480. [PubMed: 19540642]
- Saraiya M, Ahmed F, Krishnan S, Richards TB, Unger ER, Lawson HW. Cervical Cancer Incidence in a Prevalence Era in the United States, 1998–2002. *Obstetrics and Gynecology*. 2007; 109(2 Pt 1): 360–370. [PubMed: 17267837]

- Schiffman M, Castle PE. Human Papillomavirus: Epidemiology and Public Health. *Archives of Pathology & Laboratory Medicine*. 2003; 127(8):930–934. [PubMed: 12873163]
- Smith JS, Lindsay L, Hoots B, Keys J, Franceschi S, Winer R, Clifford GM. Human Papillomavirus Type Distribution in Invasive Cervical Cancer and High-Grade Cervical Lesions: A Meta-Analysis Update. *International Journal of Cancer. Journal International Du Cancer*. 2007; 121(3):621–632. [PubMed: 17405118]
- Taylor VM, Carey Jackson J, Yasui Y, Kuniyuki A, Acorda E, Marchand A, Schwartz SM, Tu SP, Thompson B. Evaluation of an Outreach Intervention to Promote Cervical Cancer Screening among Cambodian American Women. *Cancer Detection and Prevention*. 2002; 26(4):320–327. [PubMed: 12430637]
- Taylor VM, Burke NJ, Do H, Liu Q, Yasui Y, Bastani R. HPV Vaccination Uptake Among Cambodian Mothers. *Journal of Cancer Education*. 2012; 27(1):145–148. [PubMed: 21861237]
- Villa LL, Costa RLR, Petta CA, Andrade RP, Paavonen J, Iversen O-E, Olsson S-E, et al. High Sustained Efficacy of a Prophylactic Quadrivalent Human Papillomavirus Types 6/11/16/18 L1 Virus-like Particle Vaccine through 5 Years of Follow-Up. *British Journal of Cancer*. 2006; 95(11):1459–1466. [PubMed: 17117182]
- Wailoo, K.; Livingston, J.; Epstein, S.; Aronowitz, R., editors. *Three Shots at Prevention: The HPV Vaccine and the Politics of Medicine's Simple Solutions*. 1st ed.. The Johns Hopkins University Press; 2010.
- Wheeler CM. Advances in Primary and Secondary Interventions for Cervical Cancer: Human Papillomavirus Prophylactic Vaccines and Testing. *Nature Clinical Practice. Oncology*. 2007; 4(4):224–235.

TABLE 1

CHARACTERISTICS OF CAMBODIAN MOTHERS WITH DAUGHTERS AGED 9–17 (N = 25)

Characteristic	N	%
Age in years		
30–39	04	16
40–49	15	60
50	06	24
Education in years		
<9	16	64
9–12	01	04
>12	08	32
Marital status		
Currently married	14	56
Previously married	10	40
Never married	01	04
Years in US		
<10	05	20
10–19	03	12
20	17	68
English proficiency		
None/not good	09	36
So so	10	40
Fluent	06	24
Number of daughters aged 9–17		
1	21	84
2	04	16