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Transpeople, Hormones, and Health Risks in Southeast Asia: A Lao Study

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ABSTRACT. Cross-sex hormones, while often effective in producing some of the bodily changes desired by transpeople, may also involve harmful side-effect risks, especially when used against contraindications and precautions, and in the wrong dosages. Same-sex hormones blockers (interrupting the person's own sex hormone production) may also have potential side effects. Yet there is evidence from Southeast Asia that transpeople commonly use hormones of both types without any medical supervision, often unaware of the risks at which they put themselves. This report, employing a sample of Lao transwomen, examines the degree to which participants using hormones seek out medical advice regarding their use, as well as examining participants' knowledge and experience of hormone effects and side effects. The results suggest that as few as one in eight of those using hormones consulted medical professionals about doing so, instead most often relying on friends for advice. Though all who took hormones were aware of the positive effects they were having on their bodies, only half knew of any possible side effects, with only one in ten able to list any of the more serious (potentially life-threatening) effects. Around a half who took hormones had stopped doing so within six years of first taking them, nine out of ten citing unwanted or unhealthy side effects. The implications for transgender health care are discussed.

KEYWORDS. Transgenderism, hormones, Laos, transwomen

INTRODUCTION

Cross-sex hormones are commonly used by transpeople to induce some of the bodily changes that they desire. Among late adolescent and adult transwomen two groups of cross-sex hormones are commonly used; oestrogens and (less commonly) progestagens (with androgen

suppressors, sometimes called male hormone blockers or anti-androgens, also used quite widely). This report, employing a sample of Lao transwomen, examines the degree to which participants using hormones seek out medical advice regarding their use, as well as examining participants' knowledge and experience of hormone effects and side effects. Our research

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questions were as follows. Among transwomen who have taken cross-sex hormones; (a) how many take them without accessing medical advice?; (b) how many report beneficial hormone effects; and (c) how much do they know about undesirable side effects? Among transwomen who cease hormone use, (d) how many cite undesirable side effects as a reason; and (e) what sort of side effects do they cite? Among transwomen who continue hormone use, (f) what sort do they take, and in what dosages?

Effects of Hormones

Accounts of the effects of hormones are available (in e.g. Ashbee & Goldberg, 2006; Gooren & Delemarre-van de Waal, 2007; Meyer et al., 2001; Tom Waddell Health Center Transgender Team, 2006). Ashbee and Goldberg (2006) provide a readable summary, noting that oestrogens and anti-androgens have similar effects upon the body. Both classes of hormone are often found to reduce sex drive, reduce the frequency of spontaneous erections or erections during sex, reduce sperm production and ejaculatory fluid, increase nipple and breast growth, decelerate growth of facial and body hair, and reduce baldness. In addition, oestrogen softens the skin, decreases muscle mass and increases body fat (producing a more stereotypically female form), and reduces testicular size. Cognitive and affective effects have also been noted; for example a sense of emotional well-being and emotional sensitivity, and improved impulse control (Tom Waddell Health Center Transgender Team, 2006). Cohen-Kettenis and Pfafflin (2003) note that MtF hormone regimens may reduce aggression. They also remark on anecdotal evidence of increased emotional calm. The effects of progestagens appear less clearly known. Ashbee and Goldberg (2006, p. 4) note a “lack of clear evidence that they are important in ‘feminization,’” with another influential set of guidelines remarking that they may simply lead to “enhanced estrogen feminization effects” (Tom Waddell Health Center Transgender Team, 2006, p. 14).

Some of the effects listed above in this paragraph are more easily reversible than others. The breast growth and sterility may be

permanent (Ashbee & Goldberg, 2006). Some effects can also be jeopardized by imprudent use. For example, a transperson taking high levels of oestrogen may find that the extra oestrogen is actually converted to testosterone; the effect being to retard the progress of feminization (see Ashbee & Goldberg, 2006, p. 6). The use of oestrogen alongside other drugs (for example, tobacco-based nicotine) is liable to undermine the effects of the oestrogen. It also likely exaggerates the risk of cardio-vascular disease which hormones already promote. This leads us to a discussion of side effects.

Side Effects of Hormones

The drugs discussed above are either documented or feared to have a range of side effects, some of which are major. Ashbee and Goldberg (2006) note that oestrogen may (a) increase blood pressure, prompting a range of cardio-vascular problems, including heart attack and brain damage; (b) increase the risk of blood clots, in turn leading to permanent lung or brain damage, heart attack, and/or chronic deep vein problems; (c) increase deep fat deposits around vital organs, leading to diabetes and heart disease; and (d) increase the risk of gall stones and a blocked gallbladder. They add that it may cause nausea, vomiting, headaches and migraines, milky discharge from the breasts and possible prolactinoma, and damaged vision and headaches. Turning their attention to anti-androgens, they note that spironolactone alters the water/salt balance in the kidneys and can lead to low blood pressure or high levels of potassium in the blood, leading to potentially life-threatening changes in heart rhythm. They add that it can also cause skin-rash. Finally, they note that all hormones (oestrogen-based, anti-androgen and the less commonly used progestagens) can put a strain on the liver, possibly leading to liver disease (see Ashbee & Goldberg, 2006, p. 15).

In addition to the above, the literature cites a range of other side effect risks of varying degrees of severity (see Cohen-Kettenis & Pfafflin, 2003; Feldman, 2007; Gooren & Delemarre-van der Waal, 2007; Meyer et al., 2001; Tom Waddell Health Center Transgender

Team, 2006). These risks include: pancreatitis, hepatitis, fluid retention (oedema), muscular and skeletal pain, retracted (and painful) testicles, decreased libido, impotence and permanent infertility, fatigue and drowsiness, emotional lability and mood disorders (including depression, irritability, crying and indirect expressions of anger), reduced assertiveness, a darkening of the skin, dry skin or brittle nails, contact dermatitis, acne, unwanted weight gain, facial and body hair growth and coarsening (particularly where a person has ingested too much oestrogen), increased excretion of sodium, calcium and chlorides, and increased urination (as well as increased dribbling after urination). Finally, there are suspicions regarding effects on the risk of breast cancer (Feldman, 2007; Tom Waddell Health Center Transgender Team, 2006).

Actual risks may depend on many factors. Some may be associated with a particular form of hormone administration (for example contact dermatitis in the case of transdermal administration) or the specific chemical form of the hormone involved. Others may be heightened where hormones are used against contraindications and in violation of precautions (for example, cigarette smoking or concurrent use of contraindicated drugs, wrong dosages, advanced age, retinopathy, seizure disorder and certain endocrine abnormalities, as well as any pre-existing history of some of the conditions that the hormones themselves risk promoting (Meyer et al., 2001; Tom Waddell Health Center Transgender Team, 2006)).

Unsupervised Use of Hormones in Southeast Asia

In view of the side effects risks cited above, most medical texts (e.g. Eyler, 2007), guidelines for professionals (e.g. Tom Waddell Health Center Transgender Team, 2006; Meyer et al., 2001) and guides for transpeople (e.g. Ashbee and Goldberg, 2006; Curtis et al., 2008) stress the importance of medical supervision for transpeople using hormones. However, across much of the developing world this ideal is inevitably undermined by the scarcity of medical personnel, negative attitudes towards transpeople on the part of health workers, and low income levels

in the transgender community, which together lessen the likelihood of their visiting a medical professional for any reason at all, let alone on matters relating to hormones. But beyond this, medical supervision for hormone use is likely undermined by limited knowledge (within the transgender population) about hormone health risks, limited training (among practitioners) in transgender health issues, and the easy availability and low cost of hormones in some countries (over-the-counter at pharmacies, and/or through family planning centres in others).

Across much of Southeast Asia the conditions described above apply. Most recent figures available on the WHO online statistical data base illustrate the point. In the poorest seven countries in the region (Myanmar, Thailand, Laos, Vietnam, Cambodia, Indonesia and the Philippines) the average per capita gross income (unweighted) is US\$2900 per annum. Average government expenditure on health per annum (unweighted) is US\$54.6. The average number of physicians per 10,000 population (again unweighted) is 4.71. In Thailand and other places pharmacies sell a wide range of oestrogen-based oral contraceptives, as well as cross-sex hormone injectables, over the counter and at reasonable cost. Androgen suppressants such as Androcur are also available, though less widely. In the Philippines, free contraceptives (normally made available to natal women) are often available through local health centres.

Not surprisingly, then, I have found in my work with transwomen in Thailand and the Philippines large numbers of individuals using cross-sex hormones and hormone-blockers without any medical supervision at all, taking hormones recommended by their transgender friends, and against contraindications (the most common one perhaps being heavy smoking). Irregular and high dosages are common. Transwomen often seem to adopt a “more is better” attitude, ingesting large doses of hormones when available (with the intention of accelerating or enhancing changes), and sometimes going for periods without hormones (e.g. when they cannot afford them).

The issue of self-medication by transpeople is so widespread across Southeast (and South) Asia that it has merited mention in a

recent regional report on transpeople's welfare (South and Southeast Asia Resource Centre on Sexuality, 2008). Scattered survey research sheds more light on the issue. From Thailand there are the studies of Cameron (2006) and Luhmann (2006). Cameron (2006, p. 31), in a detailed report on sexual health, remarked on the widespread unsupervised use of hormones. Luhmann (2006), in a study of 67 transwomen in Thailand, found that only 50% of his sample had ever discussed hormone treatment with a medical doctor. With regard to their last hormone dose, only 27.5% had consulted a doctor, though rather more (41.2%) had consulted other health personnel.

From Malaysia, Teh (2002) reports that 63% of a sample of around 500 transwomen were taking hormones. Participants overwhelmingly found out whatever they knew about hormones from their transgender friends, with few consulting medical personnel about hormone use. Around two-thirds confessed they did not know how much they should be consuming each day, and around half were apparently unaware of the potential side effects of hormone use. Many of the participants complained of health problems after taking the hormones, though less than half had gone to consult a doctor about their problems, preferring instead to self-medicate (Teh, 2002, pp. 64–65). From the Philippines, Winter, Rogando-Sasot, and King (2007) report that, among a sample of 147 Filipina transwomen, around 70% of whom reported hormone use, nearly 90% using them without medical supervision.

Two recently completed studies (in Thailand, Winter & Lertraksakun, in preparation, and the Philippines, Winter & Alegre, in preparation) have looked in greater depth at transwomen's hormone use, and the side effects of hormones. In each study the sample consisted of 150 transwomen. In Thailand 139 participants (93% of the sample) reported ever taking hormones (mean age of initial use 16.7 years). While the vast majority of those taking hormones had sought advice before doing so (87%), relatively few (33.08% of those seeking advice, 30.94% of those taking hormones) had sought it from a medically qualified professional (doctor or nurse). Advice from medical professionals was

hardly more frequent later on, during hormone use. Though 81% sought advice of some sort while taking hormones, only 69 (that is 56.56% of those seeking advice, 49.64% of those taking hormones) sought it from a doctor or nurse. This widespread absence of medical consultation was surprising in view of the fact that the vast majority of the sample reported undesirable side effects (128, or 92.1% of those taking hormones). Not surprisingly, in view of the profusion of side effects, a substantial number of participants (29) had stopped taking hormones. At the time of our study only 73.33% of entire sample (79.1% of those who had taken hormones at some time in their lives) were still taking them. Almost all who had stopped cited actual unwanted side effects (most commonly headaches, giddiness and nausea, tiredness and lethargy, mood changes and fat accumulation). Nineteen cited fears about possible future ill effects on health—especially cancer, kidney and liver problems, together with bone decay. Many participants who still took hormones reported taking variable quantities, often peaking well above the recommended daily dosage.

In the Philippines 132 participants (88% of the sample) reported ever taking hormones (mean age of initial use 19.2 years). While the vast majority of those taking hormones had sought advice before doing so (98%), relatively few (52.7% of those seeking advice, 51.5% of those taking hormones) had sought advice from a doctor or nurse before and/or after beginning hormone use. As in Thailand, the absence of medical consultation was striking in view of the fact that the vast majority of the sample reported undesirable side effects (111, or 84.1% of those taking hormones). Again not surprisingly, a substantial number of participants (49) had stopped taking hormones. At the time of our study only 55.3% of entire sample (62.8% of those who had taken hormones at some time in their lives) were still taking them. Again, those who had stopped commonly cited actual unwanted side effects. These most commonly involved cramps, tiredness, loss of sex drive, etc. However, some of the participants referred to more obviously substantial health problems: e.g. “a cyst-like presence near groin and left breast”; “started coughing hard—I had an embolism according

to a rheumatologist”; “pulmonary problems”; “chest pain and leg pain—according to doctor maybe due to embolism”; and “I developed emphysema and it is not known if it was because of hormones.” Of the 49 who had stopped taking hormones, 28 cited fears about substantial future health risks, most commonly cancer, as well as respiratory and heart problems. Interestingly, in a worrying indication of lack of knowledge about trans healthcare issues, one participant reported she had stopped using all hormones because she had already undergone orchiectomy. As in the Thai study, many participants who still took hormones reported taking variable quantities, often peaking well above the recommended daily dosage.

Such patterns of hormone use may impact on transpeople’s overall well-being. Recent Thai research has found that cross-sex hormone-takers, as opposed to non-hormone takers, reported a lower quality of life (Suja et al., 2005). A recent Australian study reported that transwomen who had taken hormones tended to report poorer health than those had never done so, with unsupervised hormone use particularly problematic (Couch et al., 2007).

It was in this context that the current research was undertaken, intending to examine transwomen’s use of hormones, their use of medical support in hormone use, and their knowledge and experience of hormone effects and side effects. The research was undertaken in Laos.

Laos

Laos (Lao PDR: Lao People’s Democratic Republic) is a developing country of 5.9 million people (2005 figures) lying in Southeast Asia (World Health Organization, 2007). Vientiane, a city of around 640,000, is the capital. The country is land-locked, bordered by Thailand, Cambodia, Vietnam, China and Myanmar, and the population is 80% rural (United Nations Development Programme, 2006). Linguistically, historically, and culturally it has ties with Thailand, especially with the Lanna and Isan cultures of northern and north-eastern Thailand respectively. According to some sources, as few

as three-fifths of the population are ethnic Lao, with various other groups (Chinese, Vietnamese, Thai, mountain tribal) making up the rest (Reuters Foundation, n.d.).

At times under the control of Thailand and then France, a centuries-old monarchy was deposed in 1975 by the *Pathet Lao* (“Lao Nation”) revolutionary forces. The current socialist regime has allowed limited economic liberalisation since 1986. However, Lao per capita income (purchasing parity) stands at US\$2020 (2005 figures, World Health Organization, 2007). Laos is therefore poorer than all of its neighbors, with the possible exception of Myanmar (for which there are no figures available). Almost three-quarters of the population live on less than US\$2 per day (United Nations Development Programme, 2003).

Like four of the five countries bordering it, Laos is strongly Buddhist. The Lao government claims that up to 90% of the population practice Buddhism (Government of the Lao Peoples’ Democratic Republic, 1997). Other sources put the figure lower, citing other traditional (animist) religions (see for example Reuters Foundation, n.d.).

Transpeople in Laos

Located in the heart of Southeast Asia, a region which has a long “gender pluralist” tradition, now under threat (Peletz, 2006), Laos is home to an apparently large community of gender identity variant (GIV) individuals. In particular, persons allocated to the male gender at birth but growing up GIV (who would in the West be called transwomen) may be observed, in many cases living openly as GIV, with apparently little concern to “pass” (i.e. to be perceived by others as natal women). Such transwomen are often called *kathoey* in the Lao language, though, as in Thailand, they are occasionally named in ways conveying that they are “women of a second kind” (*sao praphet song*) or a “third sex” (*phet thee sam*). As compared to their counterparts in Thailand, for whom the word is also used, the term *kathoey* appears to carry fewer pejorative connotations in Laos.

The term *kathoey* is a somewhat broad one, sometimes used for male-identifying men

breaching gender conventions in other ways (for example those we would in the West call homosexual or effeminate). For this reason we made it clear to all involved in our research, including to participants, that we were using the word to mean those *kathoey* identifying as female (or some other non-male gender category) and presenting or wanting to present as such. Throughout the rest of this paper we refer to them as transgender *kathoey*, to make clear that we are referring to those persons designated *kathoey* in the Lao language, and who are GIV and would be called transwomen in the West.

Like their Thai counterparts (Jackson, 1999; Matzner, 2001; Winter, 2006c), Lao transgender *kathoey* appear to the observer to enjoy a certain degree of guarded tolerance in wider Lao society. Many appear to begin their gender transition in their high school years. Some leaving school or college already display not only a stereotypically female manner, gait, gestures, and style of voice, but also female hairstyles, dress, and use of cosmetics. Some later appear to change their bodies by way of hormones, a few by injections or surgery. Strikingly, the majority appear to grow up displaying heterosexual interests (we stress we mean here an erotic preference towards men).

Despite their social visibility, Lao transgender *kathoey* have been little researched. Apart from one conference paper and related web article (Doussantousse & Keovongchith, 2005a, 2005b) we know of no research literature focusing on this community; a situation in stark contrast to that for neighbouring Thailand (for example Winter, 2005, 2006a, 2006b, 2006c; Winter & Udomsak, 2002a, 2002b). The current paper seeks to fill this lacuna.

Health Provision for Transpeople in Laos

Like many transpeople elsewhere Lao transgender *kathoey* have health support needs. However, the health system in Laos is limited. The United Nations Development Programme states that annual health expenditure amounts to US\$51 per person, with public and private expenditure on health representing 1.7% and 1.4% of GDP respectively (United Nations Development Programme, 2004). Infant mortality

is high; 7.9% of infants die by their fifth birthday (World Health Organization, 2007). Life expectancy for men and women is 59 and 61 respectively (2005 figures, quoted in World Health Organization, 2007). However, other sources put the combined figures for men and women as low as 55 years (United Nations Development Programme, 2006).

There are nine hospital beds per 10,000 population (2002 figures, World Health Organization, 2007). The United Nations Development agency cites a figure of 61 physicians per 100,000 (United Nations Development Programme, 2004), less than a quarter that for the United States, but higher than all the countries neighboring Laos. Doctors go straight from training into practice, without any apprenticeship “residency” period common in the West (Gordon & Chu, 2006). If only in view of the Western psychiatric orthodoxy that transpeople suffer from a mental disorder, it should also be noted that there is no Lao national budget allocation for mental health, and mental health forms no part of the primary care system or of training for primary care givers. Mental health professionals are few, with 0.02 psychiatrists for every 100,000 people (World Health Organization, 2001).

In view of the limited national health provision (in comparison with many developed Western countries), Lao transgender *kathoey* wanting to finance a hormonal and surgical transition are obliged to fund it themselves. Some appear to do so through sex work, including in neighboring Thailand, where surgery is in any case more easily available.

THE STUDY

This study drew upon participants who took part in an earlier study of quality of life and mental health among transpeople in Laos (Winter & Doussantousse, in preparation). That study was conducted with the help of the Lao Youth Aids Project (LYAP). It is hereafter referred to as “the earlier study.” All participants in the sample lived in Vientiane, the Lao capital, located just across the Mekong River and a short road trip and bridge crossing from Thailand.

The Earlier Main Study

The earlier study incorporated a sample drawn up by way of Respondent-Driven Sampling or RDS (Heckathorn, 1997). Five transgender *kathoey* were selected as “seed participants.” They completed the questionnaire, receiving US\$2 for doing so. Each was then given two vouchers, which they could pass on to further potential “referee” participants. Each of those two referee participants, upon coming to the LYAP office to complete the questionnaire, received US\$2, plus, in their turn, vouchers (uniquely marked) for them to pass on to two other potential participants (transgender *kathoey*) in their personal network. The participants who had referred them earned US\$3 for each. The process continued for six waves. We eventually achieved a sample of 217 transwomen out of the theoretical maximum of 315 possible.

A primary reason for the choice of RDS as a sampling technique lay in its potential for participant anonymity (Heckathorn, 1997); no one needed ever be identified by name to the investigator. Other reasons lay in the built-in incentives, and the possibilities for tapping peer networks, incorporating peer pressure, accessing otherwise difficult-to-reach or unwilling participants, and providing a representative sample independent of the initial “seed” participants.

This study represented the first known application of RDS to a transgender population. The method has otherwise been used in the study of populations as varied as jazz musicians (Heckathorn & Jeffri, 2001), injection drug users (Heckathorn, Semaan, Broadhead, & Hughes, 2002), and gay men (Ramirez-Valles, Heckathorn, Vazquez, Diaz, & Campbell, 2005). Widely used, RDS has recently been subjected to critical scrutiny by, among others, Scott (2007).

The questionnaire used in the earlier study was broad in scope, covering quality of life and mental health, and incorporating 127 items (yielding 234 variables). Two of the items had focused on hormone use, and yielded particularly interesting data. The first asked participants whether they had ever taken hormones; and if they had then when they had first done so. If they had not, then whether they aspired to do so. The second question asked participants whether

they were now taking hormones. We found that 36.7% of participants had at some time taken hormones, first doing so at a mean age of 16.8 years (a range from 8 years to 35 years). However, a similar number (37.6%) had never taken hormones and never wanted to. Many who had once taken hormones had now stopped, so that only 13.8% of the sample (42.9% of those who had ever taken hormones) reported still using them. These findings, indicating a degree of hormone use lower than in the Thai, Philippines and Malaysian research reviewed earlier, was striking for the large numbers who had either never used hormones, or, having done so, had discontinued. While economic and other factors may have led to these patterns, health issues were another possibility. This consideration led to the current study.

This Study

All participants in the earlier main study had been invited to leave their names and contact information so that they could be approached for further information. One hundred and ninety six (90.3%) had done so. The information had been stored separate from the questionnaire data, in a way that would prevent matching of these personal details with the main body of the data. Three months after the completion of the earlier study we attempted to contact all of the participants to enquire further (by way of phone interview) about their use of hormones, the degree to which they sought out medical advice for hormone use, and their knowledge and experience of hormone effects and side effects. As indicated earlier, our research questions were as follows. Among transwomen who have taken cross-sex hormones, (a) how many take them without accessing medical advice?; (b) how many report beneficial hormone effects; and (c) how much do they know about undesirable side effects? Among transwomen who cease hormone use, (d) how many cite undesirable side effects as a reason; and (e) what sort of side effects do they cite? Among transwomen who continue hormone use, (f) what sort do they take, and in what dosages?

The interview consisted of 11 major questions, some of which collected afresh

some of the basic hormone use data (and demographics) collected in the earlier main study. Others covered new material. These were (a) Question 8: “did you ever discuss taking hormones with someone to get their advice?” (for those who had ever taken hormones), (b) Question 9a: “why did you stop?” (for those who had stopped taking hormones); (c) Question 9b: “what sort do you take now?” (for those who were still taking hormones); (d) Question 10: “what are the good things that hormones have done for you?” (for those who had ever taken hormones); and (e) Question 11: “What are the bad things that hormones can do?” (for all those who had ever taken hormones). All questions are displayed in Appendix I.

We succeeded in contacting 112 participants (57.1% of those for whom we had phone numbers, 51.6% of the earlier main sample), explaining to each that we wanted to briefly interview them further about their hormone use. All agreed to take part in the telephone interview. Interviews took place over a period of three weeks. Data (numerical and, in the case of open-ended questions, textual) were entered into a spreadsheet for tabulation and analysis. Initial analysis involved a check on the demographic representativeness of the subsample (as compared with the main sample from which it was drawn).

FINDINGS

Findings are first presented on participant demographics and basic data regarding hormone use, together with corresponding data for the earlier main sample. Second, for those participants reporting a history of hormone use, findings are presented on medical support during hormone use, as well as participants’ experience of beneficial hormone effects and knowledge of undesirable side effects. Third, for those who had stopped taking hormones by the time of the current telephone study, findings are presented on the reason for doing so, with particular reference to undesirable side effects. Last, for those still taking hormones at the time of the current study, we present findings on the types of hormones used.

Demographics and Hormone Use

As is evident from Table 1, the mean age for the 112 participants was 21.84 years (s.d. 4.44, range from 14 to 36). Fifty per cent identified as *kathoey*, 37.5% as members of a “third gender” (*phet thee sam*) or “woman of a second kind” (*sao praphet song*), and 12.5% as women or “real women” (*phuying*, or *phuying jing*) Participants had begun to identify in these ways at a mean

TABLE 1. Demographics: earlier main study, and telephone subsample

Sample Characteristic		Sample for Initial Lao Research	Subsample for this study
Sample size		217	112
Age	Mean	20.80	21.84
	s.d.	5.34	4.44
	Range	12–44	14–36
Identification (%)	<i>Kathoey</i>	55.1	50.0
	‘Third gender’/‘Woman of the second kind’	36.4	37.5
	Woman/‘Real woman’	8.8	12.5
Age at initial identification	Mean	10.76	9.08
	s.d.	4.71	3.44
	Range	1–43	4–18
Occupation (%)	Students	43.6	35.7
	Unemployed	23.7	19.6
	Employed	32.7	44.7
Highest education received (%)	Primary	6.0	3.6
	Secondary	62.2	59.8
	Post-secondary	31.8	29.5

TABLE 2. Hormone use: earlier main study, and telephone subsample

Characteristic		Sample for Initial Lao Research	Subsample for this study
Used hormones ever? (%)	No, don't want to	37.6	45.9
	No, but want to	25.7	
	Yes	36.7	54.1
Age at first use	Mean	16.8	17.10
	s.d.	4.4	3.00
	Range	8–35	10–25
Use hormones now? (%)	42.9*	53.3*	
Ceased hormone use (%)	57.1*	46.7*	

Note: percentages are in terms of sample concerned, except for *: percentages of persons who have ever taken hormones.

age of 9.08 years (s.d. 3.44 years, and a range from 4 to 18 years). Around one-third (35.7%) were students at the time of the study, and 19.6% described themselves as unemployed. Just under half (44.7%) were employed. The most common employment sector was salon work (with 18.8%, nearly half of those employed, describing themselves as hairdressers and beauticians). Others were in retailing (11.6%), and the remaining 14.3% in a range of occupations that included dancers and dance teachers, cooks, hotel and guest house staff, and work for companies, government and NGOs. Their educational level ranged from primary education only (3.6%) to post-secondary (29.5%), with the modal level being that of secondary education (59.8%).

As is evident from Table 2, sixty participants (54.1% of the subsample) reported taking hormones at some point, first doing so at an age of 17.10 years (s.d. 3.00, range 10–25). Thirty two (28.6% of the whole subsample, 53.3% of those who had ever taken hormones) were still taking hormones at the time of the study. The remaining 28 (25% of the whole subsample, 46.7% of those with a history of hormone use) had stopped taking hormones.

We were able to conclude that the telephone subsample was closely representative of the earlier main study sample. The only exceptions appeared to be in the subsample's (a) higher reported use of hormones (both sometime and current); and (b) higher levels of employment, as compared with the earlier main study. We believe that our methodology (follow-up by telephone), drawing us to participants who not only had

phones but also possessed an unchanged telephone number three months after the original study, had therefore led us to individuals who enjoyed a higher and more consistent income than was characteristic of the original main study sample. We believe that the higher and consistent income was associated with the comparatively high employment statistic, and made possible the more extensive use of hormones.

Participants Reporting History of Cross-Sex Hormones Use (n = 60)

Of the 60 participants who reported taking hormones at some point in their lives only two (4.1%) reported ever consulting a doctor about hormone use (see Table 3), though another 8.2% (four participants) had apparently consulted another health professional. By comparison nearly four out of five (77.6%) had consulted other transgender *kathoey*. The remainder (10.2%) had apparently never consulted anyone at all.

All 60 reported experiencing beneficial effects from hormones. Seven participants

TABLE 3. Advice sought regarding hormones: telephone subsample

Sought advice regarding hormones?	From doctor(s)	4.1%
	From other health professional(s)	8.2%
	From other <i>kathoey</i>	77.6%
	From no one	10.2%

reported that hormones simply helped them feel and look more womanish. The vast majority were able to be more specific, with 80% of this subgroup (or 48 participants) reporting effects upon the skin (including whitening, softening, brightening, tightening and a plumping of skin tissue, this last effect leading to a reduction in blood vessel protuberance). Thirty six participants (60%) cited an enlargement of the breasts. Small numbers also cited a general filling-out/fattening of the figure (eight participants), a beautifying effect on the hair or reduction of muscle bulk (each cited by four participants), and a softening and reduction in size of the genitals (three participants). One participant reported that her use of hormones had resulted in a shortened uvula and a feminized voice.

Asked to list the negative effects that hormones can have, 22 participants (36.7% of the 60 who had ever taken hormones) explicitly stated that the hormones produce no harmful side effects, while another eight (13.3%) indicated that they did not know of any. Only 30 participants (the remaining 50%) were able to list any risks associated with the use of hormones; whether in terms of undesirable or harmful side effects. The harmful side effects listed tended to be relatively minor ones such as tiredness/sleepiness/fatigue (cited by 22 participants), vomiting and weight gain (11 participants each), emotional/mood changes (ten participants), dizziness (four), pimples (two) and loss of sexual appetite (one). The more major and life-threatening side effects were rarely cited; whether liver damage (four participants), heart damage (two), cancer (two), muscle or bone pains (one) or kidney malfunction (one). Responses of this sort came from just seven participants (11.7%).

Participants who had Stopped Taking Hormones by the Time of the Study (n = 28)

The 28 participants who had stopped taking hormones were an average 23.3 years old at the time of the telephone survey (s.d. 4.51, range 15 to 35). They had first taken hormones at a mean age of 17.2 years (s.d. 3.2, range 10–23). The “drop-out” rate was therefore 46.7% (28 out of

60 participants who had ever taken hormones) over a 6.1 year period.

For 25 of 28 participants (89.8%) who had decided to terminate hormone use it was clear that anxiety about undesirable side effects had played a part in their decision. Some cited multiple anxieties. Five cited a fear of *possible* future side effects: four citing the risk of cancer, and one a fear of future liver damage. Much more common (16 participants in all) were responses indicating *actual* experience of undesirable or harmful effects; for example tiredness/fatigue/sleepiness (cited by nine participants), gains in weight (five participants), mood problems, including temper and nerviness (three participants), concern about breasts that were growing inconveniently large (three participants), as well as isolated problems of loss of appetite, breasts that were failing to grow, and facial complexion problems (each cited by one participant). Two participants cited non-specific health problems, failing to give any further detail. Despite the widespread anxiety about harmful hormone side effects, only three of these 25 participants (12%) who had terminated use of hormones for health reasons appeared to have sought advice from any medical professional at any stage about hormones.

For three out of the 28 who had decided to stop using hormones, the decision seemed not to be based on undesired side effects. Instead, they stemmed from an inability to get the exact hormones desired, a change in circumstances that made it inadvisable to transition further, and a failure of the hormones to prompt desired breast growth.

Participants Still Using Hormones at Time of Study (n = 32)

For the 32 participants still taking hormones at the time of the telephone study, the mean duration of hormone use was 4.03 years (s.d. 3.08, range 0–12 years). All those currently using hormones were taking them orally, though 8.8% of them (three participants) were making use of injected hormones also. Hormones taken were various. Many (19) simply cited “contraceptives,” without supplying any more detail. Others cited specific hormones, with

Diane (a female contraceptive consisting of a combination of androgen blocker and oestrogen) most commonly cited (nine participants), and a “Chinese contraceptive” and injectable “depot” hormone each cited once.

CONCLUSIONS AND DISCUSSION

Our results suggest that large numbers of Lao transwomen had experience of using cross-sex hormones, often first doing so in their mid- to late-teens (and occasionally as early as ten years of age). The benefits they reported for hormone use are broadly in line with the medical literature.

Only a tiny minority of those who used hormones appeared to consult a health professional before or during hormone use. This is despite the fact that many continued to use hormones for long periods of time (as long as ten years in our sample). This failure to consult health professionals is very much in line with previous research and commentaries across Southeast and South Asia reviewed earlier (Cameron, 2006; Luhmann, 2006; South and Southeast Asia Resource Centre on Sexuality, 2008; Teh, 2002; Winter et al., 2007; Winter & Alegre, in preparation; Winter & Lertraksakun, in preparation).

Alarming, a very large number of transwomen in Laos seemed unaware of the health risks involved in cross-sex hormone use. Among the 60 participants who had taken hormones some time in their life, a full half either admitted knowing of no side effects or claimed side effects not to exist. Among the others, knowledge about negative side effects was generally confined to more immediate and apparently minor ones such as fatigue, nausea and dizziness, weight gain, mood changes and complexion. Very few were able to cite any of the more serious side effects concerning liver, kidney or heart damage, or cancer.

In short, respondents in this study overall appeared uninformed about longer-term and life-threatening effects of hormone than is the case for similar studies in the West (for example, Couch et al., 2007). The comparative ignorance

about side effects echoes findings in Teh’s (2002) Malaysian study.

Participants who had decided to terminate hormone use commonly cited experience of undesired side effects as the reason. The side effects in question tended to be of the more minor sort. None reported more serious side effects. Notwithstanding, some participants, presumably somewhat informed about these matters, had ceased using hormones because of fears of more serious life-threatening side effects. The widespread prevalence of undesired side effects in this study echoes other Southeast Asian findings (e.g. Teh, 2002; as well as Winter & Alegre, in preparation; Winter & Lertraksakun, in preparation). As an aside, we would point out that even minor side effects can, for some people and in specific circumstances, become major and life-threatening (for example tiredness or nausea when riding a moped).

We believe that the results of this small-scale study are alarming. They suggest large numbers of transwomen in Laos are taking hormones under conditions likely to exacerbate long-term risks to their health, and ignorant of those risks. It is important to note that some of those taking hormones are very young (youngest initial hormone use being at age ten years in our telephone subsample, and age eight years in our earlier main study). Our alarm is heightened by recent research in the region suggesting that hormone use may depress transwomen’s quality of life (Suja et al., 2005) and health (Couch et al., 2007). We note Couch et al.’s (2007) finding that health was most likely to be compromised where hormone use was unsupervised.

Any attempt to ameliorate Lao transwomen’s situation is inevitably constrained by the limited health service provision in Laos. Notwithstanding, we believe it important that, among those government or NGO medical and paramedical personnel who are providing primary care services, there should be some who are trained in transgender healthcare, and that there should be easy and affordable access to these personnel. This may demand a shift in healthcare priorities. We suggest that, for the present, most UN and international NGO bodies tend to view transpeople in terms of their part in the HIV pandemic.

Access to appropriate transgender healthcare might perhaps be provided by way of walk-in centres focusing specifically on transpeople's needs. Such centres could ensure that the health care not only is medically competent (covering for example the provision of advice and monitoring in relation to the use of hormones) but also, by being focused on transpeople, communicates recognition of transpeople as a legitimate client group; one which has its own health care concerns.

Arguably it is a failure to recognize transgender people's broader health needs that has led in the past to transpeople worldwide being left out of healthcare provision. Their health needs are often seen as low priority (even in developed countries of the "West"; see Burns, 2006; Collins & Sheehan, 2004; Couch et al., 2007; Whittle et al., 2007). They are often seen only as a client group in HIV/AIDS education and support programmes, and as a public health risk for the rest of the population. Transwomen are often designated as MSM (Men who have Sex with Men); this on the grounds that they were designated as males at birth, and in most cases grow up erotically attracted to men. Yet the label MSM fails to recognize the transwoman's self-identification as non-male and only serves to marginalize (or worse, alienate) transwomen (and conceivably their partners, who may not see themselves as MSM either).

The failure to recognize trans healthcare needs, or indeed the legitimacy of transpeople as a distinguishable client group, goes beyond HIV/AIDS work, and beyond the developing world. In the developed "West" transpeople struggle against poor funding in healthcare, as well as lack of access to services, long waiting periods, and uninformed and even hostile health workers (Burns, 2006; Collins & Sheehan, 2004; Couch et al., 2007; Whittle et al., 2007).

Walk-in centres are likely to be located in urban areas, and the needs of transpeople in rural areas, who find it difficult to come into the city, may be missed. We therefore believe that initiatives are needed that involve taking advice and information out to the transgender *kathoey* community (for example a health bus operated by one of the walk-in centres), perhaps incorporating them into projects targeting fe-

males (including female sex workers), and which educate transwomen about the risks as well as benefits of cross-sex hormones and hormone blockers, and the value of medical supervision and advice in relation to their use. Pharmacies may have an important role to play too.

We should note that our study carries some limitations. Firstly, it focused on transwomen, neglecting hormone use by transmen. Second, it only focused on hormones, neglecting other practices undertaken by the trans community which carry risks for health. For example, our recent research indicates that large numbers of transwomen (44% in Thailand and 34% in the Philippines (Winter & Alegre, in preparation; Winter & Lertraksakun, in preparation) make use of injected silicone, often delivered by untrained personnel (including older members of the transcommunity), in uncertain conditions of hygiene, and with little monitoring of effects. We also note that some transwomen use methamphetamines in risky strategies aimed at losing weight. Third, we failed to examine participants' knowledge of contraindications to hormone use, such as smoking and heavy drinking.

Even as a study of hormone use by transwomen, the study was limited. Our questions about the effects of hormones were targeted on those in our sample who had taken hormones. It is possible that those who had never taken hormones (some 45.9% of the telephone subsample) were more knowledgeable about side effects (especially undesirable and harmful) and had consulted healthcare workers more widely, than those we focused on when asking our questions. Indeed, their discussions with doctors and knowledge of side effects might conceivably have contributed to their decision not to use hormones. However, we take the view that this is unlikely, and that many transpeople who have never taken hormones, knowing the difficulties in obtaining transgender sensitive care, have (like so many of their sisters who have taken hormones) never sought medically competent advice on the matter.

Notwithstanding methodological limitations, we believe that the study currently reported gives cause for concern about the welfare of transpeople in Laos and elsewhere in the developing world. We are currently engaged in

further research in the region which we hope avoids some of the limitations of the current study.

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APPENDIX I

Questions asked in telephone interview

1. How do you identify yourself?
2. At what age did you first identify that way?
3. How old are you now?
4. What is your occupation?
5. What is the highest education you received?
6. Have you ever taken hormones at any stage in your life? (If no then terminate interview. If yes, then go on)
7. At what age did you start taking hormones?
8. At any time in your life did you discuss taking hormones with a doctor?
9. Do you take hormones now?
 - (If no, then ask . . .)
 - 9a. Why did you stop?
 - (. . . and go to 10)
 - (If yes then ask . . .)
 - 9b. What sort do you take now? Oral? Injections? Injections and oral?
10. What are the good things that hormones have done for you?
11. What are the bad things that hormones can do?