



UvA-DARE (Digital Academic Repository)

Somadril and edgework in South Sulawesi

Hardon, A.P.; Ihsan, A.

Published in:
International Journal of Drug Policy

DOI:
[10.1016/j.drugpo.2014.05.012](https://doi.org/10.1016/j.drugpo.2014.05.012)

[Link to publication](#)

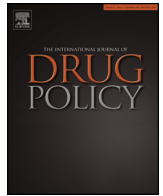
Citation for published version (APA):
Hardon, A. P., & Ihsan, A. (2014). Somadril and edgework in South Sulawesi. *International Journal of Drug Policy*, 25(4), 755-761. <https://doi.org/10.1016/j.drugpo.2014.05.012>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.



Editors' choice

Somadril and edgework in South Sulawesi



Anita P. Hardon*, Amelia Ihsan

Amsterdam Institute for Social Science Research, Nieuwe Achtergracht 166, 1018 WV Amsterdam, The Netherlands

ARTICLE INFO

Article history:

Received 12 February 2013
 Received in revised form
 31 December 2013
 Accepted 21 May 2014

Keywords:

Edgework
 Psychoactive prescription drugs
 Risk
 Sex work
 Youth
 Harm reduction

ABSTRACT

The use of psychoactive prescription drugs (PPDs) by young people is part of a broader worldwide trend towards the consumption of pharmaceuticals to improve social, emotional, and sexual performance. Few studies have examined how young people use PPDs in developing countries, where off-label use is likely to be greater due to weaker market controls. This study presents our findings on PPD use among sex workers in Makassar, Indonesia. We focus on one potent painkiller, Somadril, which is freely available over the counter in pharmacies. The sex workers we studied used most of their earnings to purchase Somadril pills, which they used to feel more confident and to make their work more palatable. This paper also traces the history of the active component in Somadril, carisoprodol. This was developed in the United States, where it was soon used recreationally. We found that knowledge of its effects seeped from health professionals into youth networks, where it was spread by word of mouth. The flow of information on carisoprodol's harmful effects, however, was less evident.

© 2014 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

Edgework, risk, and psychoactive prescription drugs

The use of psychoactive prescription drugs (PPDs) by young people for recreation and self-enhancement is a global concern, especially in the United States (US) where surveys suggest that nearly one-third of the population aged between 18 and 25 has used PPDs for non-medical reasons at least once in their lifetime (Colliver, Kroutil, Lantung, & Gfroerer, 2006; DuPont, 2010; SAMHSA, 2009). Numerous studies in the US have also shown that young people are key actors in the diffusion of stimulants, pain killers and tranquilizers (Garnier et al., 2010; Hall, Irwin, Bowman, Frankenberger, & Jewett, 2005; McCabe, Teter, & Boyd, 2006; Quintero & Nichter, 2011; Rasmussen, 2008).

The use of PPDs by young people for self-enhancement is part of a worldwide trend: variations in moods, desires and thoughts are increasingly understood in terms of brain chemicals, while niche-marketed pharmaceuticals and mental illness awareness campaigns encourage individuals to assert control over their own minds (Coveney, Gabe, & Williams, 2011; Dumit, 2012; Jenkins, 2010; Rose, 2007). For example, a study among fraternity members at a south-eastern US college found stimulants such as Adderall (a brand of dexamphetamine prescribed for ADHD) were consumed during periods of academic stress and believed by users to reduce fatigue and to increase reading comprehension, interest, cogni-

tion and memory (DeSantis, Noar, & Webb, 2010). Students also recreationally took PPDs with alcohol, claiming that they made them feel more social and 'under control' (DeSantis et al., 2010, p. 164). Green and Moore (2009) reported similar reasons for PPD use among middle-class young people in Western Australia, with 'dexies' (pills containing dexamphetamine) allowing their informants to 'drink like a trooper while maintaining bodily control' and to 'enjoy socializing for longer periods without getting too messy'. Female informants also reported feeling safer and more in control when using dexamphetamine (Green & Moore, 2009, p. 408).

Quintero and Nichter (2011) invoke the concept of 'edgework' to make sense of this kind of PPD use. An edgeworker, they write, 'is at once attracted by the sensation of being on the edge as an intense form of pleasure, and the accomplishment of being able to avoid a bad or disastrous effect' (Quintero & Nichter, 2011, p. 347; see also Hunt, Evan, & Kares, 2007; Lyng, 1990). Psycho-active drugs are thus ideally suited for edgework as they allow young people to experience pleasurable highs without risk of arrest for illegal drug use. Young people moreover tend to think that PPDs are safe and they do not expect to become addicted when using recreationally. Further, prescription drugs are not seen to adversely affect their careers – unlike illegal drugs such as cocaine and ecstasy (DeSantis & Hane, 2010).

Very few studies have examined how young people in developing countries use PPDs, where the likelihood of off-label use is greater due to weaker market controls (Famuyiwa, Aina, & Bankole-Oki, 2011; Ghandour, El Sayed, & Martins, 2012).

* Corresponding author. +31 20 525 3544.
 E-mail address: A.P.Hardon@uva.nl (A.P. Hardon).

Researchers generally present descriptive statistics on frequencies of (lifetime) use without further elaboration on how young people experience and experiment with PPDs in their everyday lives. While some studies of illegal heroin and amphetamine use report concurrent use of PPDs, they do not elaborate on such use (see for example Nasir & Rosenthal, 2009; Wei, Guadamuz, Lim, Huang, & Koe, 2011). The limited attention to the non-medical use of PPDs among young people in developing countries is remarkable, given that market dynamics in these countries are likely to facilitate such use. Lovell (2006, p. 137) shows how high-dose Buprenorphine – marketed in France as a treatment for heroin dependence – is tailored to the Indian market, where it is sold in pharmacies ‘loosened from formal market regulations and state control’ as pain medication for drug addicts. Ecks and Basu (2009) describe how PPDs travel across boundaries between formal and informal sectors in sometimes unexpected ways, for example through ‘floating prescriptions’ which prescription holders keep and re-use to obtain new supplies.

This article presents our findings on the use of PPDs by young sex workers in two sites in South Sulawesi, Indonesia. We focus on use of Somadril, a potent painkiller that has muscle-relaxing properties and can generate feelings of euphoria. Somadril is widely available both over the counter in pharmacies and from street dealers. We found that our informants used most of their earnings to purchase Somadril pills, which they reported made them feel good and more confident when approaching clients. Despite consuming high doses of this drug, they stressed that Somadril was not *narkoba* (an illicit narcotic drug). Our study sought answers to the following: How do sex workers use and experience this potent PPD? Can their pattern of use be characterized as edgework? Are they able to control the risks of using Somadril while experiencing its pleasurable highs?

Before presenting the ethnographic case study we provide some background on the active component in Somadril, carisoprodol. The drug was developed in the US where it was soon widely used for recreational purposes, and found to have serious side effects. The paper ends with policy recommendations on how to better inform young people about these risks.

Methods

This research was part of the larger ChemicalYouth project which examines how young people use chemicals in their everyday lives. Fieldwork in South Sulawesi took place in two phases. The first involved a ‘grand tour’ of all kinds of chemicals consumed by young people, including cosmetics, energy drinks, contraceptives and mood-enhancing drugs, the results of which have been published elsewhere (Hardon, Idrus, & Hymans, 2013). The second phase of the project involved focused ethnographies of chemical practices that appeared central in the everyday lives of specific subgroups of young people.

The ‘grand tour’ phase took place in two towns in South Sulawesi: Makassar and Isidro.¹ Makassar, the capital city of South Sulawesi, is an economically vibrant magnet for young people as they seek to work, study, and move on in life. Isidro is a prominent tourist destination, has one of the highest HIV-prevalence rates in South Sulawesi, and is one of the areas in Indonesia that has instituted Islamic law. It therefore more strictly regulates alcohol and substance use, which is why we selected the town as a contrast site to Makassar.

Our fieldwork focused on places where young people gather, including work settings, markets, streets, bars, music scenes

associated with specific recreational drugs, shopping malls, schools and private homes. We recruited young people between 18 and 25 years of age, and sought to ensure diversity among our informants along the following axes: educational attainment, occupation, lifestyle, living arrangements, sexual orientation and gender. To capture this diversity we interviewed groups of students, sex workers, male-to-female transgendered persons, injecting drug users (IDU) in harm reduction programs, transportation workers, and porters, mall and construction workers. For each of these groups, we identified a ‘seed informant’ through our personal and professional networks, who then introduced us to others in their network of friends. While we sought to cast our net wide by recruiting informants from diverse subgroups of young people, we do not claim our findings to be exhaustive or representative of young people in Makassar and Isidro.

We experimented with a new research instrument in the ‘grand tour’: the ‘head-to-toe interview’ in which we asked youths which chemicals they applied to their hair, eyes, face, lips, teeth, and so on, over their entire bodies, ending with their toenails. This format proved to be an effective means of eliciting information. The systematic treatment of the human body neutralized any squeamishness over discussing its specific parts, and also signalled our interest in all chemicals, not only the risky or banned ones. For each product they mentioned, we asked informants about its beneficial and adverse effects, its cost, how they learnt about and acquired it. We also pursued more general themes such as their future aspirations. The interviews took place in cafes, bars and other places where young people regularly met, depending on where they felt most comfortable talking about their chemical use.

Our attention was drawn to the painkiller Somadril when sex workers in Makassar wanted to talk about nothing else. While other groups of young people also mentioned Somadril, it played a lesser role in their lives. Among the groups that admitted using Somadril, patterns of use differed depending on their line of work. Mall workers took it only occasionally because it made them feel dizzy and drunk, a condition not conducive for waiters, waitresses, and salon attendants to perform their jobs. They reported taking only one or two (and at most three) pills a day to help them socialize and to increase their libido. While the IDU whom we interviewed frequently mentioned Somadril, for them it was a second-choice to Calmlet (containing the tranquilizer alprazolam) and Suboxone (containing buprenorphine as heroin substitute). And while our transgendered informants also often mentioned Somadril, they were most interested in pharmaceuticals to feminize their bodies (see Idrus and Hymans in this special issue).

Somadril emerged as the leading PPD for the sex workers we interviewed along Losari Beach in Makassar, and was also popular in Isidro among the ‘waitresses’ working in the karaoke bars. Before embarking on our focused ethnography of Somadril, we examined the ‘head-to-toe’ interviews with 10 freelance sex workers in Makassar and 10 karaoke waitresses in Isidro, and designed a coding scheme for recurrent themes and key terms. Analysis was aided by the qualitative analysis software program NVIVO 10. This was used in the local language to allow for the exploration of culture-specific notions of efficacy and risk. We found ‘*coba*’ (trying out), ‘*cocok*’ (compatibility with the user), and ‘*campur*’ (mixing to enhance effects) to be core themes. We noted that Somadril was frequently described as ‘*bagus*’ (good) and ‘*enak*’ (delicious) and that it was said to generate ‘*pede*’, short for ‘*percaya diri*’ (to believe in oneself).

The focused ethnography phase involved participant observation, informal discussions, diary-keeping and focus group discussions. We met with our Makassar informants when they gathered along Losari Beach in the early evenings to wait for customers, referred to them by hotel doormen and *becak* (bicycle taxi)

¹ Isidro is a pseudonym, used to protect the identity of our informants in this small town. There are so many sex workers in Makassar that we do not consider it necessary to use a pseudonym for this city.

drivers. In Isidro, we met informants in the late morning when they were waiting for customers to arrive in the afternoon.

We held a focus group with seven of our interlocutors from Losari Beach at a karaoke bar, where we booked a room for three hours. In Isidro we held a focus group on the balcony of a hut that we rented for the night. We discussed Somadril as well as other cosmetic and pharmaceutical products, buying the most popular ones and placing them on the table to spur discussion. This proved effective as participants enthusiastically described how they used the products and debated their relative benefits and risks. They not only spoke about their own experiences but also those of their friends, pointing to differences in their preferences and experiences. Before starting, we asked participants to individually recall and write down all chemical products they had used over the past four days, which revealed to us the high volume of Somadril consumed by some. These lists also revealed that our informants were using alternative PPDs when they could not obtain Somadril.

We also interviewed 12 key informants: NGO outreach workers, pharmacists, store owners, DJs, and bar owners in both Makassar and Isidro. We asked them about the availability of PPDs, local regulatory regimes, and the patterns of drug use that they observed. To compare how our sex worker informants understand and experience the efficacy of Somadril with biomedical understandings of its efficacy, we conducted a review of its medical history and its active component, carisoprodol. We read clinical studies reporting on the drug's intended and unintended effects, and regulatory decisions in the US (where it was developed) and Europe (where it was recently taken off the market). We finally employed internet searches using 'Soma' and 'Somadril' as keywords to examine how young people share their experiences with this PPD on the web.

The history of Somadril

Carisoprodol, the active agent in Somadril, entered the global market more than 50 years ago as a muscle relaxant. Developed by Wallace Laboratories (the US company that still produces the Soma brand), carisoprodol was initially thought to have superior muscle-relaxing properties and less potential for misuse than meprobamate, the tranquilizer that it replaced (Berger, Kletzkina, Ludwig, & Margolin, 1959). It later became apparent, however, that carisoprodol metabolized into meprobamate in the body (Olsen, Koppang, Alvan, & Mørland, 1995), leading to the same withdrawal effects (Reeves & Burke, 2010).

Meprobamate, the predecessor of Soma, was the first blockbuster tranquilizer to appear on the American market. Marketed as Miltown, it became widely used both as a treatment for mental disorders and as a recreational drug (Gaillard, Billault, & Pepin, 1997; Herzberg, 2011). Tone (2009) describes how Miltown appeared on the 1960s Hollywood party scene – taking the place of an olive in a dry martini cocktail that people called a 'Miltini'. Our internet research suggests that Soma – like Miltown – is experimented with off-label in the US as a mood-enhancing drug (Boyer, Shannon, & Hibberd, 2005). The following quote is from *Drugsandbooze.com*, a site dedicated to harm reduction through informed use:

GTCharged (1 May 2010 at 20:50): I just got prescribed Soma 250 mg. It's a muscle relaxant. Can you snort this pill? Will it kick in faster? Thanks [adds a Wikipedia link on carisoprodol] <http://en.wikipedia.org/wiki/Carisoprodol> That's the article on it.

Robert Poop (answers within 30 minutes): I think it burns like a mother fucker if I remember correctly so if you can nut up and deal with the pain give it a shot. I personally never felt the need to snort it, just eating them worked great. Soma seems to

be a love hate thing. I have had many great times just bombing a couple of somas although I do find it a bit disorienting. It has a benzo type of buzz as well as a distinct drunk-type of feeling that is also unique just to soma. Big body high but I was always able to keep a pretty straight head on it. . . . If you've never taken it before, start with just 2. Give it a good 45 minutes to kick in, preferably on an empty stomach with a tall glass of water, and if you're not where you want to be take one more. But I wouldn't exceed three for a first time. I weigh 200 lbs. and the first time I took this shit I took 2 and I was in the clouds. It is a pretty strong buzz man, so don't plan on going anywhere the first time till you gauge your reaction to it. I have spent many an hour doing the soma shuffle, and it is not conducive to public places. I personally love this shit. . . .

Unsurprisingly, doctors in the US have increasingly encountered withdrawal symptoms – including insomnia, vomiting, tremors, muscle twitching, anxiety and hallucinations – among patients who cease taking carisoprodol (DEA, 2011; SAMHSA, 2003). Nevertheless it remains on the market for short-term use (2–3 weeks at a dosage level of 350 mg four times a day). It is listed as a Class IV drug, meaning that it is accepted for prescribed medical use but its use can lead to physical or psychological dependence.

In Europe, an influential study by Bramness, Furu, Engeland, and Skurtveit (2007) found that 14% of carisoprodol users in Norway had been prescribed more than 75 times the recommended daily dose, often receiving their prescriptions from multiple doctors. Carisoprodol users also often used other PPDs, such as the tranquilizer diazepam. Carisoprodol was subsequently taken off the market in Sweden (2007) and Norway (2008). The authors conclude that the drug was clearly used frequently for non-medical reasons. In the European Union, the European Medicines Agency recommended member states suspend carisoprodol's authorization for the treatment of acute (but not chronic) back pain because of studies, including the one by Bramness et al. (2007), that associate the drug with risk of dependence, intoxication, and psycho-motor impairment (EMEA, 2007; Waddell, McIntosh, Hutchinson, Feder, & Lewis, 1999).

Somadril in Indonesia

Somadril is registered in Indonesia as a 'strong medicine' (*golongan keras*), a category that includes many other common drugs such as antibiotics and tranquilizers. While such drugs are to be sold only via prescription, there is no mechanism for checking whether pharmacies have actually been presented with one. Stricter controls exist for medicines labelled *golongan narcotic*, a category including opioid painkillers containing morphine and codeine. For these, pharmacies have to keep a separate registry that allows monitoring.

Somadril is recommended in the 2010 Indonesian pharmaceutical compendium *Informasi Specialite Obat* (ISO) for all kinds of aches and pains: lower back pain, muscle spasms, tension headache, painful menstruation, and other ailments such as chronic arthritis. The recommended maximum dose is 3–4 tablets per day (amounting to 600–800 mg of carisoprodol), about half of the recommended daily maximum in the US. The guide mentions allergic reactions, dizziness, sleepiness, and feeling weak and sick as possible side effects. It also warns that Somadril in high doses can affect coordination and concentration, and can induce hypotension, breathing difficulties and coma (ISO, 2010). The guide does not warn, however, that it should only be prescribed for short periods due to the risk of addiction.

Somadril is manufactured in Indonesia by a subsidiary of the global generic manufacturer Actavis. Its Indonesian website indicates that Somadril contains 200 mg carisoprodol, 160 mg

paracetamol, and 32 mg caffeine, a combination that the company claims enhances pain relief at relatively low doses of carisoprodol. Actavis (2012) lists the drug as prescription-only but does not warn that it should only be used for short periods. No risks are mentioned on the website. It is remarkable that neither the prescribing guide nor the company website acknowledge the misuse potential of this drug.

Somadril is available over the counter in some of Makassar's *apotek* (pharmacies). They generally sell a strip of 10 separately packaged pills, a so-called *papan*, for 35,000 rupiah (around US\$3.50). When pharmacies are closed, our informants buy Somadril from street dealers for 40,000 rupiah (US\$4) per strip. Somadril can also be bought from vendors who operate mobile food stalls that appear in the evenings on the streets of Makassar. In Isidro, a strip of 10 pills costs 50,000 rupiah (US\$5) in pharmacies and 60,000 rupiah (US\$6) in small grocery stores.

The internet in Indonesia is used both by registered pharmacists to order Somadril and by its users to exchange information and advice. Mulyadi (2011), a young man from West Kalimantan, explains in a blog post that Somadril is officially a muscle relaxant but has other desirable effects such as 'being talkative and fearing no danger. . . . The effect is normally after 30 minutes, but if you enhance the effect it can work after one minute.' Somadril is not used everywhere. Our fieldwork in Yogyakarta (not presented in this paper) revealed that young people do not use Somadril, preferring other PPDs instead.

The informal sale of *golongan keras* is subject to policing. Indonesian media regularly feature reports of people caught selling PPDs and other popular drugs such as Viagra in large quantities. Just prior to our fieldwork, police raids in Makassar caught three women selling Somadril on the street and near bars and motels frequented by sex workers. They were tried for possession of pills without being able to present a prescription. In Isidro, a grocery store owner was jailed for selling Somadril to waitresses working in the local karaoke bars.

Somadril and sex work in South Sulawesi

The ethnography gave us insight into the biographies and aspirations of the sex workers and waitresses who commonly used Somadril, and the role the drug played in their lives. Many of our interlocutors had histories of migration, coming from Bali, Papua, Kalimantan and Toraja. Confronted by family break-ups and economic hardship, many had left home and then continued moving in search of better working conditions and opportunities for sustainable relationships and family lives (c.f. Gorman, 2011). All of our interlocutors stressed that they wished to have better jobs and futures, but did not know how to access alternative opportunities. We introduce three of our sex worker informants to illustrate the many 'faces' of Somadril in their lives.

Twenty-four-year-old Udin organized meetings for us with his sex worker friends on the beach, where we talked about their lives and their use of Somadril and other drugs. Born as a twin in East Java, Udin was given to a childless couple by his impoverished parents. His foster parents subsequently divorced and he moved with his foster mother to her hometown in Bali. After finishing vocational high school (specializing in tourism), Udin moved to Denpasar to look for work in a hotel. He moved from one job to another, eventually working in a spa. He then moved to Makassar with three female friends in search of a higher income. In Makassar he moved from one job to the next, finally meeting his current group of gay male friends in Losari Beach. When we first met Udin, he was a freelance masseur for men, giving *pijat plus-plus* (massage plus sexual services) and finding his customers by placing adverts in the paper. At that time, Udin told us he was taking Somadril every day, spending

most of his income on it. During one of our subsequent visits to Losari Beach, Udin told us that he was now also selling Somadril. He explained that selling Somadril was better than doing *pijat plus-plus*: 'I don't want to be the *tukang pijat plus-plus* anymore. . . . I am sick of men, they are disgusting.' He sells about 10 strips of Somadril a day to his friends in Losari Beach, often on credit, and complains of difficulties in buying new supplies because his friends have yet to settle their account.

Udin introduced us to Rina, a thin, cheerful, and talkative 20-year-old woman who also became one of our key informants. She began her life as a sex worker after being misled by a friend who offered her a waitress job in an eatery in Isidro. The eatery turned out to be a karaoke bar where Rina was expected to sell beer and provide sexual services. For two years, she lived and worked in Isidro, until she was able to pay back her two million rupiah (US\$200) debt to the bar owner. When she returned to Makassar, she continued her sex work in Losari Beach, rather than going back to live with her mother. Rina has a boyfriend who abuses her and demands money from her. She charges her customers from 300,000 to 400,000 rupiah; customers are referred to her by *becak* drivers, bellboys, and her gay friends, including Udin. Rina says that she hates being a sex worker but Somadril makes it bearable. After taking the pills, she feels less '*malu*' (ashamed) and more relaxed and confident to face her customers. She takes Somadril every night, even when she is not working.

In Isidro we met Loli who arranged interviews and field visits for us and told us about the working conditions of the young women in the karaoke bars. Loli operates the music system in one of the bars; she works long hours as she is responsible for the music until the last customer leaves. She also has managerial responsibilities at the bar including supervising the young women and cooking for them. To stay awake she smokes a lot and drinks beer; to wind down after work she takes a single Somadril pill, which customers and waiters buy for her in town. It makes her sleep quickly, deeply, and for a long time. She often only wakes up at 1 pm.

Because of the tight control on the sales of Somadril in Isidro, the sex workers there did not want to talk about the drug, though Loli asserted that it was used often. However, the sex workers at Losari Beach – where the drug is easily available – were outspoken and hardly wanted to talk about anything else. When they met with us, they were often high on Somadril, which they said made them talkative and confident. Our informants repeatedly stated that Somadril is '*bagus*' (good) because it makes you feel '*enak*' (delicious) and '*senang*' (happy). When we asked Rina why she takes Somadril, she responded: 'Yeah, to make me *senang* . . . having fun with friends'. Twenty-year-old Neni echoed: 'Only to make me *pede* (confident), for happy-happy.' Rani, a 19-year-old sex worker from Isidro, stressed that Somadril makes her feel less shy: 'Yeah, I was ashamed, but if I drank Somadril I did not feel *malu* (shame).' She adds that she also takes Somadril when she must work but is not in the mood for sex: 'Yes, if I'm not in a good mood but really need money, I take it first.' The sex workers in Makassar take Somadril regularly. They say it stops them from worrying and decreases stress. Twenty-two-year-old Naimah said she takes it to 'feel comfort so I can stop worrying'. Twenty-two-year-old Hasan said: 'It makes me feel calm, even just for a while.'

Our informants learnt about new drugs and their beneficial and adverse effects primarily by word of mouth (*dari mulut ke mulut*). They also heard about the mood-modifying potential of Somadril from pharmacy clerks at certain *apotek* in Makassar, known for their over-the-counter sales of PPDs. Many of our informants had friends working as pharmacists and pharmacy clerks from whom they obtained both information and drugs. Knowledge of specific PPDs also travelled through the 'floating prescriptions' (Ecks & Basu, 2009) of psychiatrists who prescribed drugs to treat heroin withdrawal in rehabilitation programs. Our IDU informants

told us that they learned a great deal about new PPDs through such prescriptions, suggesting that if they wanted new supplies it was easy for them to get prescriptions from ‘naughty doctors’. To protect our informants and field researchers, we did not seek ethical approval to study the supply of drugs. We therefore did not visit the *apotek* or seek to be introduced to the ‘naughty doctors’.

Working conditions for sex workers differed between the two research sites, Isidro and Losari Beach in Makassar and so did access to Somadril. In Isidro, sex workers are employed by the bar owners and live on the premises. Their work involves waiting on customers, with whom they are encouraged to drink (alcohol sales are the bars’ main source of income). The bars are semi-legal entities as Isidro has banned the sale of alcohol and sex work under *shariah* law. But the strip of bars where we conducted our fieldwork is allowed to sell alcohol (up to 5%), while sex work remains strictly forbidden. Bar owners expect the young women to wait on their clients and participate in karaoke sessions. They are often invited back to their clients’ hotel rooms to provide additional (illegal) sexual services. They generally earn 300,000 rupiah (US\$30) per customer for sex, and receive 5000 rupiah commission per bottle of beer. Many of the young women indebted themselves by buying items from the bar owner’s shop on credit. These debts make it hard for the young women to return home or go elsewhere to look for work.

We visited the Isidro site several times to talk to our informants. Three of them openly reported using Somadril, mainly when they were planning to have sex. But the recent jailing of a grocery store owner for selling Somadril to sex workers made them reluctant to talk. Our DJ informant Loli told us that users must now rely on customers and friends to buy Somadril in pharmacies downtown, 1 h away. But as one *waria* (transgendered person) told us, the pharmacies no longer openly sell Somadril due to these tighter controls: ‘You have to call first to order the drug. . . . You have to be close to the store owner.’

In Makassar’s Losari Beach, the sex workers whom we interviewed work freelance, finding customers through referrals from bellboys and *becak* drivers. They live in a nocturnal peer group that shares everything – food, lodging, and earnings from customers. They help each other to find customers and then use the proceeds to buy food and drugs for everybody. As we joined in their gatherings, especially on Wednesday and Saturday evenings (the former is ladies’ night, the latter a popular evening for young people to go out), it became clear to us that the priority in their lives was Somadril. The sex workers in Makassar craved the drug. Whereas the young women in Isidro got drunk on beer, sex workers in Makassar used Somadril to get high.

The sex workers at Losari Beach consumed Somadril in different ways. Some chewed it; others took it with Sprite (a soft drink commonly used as a solvent for drugs in Indonesia). Others mixed it with red label whiskey or Topi Roja, a local brand of vodka. As Rina told us: ‘If you mix it with an alcoholic drink, the effect is sure to be great.’ Others mixed Somadril with other PPDs such as Calmlet (alprazolam) or the painkiller Tramadol. Hasan, reflecting on his mixing of Tramadol and Somadril, said it made him ‘act like a mad man’. When they had enough money, they bought *pedas* (hot) food, which they said makes them sweat and enhances the high. They also wore warm jackets, and avoided the wind and cold drinks, which they said weakened the effect of Somadril.

When they could not get enough Somadril, our informants mixed or substituted it with cheaper PPDs such as ‘LL’ (also called ‘DoubleL’; chemical content unknown), which was bought from street vendors in sachets of around 10 pills and ‘Dextro’ (dextromethorphan, a cough medicine sold in generic containers in pharmacies). To get high, they swallowed 20–30 Dextro or several

LL pills. Neither are very strong, they said. Mira was one of the sex workers who kept a diary for us:

May 13 (2012): Last night I took only three pills of Somadril. For me, only taking three pills gives me a bad headache, it feels like my head will break into pieces.

May 14: I took five pills of Somad, and I added DoubleL, and I felt like a fool. DoubleL makes us uncommunicative, and not friendly to people. But, I like mixing Somad with DoubleL.

May 15: We didn’t have a supply of Somad, because we have a debt with the seller. I took 15 pills of Dextro and added three pills of DoubleL, and I felt like I had nothing . . . no worries, no debt, no sins. . . . But I am worried that if I take too much, it won’t work. It will kill me.

May 16: I took five pills of Somad, and it gave me a headache and I became sleepy. . . . Dextro makes me sweat like shabu-shabu [methamphetamine], because the heat comes from inside [panas dalam]. It makes me feel weak . . . but it can also make me feel confident if someone asks me for a date.

May 17: I have taken 10 pills of DoubleL, because I am in a bad mood, and I have nothing to do. DoubleL made me feel crazy, we laughed about everything, even things that are not funny.

May 18: I have taken 9 pills of Somad and I also drank 2 bottles of beer, so it feels really good. It’s balanced with beer. It makes me sleepy, but I enjoy it because it makes me feel confident.

Dextro and LL are second-choice drugs among sex workers. Dextro, our informants say, is used a lot among high school-aged young people (below age 18, and not included in our study) who lack the money to buy more expensive PPDs.

We were struck by the uniformity in the reported beneficial effects of Somadril. All of the sex workers to whom we talked said using it made them feel more *pede* (confident) and/or less *malu* (shy). These are important qualities in attracting customers; the drug makes the sex workers talkative and feel less inner resistance to their work. As Samsul notes in his diary: ‘I took four pills of Somad and five pills of DoubleL because if I am not taking Somad I have no confidence to accompany my clients, and no desire to look for them.’ Another entry in his diary stresses the uselessness of DoubleL for his work: ‘I didn’t have money to buy Somad, so finally a friend gave me DoubleL, but my eyes blurred and I looked like a fool. . . . I just kept on laughing, acting like a madman.’

We encountered more diversity in the reports of Somadril’s adverse effects. We asked a subset of the sex workers with whom we had a good rapport to fill in a four-day recall with the exact number of Somadril pills consumed and the effects they experienced (see Table 1). We suspected that the high doses of Somadril were causing withdrawal symptoms and wanted to know if they experienced any side effects.

Table 1 shows that our informants experience a range of side effects and withdrawal symptoms. Two of the three men reported nausea and vomiting (side effects not mentioned by the women), while two of the three women reported dizziness, an effect not reported by the men. In the focus groups, sex workers pointed out the differences in the effects they experienced, showing that they knew how Somadril worked in their friends’ bodies. Withdrawal effects include headache, feeling anxious, insomnia, neck and shoulder pain, and throbbing eyes.

Talking with the freelance sex workers over time, we came to realize that virtually all of their income was supporting their PPD

Table 1
Reported effects of Somadril among three male and three female sex workers.

Informant	Pills per day	Reported beneficial effects	Reported adverse effects	Reported withdrawal effects
Mira female, 24	3–10, average 7	Confidence, increased sexual desire	Dizziness, falls asleep with too many pills, headache	Neck and shoulder pain
Naimah female, 22	3–10, average 5	Feels comforted, less shy, more happy, less resistance to sex with clients	None reported	Throbbing eyes, crying, bad mood, insomnia
Rina female, 20	8–16, average 10	Confident, less shy, happy, stays awake and flies high	Dizziness	None reported
Hasan male, 22	7–23, average 16	Confident, more talkative, can stay up late; fly high; feels less stress, enjoys himself more and has more sex; weight loss	Nausea, makes you stupid, thinking too much, hard to move; insomnia or sleepy (depending on dose)	Headache and bad mood
Udin male, 24	5–10, average 8	Confident, less shy, happy, stronger	Feels sick and hungry, vomiting. If too much: angry, delirious, cannot walk, stomach problems	Sleepy, anxious, sad, crying
Rudi male, 23	21–31, average 24	Confident, calm, sleepy	Diarrhea, trembling	Headache, thinks a lot

use. We wondered if the drug made their work easier, or whether they now worked to buy Somadril. For most of them, Somadril seemed more important than food. When there was a shortage of customers they would accept those offering to pay less so that they could at least 'score a hit'. While the sex workers repeatedly emphasized that they were not drug users, they did not seem to realize the extent of their dependence. The amount of Somadril used by our informants and the extent to which they crave the drug suggest that they have not been able to control the risks of their drug-taking. Have they fallen off the edge?

Discussion

The ChemicalYouth study in South Sulawesi found the psychoactive prescription drug Somadril to be commonly used for non-medical reasons. Mall workers used Somadril recreationally to enhance sexual pleasure; they did not use it during the day, as this would impair their ability to work. While IDU made frequent mention of Somadril, they preferred more potent mind-altering substances. However for the sex workers at Losari Beach in Makassar, Somadril was the most important substance in their daily lives. They pooled their resources to buy it, and all reported ways to enhance its effects.

Our informants learnt about Somadril primarily by word of mouth and specifically from peers, including friends who were heroin users. Advertisements were not mentioned as a source of information – hardly surprising as the direct-to-consumer advertising of prescription drugs is not allowed in Indonesia. Our informants were enthusiastic about Somadril. They considered it a 'good drug' that makes them feel good and facilitates their work without making them 'act like madmen'. They all had their preferred dosage, consuming enough Somadril to feel confident but not so much that they became dizzy or fell asleep, taking it with Sprite and hot food to enhance its efficacy. The legal status of the drug moreover gives them a sense of security. These ethnographic observations suggest that in using Somadril, our informants engage in edgework in a similar way to middle-class young people and students in the US and Australia (DeSantis et al., 2010; Green & Moore, 2009; Quintero & Nichter, 2011). They enjoy the highs produced by the drug, while controlling its detrimental effects.

However, while young people in the US and Australia seemed to manage the potentially negative consequences of PPD use for their (academic) careers, this did not seem to be the case for our sex worker informants in Makassar. Despite their cautious use, they had become dependent on Somadril. The six sex workers who filled out 4-day recalls reported using between six and 24 pills a day, far above the recommended daily maximum. They crave Somadril,

suffering all kinds of aches and pains, anxiety, and insomnia when they cannot get it. Why did they lose control?

Part of the explanation lies in the structure of their everyday lives. Unlike young people in the US and Australia, using PPDs intermittently at parties and during periods of academic stress (DeSantis et al., 2010; Green & Moore, 2009), our informants in Makassar feel a daily 'need' for the drug to facilitate their working lives. They have ready access to Somadril and are not fully aware of its risks. Believing that a painkiller that can be bought over the counter is relatively safe, they have failed to prevent dependence.

While physicians and regulators in Europe and the US are well aware of carisoprodol's addictive potential, this knowledge has seemingly not reached Makassar and Isidro at time of our study. One could reasonably argue that the manufacturer of Somadril, Actavis, is responsible for providing up-to-date information on the risks of its products.

A simple ban on carisoprodol by the Indonesian authorities along the lines of the EMEA ruling (EMEA, 2007) could halt its use, but in the short run this would lead to very uncomfortable side effects for our informants. To soften the effects of withdrawal, sex workers at Losari Beach would likely turn to other PPDs such as Calmlet (alprazolam), the drug of choice among IDU. Alprazolam, which also leads to dependence, is not likely to be taken off the market as it has beneficial medical effects.

With the decentralization of health and narcotics policies in Indonesia, there is a risk that police raids will increasingly jail young vendors and users of PPDs for possession without a prescription. Jails are not good places for sex workers to end their dependence on Somadril. Rather than stopping their use, they are likely to start using heroin, which circulates abundantly in the prisons of South Sulawesi.

What the sex workers in South Sulawesi need is more awareness of the risks they are taking when using PPDs. Current harm reduction initiatives in South Sulawesi limit themselves to needle exchange programs and supplying methadone to IDU and people living with HIV (the groups overlap), with limited success. Our case study challenges harm reduction programs to address a much broader range of PPDs, which are used by young people to feel confident and achieve their desires.

Acknowledgments

We thank our interlocutors for their patience each time we visited them with more questions on the role of Somadril and other chemical substances in their lives. We hope that our analysis will improve harm reduction programs in such a way that young people are more aware of the risks of PPDs in the future.

We are indebted to Takeo David Hymans who did the substantive editing on the first version of this manuscript and helped sharpen our analysis. Our two anonymous peer reviewers gave very helpful comments and suggestions, and Erin Martineau copy-edited the revised manuscript. The empirical research phase of this project was funded through the Global Health Research Priority Programme of the University of Amsterdam. Analysis of the findings was funded by the European Research Council Advanced grant 'ERC-2012-AdG – 323646-ChemicalYouth', awarded to Anita Hardon. Nurul Ilmi Idrus is a senior research fellow on the ChemicalYouth project.

Conflict of interest statement

The authors declare that they have no conflict of interest.

References

- Actavis. (2012). *Somadril compositum*. Retrieved from: <http://www.actavis.co.id/jd/products/Somadril.htm>
- Berger, F., Kletzklin, M., Ludwig, B., & Margolin, S. (1959). The history, chemistry, and pharmacology of carisoprodol. *Annals of the New York Academy of Sciences*, 86, 90–107.
- Bramness, J., Furu, K., Engeland, A., & Skurtveit, S. (2007). Carisoprodol use and abuse in Norway: A pharmacoepidemiological study. *British Journal of Clinical Pharmacology*, 64(2), 210–218.
- Boyer, E. W., Shannon, M., & Hibberd, P. L. (2005). The internet and psychoactive substance use among innovative drug users. *Pediatrics*, 115(2), 302–305.
- Colliver, J., Kroutil, L. A., Lantung, D., & Gfroerer, J. C. (2006). *Misuse of prescription drugs: Data from the 2002, 2003 and 2004 National Surveys on Drug Use and Health*. Rockville: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Coveney, C., Gabe, J., & Williams, S. (2011). The sociology of cognitive enhancement: Medicalisation and beyond. *Health Sociology Review*, 20(4), 381–393.
- DEA (Drug Enforcement Administration). (2011). *Drugs and chemicals of concern: Carisoprodol*. Retrieved from: www.deadiversion.usdoj.gov/drugs-concern/carisoprodol/index.html
- DeSantis, A. D., & Hane, A. C. (2010). Adderall is definitely not a drug: Justifications for the illegal use of ADHD stimulants. *Substance Use & Misuse*, 45, 31–46.
- DeSantis, A. D., Noar, S. M., & Webb, E. M. (2010). Speeding through the frat house: A qualitative exploration of nonmedical ADHD stimulant use in fraternities. *Journal of Drug Education*, 40(2), 157–171.
- Dumit, J. (2012). *Drugs for life: How pharmaceutical companies define our health*. Durham, NC: Duke University Press.
- DuPont, R. L. (2010). Prescription drug abuse: An epidemic dilemma. *Journal of Psychoactive Drugs*, 42(2), 127–132.
- Ecks, S., & Basu, S. (2009). The unlicensed lives of antidepressants in India: Generic drugs, unqualified practitioners and floating prescriptions. *Transcultural Psychiatry*, 46(1), 86–106.
- EMA (European Medicines Agency). (2007). *European Medicines Agency recommends suspension of marketing authorisations for carisoprodol-containing medicinal products*. Retrieved from: www.emea.europa.eu/docs/en_GB/document_library/Press_release/2009/11/WC500015582.pdf
- Famuyiwa, O., Aina, O. F., & Bankole-Oki, O. M. (2011). Epidemiology of psychoactive drug use amongst adolescents in metropolitan Lagos, Nigeria. *European Journal for Child and Adolescent Psychiatry*, 20(7), 351–359.
- Gaillard, Y., Billault, F., & Pepin, G. (1997). Meprobamate overdose: A continuing problem. Sensitive GC–MS quantitation after solid phase extraction in 19 fatal cases. *Forensic Science International*, 86(3), 173–180.
- Garnier, L., Arria, A. M., Caldeira, K. M., Vincent, K. B., O'Grady, K. E., & Wish, D. E. (2010). Sharing and selling of prescription medications in a college student sample. *Journal for Clinical Psychiatry*, 71(3), 262–269.
- Ghandour, L. A., El Sayed, D. S., & Martins, S. S. (2012). Prevalence and patterns of commonly abused psychoactive prescription drugs in a sample of university students from Lebanon: An opportunity for cross cultural comparison. *Journal for Drug and Alcohol Dependence*, 121(1–2), 110L–117.
- Gorman, H. (2011). Marginalisation of 'immoral women': Experiences of young women street sex workers in Surabaya. *Intersections: Gender and Sexuality in Asia and the Pacific*, 26. Retrieved from: http://intersections.anu.edu.au/issue26_contents.htm
- Green, R., & Moore, D. (2009). Kiddie drugs' and controlled pleasure: Recreational use of dexamphetamine in a social network of young Australians. *International Journal of Drug Policy*, 20, 402–407.
- Hall, K. M., Irwin, M. M., Bowman, K. A., Frankenberger, W., & Jewett, D. C. (2005). Illicit use of prescribed stimulant medication among college students. *Journal of American College Health*, 53(4), 167–174.
- Hardon, A., Idrus, N. I., & Hymans, T. D. (2013). Chemical sexualities: The use of pharmaceutical and cosmetic products by youth in South Sulawesi, Indonesia. *Reproductive Health Matters*, 21(41), 214–224.
- Herzberg, D. (2011). Blockbusters and controlled substances: Miltown, Quaalude, and consumer demand for drugs in postwar America. *Studies in the History and Philosophy of Biological and Biomedical Sciences*, 42(4), 415–426.
- Hunt, G., Evan, K., & Kares, F. (2007). Drug use and meaning of risk and pleasure. *Journal of Youth Studies*, 10(1), 73–96.
- Informasi Spesialite Obat Indonesia (ISO). (2010). *Penerbit Ikatan Apoteker Indonesia (Vol. 46)* Jakarta: ISO.
- Jenkins, J. H. (2010). Introduction. In J. H. Jenkins (Ed.), *The pharmaceutical self: The global shaping of experience in an age of psychopharmacology* (pp. 3–16). Santa Fe, NM: School for Advanced Research Press.
- Lovell, A. (2006). Addiction markets: The case of high-dose buprenorphine in France. In A. Petryna, A. Lakoff, & A. Kleinman (Eds.), *Global pharmaceuticals: Ethics, markets, practices* (pp. 136–171). Durham, NC: Duke University Press.
- Lyng, S. (1990). Edgework: A social psychological analysis of voluntary risk taking. *American Journal of Sociology*, 95(4), 851–886.
- McCabe, S. E., Teter, C. J., & Boyd, C. J. (2006). Medical use, illicit use, and diversion of abusable prescription drugs. *Journal of American College Health*, 54(5), 269–278.
- Mulyadi. (2011). *Impact of Somadril. Dampak Mengkomsumsi Somadril*. Retrieved from: <http://www.blackdevil-yadiyupz.blogspot.nl/>
- Nasir, S., & Rosenthal, D. (2009). The social context of initiation into injecting drugs in the slums of Makassar, Indonesia. *International Journal of Drug Policy*, 20, 237–243.
- Olsen, H., Koppang, E., Alvan, G., & Mørland, J. (1995). Carisoprodol elimination in humans. *Therapeutic Drug Monitoring*, 16, 337–340.
- Quintero, G., & Nichter, M. (2011). Generation RX: Anthropological research on pharmaceutical enhancement, lifestyle regulation, self-medication and recreational drug use. In M. Singer, & P. E. Erickson (Eds.), *A companion to medical anthropology* (pp. 339–357). Oxford: Wiley-Blackwell.
- Rasmussen, N. (2008). *On speed: The many lives of amphetamine*. New York: New York University Press.
- Reeves, R. R., & Burke, R. S. (2010). Carisoprodol: Abuse potential and withdrawal syndrome. *Current Drug Abuse Review*, 3(1), 33–38.
- Rose, N. (2007). *The politics of life itself: Biomedicine, power and subjectivity in the twenty-first century*. Princeton, NJ: Princeton University Press.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2003). *Emergency Department trends from the Drug Abuse Warning Network, final estimates 1995–2002*. Rockville: SAMHSA, Office of Applied Studies.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings*. Rockville, MD: SAMHSA. HHS Publication No. SMA 09–4434.
- Tone, A. (2009). *The age of anxiety: A history of America's turbulent affair with tranquilizers*. New York: Basic Books.
- Waddell, G., McIntosh, A., Hutchinson, A., Feder, G., & Lewis, M. (1999). *Low back pain evidence review 2*. London: Royal College of General Practitioners.
- Wei, C., Guadamuz, T. E., Lim, S. H., Huang, Y., & Koe, S. (2011). Patterns and levels of illicit drug use among men who have sex with men in Asia. *Drugs and Alcohol Dependence*, 120, 246–249.