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Buprenorphine/naloxone treatment practices in Malaysia: Results of national surveys of physicians and patients

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ABSTRACT

Objective: Medication assisted treatment with buprenorphine/naloxone (Bup/Nx), including prescribing and dispensing practices of general practitioners (GPs) in Malaysia and their patients' experiences with this treatment have not been systematically examined. The current study surveyed GPs providing Bup/Nx treatment and patients receiving office-based Bup/Nx treatment in Malaysia.
Methods: Two cross-sectional surveys of GPs ($N = 115$) providing outpatient Bup/Nx maintenance treatment and of patients ($N = 253$) currently receiving Bup/Nx treatment throughout peninsular Malaysia.
Results: Physicians prescribed Bup/Nx dosages in the range of 2–4 mg daily for 70% of patients and conducted urine testing in the past month on approximately 16% of their patients. In the patient survey, 79% reported taking daily Bup/Nx doses of 2 mg or less; 82% reported that no urine toxicology testing had been conducted on them in the past month, 36% had an opiate positive urine test at the time of the survey, 43% reported illicit opiate use, 15% reported injection of heroin and 22% reported injection of Bup/Nx in the past month.
Conclusion: Low daily Bup/Nx doses, lack of behavioral monitoring or counseling, and high rates of continued drug use, including injection of drugs and medications during Bup/Nx treatment in Malaysia, indicate continuing problems with implementation and less than optimal treatment effectiveness. High cost of Bup/Nx in Malaysia may deter patients from seeking treatment and contribute to taking low Bup/Nx dosages. Improved training of physicians and establishing standards for Bup/Nx dosing, routine toxicology testing, and counseling may be needed to improve care and treatment response.

1. Introduction

The high prevalence of interrelated problems with opioid use disorder, injection drug use (IDU), and HIV/AIDS in Malaysia has led to the scale-up of public health approaches, including opioid agonist maintenance treatment with buprenorphine or methadone. Malaysia has more than 300,000 registered people who use drugs (PWUD)-approximately 1.1% of its population of about 30 million-and an estimated 170,000 people who inject drugs (PWID; Nazar and Ahlam, 2007; Global AIDS Response, 2012), with heroin continuing to be the drug most frequently injected. The prevalence of HIV among PWID in Malaysia is reported to range between 25% and 40% (Kamarulzaman, 2009; Vicknasingam et al., 2009), and IDU accounts for the majority of HIV transmission in Malaysia. Currently, approximately 380 private general medical practices provide buprenorphine treatment to an estimated 10,000 patients with opioid use disorders, and over 27,000 patients are treated with methadone in 333 general practice or government run methadone maintenance treatment centers (Singh et al., 2013).

As experienced in many other countries (Chua and Lee, 2006; Cicero et al., 2007, 2014; Hakansson et al., 2007; Jenkinson et al., 2005; Lavonas et al., 2014; Lee, 2006; Ling et al., 2012; Nielsen et al., 2007; Obadia et al., 2001; Singh et al., 1992; Strang, 1985; Vidal-Trecan et al., 2003; Yokell et al., 2011) the initial, rapid expansion from 2002 through 2006 of buprenorphine treatment (using the buprenorphine mono tablet) in Malaysia was accompanied by problems with buprenorphine misuse, including injection use (Bruce et al., 2008, 2009; Vicknasingam et al., 2010). To reduce these problems, beginning in 2007, Malaysia introduced the buprenorphine/naloxone combination tablet (Bup/Nx), which has a lower abuse liability; restricted use of the mono tablet to pregnant women or inpatient settings; and implemented a Substance Control Management System to monitor medication procurement, storage and dispensing by physicians. Additionally, the Addiction Medicine

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Association of Malaysia developed a web based monitoring system to monitor dosing and prescription by physicians. To date, however, the Bup/Nx prescribing and dispensing practices of general practitioners (GPs) in Malaysia, the level of additional services they provide, and their patients' experiences with these treatments have not been systematically examined. Consequently, the current study surveyed GPs providing Bup/Nx treatment and patients receiving office-based Bup/Nx treatment throughout Malaysia, and sought to obtain data regarding Bup/Nx dosing and dispensing, other treatment practices of GPs providing this treatment, as well as the experiences and responses of patients receiving Bup/Nx treatment in Malaysia.

2. Methods

Between January and October, 2013, we concurrently conducted two cross-sectional anonymous surveys enrolling a sample of GPs providing outpatient Bup/Nx treatment ($N = 115$) and a sample of patients currently receiving this treatment ($N = 253$) throughout eleven states of the peninsular part of Malaysia.

2.1. GP survey

All GPs providing Bup/Nx treatment ($n = 340$), identified by the pharmaceutical company distributing Bup/Nx in Malaysia, were contacted by a letter describing the survey and inviting them to participate in an anonymous survey. GPs did not receive any compensation or incentives for participation in this study. In addition to soliciting participation by letter, research assistants from the Centre for Drug Research at Universiti Sains Malaysia in Penang contacted GPs in their clinics and also solicited participation at regional and national meetings and workshops organized by the Addiction Medicine Association of Malaysia. The survey was administered as a web-based questionnaire for GPs responding to the letters ($n = 27$) or in paper and-pencil format for GPs interviewed in their clinics ($n = 51$) or at educational meetings ($n = 37$). Both versions of the GP survey had identical instructions and questions; the questions were written in Bahasa Melayu, and the surveys were self-administered by the GPs. No personally identifiable information was collected from the GPs. We surveyed GPs from rural and urban locations in eleven states in Peninsular Malaysia (one state had no GPs prescribing Bup/Nx at the time of the survey).

2.2. Patient survey

While most patients receiving Bup/Nx treatment in Malaysia are registered, this research team had no access to the patient database, maintained by the Ministry of Health, and, therefore, random or systematic sampling of the patient population was not possible. Instead, individuals currently receiving outpatient treatment with Bup/Nx were recruited at their point of care clinics throughout all eleven states of peninsular Malaysia. Between January and October of 2013, a total of 292 patients were contacted at or immediately outside the clinics (at 36 sites in 11 peninsular states) by research assistants and invited to participate: 17 refused to participate and 22 tested negative for buprenorphine and were not eligible to participate; 253 participated in the survey. The patient survey questionnaire was administered by research assistants who read the survey questions in Bahasa Melayu and recorded the patients' answers. Each interview took approximately 20 min. Three research assistants (two graduate students and one full-time RA working at the Centre for Drug Research, USM) were trained and supervised throughout the survey by the study investigators. Additionally, urine samples were obtained from 95% (241/253) patient survey participants (12 participants were unable to provide a urine sample). Urine samples were tested for opiates (morphine metabolites), buprenorphine, and for drugs that are frequently used in Malaysia including amphetamine, methamphetamine, benzodiazepines, THC, and ketamine. None of the study participants was visibly intoxicated at the time of the survey. Each patient participating in the survey received RM 20 (~$6 USD) as a compensation for their time. All patients provided written consent to participate in the study. They were assured anonymity of their answers, and no personally identifiable information was linked to their survey responses. The study was reviewed and approved by the Human Research and Ethical Committee of Universiti Sains Malaysia.

2.3. The survey questionnaires

Separate questionnaires were developed for the GP and patient surveys. To develop the GP questionnaire, we first conducted in-depth interviews with three GPs currently prescribing Bup/Nx to gain insight into their treatment and dispensing practices. GPs in Malaysia are required to have MD degree which is awarded after 5 years of medical school studies. One year residency training is also required before they are allowed to practice medicine independently. Additional training (several years) is required to obtain a specialty title (Psychiatry, Anesthesiology, Palliative Care, etc.). There were approximately 7000 general medical practice clinics in Malaysia in 2013 (Malaysian Medical Association). There were no mandatory training or certification requirements in Malaysia to prescribe and sell Bup/Nx at the time of the survey; any licensed/registered and practicing physician was allowed to prescribe and sell Bup/Nx to their patients. The Addiction Medicine Association of Malaysia offers a voluntary training course to GPs who are interested in prescribing Bup/Nx. In Malaysia, GPs prescribe, sell, and dispense the prescribed and purchased doses of medications directly to their patients during the patient visit. The primary income GPs derive from the per visit charge and profit on all medications sold and dispensed, including Bup/Nx. Patients are typically not charged for other, specific treatment components or interventions, such as counseling. Patients also generally have to pay for additional tests or laboratory procedures conducted by the GPs (e.g., urine drug tests, blood or other specimen tests, or other diagnostic tests or procedures), but the profit margin on these tests and procedures is relatively small.

The questionnaire consisted of 56 questions about demographic and educational background of the GPs; specific training they had received on Bup/Nx treatment; prescription and dispensing practices, including the number of patients in treatment with Bup/Nx and the proportions of patients in their Bup/Nx treatment practice receiving different daily doses of Bup/Nx (specifically, the GPs were asked to estimate the proportion of their patients currently receiving 2 to 4, 6 to 8, 10 to 16, 18 to 24, and above 24 mg daily), frequency of meeting with patients and dispensing Bup/Nx, number of times Bup/Nx ingestion was supervised in the office in the past month; characteristics of their medical practice (e.g., how long practicing medicine, how long treating substance use disorders, total number of patients in their general medical practice); range of services offered to Bup/Nx patients in their clinics; and other monitoring or behavioral interventions, including information on the numbers of their Bup/Nx patients receiving urine toxicology testing in the past month), and number of patients in the past month they inspected for the presence of track marks or signs of recent injection drug use.

The patient questionnaire was developed based on our previous studies (Chawarski et al., 2012; Vicknasingam et al., 2010) and collected information on patients' demographics, drug use history and current drug use patterns, current Bup/Nx dosage and frequency of administration, and receipt of specific treatment services from the GP or the GP's clinic (including urine toxicology testing, drug counseling, others).