Alcohol and tobacco use among methadone maintenance patients in Vietnamese rural mountainside areas

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ARTICLE INFO

ABSTRACT

Introduction: The expansion of methadone maintenance treatment (MMT) program requires more data about the factors affecting the effectiveness of treatment, especially behavioral data such as smoking and alcohol use among patients. This study aimed to examine the prevalence of tobacco and alcohol consumption and identify related factors among MMT patients in the Vietnamese rural mountainside.
Methods: We interviewed 241 MMT patients in two clinics in Tuyen Quang, a mountainous province in Vietnam. Patients were asked to report the smoking status (current smoker or not), nicotine dependence (by Fagerström test for nicotine dependence - FTND) and alcohol use (by using the Alcohol Use Disorders Identification Test – AUDIT-C). EuroQol-5 dimensions-5 levels (EQ-5D-5L) and EQ-Visual analogue scale (EQ-VAS) were employed to measure health-related quality of life. Multivariate logistic and Tobit regressions were used to identify the associated factors.
Results: The majority of respondents were current smokers (75.7%) and a low proportion were hazardous drinkers (18.3%). People receiving treatment in a rural clinic (OR = 0.45; 95%CI = 0.22–0.92) and had problems in usual activities (OR = 0.20; 95%CI = 0.06–0.70) were less likely to be smokers. Q-VAS score (Coef. = 0.03; 95%CI = 0.02–0.05) and having problems in mobility (Coef. = 0.72; 95%CI = 0.03–1.42) was found to be associated with the increase of nicotine dependence. In terms of alcohol drinking, people with other jobs were more likely to drink hazardously compared to unemployed patients (OR = 2.86; 95%CI = 1.20–6.82). Similarly, patients having higher duration of MMT had higher likelihood of being hazardous drinkers (OR = 1.07; 95%CI = 1.01–1.13).
Conclusions: This study highlights the low rate of alcohol abusers but a considerably high proportion of current smokers among MMT patients in the rural mountainside area. Alcohol and tobacco counseling programs combined with social and family support also play an essential role in alcohol and tobacco control. In addition, implementing mass community-based behavioral change campaigns to reduce drug addiction-related stigmatization should also be prioritized.

1. Introduction

Tobacco smoking and alcohol use have been well-documented as among top risk factors for global burden of diseases (Fein, Fletcher, & Di Sclafani, 1998; John et al., 2007; Rao & Andrade, 2016; Tran et al., 2011; WHO, 2015a; WHO, 2015b; Wynder, 1954). However, these problems are common in drug use population (Teesson et al., 2012). Various studies have shown that tobacco and alcohol abuse often co-exist among patients enrolled in methadone maintenance treatment (MMT) programs (Richter et al., 2007a; Shadel et al., 2005; Teplin et al., 2007). The prevalence of cigarette use in this group is extremely high, ranging from 73% to 94% (Richter et al., 2001; Stark & Campbell, 1993a; Zirakzadeh et al., 2013), whereas the rate of alcohol abuse is various from 5% to 49% (Hillebrand et al., 2001; Hunt et al., 1986; Rengade, Kahn, & Schwan, 2009; Siassi & Alston, 1976). A study Elkader et al. indorsed that the interaction between methadone and nicotine may alleviate mental health problems and other smoking-related illnesses (Elkader et al., 2009). In addition, excessive alcohol use among MMT patients has been found to be associated with poor quality of life, psychological impairments and increased risk of mortality (Nyamathi et al., 2009a).

Screening and identifying patients who are at risk of alcohol and tobacco addiction are vital for promptly counseling and treatment. However, characteristics of addicted patients may vary across settings. Some studies found that people with higher duration of MMT were less likely to drink hazardously or smoking heavily (Baran-Furga et al., 2005; Do et al., 2017; Duan et al., 2017), while others indicates no association (Stark & Campbell, 1993b). Song Duan et al. (2017) in China found that male, older and less educated patients had higher likelihood to be heavy smokers and hazardous drinkers (Duan et al., 2017). Meanwhile, Huyen et al. in Vietnam suggested that being employed was a negative predictor of level of nicotine dependence (Do et al., 2017). Patients with HIV positive were found to have lower likelihood of smoking and alcohol abusing than those with HIV negative (Do et al., 2017; Duan et al., 2017). With these variabilities of potential markers for predicting alcohol and smoking addicts among MMT patients, understanding the factors associated with these risk behaviors is essential in order to ensure the effectiveness of MMT program.

Tobacco and alcohol are highly prevalent among general Vietnamese population. Data on Global Adult Tobacco Survey 2015 indicated that the overall smoking rate of Vietnamese people were 22.5%; 45.3% among males and 1.1% among females (Van Minh et al., 2017). Moreover, a national survey suggested that > 40% of men drank hazardously compared to only below 5% of female (Bui et al., 2015). To resolve these phenomenon, the National Assembly of Vietnam issued the Law on prevention and control of tobacco harms in 2012 to better control the smoking epidemic (The National Assembly of Vietnam, 2012). In addition, a draft of law on alcohol and beer harm prevention has been proposed to response to the increasing trend of alcohol users (The National Assembly of Vietnam, 2016). These regulations are a crucial steppingstone for later measures for tobacco and alcohol control, especially in the MMT group.

Currently, there has been 251 MMT clinics operated with > 46,000 patients in Vietnam (Control, V.A.o.H.A., 2016). Understanding smoking and alcohol use patterns among patients are vital to optimize the effectiveness of MMT program. However, to our knowledge, there is very few existing empirical research assessing tobacco and alcohol use among MMT clients (Nyamathi et al., 2009b), especially in the rural mountainside where outreach services are limited (Office, V.G.S., 2014). A previous study in Vietnam urban and rural settings found that 87.3% of MMT patients were current smokers and 29.6% were hazardous drinkers (Do et al., 2017). This study, therefore, aimed to examine the prevalence of tobacco and alcohol consumption and related factors among MMT patients in the Vietnamese rural mountainside.

2. Materials and methods

2.1. Study setting and sampling method

A cross-sectional study was conducted from May to August 2016 in Tuyen Quang Province in Northeastern Vietnam. Tuyen Quang is a mountainous province, which is located in the Northern Vietnam. The main terrains of this province are high mountains and deep valleys. Tuyen Quang has a population of > 760.000 people (2015) with 22 ethnics; and most of them work in agriculture and hospitality sectors.

There were three MMT clinics in the study setting: Tuyen Quang Province clinic (a third-grade urban city because it belongs to Tuyen Quang Province), Yen Son District clinic (a rural area), and Son Duong District clinic (a rural area), where a combined total of 338 illicit drug users were receiving methadone treatment. In the end, we excluded Yen Son District, where only 9 patients were receiving MMT. The majority of patients enrolled in this study were being treated in Tuyen Quang clinic (284 patients), and 95 patients were being treated in the Son Duong clinic.

A convenience sampling method was used to recruit patients. Criteria for participation included: 1) receiving MMT in either of the enrolled sites; 2) being present at the clinic during the study period; 3) being at least 18 years old; 4) being able to answer the questionnaire (being able to speak because we collect data through face-to-face interview and not suffer from cognitive disorders); and 5) agreeing to participate. Those met all above-mentioned criteria would be invited to a private room and confirm their enrollment by signing the written informed consent form. We enrolled a total of 241 patients in the study, with a response rate of 80–90% across the two selected sites. The reasons for not participations included: 1) having busy work; 2) being worried about privacy; and 3) unable to answer due to sickness.

2.2. Measurements and instruments

Data were collected by face-to-face interviews in around 20–25 min using a structured questionnaire presented as paper forms. Data collectors were well-trained Masters of Public Health students and staff from Hanoi Medical University. In order to avoid potential bias, clinic staffs did not interview MMT patients.

2.2.1. Socioeconomic characteristics

The socioeconomic characteristics that we measured included: age, gender, education level, marital status, employment, and household monthly income. Household monthly income was then separated into five quintiles, from "poorest" to "richest".

2.2.2. Health status

We employed the EQ-5D-5L to assess health-related quality of life of MMT patients. The Vietnamese version of EQ-5D-5L was translated and adopted as well as validated elsewhere (Tran et al., 2011; Tran, Ohinmaa, & Nguyen, 2012). The questionnaire consists of five domains: Mobility, Self-care, Usual activities, Pain/Discomforts and Anxiety/Depression, with five levels of severity: no problems, slight problems, moderate problems, severe problems, and extreme problems, giving 3125 (5^5) possible health states with respective single indexes (Rabin et al., 2011). We also used EQ-VAS to record patients' perception of their current health status with the score ranging from 0 "The worst health state that you could imagine" to 100 "The best health state that you could imagine" (Rabin et al., 2011).

2.2.3. Alcohol drinking

We screened high alcohol consumption and abuse by using the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) (Bradley et al., 2007). The Vietnamese version of this tool was validated elsewhere (Tran et al., 2013; Tran et al., 2014). It consists of three questions, with patients receiving a total score from 0 to 12. Higher