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Factors related to client satisfaction with methadone maintenance treatment in China

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ABSTRACT

Background: This study examined clients' treatment satisfaction with the services provided by methadone maintenance treatment (MMT) in China and explored relevant factors that are directly or indirectly associated with treatment satisfaction.
Methods: The study used baseline data from a randomized controlled trial conducted among 2,448 clients from 68 MMT clinics in five provinces of China. The participants reported their demographic characteristics, treatment-related factors, depressive symptoms, treatment progression, counseling rapport, and treatment satisfaction. Structural equation modeling (SEM) was used to test the direct and indirect relationships among various factors and treatment satisfaction.
Results: Clients' demographic characteristics, such as older age, had both a direct effect on treatment satisfaction and an indirect effect mediated by counseling rapport. Depressive symptoms and a lack of social support had a direct negative impact on treatment satisfaction and an indirect effect mediated by treatment progression and counseling rapport. Both mediators: treatment progression (estimate = 0.227, $p < 0.01$) and counseling rapport (estimate = 0.229, $p < 0.01$), showed positive associations with treatment satisfaction.
Conclusion: The findings reiterate the complex nature of MMT clients' treatment satisfaction and its interrelationship with multidimensional factors. The study has implications for evaluating the quality of care provided by MMT programs and suggests several strategies that can potentially improve MMT clients' level of treatment satisfaction.

1. Introduction

Since 2000, the World Health Organization has strongly advocated the use of client's treatment satisfaction measures to guide program improvement efforts in addiction treatment services (WHO, 2000). Treatment satisfaction indicators provide information regarding clients' views of the program environment, client-provider interactions, and the perspectives of clients receiving treatment services, which can inform program managers and researchers about clients' needs and treatment experiences (Trujols, Iraurgi, Oviedo-Joekes, & Guardia-Olmos, 2014; Simpson, Joe, Rowan-Szal, & Greener, 1997). Sixma, Kerssens, Campen, and Peters (1998) argued that it is more pertinent to measure treatment satisfaction based on clients' expectations or needs for treatment services and their treatment experiences rather than focusing on results or outcomes. A study conducted in Baltimore, Maryland revealed that satisfaction with methadone treatment was predictive of retention independently of clinical severity (Kelly, O'Grady, Brown, Mitchell, & Schwartz, 2010). Another study in California observed that greater service intensity and treatment satisfaction were positively related to both treatment completion and longer treatment retention (Hser, Evans, Huang, & Anglin, 2004).

Client's treatment satisfaction is a multidimensional concept and a broad measure that can be influenced by various factors, such as client characteristics, environment, treatment duration, and drug use history. Marchand et al. (2015) found that among long-term opioid users, males reported lower satisfaction with their opioid agonist treatment than females did. Older clients were more satisfied with services received as compared to younger clients (McLellan & Hunkeler, 1998). A study in Malaysia reported that being single or married was associated with higher odds of overall treatment satisfaction compared to divorced or separated clients (Aziz & Chong, 2015). Educational attainment was also identified as a significant determinant of treatment satisfaction, with less educated clients reporting greater satisfaction (Hall & Dornan, 1990).

A large body of research has examined the interrelationships among treatment satisfaction and the provider-patient relationship, treatment progress, and treatment outcomes (Gainey, Wells, Hawkins, & Catalano, 1993; Simpson et al., 1997; Carlson & Gabriel, 2001). Joe, Simpson, Dansereau, and Rowan-Szal (2001) incorporated counseling rapport as a predictor of treatment outcome and found that greater counseling

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rapport was related to better outcomes at follow-up, even after adjusting for the duration of and satisfaction with treatment. More recent studies have reported that treatment satisfaction was associated with increased attendance at counseling during the first three months of treatment (Trujols et al., 2012) and that the patient-provider relationship was significantly related to treatment satisfaction and program success (Madden, Lea, Bath, & Winstock, 2008; Tran, Nguyen, Phan, & Latkin, 2015).

In 2004, the Chinese government pilot tested eight MMT clinics to address the dual epidemics of HIV and drug use (Pang et al., 2007). Based on results showing a reduction in heroin use, intravenous injection, and drug-related crime, the national MMT program was scaled up rapidly. A total of 767 MMT clinics were established in 28 provinces by the end of 2014 (National Health and Family Planning Commission of China, 2015). The clinics are generally located in administrative areas with >500 registered opiate users, affiliated with local Center for Disease Control and Prevention (CDC), hospital, psychosocial health center, or voluntary detoxification center (Sullivan et al., 2014). Ancillary services include counseling, testing of sexually transmitted infection, psychosocial support, education, skills training for employment, referrals for related health issues and incentives (Lin & Detels, 2011). Despite its initial success in the first decade of implementation, barriers to achieving optimal clinical outcomes in MMT remain. The identified challenges include concurrent heroin use, reduced adherence, low retention and dropout, insufficient provider-client communication, and a scarcity of additional services (Lin et al., 2010; Li, Wu, et al., 2012; Li, Lin, 2012; Jiang et al., 2014; Zhou & Zhuang, 2014; Zhang et al., 2015; Zhang, Xu, et al., 2016). All of these challenges are potentially related to suboptimal treatment satisfaction. To our knowledge, limited research has directly measured clients' perspectives on their treatment progression, their relationships with providers, and their level of satisfaction with MMT treatment. In this study, we focus on treatment progression and satisfaction from the client's perspective and assess relevant factors that directly or indirectly influence treatment satisfaction outcomes.

2. Material and methods

2.1. Study design

This cross-sectional study used the baseline data of all participants from a randomized controlled intervention trial on MMT care for HIV prevention in five provinces of China (Guangdong, Hunan, Jiangsu, Shanxi, and Sichuan). The five provinces vary in geographic, economic, and drug use conditions. We randomly selected 68 of 110 MMT clinics that had >80 current clients in the five provinces. In each of the 68 clinics, 36 clients were randomly selected, for a total sample size of 2448 clients. Based on China's official guidelines, all MMT clients must be 1) at least 20 years old, 2) opiate dependent based on diagnosis criteria in Chinese Classification of Mental Disorders, Third Edition (CCMD-3; Chinese Society of Psychiatry, 2001), 3) lacking severe psychosis and neurological damage, and 4) not under criminal or civil charges (Ministry of Health of China, Ministry of Public Security of China, & State Food and Drug Administration of China, 2006). This study only included clients receiving MMT services at the participating clinics.

2.2. Participant recruitment

Prospective clients were randomly selected at participating clinics during their daily treatment visits. The project recruiters first explained the recruitment information, including the study purpose, procedure, risks and benefits, to the clients verbally as well as with a printed flyer. The recruiters then informed prospective participants that participation was voluntary and that refusal to participate would not affect their treatment services. Written informed consent was obtained from every participant before data collection. The refusal rate was <5%. The study obtained ethical approval from the Institutional Review Boards of the participating institutes in the U.S. and China.

2.3. Data collection

The data collection began in September 2012 and was completed in August 2013. The participants were surveyed face to face by trained interviewers not affiliated with the MMT program in a private room of the participating clinic. The Computer Assisted Personal Interview (CAPI) method was utilized to administer the questionnaire, with interviewers reading questions to the participants and recording their responses on computers. Participants took approximately 45 to 60 min to complete the survey. Each participant received 30 yuan (approximately 5 U.S. dollars) for his or her time spent on the survey.

2.4. Measures

2.4.1. Treatment satisfaction

We used a 12-item scale to evaluate clients' treatment satisfaction with MMT treatment based on the Texas Christian University Client Evaluation of Self and Treatment (TCU-CEST) forms. This instrument is comprised of four self-reported assessments: 1) Treatment Needs and Motivation Form, 2) Social Functioning Form, 3) Psychological Functioning Form, and 4) Treatment Engagement Form. These forms have been widely used to monitor the treatment needs and progress of clients and to gauge client changes over time in methadone treatment settings (Davis-Jones, 2008; Moura, Ferros, & Negreiros, 2013; Joe, Broome, Rowan-Szal, & Simpson, 2002; Kelly et al., 2010; Kelly, O'Grady, Mitchell, Brown, & Schwartz, 2011; Simpson & Bartholomew, 2008). For this study, we translated the TCU-CEST forms from English to Chinese and back translated them to English to ensure the meaning was appropriately translated. Several studies previously conducted in China had used the TCU-CEST instrument (Chang, Hsieh, Peng, Li, & Hser, 2014; Wu, 2012). The team has also previously pilot tested the scale among MMT clients in China. We adopted the treatment satisfaction scale from the Treatment Engagement Form that provides a general description of different treatment experiences, such as "You plan to stay in this treatment program for a while" and "This treatment program seems too demanding for you." The participants were asked to rate their levels of agreement with the items (from "1 = strongly agree" to "5 = strongly disagree"). After the positively worded items were reverse coded, an overall score (range: 12–60) was constructed by summing all the items. A higher score indicated higher satisfaction with treatment ($\alpha = 0.81$).

2.4.2. Counseling rapport

The scale measuring counseling rapport in this study was composed of 13 items adopted from the CEST Treatment Engagement Form (Simpson & Bartholomew, 2008). Items demonstrated different aspects of counseling rapport, such as "You trust the service providers in the MMT clinic" and "The service providers in the clinic make you feel foolish or ashamed." The participants were asked to select a response from "1 = strongly agree" to "5 = strongly disagree." A continuous overall score (range: 13–65) was constructed by summing all the items after recoding the positively worded items, with a higher score indicating a better relationship with service providers ($\alpha = 0.92$).

2.4.3. Treatment progression

Clients' perceived treatment progression was measured by a 12-item scale based on the CEST Treatment Engagement Form (Simpson & Bartholomew, 2008). The participants were asked to evaluate how they felt about their treatment participation, such as "You have made progress in understanding your feelings and behavior" and "You have learned to analyze and plan ways to solve your problems." Response categories ranged from "1 = strongly agree" to "5 = strongly disagree." Before the score of each item was summed to generate an overall score

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