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Original article

Relationships between perceived social support and retention patients receiving methadone maintenance treatment in China mainland☆

Kai-Na Zhou [a, b, *], Heng-Xin Li [c], Xiao-Li Wei [c], Xiao-Mei Li [a], Gui-Hua Zhuang [b]

[a] Department of Nursing, Xi'an Jiaotong University Health Science Center, Xi'an, Shaanxi 710061, China
[b] Department of Epidemiology and Biostatistics, School of Public Health, Xi'an Jiaotong University Health Science Center, Xi'an, Shaanxi 710061, China
[c] Xi'an Center for Disease Control and Prevention, Xi'an, Shaanxi 710054, China

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ABSTRACT

Objective: The purpose of this study was to explore the relationships between perceived social support and retention in Chinese mainland patients receiving *methadone maintenance treatment* (MMT).
Methods: This was a cross-sectional two-year follow-up study. The data collected included patients' baseline characteristics, perceived social support and retention in MMT.
Results: A total of 1212 patients completed the cross-sectional survey; 809 (66.7%) had good perceived social support and 458 (37.8%) had experienced readmissions. With and without controlling for baseline characteristics, past retention had no significant influence on perceived social support. By the end of the follow-up, 527 (43.5%) patients had terminated MMT. The patients without good perceived social support were more likely to terminate treatment than those with good perceived social support [hazard ratio: 1.31, 95% confidence interval: 1.10, 1.57; 1.25 (1.04, 1.51)] regardless of their baseline characteristics and past retention.
Conclusions: Retention, thus, had no significant influence on perceived social support in MMT, whereas good perceived social support was a strong protective predictor of retention.

1. Introduction

Drug abuse has been prevalent in China for many years. Official statistics indicate that the number of registered drug users has increased from 70,000 in 1990 to 2.22 million in 2013,[1,2] with approximately 80% of them dependent on opiates.[3] Compared with the general population, opiate dependents are known to encounter a much higher risk of infectious diseases and death and to experience numerous psychosocial problems.[4] Opiate use thus adversely affects individuals and societies and has become a major public health and social problem.

Methadone maintenance treatment (MMT) is a long-term opiate replacement therapy that consists of daily methadone administration.[5] In China, MMT was initiated as a pilot program in eight clinics serving 1029 drug users in 2004[6] and subsequently expanded to 748 clinics serving 360,000 drug users in 2012.[7] MMT is one component of harm reduction programs, which have the additional intention of reducing concomitant infections and high-risk behaviors resulting from injecting drugs and sharing needles.[8,9] However, due to its alternative characteristics and long-term treatment requirements, the majority of MMT patients cannot sustain long-term treatment for various reasons, the most important of which is social support.[10]

Social support is the perception and actuality that one is cared for, has access to assistance from other people, and is part of a supportive social network. These supportive resources can be emotional (e.g., nurturance), tangible (e.g., financial assistance), informational (e.g., advice), companionship (e.g., sense of belonging), or intangible (e.g., personal advice).[11] Because social support has a buffering effect on stressful life events and depression[12–14] as well as substantial impacts on treatment outcomes,[15–18] it is very important to understand the status of social support in MMT patients, particularly their perceived social support.[19–22]

Perceived social support has been conceptualized as a function of beliefs about one's self-worth and the availability and

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* Corresponding author.
E-mail address: dfyq100@163.com (K.-N. Zhou).
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responsiveness of others.[23] Previous studies have shown family support, family relationships, families' supportive attitudes toward MMT, and living on support from family or friends to all be significant predictors of retention in MMT.[10,24] However, few studies have explored the influence of perceived social support on retention in MMT patients.[25] Long-term MMT has shown a satisfactory effect on improving the proportion of patients with a good patient-family relationship[26]; whether MMT retention also positively influences perceived social support is still unclear.

The purpose of this study was to explore the relationships between perceived social support and retention in Chinese mainland patients undergoing MMT. We tested two hypotheses: (1) retention influences perceived social support and (2) perceived social support predicts retention. To our knowledge, this is the first study to focus on the relationship between perceived social support and retention in the same sample of MMT patients. The results of this study will provide a better understanding of the relationship between perceived social support and retention in MMT patients and provide evidence for social support management and intervention in MMT patient populations.

2. Methods

2.1. Ethics statement

The study protocol was reviewed and approved by the Human Research Ethics Committee of Xi'an Jiaotong University. Written informed consent was obtained from each recruited patient before the questionnaire was applied.

2.2. Design

This study was a cross-sectional two-year follow-up study.

2.3. Subjects and data collection

The subjects were admitted patients of the two largest MMT clinics in Xi'an, China. One is privately funded and the other is publicly funded. Subjects were included if they were18 years or over and spoke Chinese. If the patients had cognitive disorders or refused to provide written informed consent, they were excluded.

The data were collected in March of 2012 with a two-year follow-up by the end of March of 2014. The recruited MMT patients participated in individual face-to-face interviews that were conducted by trained interviewers in a quiet and well-lit room. The data collected included baseline information, perceived social support, and retention in MMT.

2.4. Baseline information

The baseline information included data on participants' sociodemographics (nine items), drug use history (two items), and family's social function (three items).

2.5. Multiple scale of perceived social support (MSPSS)

Perceived social support was evaluated using the MSPSS, which is a 12-item self-report questionnaire designed to measure the perception of an individual's level of support from family, friends, and significant others.[27] Each item is rated on a seven-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The total score is calculated by summing the results of all the items, whereas the individual subscales are calculated by summing the responses of the items in each of the three dimensions. The possible scores range from 4 to 28 for each subscale and 12–84 for all items, with a total score over 50 representing good perceived social support.[28] The original MSPSS has shown good internal reliability across subject groups; the three-factor model (i.e., family, friends, and significant others) has been strongly supported by factorial validity, particularly the family and significant others dimensions.[29] Huang et al[28] translated the MSPSS into Chinese and validated the instrument in cancer patients, indicating sound psychometric properties. In this study, the Cronbach's α of the overall MSPSS was 0.92, with subscale coefficients of 0.88, 0.89, and 0.84 for family, friends, and significant others, respectively.[30]

2.6. Retention

According to the design, retention was assessed by readmission (yes or no), past treatment time (days; i.e., past retention), treatment termination (yes or no), and follow-up treatment time (days; i.e., follow-up retention). Readmission was used to identify patients' termination history since their first admission to MMT. Past treatment time represented the number of days that the patients had participated in MMT between their first MMT admission date and March 31, 2012. Treatment termination was included to assess whether the patient had been consecutively retained in MMT at the end of the two-year follow-up. Patients who did not take methadone for seven consecutive days (Manual of Comprehensive Intervention for HIV/AIDS in Drug Users with Community Methadone Maintenance Treatment, 2011) were regarded as being terminated. Finally, the follow-up treatment time indicated the actual number of days that patients had received MMT between April 1, 2012 and March 31, 2014.

2.7. Data analyses

A database was built using Epidata 3.1, and two different individuals double-entered the data to capture data entry errors. Frequencies and percentages were used for categorical variables, and means and standard deviations were used for continuous variables. Logistic regression analysis was performed to identify the influence of past retention (i.e., readmission and past treatment time) on perceived social support regardless of baseline information (i.e., sociodemographics, drug history, and family social functioning). Cox regression analysis was used to identify the influence of perceived social support on retention at follow-up (i.e., termination and follow-up treatment time) with and without controlling for baseline information and past retention. All statistical analyses were completed using SPSS 20.0. A value of $P < 0.05$ (two-tailed) was considered to be statistically significant.

3. Results

Totally 1270 patients were eligible for the study; 1212 patients completed the cross-sectional questionnaire survey, with 851 (70.2%) from the privately funded clinic and 361 (29.8%) in the publicly funded clinic. The patients well understood the questions in the face-to-face interviews and fully completed the questionnaires. Each interview lasted for approximately 20–25 min. Fifty-eight (4.6%) patients (28 in the privately funded clinic and 30 in the publicly funded clinic) were excluded because they refused to provide written informed consent.

3.1. Baseline information

The patients were aged 42.48 ± 6.24 (range: 21–65) years, 934 (77.1%) were men. The majority of the patients had received secondary education ($n = 987$, 81.4%), were married ($n = 705$, 58.2%), had children ($n = 840$, 69.3%), were employed ($n = 618$, 51.0%), lived