



# Factors Associated with the Improvement of Family Relationship among Methadone Maintenance Treatment Clients: A Longitudinal Analysis of Register Data From 15 Clinics in Guangdong, China

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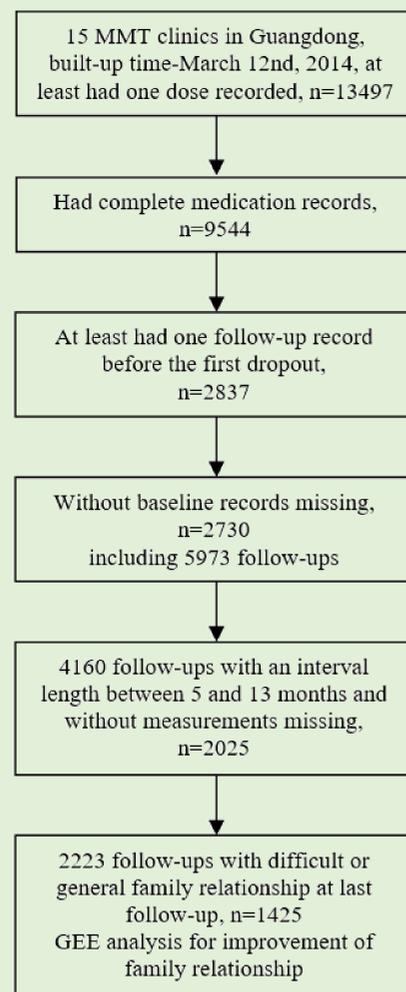
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## Background

- Methadone maintenance treatment (MMT) has been the mainstay for opioid substitution treatment.
- MMT clients' family relationship got improved during treatment and good family relationship reduced their concurrent drug use.
- Little is known about factors associated with the improvement of family relationship among MMT clients.
- We hypothesise that MMT clients' changes in state of life and behaviour are associated with their improvement of family relationship.

## Methods

- We retrospectively analysed the register data extracted from 15 MMT clinics in Guangdong, China.
- Demographic and MMT characteristics were collected.
- Clients' family relationship, states of life including living status, source of living cost and employment status, behaviours including contact with drug-using friends and sexual behaviour were collected at enrolment, 6, 12 months and annually thereafter.
- Family relationship were self-reported as difficult, general, or good. Family relationship improvement, changes in state of life and behaviour during follow-up intervals were identified compared with last follow-up.
- Generalized estimating equation (GEE) for binary outcomes was used to assess the impact of changes in state of life and behaviour on family relationship improvement. To reduce bias, only those follow-up intervals with initial family relationships as difficult or general were included in this analysis.



**Fig 1** Flow diagram of participants included in this study

## Results

- 1425 individuals with 2223 follow-ups were included and all participants were followed for a median of one year.
- 864 (60.63%) clients' family relationships were improved at least once, with 959 (43.14%) improved follow-ups during the whole follow-up.
- The improvement of clients' family relationship was associated with their changes in state of life and behaviour (Table 1).

**Table 1** GEE analyses of the impact of changes in state of life and behaviour on family relationship improvement among MMT clients (n=1425)

Factors	OR (95% CI)	P value
<b>Living status transition</b>		
Unchanged	1.00	
Initiated to live with family	<b>1.48 (1.05, 2.08)</b>	<b>0.027</b>
Ceased to live with family	0.96 (0.68, 1.37)	0.842
<b>The main source of living cost transition</b>		
Unchanged	1.00	
Transition into regular wage	<b>1.63 (1.27, 2.10)</b>	<b>&lt;0.001</b>
Transition out of regular wage	1.26 (0.90, 1.77)	0.176
<b>Employment status transition</b>		
Unchanged	1.00	
Employment entry	<b>1.28 (1.03, 1.58)</b>	<b>0.024</b>
Employment exit	<b>0.71 (0.52, 0.96)</b>	<b>0.028</b>
<b>Behavior change in contact with drug-using friends</b>		
Unchanged	1.00	
Initiated contact	1.23 (0.90, 1.68)	0.200
Ceased contact	<b>1.63 (1.35, 1.98)</b>	<b>&lt;0.001</b>
<b>Behavior change in sex</b>		
Unchanged	1.00	
Initiated sexual behavior	<b>1.43 (1.12, 1.82)</b>	<b>0.004</b>
Ceased sexual behavior	0.94 (0.74, 1.19)	0.587

OR: Odds Ratio; CI: Confidence Interval. Estimated effect of demographic and MMT characteristics are not showed here.

## Conclusions

- Positive changes in state of life and behavior of MMT clients may facilitate the improvement of their family relationship.
- This may help us understand how MMT improves clients' family relationships.

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