

Relationship Between Patient Attitudes Toward Methadone and Methadone Treatment Retention

S. M. Kelly¹, R. P. Schwartz¹, K. E. O'Grady², S. G. Mitchell¹, B. S. Brown^{1,3}

¹ Friends Research Institute, Baltimore, MD ² University of MD, College Park ³ University of North Carolina, Wilmington

BACKGROUND

- The majority of heroin-addicted individuals in the U.S. are not enrolled in treatment.
- Attitudes towards pharmacotherapy for heroin addiction may play an important role in the decision of opioid-addicted individuals to enter and remain in treatment.
- Negative attitudes toward methadone treatment were found to be related to treatment retention among African Americans over two decades ago (Brown et al., 1975; Jansen et al., 1974).

PURPOSE

To examine the relationship between methadone patients' attitudes toward methadone measured at baseline and 3, 6, and 12 months post-baseline and treatment retention.

METHODS

Participants:

- 351 opioid-addicted women and men recruited for a study of entry and engagement in methadone maintenance treatment in Baltimore, MD upon admission to one of six methadone maintenance programs.

Procedures:

- Participants were assessed at baseline and again at 3, 6, and 12 months post-baseline.
- Participants were grouped based on how many days they had been retained in treatment: less than 90; 90-179; 180-364; 365 or more.

Measures:

- Attitudes Toward Methadone scale (Brown, 1975; Schwartz et al., 2008). Each item is rated from 1 (strongly disagree) to 5 (strongly agree).

- 1) Total scale (28 items; Range 28-140; $\alpha = .82$)
- 2) Aid to Behavior Change subscale (8 items; Range 8-64; $\alpha = .73$)

Statistical Analysis:

- Multiple Regression analysis was used to compare mean attitudes of the 4 retention groups at baseline on both scales.
- General Linear Mixed Model analysis was used to examine changes in attitudes across time.
- The predictor variables in all models were: retention group, age, gender, ethnicity (Caucasian v. African American/other) number of prior methadone treatment episodes, and number of lifetime incarcerations.

RESULTS

Table 1. Sample demographics (N = 351)

Variable	n (%)	Mean (SD)
Gender		
Male	187 (53.3%)	
Female	164 (46.7%)	
Ethnicity		
African American/other	264 (75.2%)	
Caucasian	87 (24.8%)	
Age		41.2 (8.2)
Number of prior methadone treatment episodes		1.2 (1.4)

Table 2. Results of regression analysis comparing attitudes toward methadone on the total scale for the four retention groups at baseline (N = 351)

Variable	Mean	SE
Retention group		
Less than 90 days	91.7	1.6
90-179 days	97.2	2.0
180-364 days	95.3	1.8
365 days or more	96.3	0.9

Note: Retention groups were not significantly different at baseline. The variables "race" and "number of prior methadone treatment episodes" were significant for the total sample. Means for race are as follows: Caucasian = 97.0 and African American/other = 93.3 ($p < .05$). For number of prior methadone treatment episodes, more treatment episodes were related to more positive attitudes ($b = 3.66$, $SE = 1.58$, $p < .05$). All other predictor variables were non-significant.

Table 3. Results of regression analysis comparing attitudes toward methadone on the Aid to Behavior Change subscale for the four retention groups at baseline (N = 351)

Variable	Mean	SE
Retention group		
Less than 90 days	31.4	.57
90-179 days	33.0	.72
180-364 days	31.8	.65
365 days or more	32.6	.34

Note: Retention groups were not significantly different at baseline. The variables "race" and "number of prior methadone treatment episodes" were significant for the total sample. Means for race are as follows: Caucasian = 32.9 and African American/other = 31.5 ($p < .05$). For number of prior methadone treatment episodes, more treatment episodes were related to more positive attitudes ($b = .38$, $SE = .18$, $p < .05$). All other predictor variables were non-significant.

Table 4. Results of general linear mixed model analysis examining whether attitudes toward methadone on the total scale changed over time for the four retention groups (N = 351)

Variable	Mean	SE
Time point		
Baseline	95.1	0.9
3 month	94.3	1.0
6 month	93.1	1.0
12 month	92.5	1.0

Note: Variables "time" and "retention groups by time" were non-significant. The variables "race" and "number of prior methadone treatment episodes" were significant for the total sample. Means for race are as follows: Caucasian = 96.0 and African American/other = 91.5 ($p < .001$). For number of prior methadone treatment episodes, more treatment episodes were related to more positive attitudes ($b = .71$, $SE = .26$, $p < .01$). All other predictor variables were non-significant.

Table 5. Results of general linear mixed model analysis examining whether attitudes toward methadone on Aid to Behavior Change subscale changed over time for the four retention groups (N = 351)

Variable	Mean	SE
Time point		
Baseline	32.2	.32
3 month	32.1	.37
6 month	32.1	.36
12 month	31.7	.36

Note: Variables "time" and "retention groups by time" were non-significant. The variables "race" and "number of prior methadone treatment episodes" were significant for the total sample. Means for race are as follows: Caucasian = 32.8 and African American/other = 31.3 ($p < .001$). For number of prior methadone treatment episodes, more treatment episodes were related to more positive attitudes ($b = .20$, $SE = .09$, $p < .05$). All other predictor variables were non-significant.

Table 6. Results of general linear mixed model analysis examining whether attitudes toward methadone on total scale and the Aid to Behavior Change subscale changed over time for participants retained for 365 days or more (N = 203)

Variable	Mean	SE
Total scale		
Baseline	96.6	1.0
3 month	98.9	1.1
6 month	97.8	1.0
12 month	96.9	1.1
Aid to Behavior Change subscale		
Baseline	32.6	.34
3 month	33.1	.37
6 month	33.2	.35
12 month	32.6	.36

Note: For both scales, variables "time" and "retention groups by time" were non-significant. "Race" was significant for the total sample for both scales. Means for race are as follows: Total scale, Caucasian = 100.0 and African American/other = 95.1 ($p < .001$); Aid to Behavior Change subscale, Caucasian = 33.6 and African American/other = 32.2 ($p < .001$). For the total scale, "age" was significant, indicating that increasing age was associated with less positive attitudes ($b = -.17$, $SE = .06$, $p < .01$). All other predictor variables were non-significant.

CONCLUSIONS

- Attitudes toward methadone at baseline were not associated with treatment retention.
- Attitudes toward methadone did not change over time in the total sample or differentially by group.
- Attitudes toward methadone did not change over time for the subsample of participants who were retained in treatment for 365 days or more.
- It would appear that factors other than retention in treatment are related to attitudes toward methadone:
 - African Americans had significantly less positive attitudes towards methadone in all models, which is consistent with earlier findings by Brown et al. (1975).
 - Participants with more methadone treatment episodes had significantly more positive attitudes toward methadone.

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Corresponding author: skelly@friscr.org
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