

Linkage to methadone treatment from acute opiate detoxification treatment

Nickolas D. Zaller, PhD
Portia Thurmond, MPH
Jon Brett, PhD
James C. Carleton, MS
Josiah D. Rich, MD, MPH

ABSTRACT

Methadone maintenance treatment (MMT) is a safe pharmacological treatment strategy for addiction to heroin and other opiates; however, linking individuals to MMT is often challenging. We present results from a pilot project (Project VISTA) funded by the Center for Substance Abuse Treatment that helps heroin-dependent injection drug users (IDUs) transition from acute heroin detoxification to MMT. Participants are referred to Project VISTA by the state detoxification center, and Project VISTA facilitates entry into an MMT program, providing full financial support for up to 24 weeks. In addition, Project VISTA provides case management and referral to ancillary services such as housing, other medical care, and mental health treatment. From May 2005 to May 2006, 60 individuals were enrolled in Project VISTA. A total of 41 participants (69.5 percent) remained in treatment for at least 24 weeks, with a mean number of weeks in treatment of 31. A Kaplan-Meier analysis was performed on all participants, and the incidence of individuals being discharged from treatment was 2 percent per week. Project VISTA, in cooperation with the state detoxification center and a Providence-based MMT program, has created a model that provides continuity of treatment services to high-risk, HIV-negative IDUs. Our model demonstrates that through facilitating the transition from an opiate detoxification program into an MMT program, individuals with chronic heroin addiction can successfully access and engage in treatment.

Key words: methadone maintenance treatment, injection drug users, detox, HIV prevention

INTRODUCTION

Methadone maintenance treatment (MMT) is the most widely available opioid replacement therapy for addiction

to heroin and other opiates.¹ Methadone prescription is a safe pharmacological treatment strategy and has been used to treat chronic opiate addiction for over 35 years. Many studies have demonstrated the effectiveness of MMT in reducing opiate use among injection drug users (IDUs) in various settings.²⁻⁶ Furthermore, MMT is more effective than detoxification in retaining clients in drug treatment, aiding cessation of opiate use, and reducing drug-related HIV risk behaviors.⁷

There is substantial evidence confirming that consistent MMT reduces the risk of HIV infection among IDUs.¹ Several studies have demonstrated that MMT significantly reduces the frequency of injection and needle sharing.⁸⁻¹³ For example, Kwiatkowski et al.¹¹ found that street-recruited injectors who received 90 days of free MMT reported considerably greater reductions in drug use (injections of all drugs, including heroin) compared to a control group who did not receive MMT. Even when controlling for confounding factors such as education level, incarceration, and duration of opiate dependency, MMT clients reported fewer drug-related risk-taking behaviors and, as a result, had a reduced likelihood of HIV seroconversion.¹⁴⁻¹⁶

Sexual risk behaviors are also reduced by participation in MMT; reduction in opiate use and injection in turn lead to a reduction in secondary risk behaviors such as trading sex for drugs or money or engaging in sex with high-risk partners. In addition, risky sex that is the result of impaired judgment is significantly reduced.¹⁷ Reductions in unsafe sexual behaviors generally accompany injection cessation,¹⁸ and MMT patients report fewer sexual encounters with high-risk partners than persons not in treatment. MMT also lowers crime and recidivism rates and is an important point of contact with service providers, including healthcare providers.¹⁹ Overall, MMT is strongly related to lower levels of mortality from both overdose and natural causes.⁵

Compared to other forms of treatment, MMT has the most impressive record for retaining clients in drug treatment.²⁰ Many MMT clients will remain in treatment for as long as it is available and accessible. Even those who initiate MMT and subsequently discontinue treatment are arguably one step closer to recovery; the National Institute on Drug Abuse (NIDA) recognizes that multiple treatment episodes are often necessary when moving toward the ultimate goal of complete cessation of drug use.²¹

Project VISTA, funded by the Center for Substance Abuse Treatment (CSAT), utilizes multidisciplinary collaborations to link high-risk, HIV-negative IDUs to mental health and substance use treatment services. In May 2005, Project VISTA entered into a novel collaboration with Stanley Street Treatment and Resources (SSTAR) detoxification center and CODAC Behavioral Healthcare methadone clinic to provide continuity of care to IDUs in the Greater Providence (Rhode Island) area. The idea for this pilot project came out of the observation that many IDUs admitted to SSTAR detoxification have high recidivism rates and often do not access long-term treatment. Thus, these individuals are not receiving appropriate care for their addictions. The results of the first year of this collaboration are presented here.

METHODS

Individuals with high recidivism rates for heroin detoxification were assessed by the detoxification center's clinicians to evaluate the appropriateness of MMT. Individuals who were deemed appropriate for MMT (at least six acute detoxification admissions within the past year, which, based on the detoxification center's institutional guidelines, represents a high degree of recidivism and therefore warrants referral to alternative forms of treatment) were referred to the methadone program to begin treatment. Upon intake at the methadone program, individuals were eligible to enroll in Project VISTA. Eligibility requirements for Project VISTA are the following: 1) substance use within the past 30 days, 2) at least 18 years old, and 3) engagement in high-risk behaviors for HIV infection, e.g., any occasion of sharing needles and/or injection equipment, insufficient cleaning of works, and/or unprotected sex (vaginal and/or anal). For the purposes of this study, only individuals who had injected heroin within the past 30 days were included.

Through Project VISTA, participants receive full financial support for up to 24 weeks of MMT. In addition, participants are linked to other treatment services, including outpatient counseling and mental illness treatment. Linkage to treatment services is based on evaluation by a master's level clinical psychologist with experience in assessment and evaluation of addiction disorders and

Demographic characteristic	Number (percent)
Gender	
Male	42 (70)
Female	18 (30)
Age	
20 to 29	11 (18.3)
30 to 39	30 (50)
40 to 49	16 (26.7)
> 49	3 (5)
Race/ethnicity	
White, non-Hispanic	43 (71.7)
African American	2 (3.3)
Puerto Rican	13 (21.7)
Other	2 (3.3)

mental illness. The evaluation uses American Society of Addiction Medicine criteria as well as the participant's patient history and symptom self-report and is completed at the time of enrollment in the project. Project VISTA also provides supportive services such as transitional housing, transportation assistance, and case management services. Referral for these services is based on participant self-report of need.

Due to limited resources, Project VISTA is only able to reserve six slots for detoxification center referrals each month and can only provide financial support for up to 24 weeks, even though a participant's enrollment in the project is for a full year. At the time of a client's referral, the detoxification center assigns him or her a referral number. This number is then given to the methadone program and indicates that detoxification center clinicians have performed a Project VISTA eligibility assessment. Once a client completes the intake procedure for the methadone program and begins MMT, he or she is encouraged to contact Project VISTA in order to complete the enrollment procedures, either by phone or at one of the project's two drop-in support centers. If an eligible participant is unable to attend either drop-in center, he or she can make arrangements with Project VISTA staff to complete the enrollment process at the methadone program.

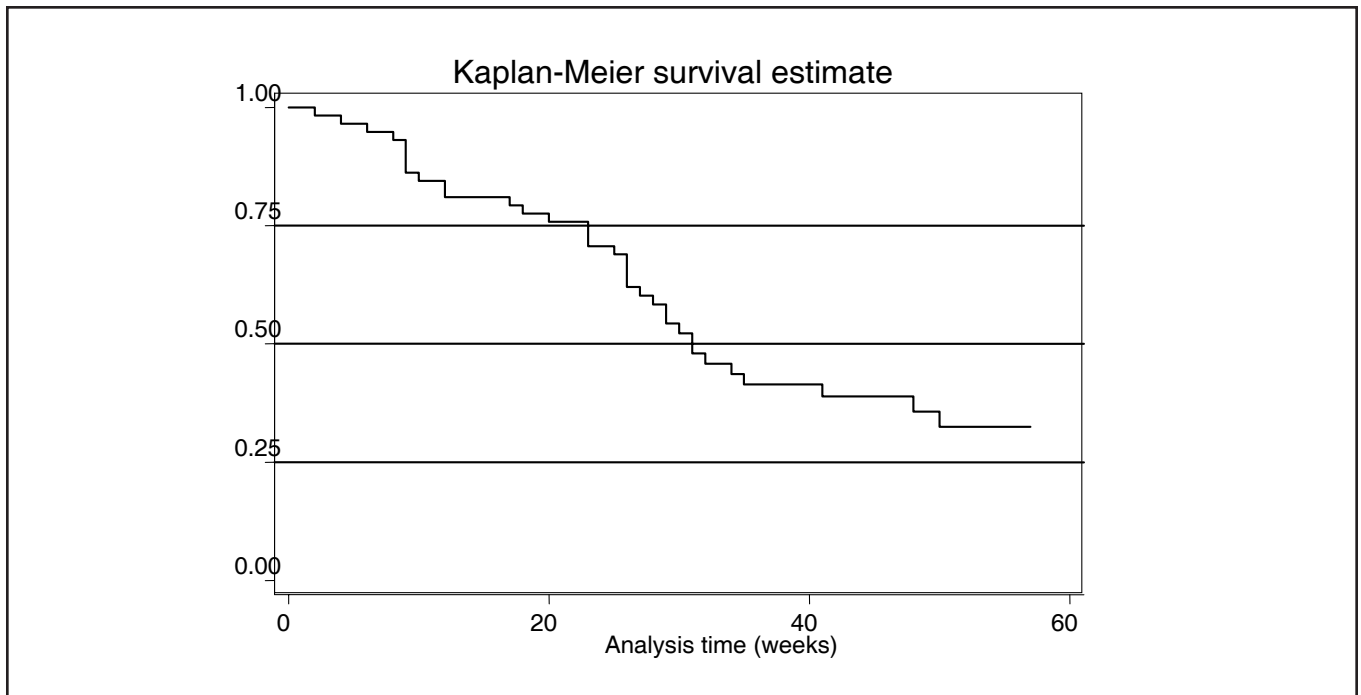


Figure 1. Kaplan Meier survival estimate of MMT retention among VISTA clients.

Although Project VISTA only has resources to provide financial assistance for 24 weeks, participation in the project lasts for one year, during which time individuals can access project staff and get additional referrals for substance use, mental health treatment, and social services. One of the primary aims of Project VISTA is to provide initial financial support and referral to ancillary services in order to stabilize individuals and help them progress toward self-sufficiency in their recovery. Approval for Project VISTA was obtained through The Miriam Hospital Institutional Review Board.

RESULTS

Demographics and referral services

From May 1, 2005, through May 1, 2006, a total of 65 individuals were referred to Project VISTA through CODAC Behavioral Services. Five individuals who were referred to Project VISTA did not complete the enrollment process, resulting in a total enrollment rate of 92.3 percent. Selected demographics are shown in Table 1. The majority of participants were white, non-Hispanic (71.7 percent), and male (70 percent). Table 2 lists ancillary services for which project participants were referred. Data regarding follow-up services were incomplete when this manuscript was written. Overall, the most common referrals among Project VISTA participants at CODAC were for medical services, housing, and transportation assistance. Many participants were referred for multiple services.

Outcomes

Table 3 gives the total number of weeks participants accessed MMT during their enrollment in Project VISTA. Project VISTA provides financial support for up to 24 weeks of MMT. A total of 41 participants (69.5 percent) remained in treatment for at least 24 weeks. Participants with less than 24 weeks of treatment and who were not incarcerated were administratively discharged, i.e., the participant either left the clinic against medical advice or missed seven or more doses within a 30-day period. At the time of the current analysis, 10 participants had been financially discharged and 24 participants (40.7 percent) were still active in treatment. Of the total number of participants referred for treatment, six experienced an interruption in their treatment due to incarceration (Table 3).

A Kaplan-Meier analysis was performed on all participants in treatment at CODAC during this period. Results of this analysis are shown in Figure 1. Overall, a total of 1,767 person weeks was analyzed. The mean duration of treatment was 31 weeks (95 percent CI 26 to 41 weeks; data not shown). The incidence of individuals being discharged from treatment was 2 percent per week (95 percent CI 1.4 percent to 2.8 percent; data not shown).

DISCUSSION

Project VISTA, in partnership with SSTAR detoxification center and CODAC methadone clinic, has created a model that provides continuity of treatment services to

Table 2. Ancillary services

Type of service	Number (percent)*
Medical	25 (41.7)
Housing (sober housing, transitional housing, shelters, etc.)	29 (48.3)
Employment (local employment agencies)	17 (28.3)
Benefits (SSI/SSDI, Medicaid, etc.)	13 (21.7)
Transportation assistance	21 (35)
Mental health treatment services	19 (31.7)
Legal services	2 (3.3)
No services	14 (23.3)

* Numbers and percentages do not add up to the total number of participants, as some participants were referred for multiple services.

high-risk, HIV-negative IDUs. By facilitating entry into an MMT program through an opiate detoxification program, individuals with chronic heroin addiction can successfully access and engage in treatment. In addition, providing referrals for ancillary services may contribute to higher patient retention.

Detoxification protocols for opiate dependence are often unsuccessful.^{22,23} Although opiate replacement can be used to detoxify opiate-dependent individuals, many of these individuals will relapse into opiate use after completion of the protocol. In actuality, most dependent persons who undergo detoxification ultimately return to heroin use.⁷ It is not surprising that many opiate-addicted individuals who do not access long-term treatment cycle through many detoxification admissions without effectively dealing with their addictions. Case management has been shown to be an effective strategy in decreasing the number of detoxification admissions and in facilitating entry into long-term treatment programs.²⁴ Project

VISTA utilizes a comprehensive case management approach to link IDUs to MMT after they are released from detoxification. Clients enrolled in Project VISTA underwent an average of 31 weeks of MMT. Although this amount of time is less than the recommended minimum of 12 months for achieving clinical benefits from MMT,²⁵ it still represents a longer duration of treatment than most clients had during the previous year, as all of the individuals referred to Project VISTA had been cycling in and out of detoxification during the past year.

Barriers to MMT

IDUs encounter numerous barriers to MMT. Despite the benefits of MMT programs, many IDUs do not access treatment. Misconceptions about methadone and ambivalence toward MMT have been well documented.^{26,27} Patients hold a variety of inaccurate views, such as that methadone is harmful to teeth and bones, is more

Table 3. MMT duration

Number of weeks on methadone	Active (percent)	Discharged* (percent)	Incarcerated (percent)	Total (percent)
0 to 10	0 (0)	8 (80)	2 (20)	10 (16.9)
11 to 20	0 (0)	4 (80)	1 (20)	5 (8.5)
21 to 30	7 (36.8)	9 (47.4)	3 (33.2)	19 (32.2)
31 to 40	4 (44.4)	5 (55.6)	0 (0)	9 (15.3)
41 to 50	3 (50)	3 (50)	0 (0)	6 (10.2)
> 50	10 (100)	0 (0)	0 (0)	10 (16.9)

* Individuals discharged prior to 24 weeks were administratively discharged.

damaging to one's health than heroin, and is nearly impossible to withdraw from. Negative attitudes regarding methadone result in many patients leaving MMT programs prematurely, which may facilitate relapse into old patterns of risky behaviors.²⁸ Aversion to MMT has been implicated as a primary barrier to treatment among IDUs who would consider some form of treatment for their addiction.

Once a patient is admitted into treatment, there can still be obstacles to achieving a full recovery. Poly-substance abuse and mental illness are associated with a greater likelihood of being discharged.²⁹ There is well-documented evidence of associations between opiate addiction and specific psychiatric illnesses, most notably major depressive disorder. Among opioid users, lifetime rates of psychiatric disorders are greater than 40 percent.³⁰ Many opioid users frequently use other drugs as well, and their psychiatric illnesses are often exacerbated through addiction to multiple substances. In many cases, psychiatric disorders precede drug dependence.³¹ Among IDUs both in and out of treatment, there are significant unmet needs, including social services such as housing, mental health treatment, financial support, and other medical services³²; the majority of Project VISTA participants indicated that housing was a primary concern.

Limitations

Our results should be interpreted with certain limitations in mind. This is an evaluation of a specific intervention facilitating access to MMT within the context of a treatment service grant. Therefore, there was no specific experimental design employed to collect data for the purposes of qualitatively evaluating outcome indicators. The information presented in this manuscript is the result of a small pilot project enrolling a sample of only 60 IDUs, and selection bias likely influenced this sample; individuals were referred from SSTAR based on eligibility and willingness to enter into an MMT program. However, our aim was to conduct a demonstration pilot project in order to assess the feasibility of referring high-risk, HIV-negative IDUs from detoxification directly to MMT.

Although Project VISTA was able to successfully engage and retain IDUs in MMT, it is difficult to differentiate which aspects of the project are most closely associated with patient retention and risk reduction. For example, case management alone likely does not explain why many individuals were able to access treatment. Project VISTA provides financial support for up to 24 weeks of MMT for IDUs referred directly from SSTAR. Without such financial support, most of these individuals would likely not be able to access care due to their inability to pay for treatment. However, while the ability to pay for treatment is likely highly correlated with initial access to treatment, it may not be as strongly correlated with

retention in treatment. For example, Deck and Carlson³³ studied MMT retention rates in publicly funded MMT programs in Washington and Oregon and found that inadequate financing of MMT can influence patient retention, but the retention rates observed were modest. The authors noted that there is limited research on the association of cost and MMT retention.

CONCLUSION

IDUs represent a subset of illicit substance users who are difficult to engage in treatment. Project VISTA links IDUs to MMT and provides linkages to ancillary services including housing, medical care, and social services through provision of case management and outreach. On-site service delivery and case management services have been shown to be successful in linking treatment clients to ancillary services, which are important for retention in addiction treatment.²⁰ In this pilot study, Project VISTA has demonstrated the feasibility of engaging IDUs in MMT at the time of their discharge from detoxification. Future directions will include expanding on the pilot project in order to include more participants, refer more individuals to ancillary services, and develop a better system for following up on referrals to determine the proportion of referred IDUs who are actually receiving services.

ACKNOWLEDGMENTS

This manuscript was supported by grant number TI15870 from the Substance Abuse and Mental Health Services Administration and by CSAT and was made possible in part through the support of training grant number 5T32DA13911 from NIDA.

Nickolas D. Zaller, PhD, Brown University Medical School; The Miriam Hospital Immunology Center, Providence, Rhode Island.

Portia Thurmond, MPH, Brown University Medical School; The Miriam Hospital Immunology Center, Providence, Rhode Island.

Jon Brett, PhD, Residential Alcohol and Drug Detox, Stanley Street Treatment and Resources, North Kingstown, Rhode Island.

James C. Carleton, MS, CODAC Behavioral Healthcare, Providence, Rhode Island.

Josiah D. Rich, MD, MPH, Brown University Medical School; The Miriam Hospital Immunology Center, Providence, Rhode Island.

REFERENCES

1. Gibson DR, Flynn NM, McCarthy JJ: Effectiveness of methadone treatment in reducing HIV risk behavior and HIV seroconversion among injecting drug users. *AIDS*. 1999; 13(14): 1807-1818.
2. Gottheil E, Sterling RC, Weinstein SP: Diminished illicit drug use as a consequence of long-term methadone maintenance. *J Addict Dis*. 1993; 12(4): 45-57.
3. Dolan KA, Shearer J, MacDonald M, et al.: A randomized controlled trial of methadone maintenance treatment versus wait

- list control in an Australian prison system. *Drug Alcohol Depend.* 2003; 72(1): 59-65.
4. Marsch LA: The efficacy of methadone maintenance interventions in reducing illicit opiate use, HIV risk behavior and criminality: A meta-analysis. *Addiction.* 1998; 93(4): 515-532.
 5. Langendam MW, van Brussel GH, Coutinho RA, et al.: The impact of harm-reduction-based methadone treatment on mortality among heroin users. *Am J Public Health.* 2001; 91(5): 774-780.
 6. Mattick RP, Breen C, Kimber J, et al.: Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *Cochrane Database Syst Rev.* 2003; (2): CD002209.
 7. Sees K, Delucci K, Masson C, et al.: Methadone maintenance vs. 180-day psychosocially enriched detoxification for treatment of opioid dependence: A randomized controlled trial. *JAMA.* 2000; 283(10): 1303-1310.
 8. Ball JC, Ross A: *The Effectiveness of Methadone Maintenance Treatment.* New York: Springer-Verlag, 1991.
 9. Ball JC, Lange WR, Myers CP, et al.: Reducing the risk of AIDS through methadone maintenance treatment. *J Health Soc Behav.* 1988; 29(3): 214-226.
 10. Wong K, Lee S, Lim W, et al.: Adherence to methadone is associated with a lower level of HIV-related risk behaviors in drug users. *J Subst Abuse Treat.* 2003; 24(3): 233-239.
 11. Kwiatkowski CF, Booth RE: Methadone maintenance as HIV risk reduction with street-recruited injecting drug users. *J Acquir Immune Defic Syndr.* 2001; 26(5): 483-489.
 12. Greenfield L, Bigelow GE, Brooner RK: Validity of intravenous drug abusers' self-reported changes in HIV high-risk drug use behaviors. *Drug Alcohol Depend.* 1995; 39(2): 91-98.
 13. Condelli WS, Duntzman GH: Exposure to methadone programs and heroin use. *Am J Drug Alcohol Abuse.* 1993; 19(1): 56-78.
 14. McLellan AT, Arndt IO, Metzger DS, et al.: The effects of psychosocial services in substance abuse treatment. *JAMA.* 1993; 269(15): 1953-1959.
 15. Caplehorn JR, Ross MW: Methadone maintenance and the likelihood of risky needle-sharing. *Int J Addict.* 1995; 30(6): 685-698.
 16. Longshore D, Hsieh S, Danila B, et al.: Methadone maintenance and needle/syringe sharing. *Int J Addict.* 1993; 28(10): 983-996.
 17. Lollis CM, Strothers HS, Chitwood DD, et al.: Sex, drugs, and HIV: Does methadone maintenance reduce drug use and risky sexual behavior? *J Behav Med.* 2000; 23(6): 545-557.
 18. Bouhnik AD, Carrieri MP, Rey D, et al.: Drug injection cessation among HIV-infected injecting drug users. *Addict Behav.* 2004; 29(6): 1189-1197.
 19. Ward J, Mattick R, Hall W: *Key Issues in Methadone Maintenance Treatment.* New South Wales, Australia: New South Wales University Press, 1992.
 20. Friedman P, D'Aunno TA, Jin L, et al.: Medical and psychosocial services in drug abuse treatment: Do stronger linkages promote client utilization? *Health Serv Res.* 2000; 35(2): 443-465.
 21. NIDA: *Principles of Drug Addiction Treatment: A Research Based Guide.* National Institute on Drug Abuse Web site. Available at www.nida.nih.gov/PODAT/PODAT1.html. Accessed August 22, 2006.
 22. National Consensus Development Panel on Effective Medical Treatment of Opiate Addiction: Effective medical treatment of opiate addiction. *JAMA.* 1998; 280(22): 1936-1943.
 23. O'Connor PG: Methods of detoxification and their role in treating patients with opioid dependence. *JAMA.* 2005; 294(8): 961-963.
 24. McLellan AT, Weinstein RL, Shen Q, et al.: Improving continuity of care in a public addiction treatment system with clinical case management. *Am J Addict.* 2005; 14(5): 426-440.
 25. Simpson DD, Joe GW, Broome KL, et al.: Program diversity and treatment retention rates in the drug abuse outcomes study (DATOS). *Psychol Addict Behav.* 1997; 11(4): 279-293.
 26. Hunt DE, Lipton DS, Goldsmith DS, et al.: "It takes your heart": The image of methadone maintenance in the addict world and its effects on recruitment into treatment. *Int J Addict.* 1985; 20(11-12): 1751-1771.
 27. Rosenblum A, Magura S, Joseph H: Ambivalence toward methadone treatment among intravenous drug users. *J Psychoactive Drugs.* 1991; 23(1): 21-27.
 28. Stancliff S, Myers JE, Steiner S, et al.: Beliefs about methadone in an inner-city methadone clinic. *J Urban Health.* 2002; 79(4): 571-578.
 29. Strike CJ, Gnam C, Urbanoski K, et al.: Factors predicting 2-year retention in methadone maintenance treatment for opioid dependence. *Addict Behav.* 2005; 30(5): 1025-1028.
 30. Strain EC: Assessment and treatment of comorbid psychiatric disorders in opioid-dependent patients. *Clin J Pain.* 2002; 18(4 Suppl): S14-S17.
 31. Krausz M, Degkwitz P, Kuhne A, et al.: Comorbidity of opiate dependence and mental illness. *Addict Behav.* 1998; 23(6): 767-783.
 32. Stein M, Friedman P: Need for medical and psychosocial services among injection drug users: A comparative study of needle exchange and methadone maintenance. *Am J Addict.* 2002; 11(4): 262-270.
 33. Deck D, Carlson MJ: Retention in publicly funded methadone maintenance treatment in two Western States. *J Behav Health Serv Res.* 2005; 32(1): 43-60.