Treatment Retention in Methadone Maintenance Programs in Indonesia: towards Evidence-Informed Drug Policy

Riza Sarasvita

A thesis submitted for the degree of
Doctor of Philosophy
Department of Clinical and Experimental Pharmacology
School of Medicine
Faculty of Health Science
University of Adelaide

July, 2009

Table of Contents

Abstract……v
Thesis Declaration……...vi
Acknowledgement ……vii
Chapter 1 Introduction 1
1.1. General Introduction 1
1.2. Background 2
1.2.1. Drug Use at the Global Level 2
1.2.2. Indonesia's Prevalence of Drug Use and Its Associated Problems 5
1.2.3. An Overview of Drug Treatment and Rehabilitation in Indonesia 7
1.2.4. Methadone Maintenance Treatment in Indonesia 10
1.3. Issues 11
1.4. Study Objectives 13
1.5. Research Questions 13
1.6. Significance of the Study 14
1.7. Thesis Outline 14
Chapter 2 Literature Review 17
2.1. Opioid Use..... 17
2.1.1. The Pharmacology of Opioid 17
2.1.2. The Pattern of Heroin Use and Its Consequences 19
2.1.3. Drug Treatment for Heroin Users 21
2.2. Methadone Maintenance Treatment..... 23
2.2.1. The Pharmacology of Methadone 24
2.2.2. The Effectiveness of Methadone Maintenance Program 26
2.2.3. The Characteristics of Methadone Maintenance Clinics..... 28
2.3. Treatment Retention..... 30
2.3.1. Individual Benefit..... 31
2.3.2. Public Health Benefit 31
2.4. Predictors of Treatment Retention 33
2.4.1. Experience from Western Countries 33
2.4.1.1. Program Characteristics……34
2.4.1.2. Client Characteristics……36
2.4.1.3. Social Characteristics……39
2.4.2. Experience from Indonesia..... 39
2.4.2.1. Research of Chronic Diseases Treatment in Indonesia……40
2.4.2.2. Quality of Health Service……...41
2.5. Summary and Conclusions..... 43

Chapter 3 Research Methodology and Study Implementation Description 44
3.1. Introduction 44
3.2. Research Hypotheses 44
3.3. The Conceptual Frameworks 45
3.3.1. Conceptual Framework of Program Characteristics 45
3.3.2. Conceptual Framework of Client Characteristics 45
3.3.3. Conceptual Framework of Social Characteristics 46
3.3.4. Conceptual Framework of Overall Characteristics 47
3.4. Research Methods 49
3.4.1. Study Design 49
3.4.2. Study Population and Participants 50
3.5. Ethical Considerations 51
3.5.1. Human Subject Protection 52
3.5.2. Health Care Management 52
3.5.3. Confidentiality 53
3.5.4. Risks and Benefits 53
3.6. Variables of the Study 53
3.6.1. Variables of the Primary Hypothesis 53
3.6.2. Variables of the Secondary Hypothesis 54
3.7. Definition of Variables 54
3.7.1. Outcome Variables of the Primary Hypothesis 54
3.7.2. Predictive Variables of the Program Characteristics 55
3.7.3. Predictive Variables of the Client Characteristics 56
3.7.4. Predictive Variables of the Social Characteristics 59
3.7.5. Comparison groups of the Secondary Hypothesis 60
3.8. The Measurement and Procedures of Data Collection 61
3.8.1. Personnel 61
3.8.2. Instrument and Data Collection at the Clinic Level 62
3.8.2.1. Procedures 64
3.8.3. Instrument and Data Collection at the Client Level 65
3.8.3.1. Procedures 69
3.8.4. Measurement of Illicit Drugs 70
3.8.5. Measurement of HIV Status 70
3.8.6. Process of the Translation and the Adaptation of the Instruments 71
3.9. Methods of Analyses 72
3.10. Study Implementation Description 73
3.10.1. The Recruitment Process 73
3.10.2. The Data Collection Process 75

Chapter 4 Program Characteristics 77
4.1. Introduction 77
4.2. The Setting and Organization of the Participating Clinics 78
4.2.1. Rumah Sakit Ketergantungan Obat 79
4.2.2. Tanjung Priok Primary Health Care 82
4.2.3. Rumah Sakit Sanglah 84
4.3. Methadone Policies and Implementation 86
4.3.1. Conditions of the Client Intake 86
4.3.2. Dose Policy 87
4.3.3. Control Policy 92
4.3.4. Ancillary Services 93
4.4. Clinic Staff Characteristics 95
4.4.1. Staff Experience 95
4.4.2. Clinic Staff Attitude 96
4.5. Summary and Conclusions 97
Chapter 5 Client and Social Characteristics 99
5.1. Introduction 99
5.2. Participants' Demographic Background 99
5.3. Participants' Clinical Background 101
5.4. Participants' Perception of Self and Treatment 105
5.4.1. Treatment Motivation 106
5.4.2. Psychological Functioning 108
5.4.3. Social Functioning 111
5.4.4. Treatment Engagement 113
5.4.5. Treatment Accessibility 115
5.4.6. Perception of Methadone Treatment 116
5.5. Social Characteristics 118
5.5.1. Family Support 118
5.5.2. Perception of Other Social Supports 120
5.6. Summary and Conclusions 122
Chapter 6 Treatment Retention and Its Predictive Variables 124
6.1. Introduction 124
6.2. Treatment Retention 124
6.3. The Impact on Treatment Retention of Program Characteristics 126
6.3.1. Univariate Analysis 126
6.3.2. Multivariate Analysis 129
6.3.3. Conclusion of the Treatment Retention Predictors of the Program Characteristics 132

6.4. The Impact on Treatment Retention of Clients' Demographic and Social Characteristics 133
6.4.1. Univariate Analysis 133
6.4.2. Multivariate Analysis 136
6.4.3. Conclusion of the Treatment Retention Predictors of the Client Characteristics 140
6.5. The Impact on Treatment Retention of Social Characteristics 141
6.5.1. Conclusion of the Treatment Retention Predictors of the Social Characteristics 143
6.6. The Impact on Treatment Retention of Overall Characteristics 144
6.6.1. Models of the Predictive Variables 145
6.6.2. Conclusion of the Treatment Retention Predictors of the Overall Characteristics 149
6.7. Summary and Conclusions 151
Chapter 7 Outcomes Treatment Retention 152
7.1. Introduction 152
7.2. Illicit Drug Use 154
7.3. Crime Involvement Behavior 156
7.4. Physical Health Status 156
7.5. Psychological Functioning Status 157
7.6. Summary and Conclusions 158
Chapter 8 Summary and Discussions 160
8.1. Summary and Conclusion 160
8.2. Study Limitations 167
8.3. Discussions 169
8.4. Study Implications 175
8.4.1. For Treatment Policy and Regulations 175
8.4.2. For Clinic Implementations 177
8.4.3. For Future Research 178
References ..... 180 - 196
Appendices ..... 197 - 232

Abstract

Indonesia has been implementing methadone maintenance treatment (MMT) since January 2003 as a strategy to minimize HIV transmission among injecting drug users (IDU). Previous studies have shown the effectiveness of the program and also showed that the program had attracted many IDU to participate. However, the dropout rate, particularly in Jakarta clinics, was relatively high. The first aim of this study was to investigate the MMT retention rate and its predictive variables. The second aim was to examine the effects of remaining in the program on treatment outcomes. A six-month longitudinal prospective cohort study was conducted at the client level and a cross-sectional survey was carried out at the clinic level. Information from this study provides significant inputs for developing drug treatment policy and improving its quality of service in Indonesia. It also contributes to a better understanding of the substitution treatment implementation in Indonesia.

The average 3-month treatment retention rate was 74.2 percent and the 6-month retention rate was 61.3 percent. There was no significant difference in retention rates between clinics. Significant predictors of treatment retention in MMT in Indonesia were size of dose, the interaction between take-home dose and clinic experience, age of participant, participant‟s belief towards the program and perceived accessibility, while a variable representing perceived peer support unexpectedly predicted an increased likelihood of prematurely leaving the treatment.

This study showed a marked reduction in the use of heroin and depression status and a significant improvement of self-efficacy at the follow up times among participants who continued in treatment. There were no significant differences in criminal involvement and physical health status between those who remained in treatment and the treatment dropouts in both follow-up interviews. Nevertheless, there was a significant improvement in physical health from baseline to follow-up in both groups.

The study concluded that retention rates of MMT in Indonesia were comparable to those of similar programs in other countries. As previously reported in other settings, dose was the primary predictor of treatment retention in Indonesia. A policy of providing take-home doses, prescribed in experienced clinics,was also found to be a significant predictor of remaining in treatment. Further research, however, is still needed to explain some of the unexpected observations.

Key words: methadone maintenance treatment, treatment retention, predictive variable

Thesis Declaration

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

I also give permission for the digital version of my thesis to be made available on the web, via the University‟s digital research repository, the Library catalogue, the Australasian Digital Theses Program (ADTP) and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

Riza Sarasvita

Adelaide

July, 2009

Acknowledgments

Alhamdulillah, I express my greatest gratitude to Allah SWT for His blessing in finishing my work. I fully believe that there is no coincidence in the world. I follow the path that He has given me.

This thesis would not have been possible to be completed without significant contributions from many parties. My first major gratitude is addressed to Associate Professor Robert Ali, my principal supervisor who gave me a huge opportunity to pursue my PhD program, not only by offering me a scholarship of the WHO Collaborating Centre but also by his consistency and tireless efforts in supervising and promoting my work: "I will never forget the time in a taxi on the way to Jakarta International Airport in May 2003, when you firstly talked about the possibility to take a PhD program in the University of Adelaide. It was one of the most encouraging moments for me. Thank you very much. I am deeply indebted to you". My second gratitude is forwarded to Associate Professor Anne Tonkin for her thorough and systematic feedback. "I appreciate your patience in supervising my writing". I am also grateful to have Professor Budi Utomo of the University of Indonesia, as my external supervisor, who assisted me with valuable inputs, particularly in shaping my conceptual framework.

I am thankful to all methadone clients who participated in this study, staff of the methadone clinics in RSKO, PKM Tanjung Priok and RS Sanglah and the program coordinators: Dr. Asliati Asril, Dr. Sri Mulyanti, Dr. I Nyoman Hanati.

My great appreciation goes to the interviewers of this study: I Wayan Suamba, Dewi Apriyantini, Yuli Susilowati SPsi, Wahyu Radityo Utomo SKM, Dr. Desak Nyoman Puriani, Dr. Ni Made Lenny, Ni Putu Yanny Setianingsih, Syarifuddin SSos, Eko Prayitno SE and I Gede Putu Eka „Freddy" Suyadnya who vigorously followed-up study participants, particularly for Wahyu who has been reliable in data collection, including following up participants to the prisons. My sincere gratitude goes to Darno, SKom, my technical and data management consultant who never gave up in translating my needs even when I was abroad. Also thanks to Endang Suharjanti SSos and Puspawati AMK for their efforts in tracing and documenting participants" medical records.

My sincere thanks are to Prof. Jason White, Dr. Rod Irvine, Dr. Ian Musgrave, Gordon Crab, and Karen Nunes-Vaz of the Department of Clinical and Experimental Pharmacology; Dr. David Newcombe and Dr. Linda Gowing of the WHO Collaborating Centre; Ian Richard and Ann Innes of the Drug and Alcohol Service of South Australia (DASSA) for their technical support to make my distance learning easier. My special thanks also to Dr. Nancy Briggs and Dr. Sabarinah Prasetyo for their assistance in statistical and research methods. I am also grateful to have Dr. Faseeha Noordeen and Somprasong Laingam in my group, and to have Dr. Dianti Endang Kusumawardani, my Indonesian friend, to share hard times, nice times, happiness, lonely feelings and many other things throughout my time in Adelaide.

I owe thanks to former directors of RS Ketergantungan Obat (RSKO), Dr. Sudirman who consistently encouraged and supported me far before pursuing my PhD and Dr.

Ratna Mardiati for letting me having a flexible working time. My heartfelt thanks to my best friends, Dr. Diah Setia Utami, Dra. Siti Isfandari and Drs. Isrizal for their continuous moral support and being good listeners when I felt down in this journey. My special thanks to my colleagues, Agus Darmawan S.Sos, Dr. Ary Fadhilla, Taufik Indar Hidayat and Septy Viprianty, who voluntarily took over my job responsibilities while I was abroad. I also thank Dr. Wijanto Widjaja, Dr. Adhi Wibowo Nurhidayat, Prof. Irwanto and Dr. Prasetyawan for their helpful comments, and Drs. Hardison for his technical support.

Last but not least, I intended my deepest gratitude to my family. My parents, Prof Suharko Kasran and Irawati Suharko for their everlasting supports. My beloved husband, Pramudyo Abdul Aziz Sukodono and children, Indrastiti Pramitasari and Prabowo Hanifianto, for their continuous love, great support, patience and understanding throughout the time. My brothers and sisters, Arief Suharko, Hana Arief, Rahman Suharko, Deni Rahman, particularly Arief for his voluntary editing work in spite of his tight schedules. My mother-in-law, Silo Hastuti Indarto, for her understanding of my limited time. My lovely grandma, Sri Hapsari Karolien Ismail who had been really supportive in her own way and passed away in September 2007 without knowing that I would finish my study: “I miss you so much, Eyang”.

I dedicate this thesis to the Staff and Patients of
Rumah Sakit Ketergantungan Obat
(The Drug Dependence Hospital)
Jakarta, Indonesia

..the place where I learned a lot about substance related disorder
..the events when I had chances to develop my skills
..the people with whom I shared knowledge and feeling

The best mind-altering drug is truth

-Lily Tomlin (b.1939)