

## MASTER'S THESIS

### The effects of rouliqiu training on physical functional health and health related quality of life of elderly in Hong Kong

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**The Effects of Rouliqiu Training on Physical Functional Health and  
Health Related Quality of Life of Elderly in Hong Kong**

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## Abstract

This study was designed to investigate a 10-week training effects of Rouliqiu, a novel Chinese exercise which combined the elements of Tai Chi and badminton, on health related quality of life (SF-36 health related quality of life questionnaire [SF-36]) (Gandek & Ware, 1998), physical functional health (Senior Fitness Test[SFT], AAHPERD Soda Pop Test, Handgrip Test, Basic Activities of Daily Living [ADL], the Older American Resources and Services Instrument Activities of Daily Living [IADL] ) and physiological health (The resting heart rate [RHR], systolic blood pressure [SBP] and diastolic blood pressure [DBP]) of private institutionalized elderly aged between 65 to 75. 34 participants were recruited in the treatment group with 60 minutes per day and two days per week Rouliqiu training. 32 participants were recruited simultaneously in the control group, but they did not perform any significant exercise within that period. A conservative approach, Intention to Treat approach was adopted, the 3 dropped out cases due to hospitalization in treatment group and 1 in control group were therefore included in this study. Two-way ANOVA/ANCOVA with repeated measure in one factor was conducted to examine the testing factor (pre-test and post-test of a treatment) and the effect of groups (treatment and control group) as well as their interaction effects on selected parameters. The differences on physical functional health (six out of eight items of SFT, AA HPERD Soda Pop Test), self perceptive functional health (IADL) and the health related quality of life (Physical Component Summary (PCS) and Mental Component Summary (MCS) of SF-36) in treatment group and control group (without treatment) varied significantly after the training and the significant treatment effect was also found in treatment group on the said items after the training. Due to the ceiling effect and the short period of training time (10weeks), the significant effects were not found on BMI ( $F=0.14$ ,  $p=.71$ ), SBP ( $F=0.00$ ,  $p=.96$ ), DBP ( $F=2.23$ ,  $p=.14$ ) and RHR ( $F=1.59$ ,  $p=.21$ ). In control group, significant functional deteriorations were found on back scratch test (SFT; upper body flexibility) ( $F=22.76$ ,  $p<.01$ ), 8 foot up and go (SFT; agility/ dynamic balance) ( $F=8.52$ ,  $p<.01$ ) and the IADL ( $F=47.56$ ,  $p<.01$ ), moreover, significant decrease in health related quality of life, especially on the physical health related quality of life (PCS of SF-36) ( $F=4.89$ ,  $p<.05$ ) was found. The previous findings showed that the moderate intensity Rouliqiu training with Rating of Perceived Exertion (RPE) 12-14 (somewhat hard) was not only effective in improving but also maintaining and decelerating the deterioration of health related quality of life and physical functional health of sedentary elderly with one or more than one chronic diseases.

Keywords: Rouliqiu training, health related quality of life, SF-36, functional health, institutionalized elderly, ADL, IADL

## Table of Contents

<b>DECLARATION</b>	i
<b>ABSTRACTS</b>	ii
<b>ACKNOWLEDGEMENTS</b>	iii
<b>TABLE OF CONTENTS</b>	iv
<b>LISTS OF TABLES</b>	vi
<b>LIST OF FIGURES</b>	ix
<b>LIST OF ABBREVIATIONS</b>	xi
<b>INTRODUCTION</b>	<b>1</b>
Statement of Problems	4
Hypotheses	6
Definition of Terms	10
Delimitations	12
Limitations	13
Assumptions	14
Significance of Presents Study	15
<b>REVIEW OF LITERATURE</b>	<b>17</b>
Biological Ageing and Functional Health	17
Functional Health and Health Related Quality of Life	20
Physical Activity, Functional Health and Health Related Quality of Life	23
Principles and Procedures of Physical Training	34
Summary	37
<b>METHOD</b>	<b>39</b>
Recruitment and Screening of Participants	39
Treatment Training Program	40
Testing Instrument	42
Testing Procedure	43
Items of First and Second Health Test	46
Pilot Test	55
Statistical Analysis	55
<b>RESULT</b>	<b>58</b>
Descriptive Statistics of Demographics	58
Test of Homogeneity with Baseline Data	60
Effect of Rouliqiu Training on Health Related Quality of Life	65
Effect of Rouliqiu Training on ADL and IADL	79

Effect of Rouliqiu Training on Physical Functional Health Parameters	83
Effect of Rouliqiu Training on Physiological Parameters	97
<b>DISCUSSION</b>	<b>100</b>
Effect of Rouliqiu Training on Health Related Quality of Life	101
Effect of Rouliqiu Training on Physical Functional Health Parameters	103
Effect of Rouliqiu Training on Physiological Parameters	108
A Comparison of the Training Effects between Rouliqiu and Other Physical Activity	108
<b>CONCLUSION</b>	<b>110</b>
<b>RECOMMENDATIONS FOR FUTURE RESEARCH</b>	<b>112</b>
<b>REFERENCES</b>	<b>113</b>
<b>APPENDIX I</b> <i>Questionnaire (English Version)</i>	<b>131</b>
<b>APPENDIX II</b> <i>Questionnaire (Chinese Version)</i>	<b>139</b>
<b>APPENDIX III</b> <i>PAR-Q (Chinese Version)</i>	<b>146</b>
<b>APPENDIX IV</b> <i>PAR-Q (English Version)</i>	<b>147</b>
<b>APPENDIX V</b> <i>Declaration Form for Elderly Over 70 Years Old</i>	<b>148</b>
<b>APPENDIX VI</b> <i>Rouliqiu Training Schedule and Weather Report</i>	<b>149</b>
<b>APPENDIX VII</b> <i>Lesson Plan</i>	<b>150</b>
<b>APPENDIX VIII</b> <i>Rouliqiu Training Program for Elderly (Simple Techniques)</i>	<b>151</b>
<b>CURRICULUM VITAE</b>	<b>161</b>