

# Changes in Self-care Behaviors and Health Outcomes among Metabolic Risk Group

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# Background

- In Thailand, cardiovascular diseases (CVD) is the 4<sup>th</sup> leading cause of death. Residents in Bangkok have a higher CVD risk than those in other regions of the country
- Behavioral modification program was developed and provided to metabolic risk group in Bangkok Metropolis. Expected outcomes were improving of their life-style and decreasing of cardiovascular risk.
- This study employed the primary data of the behavioral change service for that risk group

# Objectives

- To evaluate the effects of behavioral modification program on self-care Behaviors and health outcomes of metabolic risk group

# Methods

- A case-control experimental study was used for determining the effects of the behavioral modification program.
- An intervention for the experimental group was 5 times-half-day sessions in 4-month period, activities focused on small-groups participatory learning to create self-care awareness and skills.
- Self-care behaviors and health outcomes (BMI and blood pressure) were measured at the beginning and the finishing of the program.

# Results



# General data

Variables	Exp gr. (n=392)		Con gr. (n=302)		Total (n=694)	
	n	%	n	%	n	%
<b>Gender</b>						
Male	128	32.7	77	25.5	205	29.5
Female	264	67.3	225	74.5	489	70.5
<b>Age (yrs)</b>						
>25	11	2.8	37	12.3	48	6.9
25-39	135	34.4	115	38.1	250	36.0
40-59	178	45.4	110	36.4	288	41.5
≥60	68	17.3	40	13.2	108	15.6
<b>Mean±SD)</b>	45.5±14.2		41.1±14.8			

# General data (cont)

Variables	Exp gr. (n=392)		Con gr. (n=302)		Total (n=694)	
	n	%	n	%	n	%
<b>BMI<math>\geq</math>23</b>	326	83.8	193	64.3	519	75.3
<b>SBP<math>\geq</math>140</b>	102	26.0	66	21.9	168	24.2
<b>DBP<math>\geq</math>90</b>	91	23.2	57	18.9	148	21.3

# Comparison of variables' mean between groups at pre-test

Variables	n	Mean	SD.	t	P-value
<b>Self-efficacy</b>					
Exp	392	44.7	10.9	3.93	<b>&gt;.001</b>
Con	302	40.4	16.8		
<b>Self-care Behavior</b>					
Exp	392	30.7	7.19	2.17	<b>.030</b>
Con	302	28.9	13.1		
<b>BMI</b>					
Exp	392	26.2	4.2	5.38	<b>&gt;.001</b>
Con	302	24.5	4.1		
<b>SBP</b>					
Exp	392	127.4	18.3	-0.34	<b>.732</b>
Con	302	127.9	18.3		
<b>DBP</b>					
Exp	392	79.9	11.5	0.85	<b>.338</b>
Con	302	79.1	12.9		



## Comparison of variables' mean of difference (pre-test and post-test or $\bar{d}$ ) between experimental and control groups

Variables	n	$\bar{d}$	SD.	t	P-value
<b>Self-efficacy</b>					
Exp	392	-29.80	12.76	1.87	.063
Cont	302	-32.68	24.39		
<b>Self-care Behavior</b>					
Exp	392	-22.14	12.63	-0.48	.629
Cont	302	-21.47	21.19		
<b>BMI</b>					
Exp	392	0.450	1.76	2.34	.020
Cont	302	0.188	0.94		
<b>SBP</b>					
Exp	392	7.09	14.85	5.49	<.001
Cont	302	2.02	9.36		
<b>DBP</b>					
Exp	392	2.93	11.25	2.62	.009
Cont	302	0.76	10.50		

## Comparison of variables' mean between pre-test and post-test in the Exp & Con gr.

Variables	Exp gr. (n=392)		Con gr.(n=302)	
	Mean ± sd	t	Mean ± sd	t
<b>Self-efficacy</b>				
pre-test	<b>44.74 ±10.90</b>	<b>-46.23*</b>	<b>40.37 ±16.81</b>	<b>-23.29*</b>
post-test	<b>74.54 ±12.68</b>		<b>73.05±16.10</b>	
<b>Self-care Behavior</b>				
pre-test	<b>30.71±7.19</b>	<b>-34.69*</b>	<b>28.89±13.06</b>	<b>-17.61*</b>
post-test	<b>52.84±9.74</b>		<b>50.36±12.77</b>	
<b>BMI</b>				
pre-test	<b>26.17±4.17</b>	<b>5.08*</b>	<b>24.46±4.12</b>	<b>3.48*</b>
post-test	<b>25.72±3.98</b>		<b>24.27±4.16</b>	
<b>SBP</b>				
pre-test	<b>127.40±18.29</b>	<b>9.46*</b>	<b>127.88±18.31</b>	<b>3.76*</b>
post-test	<b>120.31±18.01</b>		<b>125.85±18.10</b>	
<b>DBP</b>				
pre-test	<b>79.96±11.50</b>	<b>5.16*</b>	<b>79.07±12.88</b>	<b>1.26</b>
post-test	<b>77.03±9.22</b>		<b>78.31±10.34</b>	

\*= p-value ≤ 0.001 by paired t-test

# Discussion

- The effectiveness of the behavioral modification program could improve metabolic risk group's self-care behaviors and health outcomes.
- Because of those program's activities focused on small-groups participatory learning to create self-care awareness and skills. Goal setting and planning for change was encouraged for each participant at the end of every session. Their goals and plans were evaluated and feed-backed in the next session.
- They could learn how to control their behaviors and health outcomes form self-experiences and the role models.

# Discussion (cont)

- Although, the improvement of self-care behaviors and health outcomes were found in both groups, the experimental group showed better results than the control group.
- The limitations of the study were the differences of groups at the beginning and the contamination of our sample. Since the Thai National Health Security Office has launched the behavior modification project in Bangkok for 5 years. Moreover, metabolic risk reduction campaign has been organized throughout Thailand by Ministry of Public Health and Thai Health Foundation.

# Conclusion

- The behavioral modification program, focused on personal skills and empowerment, shows its effectiveness on metabolic risk reduction and cardiovascular disease prevention.

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**Thank you for your attention**

**Question and answer**

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