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**Mobile Health Intervention Program:
Efficacy of High-Risk Middle-aged and Elderly
Adults Suffering from Hypertension and
Hypercholesterolemia in Taiwan**

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Outline

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Introduction

- With changes in diet and living habits, the number of seniors suffering from **hypertension and hypercholesterolemia** is on the increase in Taiwan.
- In recent years, the use of mobile medical application for self-healthcare management has been increasing among the middle aged and elderly population.
- This **medical application system** has reached the efficacy of disease prevention, health alert and early treatment.

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Objective

- **The objective of this study is to evaluate the effectiveness of a mobile health program targeting middle-aged and elderly adults with a high risk of hypertension and hypercholesterolemia.**

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Method

- **Design:**
 - Experimental Design
- **Samples:**
 - All of participants were diagnosed of a high risk of hypertension and hypercholesterolemia.
 - Location: Shilin district of Taipei City, Taiwan
 - Aged: 50 to 70 years-old middle-aged and elderly adult

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Method

Study Tool:
[Structured Questionnaire]

- Resident's background
- Physiological index measurement
- Self-Efficacy scale questionnaire
- Self-Care activities questionnaire
- Perceived Therapeutic Efficacy scale questionnaire

- **Research Framework:**

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Method

- **Design:**

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Method

- **Mobile Medical APP**
- **For instance(Chinese Version):**
 - Physiologic Index
 - Time of taking medicine
 - Chronic Disease management
 - Blood Pressure management
 - Diet
 - Exercise

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Method

- **Outcome Measure:**
 - **Physiological index**
 - BMI
 - Systolic blood pressure (SBP)
 - Diastolic blood pressure (DBP)
 - Blood sugar
 - Cholesterol
 - Triglyceride
 - HDL-cholesterol
 - LDL-cholesterol
 - **Self-Efficacy Scale Questionnaires**
 - **Self-Care Activities Questionnaires**
 - **Perceived Therapeutic Efficacy Scale Questionnaires**

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Result

- Table 1. Difference in Physiological index between baseline and 6-month-follow-up

	Baseline Mean SD (N=66)	6- month follow- up Mean SD (N=66)	t-value	95% CI	p- value
BMI	28.34 ± 40.00	23.42 ± 2.76	1.02	-4.83~14.87	0.313
Systolic blood pressure	127.56 ± 17.96	120.65 ± 15.83	3.80	3.28~10.54	0.000***
Diastolic blood pressure	78.52 ± 11.65	73.53 ± 10.88	3.75	2.33~7.64	0.000***
Triglyceride	126.89± 109.20	126.78 ± 80.10	0.01	-22.67~22.89	0.992
Blood Sugar	99.63±24.04	98.62±26.23	0.39	-4.24~6.27	0.701
Cholesterol	212.11±39.79	204.32±37.15	1.68	-1.46~17.03	0.097
HDL- cholesterol	60.27 ± 18.72	58.81 ± 19.40	1.0	-1.35~4.2	0.304
LDL- cholesterol	125.77± 31.07	123.58 ± 31.53	0.60	-5.11~9.49	0.551

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Result

- Table 2. Difference in structure questionnaires between baseline and 6-month-follow-up

	Baseline Mean SD	6- month follow- up Mean SD	t-value	95% CI	p- value
Self- Efficacy Scale	120.59±27.74	113.76±29.34	2.21	0.66~13.00	0.031*
Self- Care Activities Questionnaires	24.78±8.57	30.97 ±12.16	-3.99	-9.28~-3.09	0.000***
Perceived Therapeutic Efficacy Scale Questionnaires	46.02±26.35	51.13±17.33	-1.70	-11.13~0.91	0.094

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Discussion

- Reliable instruments were used in this study to measure the effectiveness of the mobile health program for the middle-aged and elderly population suffering from a high risk of hypertension and hypercholesterolemia in Taiwan.
- The related application was found to have a **positive effect** on the self-healthcare control of the participants with hypertension and hypercholesterolemia and helped them maintain a higher level of healthy behavior in both physical and mental respects.

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Discussion

- Although there is no statistically significant difference in LDL, a slight progress can be seen from the result of the 6-month follow-up through the intervention of the mobile health program.
- Furthermore, we can use information relating to medical technology as well as to the health education program to build a better health and medical network system in the future.
- So that the participants with a high risk of hypertension and hypercholesterolemia could achieve a better quality of life.

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Conclusion

- This study is to **evaluate** efficacy of high-risk middle-aged and elderly adults suffering from hypertension and hypercholesterolemia in Taiwan.
- In this result, we found out **two physiological indices** (SBP and DBP) and **two questionnaires** (Self- Efficacy Scale and Self-Care Activities Questionnaires) had significant improvement after 6-months follow-up.

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THANK YOU

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