

創新「糖尿病風險評估及健康教育」 手機應用程式

A Novel Mobile Application for Diabetic Risk Assessment and Public Education

通過了解個人糖尿病風險及改變生活習慣預防糖尿病

An innovative way to prevent diabetes by learning personal diabetic risk and modifying lifestyles

及早發現糖尿病前期是預防糖尿病不可或缺的一環。自2014年起，我們開發了“糖尿病風險評估及健康教育”應用程式，讓大眾透過簡短問卷快速計算其糖尿病風險。研究團隊現邀高糖尿病風險的人士參與健康檢查及電話輔導。讓參與者獲得改變日常生活習慣的建議，以預防糖尿病。



健康檢查—血液檢測
Health assessment – blood test



健康檢查地點—耆年護理實習室
Venue of the Health Assessment—Gerontological Nursing Laboratory

	N = 69	
	n	(%)
Age (Mean, SD)	66.1	(SD 8.57)
Sex		
Female	63	(91.33%)
Male	6	(8.67%)
Education level		
No Formal Education	3	(4.35%)
Primary Education	21	(30.43%)
Secondary Education	33	(47.83%)
Vocational Training / Diploma	4	(5.8%)
Degree or Above	8	(11.59%)

表1. 參與者之背景資料 (至2017年4月)
Table 1. Demographics of participants as at April 2017

	Pre-Intervention	Post-Intervention	p-value
	Mean	Mean	
Handgrip (kg)	21.90	21.89	0.887
Back Scratch test (cm)	-5.57	-8.79	0.045
2-min step test (reps)	71.30	84.71	0.031
Sit-and-Reach test (cm)	6.31	5.86	0.367
Armcurl (reps)	14.47	16.8	0.077
Sit-to-stand test (reps)	13.8	15.7	0.048
Number of steps walked per day	12451	13389	0.075

表2. 參與者之體能 (比較干預前及干預後)
Table 2. Participants' physical fitness before and after the intervention

Early detection of pre-diabetes is the crucial part of diabetic prevention. Since 2014, the project team has developed a mobile application to allow general public to self-assess their diabetic risk. By completing a short survey, high-risk individuals can be identified. The project team is inviting these individuals to join our health assessments and phone counselling. These strategies offer advice on how to modify lifestyles so as to prevent the progression to diabetes.

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特色與優點

- 能於7分鐘內顯示糖尿病風險程度，靈敏度及準確度約為60-70%
- 健康檢查包括：體脂、糖化血紅素及體能測試
- 由輔導員提供每月一次的電話輔導，為參與計劃的人士提供個人化飲食及運動建議。

應用

- 提高大眾對糖尿病前期的認識，識別有風險的群體，並鼓勵他們改變生活方式，以防情況惡化為糖尿病
- 參加為期3個月的電話輔導後，有風險人士的體質有顯著改善 (表二)



健康檢查—體能測試
Health assessment—fitness test



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Special Features and Advantages

- Users can know their risk level in 7 minutes. DRS reading has a good sensitivity of 0.70 and an acceptable specificity of 0.57.
- Health assessments consist of body fat analysis, HbA1c and fitness tests
- Individualized guidance in diet and exercise is provided by phone counselling

Applications

- Increase public awareness of pre-diabetes, identify the at-risk population and encourage these individuals to change their lifestyles for preventing diabetes
- After attending the 3-month phone counselling, the at-risk individuals (n=69) had significant improvement in their physical fitness (Table 2)



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