

# Effectiveness of MEDIHEALTH in Improving Medication Adherence and Glycaemic Control

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## INTRODUCTION

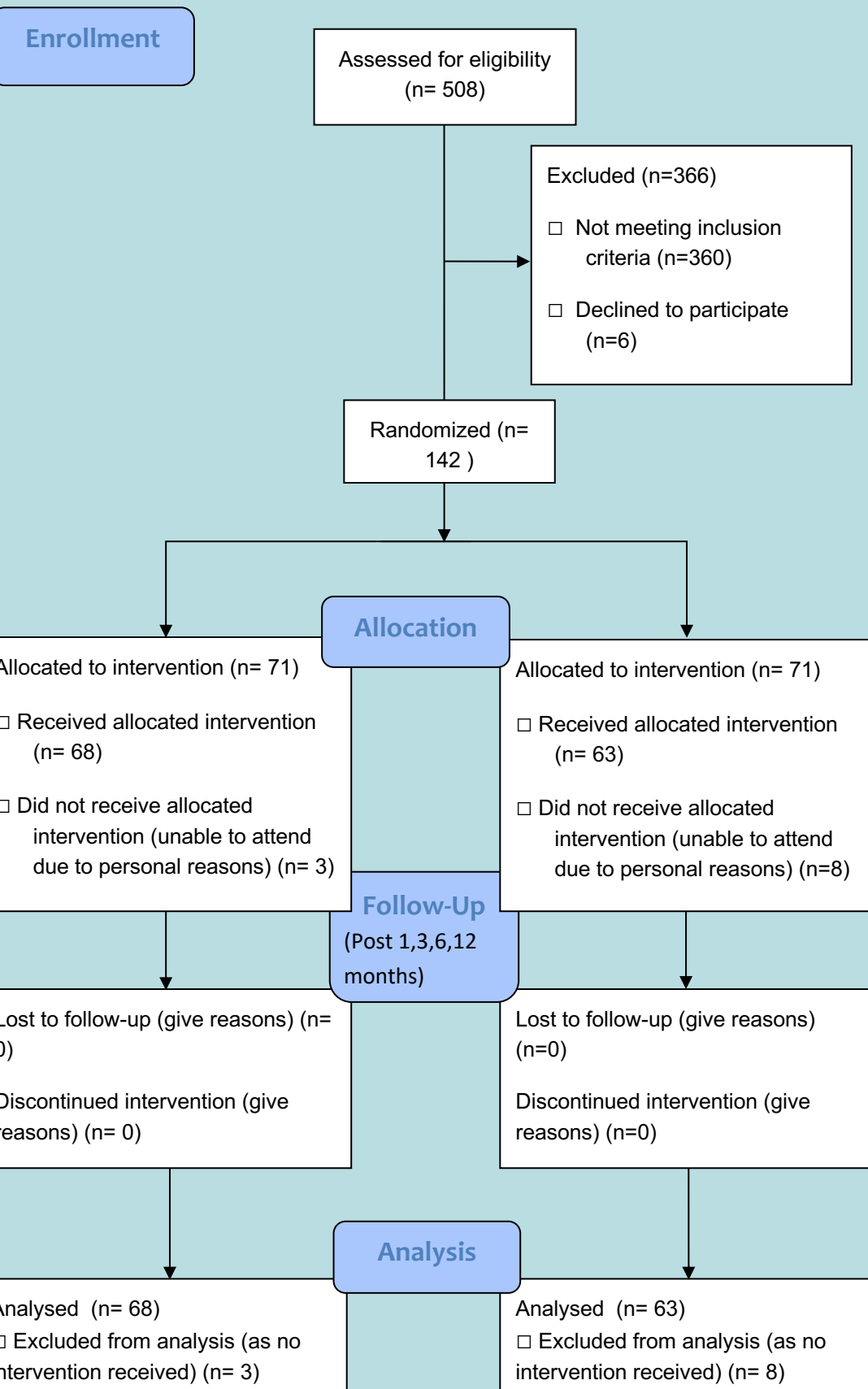
This study examined the effectiveness of a structured group-based intervention “MEDIHEALTH” in improving medication adherence and the glycated haemoglobin (HbA1c) level.

## METHODS

- Study design: Two groups, parallel randomized controlled trial with 1:1 allocation.
- Total respondents: 142 (68 in intervention group; 63 in control group)
- Study sites: Petra Jaya and Kota Samarahan health clinics of Sarawak
- Instrument and validity:

Variables	Cronbach's alpha
Medication adherence <sup>a</sup>	0.932

<sup>a</sup> Adopted from “Risser J, Jacobson TA, Kripalani S. Development and psychometric evaluation of the Self-efficacy for Appropriate Medication Use Scale (SEAMS) in low-literacy patients with chronic disease. *J Nurs Meas.* 2007;15:203-219.”



## RESULTS

**Table 1 Baseline characteristics of the respondents and the comparison between intervention and control groups (n=131)**

Variables	Mean (±SD) / Frequency (%)			t statistic / p value	
	Overall (n=131)	Intervention (n=68)	Control (n=63)	x <sup>2</sup> statistic	
<b>Study sites</b>					
Health clinic Samarahan	26 (19.8)	12 (17.6)	14 (22.2)	0.43	0.512 <sup>a</sup>
Health clinic Petra Jaya	105 (80.2)	56 (82.4)	49 (77.8)		
<b>Age, years</b>	51.8 (±11.34)	51.5 (±11.27)	52.2 (±11.38)	-0.35	0.724 <sup>a</sup>
<b>Gender</b>					
Male	47 (35.9)	24 (35.3)	23 (36.5)	0.02	0.885 <sup>b</sup>
Female	84 (64.1)	44 (64.7)	40 (63.5)		
<b>Highest education level</b>					0.613 <sup>c</sup>
Primary School	40 (30.5)	20 (29.4)	20 (31.7)		
Secondary School	79 (60.3)	40 (58.8)	39 (61.9)		
College/University	8 (6.1)	6 (8.8)	2 (3.2)		
No formal education	4 (3.1)	2 (3.0)	2 (3.2)		
<b>Given education on diabetes management by nurse</b>				0.09	0.764 <sup>b</sup>
Yes	111 (84.7)	57 (83.8)	54 (85.7)		
No	20 (15.3)	11 (16.2)	9 (14.3)		
<b>Past/current participant of DMTAC</b>				0.14	0.711 <sup>b</sup>
Yes	16 (12.2)	9 (13.2)	7 (11.1)		
No	115 (87.8)	59 (86.8)	56 (88.9)		
<b>Route of medicine administration</b>				0.10	0.753 <sup>b</sup>
Oral only	58 (44.3)	31 (45.6)	27 (42.9)		
Oral and insulin injection	73 (55.7)	37 (54.4)	36 (57.1)		
<b>Number of types of medication taken</b>	5.4 (±1.74)	5.3 (±1.75)	5.4 (±1.75)	-0.19	0.85 <sup>a</sup>
<b>Primary outcomes</b>					
HbA1c (%)	9.4 (±1.93)	9.3 (±1.94)	9.4 (±1.94)	-0.13	0.897 <sup>a</sup>
Medication adherence	20.7 (±3.81)	21.0 (±3.86)	20.3 (±3.72)	0.24	0.813 <sup>a</sup>

**Table 2: Repeated Measure ANOVA to test the impact of MEDIHEALTH on medication adherence and HbA1c**

	SEAMS score		HbA1c	
	EMM (95% CI)	p value	EMM (95% CI)	p value
<b>Time Treatment Interaction</b>				
<b>Baseline</b>		<0.001 <sup>a</sup>		<0.001 <sup>a</sup>
MEDIHEALTH	22.24 (20.81, 23.66)		9.33 (8.87, 9.80)	
Control	21.99 (20.51, 23.47)		9.38 (8.89, 9.86)	
<b>Post 1 month</b>				n/a
MEDIHEALTH	33.97 (32.46, 35.49)			
Control	22.36 (20.78, 23.94)			
<b>Post 3 months</b>				
MEDIHEALTH	34.31 (32.90, 35.71)		7.87 (7.46, 8.27)	
Control	22.44 (20.98, 23.89)		9.45 (9.03, 9.87)	
<b>Post 6 months</b>				
MEDIHEALTH	35.17 (33.65, 36.68)		7.62 (7.29, 7.96)	
Control	23.23 (21.66, 24.80)		9.04 (8.69, 9.39)	
<b>Post 12 months</b>				
MEDIHEALTH	34.94 (33.57, 36.31)		7.62 (7.31, 7.94)	
Control	23.65 (22.23, 25.07)		9.08 (8.75, 9.41)	

## DISCUSSION/CONCLUSION

The MEDIHEALTH group had a significantly greater increase in the SEAMS score compared to the control group ( $p < 0.001$ ) at one, three, six and twelve months post-intervention. There was also a significantly greater reduction in HbA1c in the MEDIHEALTH compared to the control group at three, six and twelve months post-intervention ( $p < 0.001$ ). The MEDIHEALTH may improve medication adherence and glycaemic control among Malay T2DM patients.