PMH

Lit CHA, A&E Dept.
Cheng WCS, OT Dept.
Wong D, OT Dept.

HKU

Wong CM, Com Med Dept.

PWH

Rainer TH, T&E Centre
Au LYF, OT Dept.
Chan CMB, OT Dept.

Fong NKK, Rehab Sc Dept.

HKPU

A Community OT Falls Reduction Program Reducing Falls in Six Months for Elderly Attending Accident and Emergency Department Because of Falls

QMH

Tong HK, A&E Dept.
Chu MLM, OT Dept.
Fung KKH, OT Dept.
Chan MTE, OT Dept.

CONTENT

BACKGROUND

Prevalence of falls in the elderly

Approximately 28-35% of people aged of 65 and over fall each year
(WHO, 2007)

Prevalence of community elderly falls in Hong Kong was 19% and the mean number of falls per faller was 1.4.
(Chu et al, 2007)

9.9% of falls resulted in bone fractures and 31.3% resulted in soft tissue injuries
(Chu et al, 1999)

The excess annual health care costs of fallers versus non-fallers amount to HK$552 million for all community-living elderly in Hong Kong.
(Chu et al, 2007)

BACKGROUND

In the Cochrane Review 2013 (Gillespie et al, 2013)

Group exercise classes and exercises individually delivered at home reduce rate of falls and risk of falling.

Multifactorial interventions integrating assessment with individualized intervention, usually involving a multidisciplinary team, are effective in reducing rate of falls but not risk of falling.

HOME SAFETY interventions reduce rate of falls and risk of falling. These interventions are more effective in people at **higher risk** of falling, and when delivered by an **occupational therapist.**

FIRST LOCAL RCT STUDY

A multi-centred randomized controlled trial

Target subjects: **Community elderly attending A&E because of falls**

Study sites:

QMH

PWH   A&E Departments and Occupational Therapy Departments

PMH

Funding support:
Research grant - **Health and Health Services Research Fund**

OBJECTIVE

To show that the

"Community OT Falls Reduction Programme" developed locally and carried out by an occupational therapist is effective in reducing falls for those elderly patients who attended A&E department because of falls

METHODOLOGY

Participants

Inclusion criteria: ≥ 65, Chinese

ambulatory with or without walking aid

attended A&E because of fall

phone MMSE ≥ 15

Exclusion criteria: cases residing at aged homes

required hospital admissions

cause of fall due to excess alcohol intake

or a blow or LOC or seizure

METHODOLOGY

RECRUITMENT

Subjects recruited & consent obtained in A&E Dept

Baseline assessment on **TUGT** & **Visual Acuity**

Phone MMSE conducted within 5 days

RANDOMIZATION

into intervention & control groups by blind researcher.

Control group: **Wish Well Visit** by non-healthcare trained researcher

Intervention gp: **Home Assessment** & treatment by an **occupational therapist**

PHONE FU

Bi-weekly phone follow up on **FALLS** data by blind researcher (for 12 months)

Phone follow-up at 4 months, 8 months and 12 months by blind researchers on **functional**, **mental** & **activity level**

PROGRAMME

Assessment

- Home and daily routine assessment
- Fall risk behavior identification (Clemson 2003)
- Home assessment using Westmead Home Safety Assessment (Clemson, 1997)

Interventions

- Recommend environmental modification to reduce fall hazards
- Prescribe assistive device, where appropriate
- On-site skills training
- Tailor-made fall reduction implementation plan
- Referral to community services/agents, if needed

OUTCOME MEASURES

Primary outcomes:

No. of fallers
No. of falls
Time to first fall
No. of A&E visits due to falls within 12 months follow-up period

Secondary outcomes:

Phone MMSE
BI-100
Falls Behavioural Scale for the elderly
Frenchay Activities Index

RESULTS

Recruitment Period: April 2009 to October 2011
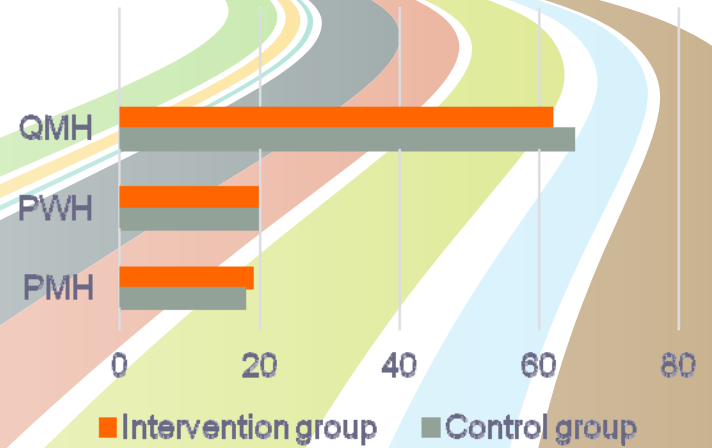
n=311 — Total subjects recruited from the three A&E departments

n=274 — 37 subjects were excluded since phone MMSE score <15

n=204 — 70 subjects were excluded because subjects were later admitted to aged home or unable to be contacted

RESULTS

No. of cases recruited

	Intervention group	Control group
QMH		
PWH		
PMH		

0 20 40 60 80

■ Intervention group ■ Control group

204 subjects

Randomization

101 Intervention group

103 Control group

22 subjects subsequently refused home visit or home visit could not be arranged within the specified time

15 subjects subsequently refused wish well visits

79 Intervention group

88 Control group

RESULTS
Demographics and Baseline characteristics between groups

	Intervention Group	Control Group	p
Age (years)	78.67 ± 6.19	77.92 ± 6.16	0.406[1]
Sex	Male: 27 Female: 52	Male: 24 Female: 64	0.866[2]
Time Up and Go Test	26.05 ± 21.26	23.45 ± 24.44	0.548[1]
Visual Acuity (Right eye)	88.33 ± 84.37	100.20 ± 106.50	0.542[1]
Visual Acuity (Left eye)	108.83 ± 95.37	92.55 ± 89.95	0.387[1]
Phone MMSE at baseline	19.96 ± 3.18	19.98 ± 3.62	0.978[1]
MBI at baseline	46.14 ± 5.29	46.30 ± 4.61	0.836[1]
Frenchay Activities Index	19.40 ± 7.25	19.28 ± 7.47	0.053[1]

Note: Values are average ± SD or n; *$p \leq 0.05$; [1]Student t test; [2]Fisher exact test (2 sided)

No difference between the two groups

RESULTS

OUTCOMES 1   (at 6 months follow-up)

Outcomes	Intervention Group	Control Group	p
Number of fallers	2 (2.5%)	10 (11.4%)	0.035[1*]
Total Falls	2	12	0.027[3*]
Time to first fall (fallers only, mean days SD)	88 (5.7)	89 (58.9)	0.999[3]
A&E Visits due to fall	2 (2.5%)	6 (6.8%)	0.197[2]
Hospitalization	1 (1.3%)	2 (2.3%)	0.999[1]

Note: [*]$p \leq 0.05$; [1]Fisher's Exact Test (2 sided); [2]Pearson Chi-Square; [3]Mann-Whitney
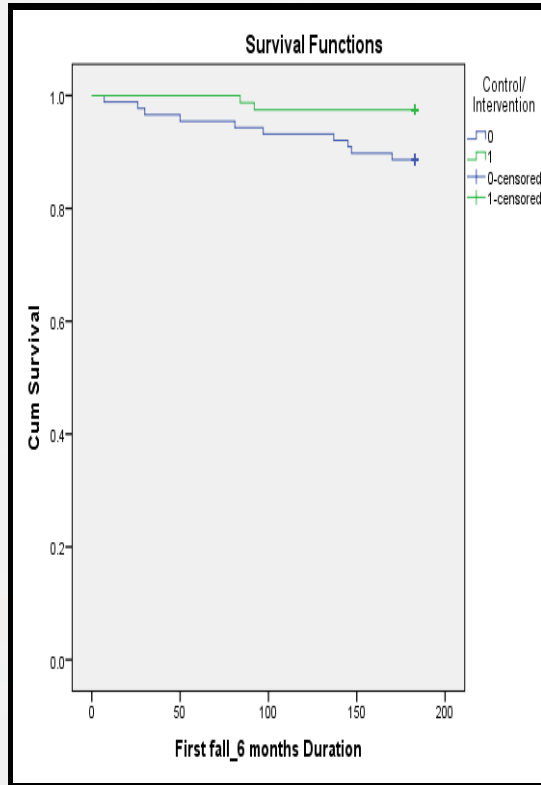
RESULTS

OUTCOMES 2

Outcomes	Intervention Group	Control Group	*p*
9 months follow-up			
Number of fallers	5 (6.3%)	14 (15.9%)	0.085[1]
Total Falls	**5**	**17**	**0.047[3*]**
12 months follow-up			
Number of fallers	10 (2.5%)	18 (20.5%)	0.216[1]
Total Falls	12	27	**0.179[3]**
Time to fall (fallers only, mean days SD)	242.9 (95.4)	169.2 (112.1)	0.103[3]
Emergency attendance	10 (12.7%)	17 (19.3%)	0.367[2]
Hospitalization	4 (5.1%)	6 (6.8%)	0.750[1]

Note: [*]$p \leq 0.05$; [1]Fisher's Exact Test (2 sided); [2]Pearson Chi-Square; [3]Mann-Whitney
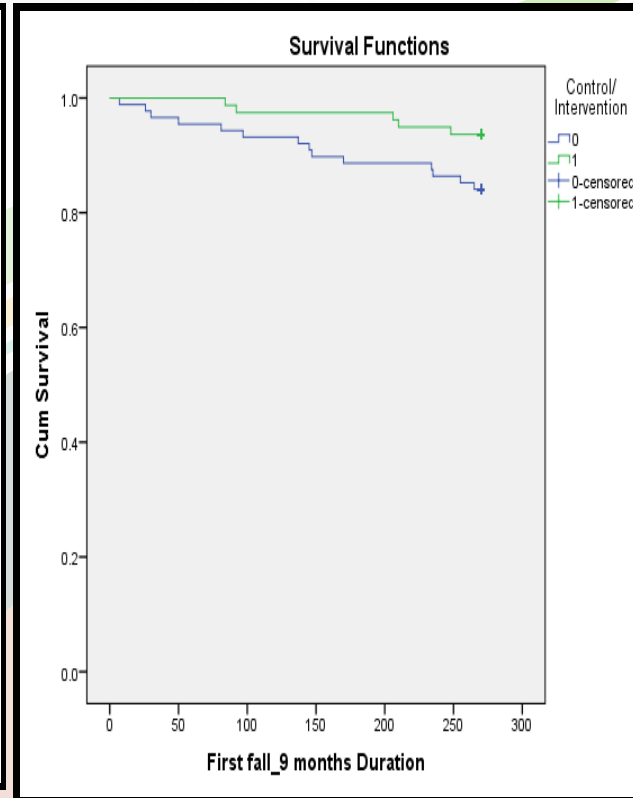
RESULTS

OUTCOMES 3   Survival curves of falls

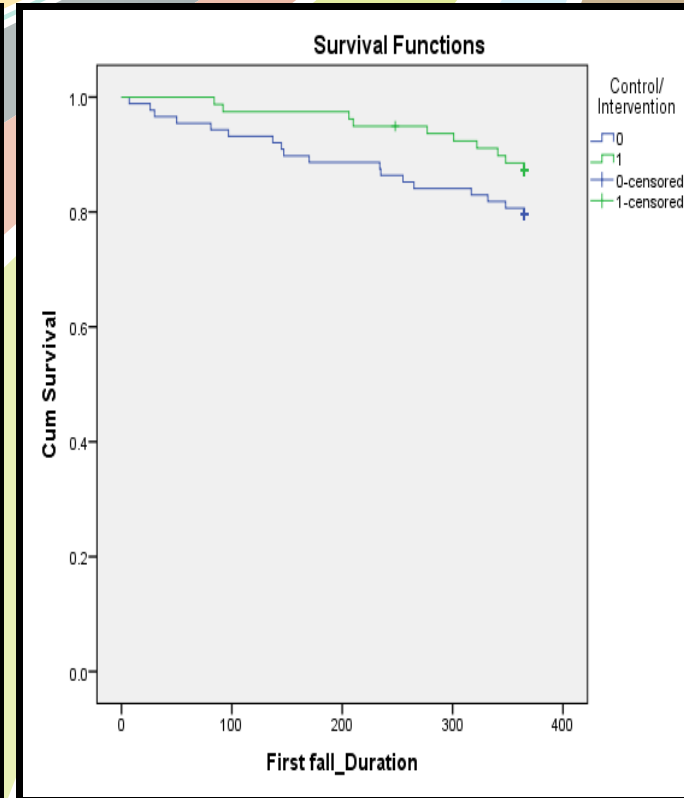**Log-rank test, 4.827;**
p=0.028
At **6** months

Log-rank test, 3.80;
p=0.05
At **9** months

Log-rank test, 1.974;
p=0.160
At **12** months

RESULTS

Secondary Outcomes at 4, 8 and 12 months

Phone MMSE

BI-100

Falls Behavioural Scale

Frenchay Activities Index

No significant difference statistically between intervention and control groups

RESULTS

TOP THREE HOME HAZARDS

1. **Poor illumination**

2. **Obstacles in the traffic ways**

3. **Floor mats**

SUMMARY OF RESULTS

This study showed that 'Community OT Falls Reduction Programme' for community elderly who attended emergency departments because of fall was effective in reducing:

- **the number of fallers and**

- **the number of falls in 6 months**

LIMITATIONS

1. Interruption in the process of subject recruitment by Human Swine Influenza and Winter Surge

2. Limited OT manpower

3. Only phone follow-up was used to check on adherence to OT's recommendations for home modifications
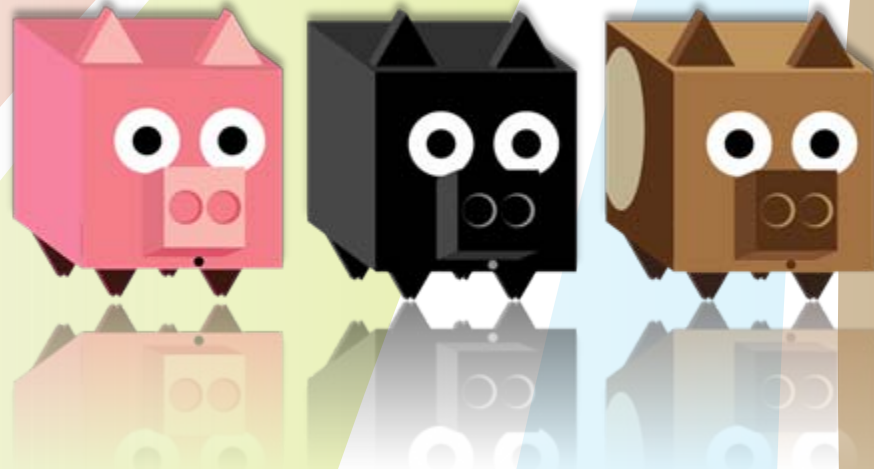
CONCLUSION

One OT home visit after an elderly fall was effective to reduce falls in 6 months for community dwelling older persons who presented to A&E because of falls.

ACKNOWLEDGEMENT

THANK YOU