

FEASIBILITY OF A SYSTEMATIC APPROACH FOR IMPLEMENTING A HOME-BASED ADAPTED PHYSICAL ACTIVITY PROGRAM AT DISCHARGE FROM A GERIATRIC SHORT-TERM UNIT TO PREVENT LOSS OF MOBILITY

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INTRODUCTION

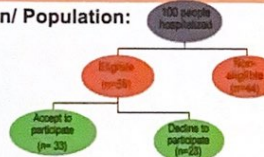
- Normal aging is associated with muscle mass and strength decline which both lead to loss of mobility, risk of falls, fractures and loss of autonomy.¹
- More importantly, hospitalization increase these phenomena and multiply the risk of functional decline and falls in older people.^{2,3}
- Physical activity, which has physiological effects on the musculoskeletal, neurological and cardiovascular systems, is an intervention of choice to counteract frailty.⁴
- However, there is no current recommendations for the prescription of physical activity (PA) programs at hospital discharge aiming at preventing mobility decline.

OBJECTIVE

- To create an algorithm to help health professionals to prescribe a PA program to maintain balance and muscle strength.
- To evaluate the feasibility & acceptability of a systematic approach for implementing a home-based adapted PA program for elderly people recently discharge from a Geriatric Short-term Unit (UCDG) from the healthcare professionals' and patients' point of view.
- To evaluate the physical benefits of this daily home unsupervised PA program in frail older population.

METHODS

Design/ Population:



Inclusion criteria

- Age >65 yrs old
- Understanding & speaking french/english
- MMSE>18
- Discharge to home after hospitalization
- Hospital length of stay >7 days

Decisional algorithm :

Item	Options	Criteria	Points
A: Balance	with/without arms	>10 seconds	2
B: Sit to stand	with/without arms	>10 seconds	1
C: Side by side	with/without arms	>10 seconds	0
D: Chair transfer	with/without arms	>10 seconds	2
E: 30 sec	with/without arms	3 to 5 times	3
F: 30 sec	with/without arms	2 to 3 times	5
G: 30 sec	with/without arms	2 to 3 times	4
H: MMSE score		>18	10
I: Presence of caregiver at home		>17 days	10
			Max

Physical activity program:

- 18 pre-defined specific profiles based on an algorithm score:
 - Balance
 - Sit to stand test
 - MMSE profile & caregivers
- 2 teaching sessions by a physiotherapist during hospitalization
- Exercises based on physiotherapist software
- PA program illustration (most prescribed: 53%):



- 12 weeks of unsupervised home-based program
- Frequency: every day (as a drug prescription)
- Duration: 30 min/session
- Number: 4 exercises (aim to improve mobility)

Measures (pre and post-intervention):

- Adherence and acceptability (logbook)
- Functional capacities
- Body composition (Fat mass & Fat free mass): BIA (Omron 500©)

Statistical analysis:

- Non-parametric tests: Mann-Whitney, Chi-square & Wilcoxon tests

Table 1: Baseline characteristics of eligible patients

Variables	Participants (n=17)	Decliners (n=23)	P-value
Age yrs	76.0 [72.5-86.0]	80.0 [73.0 - 89.0]	0.52
BMI, kg/m ²	28.9 [23.7 - 30.9]	25.6 [21.7 - 29.0]	0.36
Women, %	64.7	60.7	1.00
Caucasian, %	100	87.2	0.15
Education level >College, %	52.9	48.7	1.00
Married / in couple, %	17.6	30.3	0.34
Live at home, %	76.5	79.6	1.00
Number of drugs, n	13.0 [8.5 - 15.5]	12.0 [9.0 - 14.0]	0.90
MMSE score	26 [25 - 29]	27 [25 - 29]	0.58
Hospital length of stay, d	22.0 [20.0 - 39.5]	30.0 [23.0 - 36.0]	0.76
Diagnosis (%)			
Neurological disease	47.1	41.0	0.10
Musculoskeletal disease	11.8	15.4	
Other	23.5	7.7	

No difference between patients involved in the PA program & those who declined

RESULTS

Figure 1: Eligibility and patient participation rate

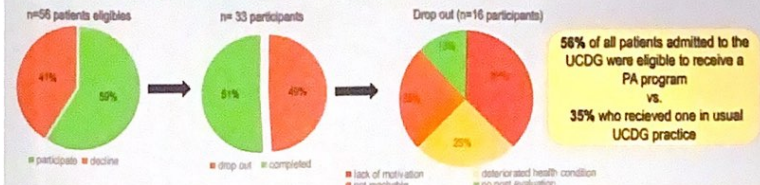


Figure 2: Level of adherence of participants (n=17)

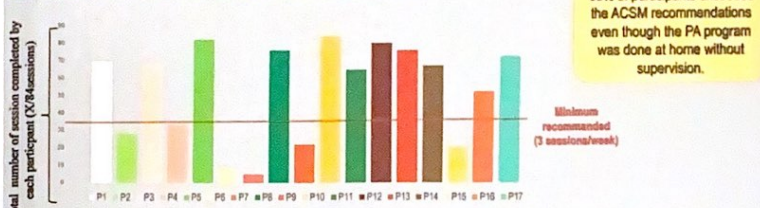


Figure 3: Acceptability of the PA program by participants (n=17)

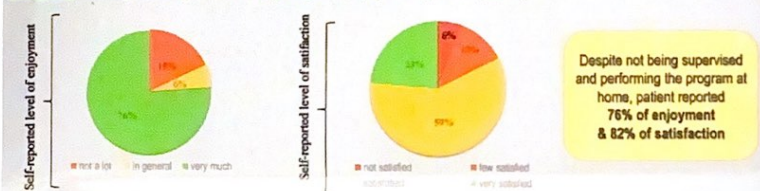


Figure 4 & 5: Feasibility & acceptability of the implementation by health professionals (n=8)

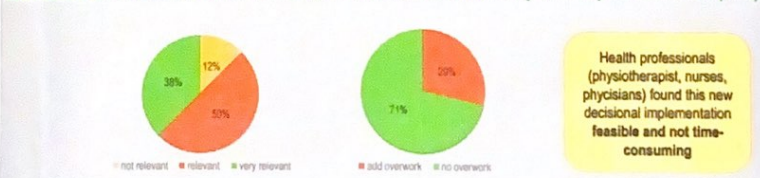


Figure 6: Percentage of fallers before and during the PA program (n=17)

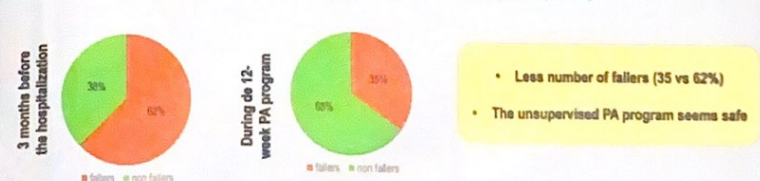


Table 2: Physical benefits of the 12-week PA program for participants (n=17)

Functional abilities	Pre	Post	P-value
Fast walking speed (TUG, m/s)	0.15 [0.12-0.18]	0.23 [0.18-0.28]	0.006*
TUG >21 sec	53	35	0.46
Balance Tandem (sec)	3.79 [1.87-5.91]	4.40 [1.85-6.95]	0.40
30 sec - chair test (n)	5.41 [2.92-7.90]	7.47 [5.30-9.55]	0.07
5-rip chair test. (not succeed, n)	41	18	0.20
Body composition			
BMI (kg/m ²)	27.3 [24.6-29.9]	27.3 [24.3-30.3]	0.84
Fat Mass (%)	31.4 [26.9-35.9]	30.8 [25.2-36.4]	0.58
Fat Free Mass (%)	29.1 [26.9-31.4]	29.6 [27.0-32.1]	0.36
Physical Activity Level			
RAPA questionnaire (X/4)	2.0 [1.0-2.9]	3.1 [2.1-4.1]	0.09

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