

Mitigating Deconditioning in nursing homes: A Feasibility and Acceptability Study of the PUSH tool (Promoting the aUtonomy through exerciSe in nursing Home)

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INTRODUCTION



OBJECTIVES

- Normal aging leads to functional decline, worsened by sedentary lifestyles, especially in nursing homes (NHs).

- Over 30% of NH residents report reduced physical activity after admission.

- Sedentary behavior in NHs exceeds 10 hours per day.

- Regular physical activity improves physical performance, quality of life, and prevents falls.

- Barriers to participation include health perceptions, lack of motivation, environmental factors, lack of specific recommendations or pragmatic interventions for this population

- External motivation is key to promote physical activity in NHs.

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- To assess the feasibility and acceptability of the PUSH (Promoting the aUtonomy through exerciSe in nursing Home) tool in NH
- To study the impact of individual motivational interviews on adherence rates

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- **Study design**
Feasibility and acceptability pilot study
Carried out in 3 NH in the province of Liège, Belgium

METHODS



- **Population**
Aged 65 or older
Living in nursing home
Able to practice physical activity
Able to give voluntary and informed consent

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- Intervention: decisional tree
- A decisional tree, including validated physical tests for muscle strength, balance and muscle endurance, was used to establish individual score abilities



Evaluation date: _____
 Name of evaluator: _____



DECISION TREE PUSH – Person able to stand

TESTING	POSITION	CRITERIA	SCORE	
Cardio-muscular				
Test of the number of chair lifts in 30 seconds	With support	A	0 lift	*0*
		B	< 5 lifts	*1
		C (If relevant, try without support)	5 to 9 lifts	2
	Without support	D (If relevant, try without support)	≥ 10 lifts	3
		E (If ≥ 2, take the score with support)	3 to 5 lifts	3
		F	≥ 5 lifts	4
Balance (Standing, unassisted)				
- ATTENTION -				
*If the Cardio-muscular score is 0 or 1, only take into account the balance score with both feet				
Feet together 	< 10 seconds		0	
	≥ 10 seconds		1	
Semi-tandem legs 	< 10 seconds		2	
	≥ 10 seconds		3	
Tandem legs 	≥ 3 seconds		4	
TOTAL SCORE (Cardio-muscular Score + Balance Score):			/8	

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- **Intervention: PUSH program**

Based on this score, the PUSH tool assigns tailor-made exercise programmes to NH residents.

Each PUSH exercise programme includes two daily exercises combined with personalized walking or wheelchair distances.

For each exercise it is recommended to perform 1 to 2 sets of 10 to 12 repetitions, depending on the programme

• Intervention: PUSH program



Programme d'exercices

Votre profil

Sans soutien Avec soutien

Aide technique requise: Marchette Canne Aucune

Temps de marche

2 fois par jour: ___ min / ___ mètres

___ nb de couloirs (___ m)

(Indiquez la modalité à parcourir. Si cela est nb de couloir ajoutez la longueur du couloir)

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Exercice 1



1 série 12 répétitions

- Consignes Exercice 1**
- Commencez en position assise, bien adossé à votre chaise.
 - Levez-vous de la chaise. Si possible, aidez-vous le moins possible de vos mains.
 - Restez debout pour 10 secondes avant de vous rasseoir.
 - Répétez le mouvement 12 fois.

Exercice 2



2 séries 12 répétitions

- Consignes Exercice 2**
- Commencez en position assise, bien adossé à votre chaise.
 - Levez votre genou droit. Touchez-le avec la main gauche. Maintenez la position 2 secondes avant de redescendre votre genou.
 - Recommencez avec votre genou gauche et votre main droite.
 - Répétez le mouvement 12 fois pour chaque jambe.

Effectuez ces exercices 2 fois par jour

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- **Participant Assignment and Allocation Method**

Participants were divided into two different groups: one that received external motivation (PUSH-EM group) and one that did not (PUSH-NEM).

During the 4-week study period, the PUSH-EM group received two weekly visits from the physiotherapist to encourage adherence to their PUSH programme

The PUSH-NEM were left alone to complete their personalized programme.

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- **Data collected**

Socio-demographic characteristics: age, sexe, BMI

Two acceptability indicators: adherence and satisfaction (using a 4-point Likert scale)

Two feasibility proxies: perceived difficulty (using a 4-point Likert scale) and usability (using the validated SUS questionnaire)

Expected values:

> 80% for adherence and satisfaction

> 68/100 for SUS

< 40% for difficulty

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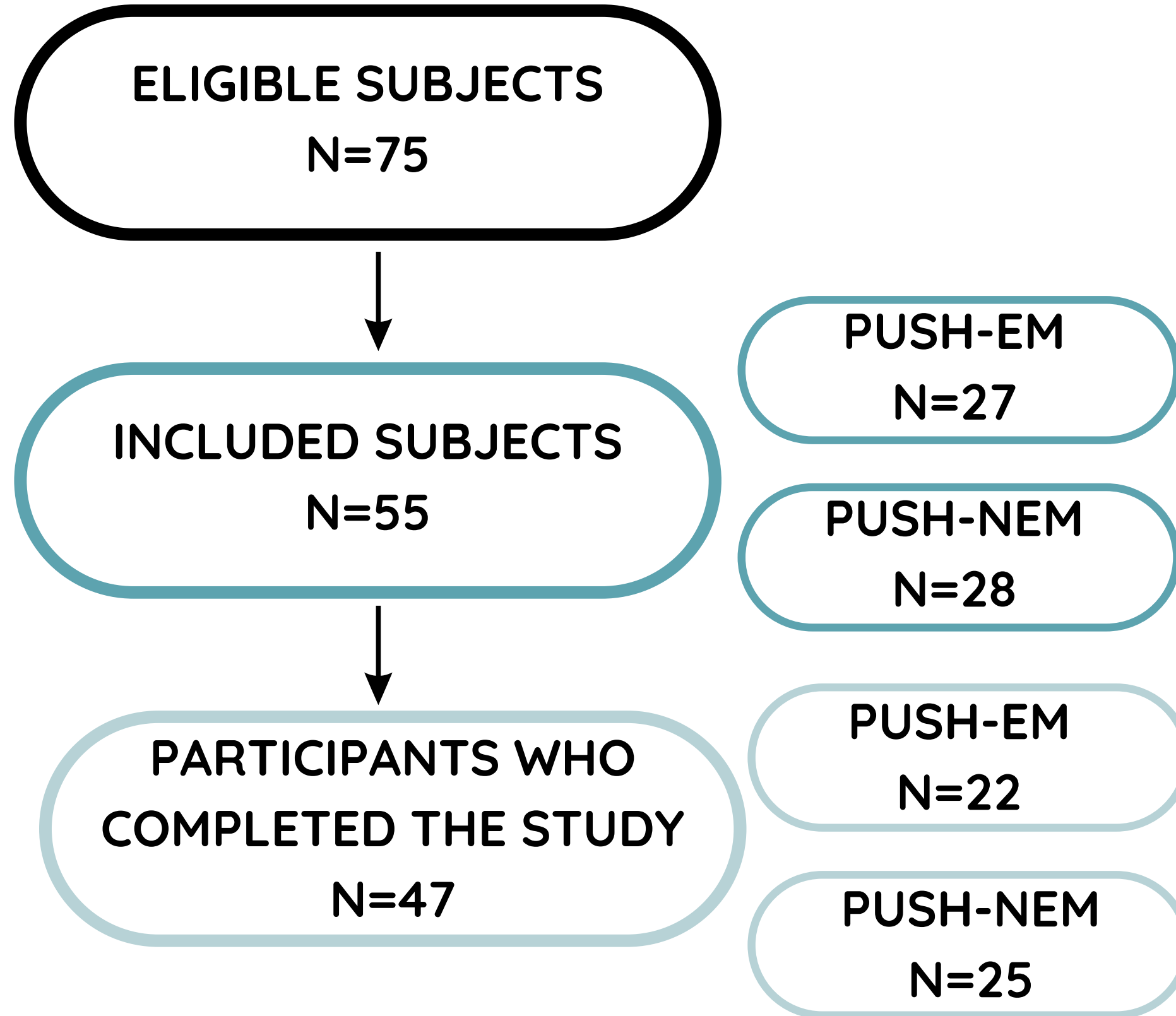
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FLOW CHART



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BASELINE CHARACTERISTICS

Variables	PUSH-EM group (n=27)	PUSH-NEM group (n=28)	p-value
Age (years)	83.9 ± 7.9	86.1 ± 7.0	0.28
Sex (n (%), men : women)	8 (29.6) : 19 (70.4)	8 (28.6) : 20 (71.4)	0.93
BMI (kg/m ²)	24.3 (22.3-27.9)	24.9 (22.9-27.8)	0.36



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ACCEPTABILITY

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Variables	PUSH-EM group (n=27) n (%)	PUSH-NEM group (n=28) n (%)	p-value
<ul style="list-style-type: none">Adherence (n ; %)			
Number of completed sessions / number of prescribed sessions	36.4/56 (65%)	35.4/56 (63.2%)	0.82
<ul style="list-style-type: none">Satisfaction (n ; %)			0.17
Not satisfied at all with the programme	2 (8.3)	2 (7.5)	
Somewhat satisfied with the programme	3 (12.5)	8 (29.6)	
Satisfied with the programme	12 (50)	6 (22.2)	
Highly satisfied with the exercise programme	7 (29.2)	11 (40.7)	

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FEASIBILITY

Variables	PUSH-EM group (n=27) n (%)	PUSH-NEM group (n=28) n (%)	p-value
Feasibility			
• SUS (/100)	77.5 (66.9- 83.1)	77.5 (63.8- 82.5)	0.75
• Difficulty			0.19
The perceived difficulty during the execution of the programme's exercises is non-existent	12 (50)	9 (33.3)	
The perceived difficulty during the execution of the programme's exercises is slight	4 (16.7)	12 (44.5)	
The perceived difficulty during the execution of the programme's exercises is moderate	6 (25)	4 (14.8)	
The perceived difficulty during the execution of the programme's exercises is extreme	2 (8.3)	2 (7.4)	

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CONCLUSION

- PUSH tool : acceptable and feasible in NH settings.
- Despite slightly lower than expected adherence rates (80%).
- Future research should focus on evaluating the factors facilitating the long-term adherence of the PUSH programme among NH residents.



PUSH



THANK YOU

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