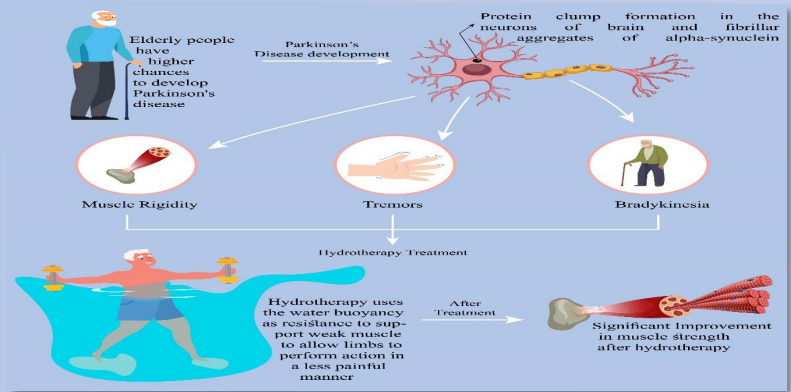




INTRODUCTION

- Chief Complaints of patients with Parkinson's Disease : Tremors, Bradykinesia and Muscle Rigidity[3].
 - Intervention to be tested: Hydrotherapy.
 - Population Under Study : Elderly Male and Female Patients.
 - Hydrotherapy uses the water buoyancy as resistance to support weak muscle to allow limbs to perform action in a less painful manner.
- So, the focus of this poster is to compare two research-based studies so that efficacy of hydrotherapy intervention is determined with statistically significant outcomes.



METHODS

Journal 1
Pompeu, J. E. et al. 2013 - Journal 1
Total patients - 17
Female - 10
Male - 7
Assessment - Time Up and Go Test (TUG) , Dynamic Gait Index (DGI), Paired t test
Total Hydrotherapy Sessions: 36
Duration: 3 months

Interventional Analysis

Subjects	Variable	Test	Pretest	Posttest	p
Participants - 17 Mean Age 67.5 years	Gait	DGI	19.235 ± 3.945	13.802 ± 3.945	>0.05
		TUG	12.387 ± 2.646	10.648 ± 2.419	0.05

Journal 2

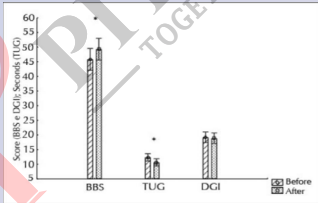
Christinelli, T. et al. 2021 - Journal 2
Total participants - 11
Men - 7
Women - 4
Mean Age - 70 years
Assessment - Dynamic Gait Index (DGI), Mini-BesTest

Interventional Analysis

Subjects	Variable	Test	Pretest (CI 95%)	Posttest (CI 95%)	p
Participants - 11 Mean Age - 70 years	Gait	MiniBesTest	21.18 ± 3.88	22 ± 2.79	0.41
		DGI	7 ± 1.48	8 ± 1.68	0.08

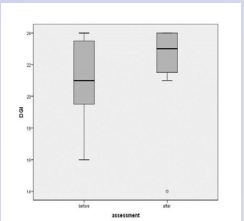
RESULT

- Hydrotherapy promoted significant changes in the gait of the subjects under study assessed via TUG (p=0.05), while DGI (p>0.05) shown below gives the key evidence of clinical benefits of hydrotherapy [9]:



Graph-1: Patients performance before and after Hydrotherapy on TUG and DGI.

There was a statistically significant difference among results before and after Hydrotherapy evaluated by TUG (paired p test, p <0.05). No statistically significant difference between measurements before and after hydrotherapy on DGI (Pompeu, J. E. et al. 2013).



- Mean Score obtained in the DGI was 20.7 (pretest) and 22.09(posttest). There was an improvement, without a significant difference (p=0.105) of 6.71% (Christinelli, T. et al. 2021).

Graph 2: Comparative Test of Gait Assessment.

DISCUSSION

In order to study the effects of hydrotherapy in journal 1 shown above (Pompeu, J. E. et al. 2013) on the gait of Parkinson's disease patients, seventeen patients with Parkinson's disease on stages 1-4 of the Hoehn/Yahr scale were subjected to hydrotherapy interventions It includes Time Up and Go (TUG) and Dynamic gait Index (DGI) as a tool to measure the outcome. Patients performed 36 sessions of hydrotherapy and data was analyzed using paired p tests. There was a statistically significant improvement in the TUG, but no significant difference on DGI scales after hydrotherapy on improving the gait of patients with Parkinson's disease.

According to the descriptive analysis performed in Journal 2 shown above (Christinelli, T. et al. 2021), the study is a single-blinded pilot study that includes 11 participants in the sample. They participated in a hydrotherapy program for 12 weeks and the interventional analysis was done via Dynamic Gate Index (DGI) and MiniBesTest. After the program, no difference was verified in the MiniBesTest (p=0.41) or DGI (p=0.105). The guidelines used in the study include Archimedes' principle in order to prove that hydro exercises are more effective than conventional land-based exercises.

The key finding in the results shown above is the significant improvement in the gait of patients after routine hydrotherapy sessions as summed up in both pilot studies reviewed above.

CONCLUSION

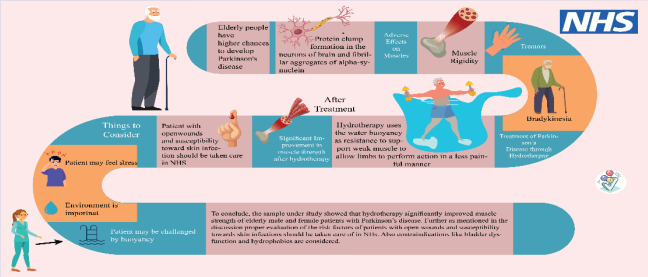
According to the descriptive analysis, it is concluded that the proposed hydrotherapy program in the research did not produce significant gains in gait improvement in a group of elderly people with Parkinson disease(Christinelli, T. et al. 2021).

Role in NHs: [7]To determine the risk of Legionella infections, heat exhaustion, falls, open wounds, choking etc.

Contraindications: Bladder dysfunction, Bowel disorders, Skin diseases, high fever, hydrophobia, open wounds.

Role in Physiotherapy: [5] Water buoyancy helps reduce body weight and ease muscle movement and improve strength.

The study is based on a small sample size and a less diverse age group, for therapeutic assessment of evidence more longitudinal studies with met analysts and follow up is required[6].



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