

Efficacy of a Flavored Lubricating Spray on Medication Swallowing in Older Adults

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Background

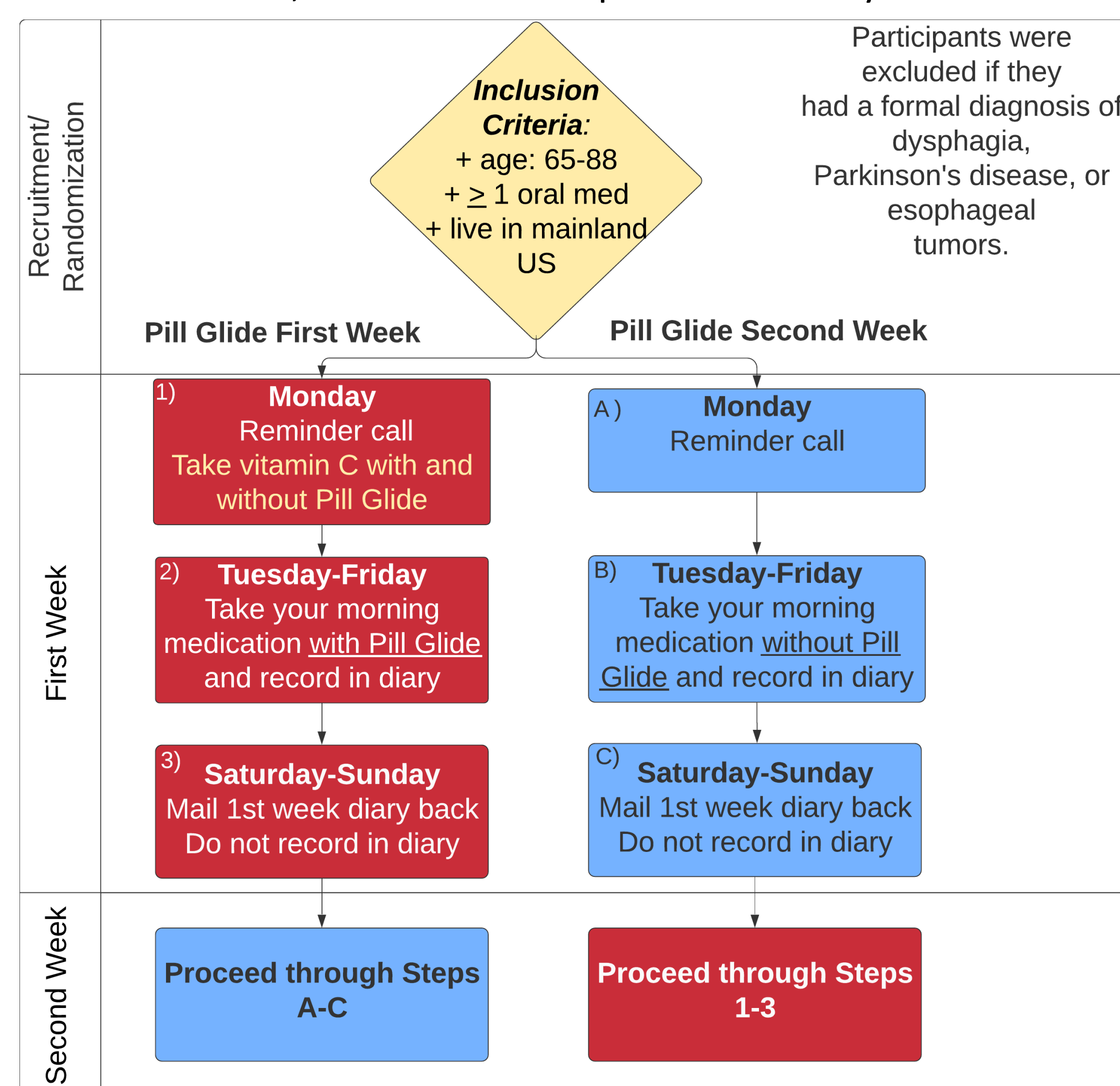
- Difficulty swallowing exists in about 22% of people over 50 years of age and increases to 68% in older adult nursing home residents.^{1,2}
- Difficulty swallowing can result in medication problems such as poor adherence, inappropriately altering medications, and not taking indicated therapies.³
- Pill Glide, an over-the counter flavored lubricating spray found to be helpful in children that swallow oral medications, has not yet been studied in older adults.^{4,5}

Objectives

- The aim of this randomized, open-label crossover study was to evaluate the effect of a flavored lubricating spray on the ease of swallowing oral solid medication in older adults 65 years of age and older.

Methods

- Participants were recruited through Facebook advertising. After indicating their interest, participants were contacted by the study team to determine eligibility. Those who completed the study were compensated with a \$25 gift card.
- It was determined that a population of 36 participants would be required to detect a 0.5 difference of mean score between groups with a power of 90%. A total of 43 participants were enrolled, of which 39 completed the study.



- The Wilcoxon signed-rank test was used to compare the distribution of the rates of overall difficulty between the normal week and the Pill Glide week.
- The Mann-Whitney U test was used to determine the effect of treatment sequence on the rates of overall difficulty.
- Analyses were performed with SAS version 9.4 (SAS Institute, Cary, NC).

Results

Table 1: Participant Baseline Demographics

Characteristics	Total (n=39)
Male (%)	16 (41%)
Race (%)	
Asian	6 (15%)
Black or African American	1 (2.5%)
White	29 (74%)
Two or more races	1 (2.5%)
Unspecified	2 (5%)
Number of daily medications	7.69 (± 5.6)
Has had difficulty swallowing their medications at some point (%)	26 (66%)
Currently has difficulty swallowing their medications (%)	22 (56%)

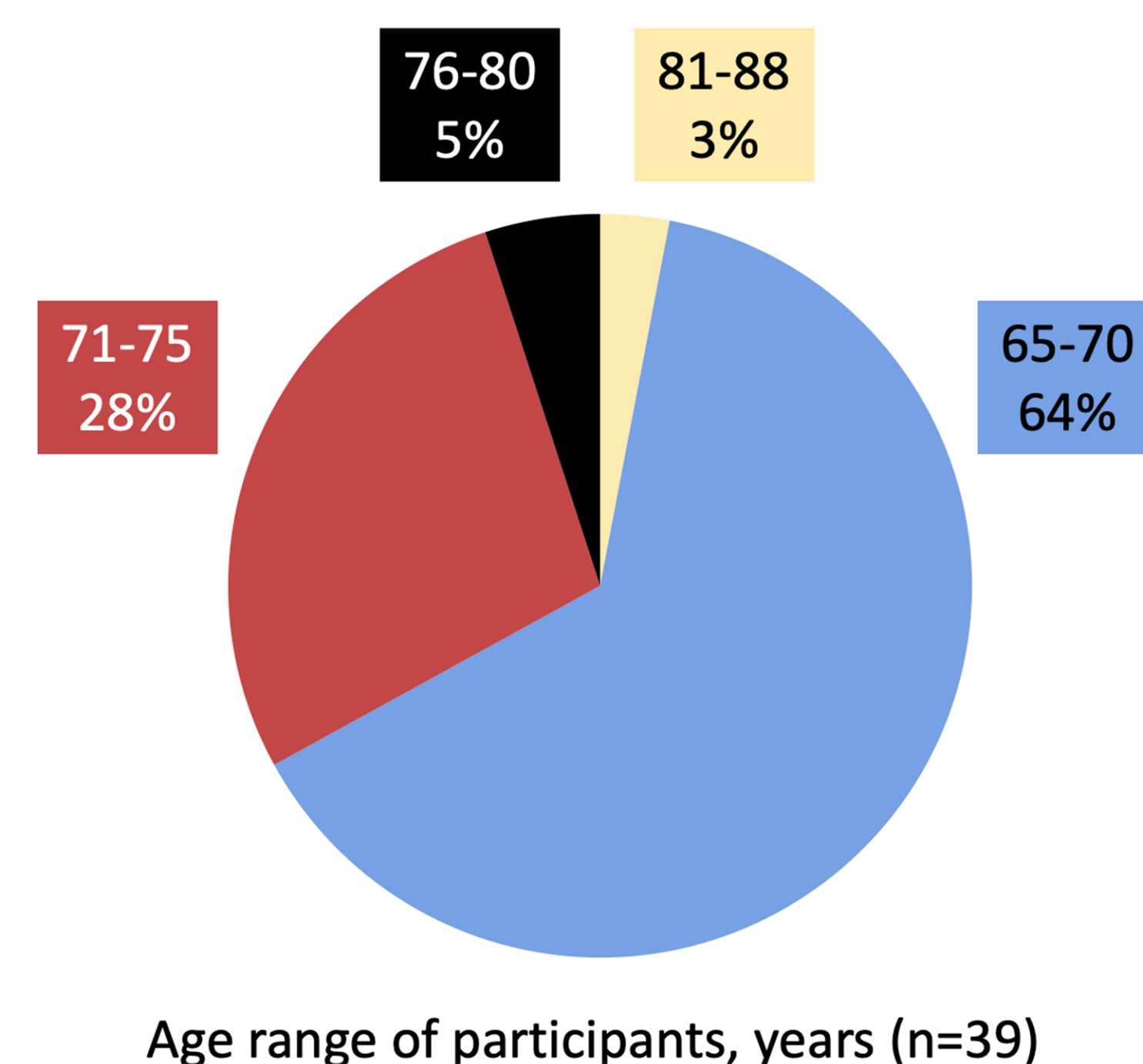


Table 2: Difficulty Taking Daily Medications With and Without Pill Glide

	Median Difficulty Rate (IQR)*			
	Normal Week	Pill Glide Week	Difference (Pill Glide – Normal)	P-value
Pill Glide week first (n=19)	3 (3,5)	5 (4,5)	1 (0,2)	0.001
Normal week first (n=20)	4 (3,4)	5 (4,5)	1 (0,1)	0.0001
Total (n=39)	4 (3,4)	5 (4,5)	1 (0,1)	< 0.0001

*Difficulty was recorded on a scale of 1 to 5, with 1 being very difficult and 5 being very easy

Table 3: Difficulty Swallowing a Vitamin C Tablet With and Without Pill Glide

	Median Difficulty Rate (IQR)*			
	Without Pill Glide	With Pill Glide	Difference (Pill Glide – Normal)	P-value
Total (n=26)	3 (3,5)	5 (4,5)	1 (0,2)	0.001

*Difficulty was recorded on a scale of 1 to 5, with 1 being very difficult and 5 being very easy

Table 4: Participant Experience Using Pill Glide

	1	2	3	4	5	Median (IQR)
Difficulty of using flavored throat spray; 1 (very difficult) to 5 (very easy)	0	1	1	5	32	5 (5,5)
Overall taste of flavored throat spray; 1 (disgusting) to 5 (delicious)	1	1	2	21	14	4 (4,5)
Likelihood of recommending to a family member or friend; 1 (not at all likely) to 5 (very likely)	2	0	5	11	21	5 (4,5)

Discussion

- The use of Pill Glide was associated with a statistically significant improvement in the ease of pill swallowing both in patients swallowing their normal daily medications (Table 2) and the standardized, large Vitamin C tablet measuring approximately 0.75 inches by 0.1875 inches (Table 3).
- Treatment sequence (i.e., Pill Glide Week 1/Normal Week 2 vs Normal Week 1/Pill Glide Week 2) did not influence the reported rates of difficulty as assessed by the Mann-Whitney U test (p=0.8).
- The majority of participants found Pill Glide palatable and easy to use, and were likely to recommend it to a friend or family member (Table 4).
- Given the study's unblinded design, there may have been possible bias in survey responses, as participants may have anticipated easier medication swallowing with Pill Glide use.

Conclusions

- These results suggest that a flavored lubricating spray like Pill Glide may be useful in older adults that experience difficulty swallowing their medications.
- Future studies are needed to assess which patients could derive the most benefit.

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