

# ESTHER

Network for Health & Social Care  
**SINGAPORE**

# “Pills-on-time” kit: Empower Parkinson’s Disease Patients in Managing Medication at Out of Home Setting

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**Introduction** Parkinson’s Disease (PD) is the second most common neurodegeneration disease. They are considered vulnerable groups due to the progressive nature of the disease. Particularly the complexities of PD medication schedule related to self-management adherences a significant challenge. Nonadherence is linked to increased readmission rate and premature mortality. Baseline survey and one-to-one interview have been done for PD patients. The reason for nonadherence involves intending to take PD medication as scheduled but failing to do so for some reasons, such as, neglecting the importance of bringing medication when going out. Thus, the patients might not be able to take their medication on time, leading them to develop various complications. The goal of this project is to increase the confidence level of PD patients in self-managing disease-related medications out of home setting by 30% in 3 months. This project will present the key intervention to enabling PD patient in self-managing PD related medications at out of home setting.

## Methodology

Baseline survey has been done for 19 Esthers (PD patients) about self-managing PD medications (Refer to Figure 1). Most of the patients (79%) are having 1 or 2 types of PD medications. 47% of them expressed that they needed family members to remind them bringing PD medication when going out. 63% of them mentioned that they have forgotten to bring the PD medication out. Thus, the aim of this project is to increase the confident level of PD patients in self-managing disease-related medications out of home setting.

Sl. No.	Survey Questions	Response	Total Response	% responded as Yes
1	Can you list down 3 main concerns regarding managing PD medication?	9 need people to remind to bring the medication when going out, 4 difficult to follow and remember the timing of medication	19	47% needed people to remind to bring the medication when going out, 21% had difficulty to follow and remember the timing of medication
2	Do you think it is important to bring the medicine when going out? 0-10 give a number to describe. 0 is not important and 10 is extremely important. Circle your answer below.	15 responded as 10, 4 responded as 9	19	79% felt important
3	When you are out of the house, have you ever forgotten to bring your PD medicine?	12 Yes, 7 No	19	63% ever forgot to bring the PD medication
4	If “Yes” to Question 3, How many times do you forget taking the PD medicine per month?	3: 4-6 times/month, 9: 1-3 times/month, 7: none	19	47% forgot to bring medication 1-3 times per month, 16% forgot to bring medication more than 5 times per month, 79% taking 1-2 types PD medication
5	How many types of PD medications are you taking, and how frequent daily?	10: 1 type, 5: 2 types, 4: 3 types	19	79% taking 1-2 types PD medication

(Figure 1: Problem Identification Survey Result)

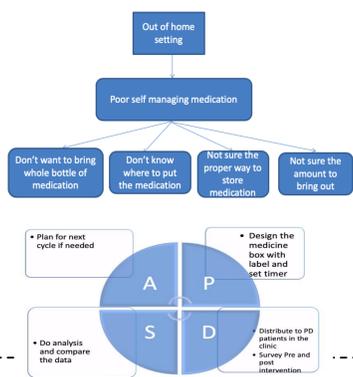
## Proposed Solution

Design “pill-on-time” kit: a potable detachable medication box (More convenience for PD patient to bring the medication along when they go out)

- One color for one type of medication
- Label the name of medication in the pill box
- Do not keep the medication in the pill box for more than 24 hours
- Remember to unpack the medication when back home

Pre-implementation survey (refer to Figure 2) was conducted during PD support group meeting on 6 January 2020. Potable medication boxes (refer to Figure 4) were given to those PD patients who have forgotten to bring the PD medication when going out and they are willing to participate in this project. Patient education (refer to figure 5) on how to proper use of this potable medication box was provided to patients and family members.

The participants were informed that phone interview will be conducted one week after to find out the effectiveness of this project. 7 PD patients were recruited in this project.



**Result** Phone interview was conducted after one week of implementation on 13 January 2020. 6 out of 7 PD patients have completed the post-implementation survey (refer to figure 3). 67% (4 out of 6) expressed they had increased their confident level in self-managing PD medications out of home setting by 60% (confident level score from 2 to 5, refer to figure 6). Three of them also shared that they liked one color for one type of medication as the color can tell the different medication. One of them shared the size of the medication box is satisfactory and convenient for carrying around. Most of them (4/6) expressed the given medication box motivated them to bring the PD medication when going out.

## Forms / pictures

**Parkinson’s Disease (PD) Survey**

1) Can you list down 3 main concerns regarding managing PD medication?  
a) \_\_\_\_\_  
b) \_\_\_\_\_  
c) \_\_\_\_\_

2) Do you think it is important to bring the medicine out?  
0-10 to give a number to describe how important it is. 0 is not important and 10 is extremely important. Circle your answer below.  
0 1 2 3 4 5 6 7 8 9 10

3) When you are out of the house, have you ever forgotten to bring your PD medicine?  
Circle your answer below.  
Yes/ No

4) If “Yes” to Question 3, How many times do you forget to bring the PD medicine per month?  
a) None  
b) Rarely (1-3 times)  
c) Sometimes (4-6 times)  
d) Frequently (7-9 times)  
e) Always (> 10 times)

5) How many types of PD medications are you taking, and how frequent daily?  
Medication: \_\_\_\_\_ Frequency: \_\_\_\_\_

6) If you plan to start a project to assist you manage your medicine, would you like to join? Circle your answer below.  
Yes/No

(Figure 2: Pre-intervention Survey)



(Figure 6: Confident Level Result)



**Post Survey**

1) After you used the medication box, do you think it is important to bring the medicine out?  
0-10 to give a number to describe how important it is. 0 is not important and 10 is extremely important. Circle your answer below.  
1 2 3 4 5

2) After using the box, how many times do you forget to bring the medication out in a week?  
a) None  
b) Rarely (1-2 times)  
c) Sometimes (3-5 times)  
d) Always (> 5 times)

3) How confident in managing your PD medication when you go out of home?  
Circle a number below.  
Before using the box: 0 1 2 3 4 5  
After using the box: 0 1 2 3 4 5

4) Does the medication box given to you motivate you to bring your medication out?  
Yes/No

5) Can you explain the reasons that you like/don't like this potable medication box?

(Figure 3: Post-intervention Survey)



## “Pills-on-time” kit: Patient Education

- 1) Place all medications into the labelled pill boxes when you go out.
- 2) The box is removable and detachable, so the day’s medications can be easily carried with you when you leave home. Remember to bring the box when you are out of home
- 3) To caregiver: When away from home, carry your loved one’s daily pill box with you.
- 4) We will be contacting you in a week time to follow up with you. This is to mainly find out how you utilize the pill box by yourself or with your loved one.
- 5) One color stands for one type of the medication
- 6) Do not keep the medication in the box more than 24 hours.
- 7) Remember to unpack the medicine when you go back home.

(Figure 5: Patient Education)



(Figure 4: Potable Medication Box)

**Further plans** Due to the time constraint for data collection, we will continuously monitor the impact on PD patients for another few weeks. We plan to conduct follow up survey to review the sustainability of this project.

**Conclusion** Esther plays an important part to enable us to understand their problems by contributing and sharing their needs. The success of this project depends greatly on the deployment of effective communication and acting on constructive feedback given from our PD Esthers and support group partners. Plans in place include regular team meetings to discuss project progression and consistently monitor for the changes. As the total number of the PD patients are limited during the selected period, intervention can be further tested so that it can benefit the patients in a long run.