

# Survey on Diverse Mobile Applications for Medication

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**Abstract**— Medication adherence is a crucial factor for patients and health care providers. It has been observed that patients consume only 50% of drugs prescribed for chronic diseases. Digitalization for the health care has paved the way for innovative mobile solutions to tackle this challenge. However, despite of numerous apps available claiming to improve medication adherence, a thorough review of adherence apps have not been carried out till date. In this paper we present survey on diverse mobile applications developed for the medication adherence based on the features they exhibit and lack.

**Index Terms**— medication, adherence, app.

## I. INTRODUCTION

Adherence to medication is a crucial part of patient care and indispensable for reaching clinical goals. The WHO, in its 2003 report on medication adherence, states that “increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatment”[1]. By opposition, no adherence leads to poor clinical outcomes, increase in morbidity and death rates, and unnecessary healthcare expenditure. While no communicable and mental illnesses are expected to exceed 65% of the global burden of disease in 2020, approximately 50%–60% of patients are no adherent to the medicine that they have been prescribed, especially those suffering from chronic diseases. As a result, more than 30% of medicine-related hospital admissions occur due to medication no adherence [2, 3]. One major factor that influences adherence is the patient’s ability to read and understand medication instructions. Patients with low literacy may have difficulty understanding instructions; this ultimately results in decreased adherence and poor medication management. Gender, personality, and cultural factors may influence adherence-compliance rates. For instance, women may be better at adhering to their medication regimens than men. This may be particularly so for drugs those treat behavioral health conditions, such as antidepressant medications. On the contrary some studies show that none of the common demographic factors such as age, marital status, living alone, sex, race, income, and occupation, number of dependents, intelligence, and level of education or type of personality have been consistently related to noncompliance. Mobile applications are useful tools to improve medication adherence. As developers continue to improve the features of

existing mobile applications, pharmacists should be aware of the current features that are available to patients. There are limited studies available that discuss which applications have the most desirable features. The aim of this study was to compare available mobile applications [4] and identify ideal application features used to improve medication adherence. Medication adherence, which refers to the degree or extent to which a patient takes the right medication at the right time according to a doctor’s prescription, has recently emerged as a serious issue because many studies have reported that non-adherence may critically affect the patient, thereby raising medical cost [5].

## II. LITERATURE SURVEY

In this section we have studied different mobile application for medical adherence and listed down the features of them in detail in tabular format.

### 1) My therapy

It is pill reminder app for all medications. It provides Pill tracker with logbook for skipped and confirmed intakes. It Support wide range of dosing schemes within medication reminder. You can Share your printable health journal with your doctor. Wide range of measurements for all conditions (diabetes, rheumatoid arthritis, anxiety, depression, hypertension, multiple sclerosis) e.g. weight, blood pressure, blood sugar levels.

### 2) Lady pill reminder

It provides Reminder through notifications and is automatically disabled for days you don't have to take the pill. You can choose the notification sound and enable /disable notification vibration. This app also reminds you that you have to buy pills when you have to start a new packet. The application displays the status of your pill packet. You can use the widgets "Lady Pill Widgets": It's a pack of 2 widgets for your home screen: one shows your pill calendar (so you can see future months predictions), and the other shows your current cycle day, and also shows you if you have to take pill today or not ("Lady Pill Widgets" is sold separately).

### 3) Midlist pro

It is a Multi-patient support with patient’s photo and medications diary. It provides ability to set up reminders and take the photo of your medications as well. It provides Google

Drive support wherein they do not store information on servers. Moreover there is no need for creating account.

4) *Medicine time*

You may set a variety of different times for different days. The medicine may be continuous or not. You can also set the sound for notification tool. It is Simple and functional to use. It supports languages such as English, Portuguese and Spanish.

5) *True reminder*

This app provides different features like Medicine reminders, Refill reminders, Schedule Doctors' appointments, Personal reminders, To Do Tasks, Medical Notes, Reports, and Email Notification for missed medication.

TABLE I  
COMPARISON OF DIFFERENT MOBILE APP FEATURES

APPLICATION	SNOOZE	VISUAL REMINDER	TEXT REMINDER	NOTIFICATION
My Therapy	YES	NO	NO	NO
Lady Pill	NO	NO	NO	YES
Med List Pro	YES	NO	NO	NO
Medicine Time	NO	YES	NO	NO
True Reminder	NO	NO	NO	NO
My pillbox	YES	YES	NO	NO
Med Smart	NO	NO	NO	NO

6) *My pillbox*

It allows Multi accounts, view a list of what meds are "due today" and check them with one tap ,Check your meds log by any period of time, Backup data for excel sheet, remind you refill when out of medicines. No network connection required for using app

7) *Med smart*

You can create as many profiles as you like on Med smart (for e.g. such as a child, parent or partner). You can set medicine reminders to get phone alerts when its' time to take your medicine. It will record any allergies or intolerances you have. The medicine tracker on Med smart can log when you've either 'taken', 'skipped' or 'rescheduled' a dose.

III. CONCLUSION

We have successfully completed the survey on diverse mobile application for medication adherence which reminds a user to take medicines. Surveyed applications are able to automatically process a prescription of multiple medications and provide reminder in the user's chosen language/dialect. Finally we conclude that the various existing application needs to be enhanced in the features in order to make it more efficient and effective for the user.

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