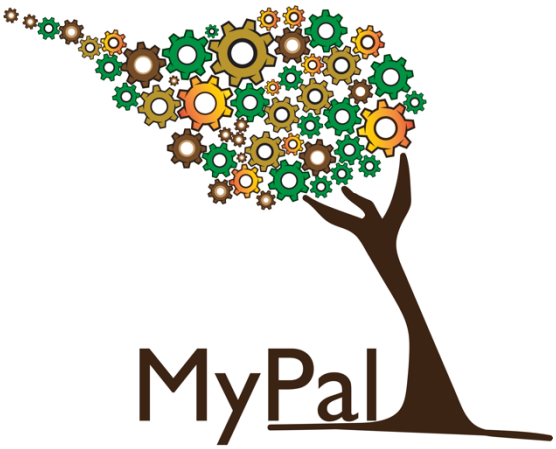

TUTORIAL:
MyPal Adults Mobile App

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1. Requirements for setup and usage of the MyPal Adults app

The following steps should be performed in advance:

1. creating an account on the MyPal server
2. setup of the FitBit smartwatch
3. downloading and installing the MyPal Adults app
4. The research nurse of each location (hospital) will retrieve a specific password (**MyPal password**) which was previously used to encrypt sensitive data for connecting the MyPal server on each location.

2. Setup

For the setup of the MyPal app for adult patients, we have considered a wizard-like sequence of the following steps to guide the patient or the research nurse who will aid the patient during the recruitment.

- Entering patients' credentials in the MyPal Adults app
- Specifying app settings
- Completing the baseline questionnaires:
    - Study Support Survey
    - Treatment Support Survey
    - Questionnaire to report symptoms (ESAS)
    - Questionnaire to report pain (BPI - Brief Pain Inventory)
    - Questionnaire to report psycho-emotional condition
- Login on the FitBit server for the first synchronizing of the activity and sleep data

These steps should be done only once.

2.1 Entering patients' credentials in the MyPal Adults app

Please open the MyPal app (Figure 1) and enter your username and password for the MyPal platform, created in the previous step described in the subsection "**Preparation to setup: creating an account on the MyPal server"** above. After pressing on the "Enter" button, your credentials will be sent to the MyPal server in order to check their correctness. You will be forwarded to the next view for specifying the app settings described below.

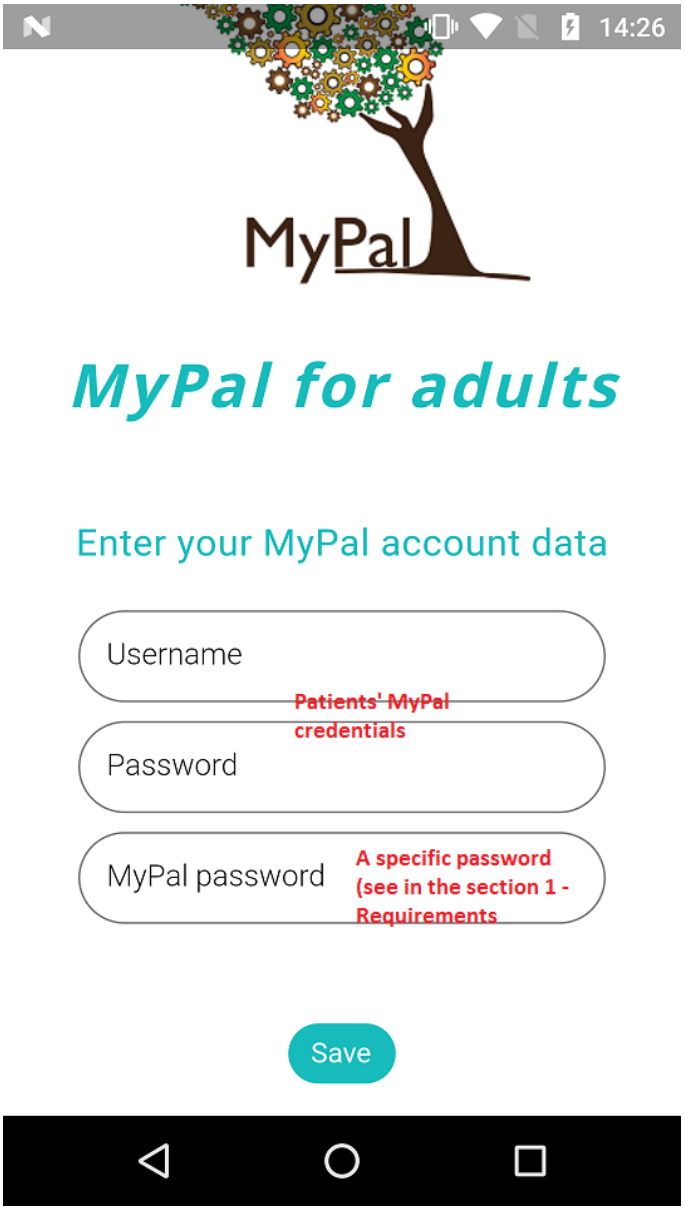


Figure 1: Entering patients' credentials in the app

2.2 Specifying app settings

Figure 2 shows a view for the app settings. The setting for the nurse contact will be entered by your study nurse in your profile on the MyPal server previously and is not editable in the app, but this value in the app will be regularly synchronised with the value on the server.

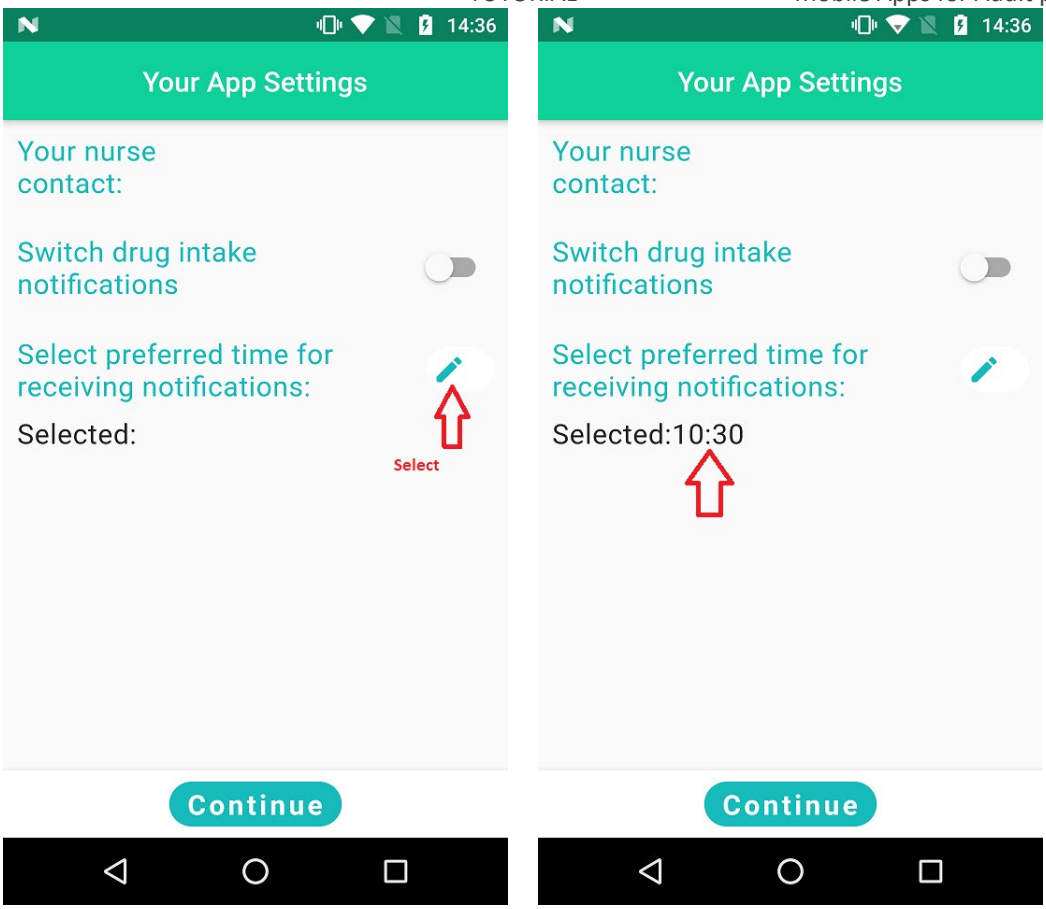


Figure 2: App settings before and after selecting preffered time

Using a switch-element, you can select if you want receive drug intake notifications. You also can specify a time for receiving different notifications including prompts to complete questionnaires and receiving motivational messages. You will have the possibility to set them later by accessing to the “Settings” view from the side navigator (Section 3.4).

After pressing on the button “Continue”, you will be forwarded to the screen with explanation of importance of the setup procedure (see Figure 5).

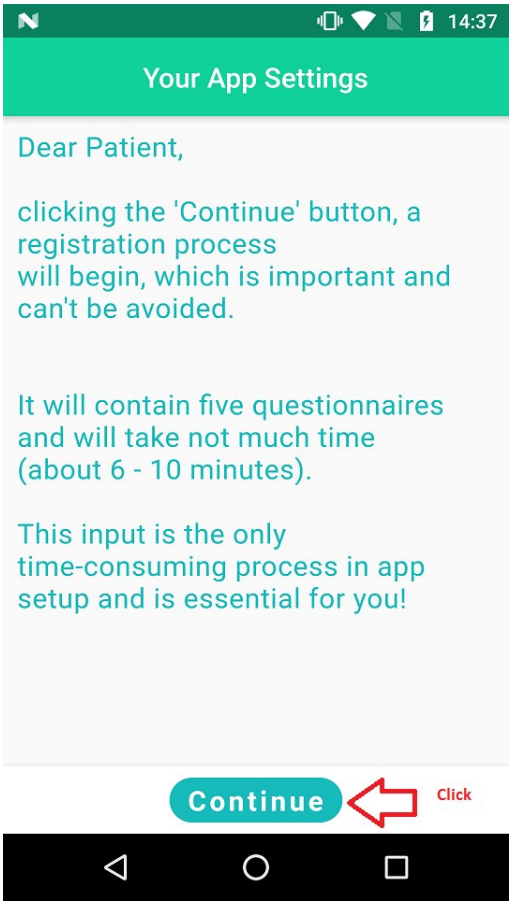


Figure 3: Information about the setup procedure

After pressing on the button “Continue”, you will be forwarded to the screen representing all following steps for the app setup where you will be invited to fill out one by one the questionnaires scheduled for the baseline of your clinical study: for study support, treatment support, pain, psycho-emotional questionnaire, symptoms.

Please fill them out. You can fill them out later as well: you will be informed about a time frame for filling out each questionnaire.

You can see more information about questionnaires representing the first five steps and about the last step as well when you press on the “info”-icon.

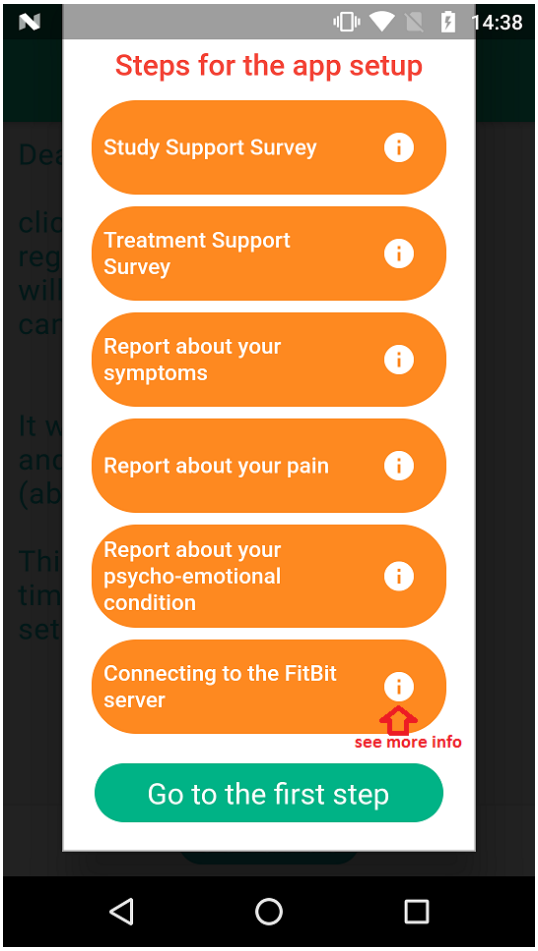


Figure 4. Initial Setup Steps

2.3 Setup steps

2.3.1 Study support survey

After clicking the button "Go to the first step", you will be informed, that you should wait about 15 seconds necessary for making a background job for preparing the first questionnaire (Study Support survey).

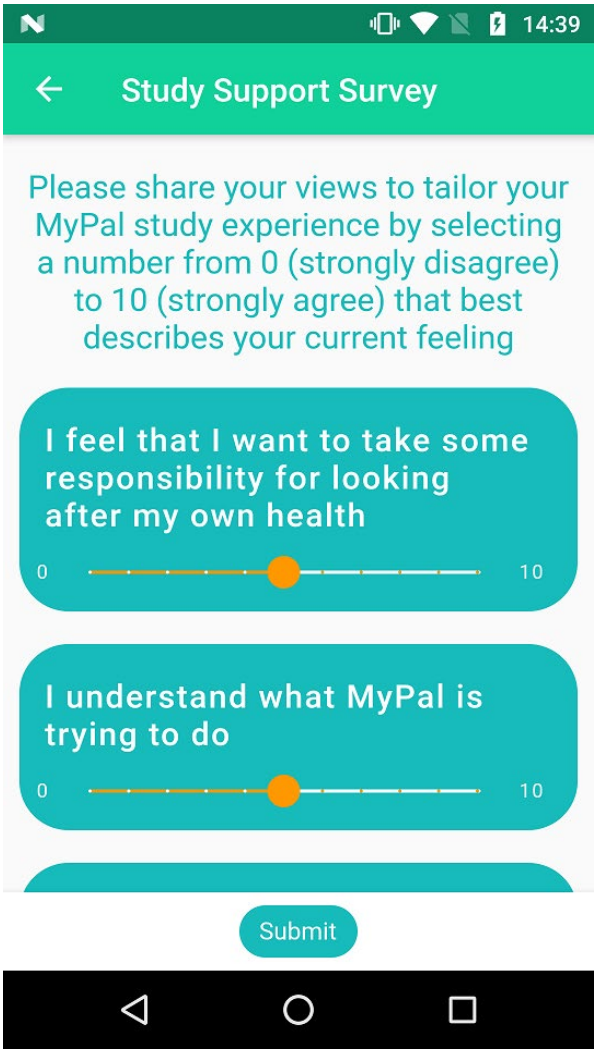


Figure 5. Study Support Survey

Below are shown the other parts of the Study Support questionnaire, which are visible when you scroll the screen down.

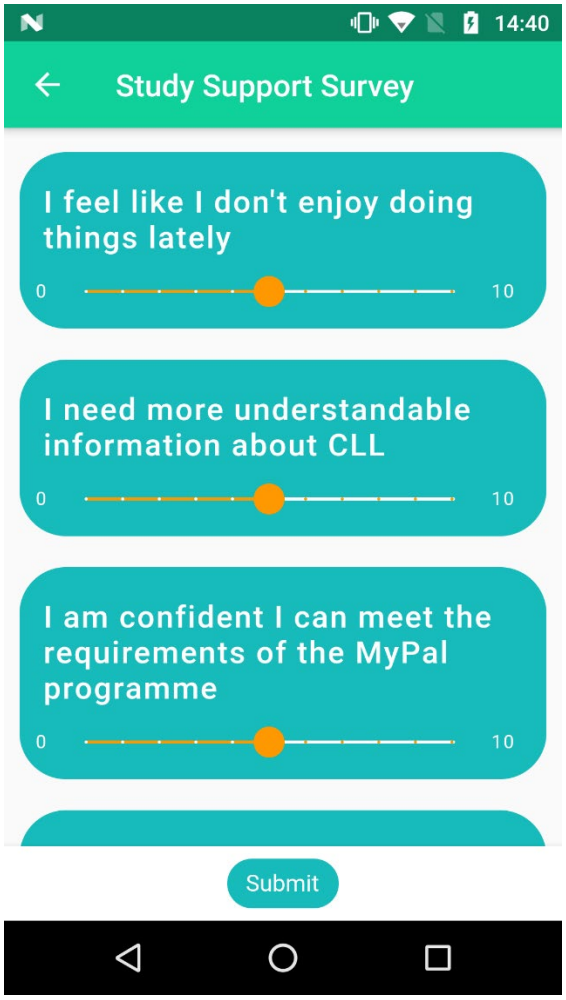


Figure 6. Study Support Survey

Please complete the questionnaire and press on the button “Submit”. An information about successfully transmitting of the questionnaire to the MyPal server will be displayed and after a couple of seconds you will be forwarded to the overview of the setup steps where the already completed first step is shown with the green background.

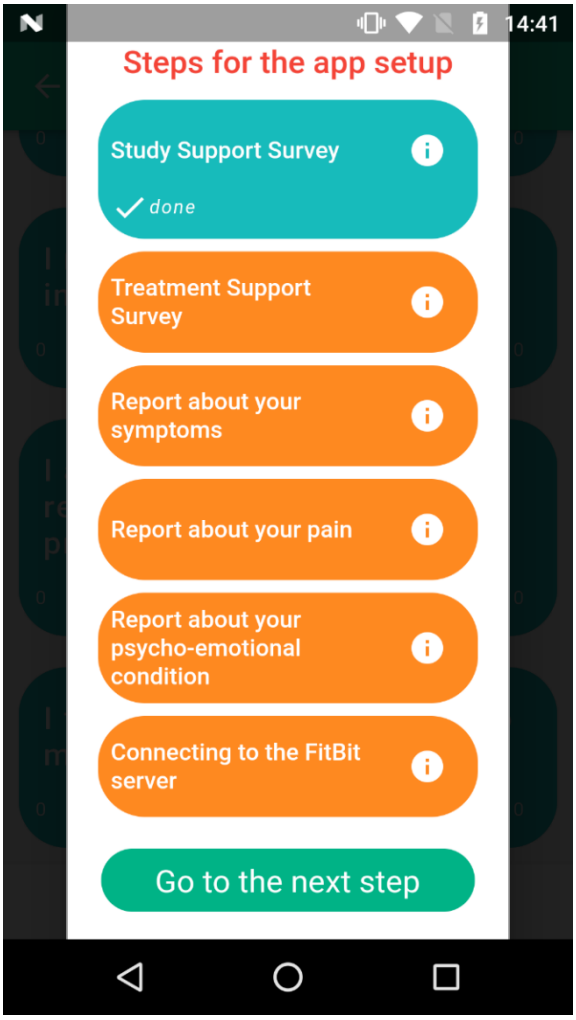


Figure 7. Initial Setup : First Step Completed

After clicking the button “Go to the next step”, you will be forwarded to the next questionnaire (Treatment Support survey).

2.3.2 Treatment support survey

All parts of the questionnaire are shown below

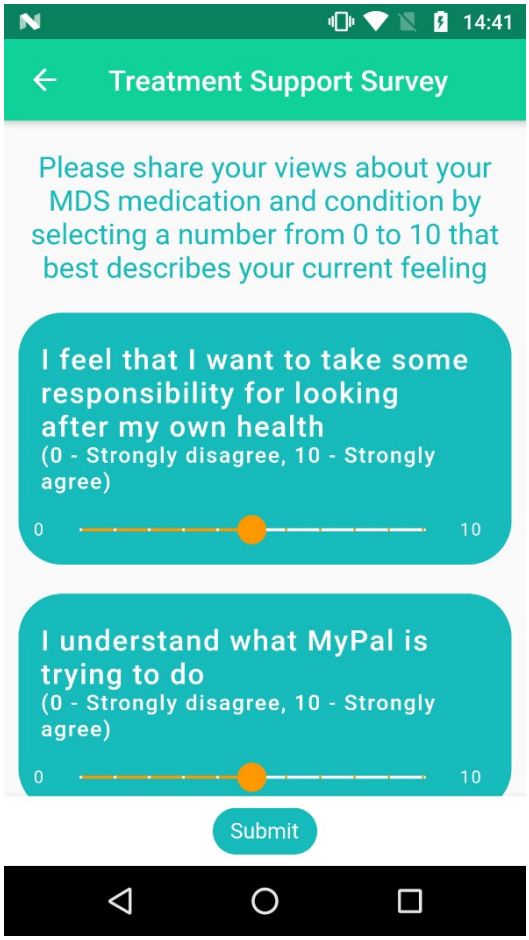


Figure 8. Treatment Support Survey

Please complete the questionnaire and press on the button “Submit”. An information about successfully transmitting of the questionnaire to the MyPal server will be displayed and after a couple of seconds you will be forwarded to the overview of the setup steps where the already completed first and second steps are shown with the green background.

After clicking the button “Go to the next step”, you will be forwarded to the next questionnaire for reporting your symptoms which contains 10 questions.

2.3.3 ESAS Questionnaire for reporting symptoms

All parts of the questionnaire are shown below. Please complete the questionnaire. You can navigate between the questions using the buttons ‘Back’ and ‘Forward’. You can also skip answering some questions.

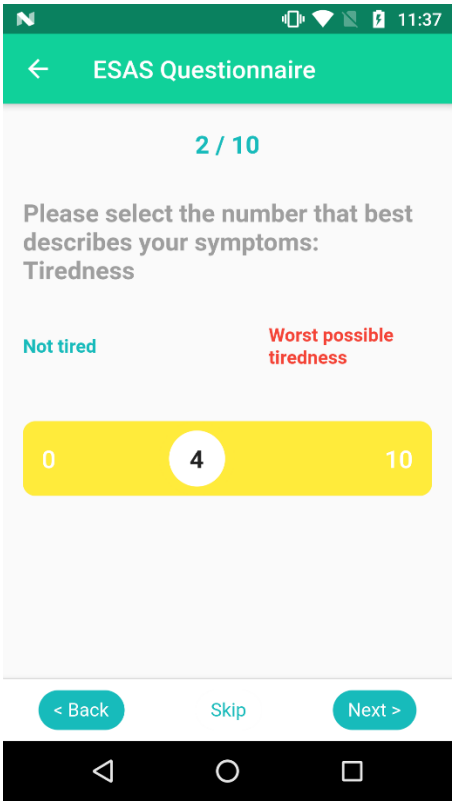


Figure 9. ESAS Questionnaire

The last view for this questionnaire allows to submit it to the MyPal server. You will be forwarded to the overview of the setup steps where the already completed three steps are shown with the green background

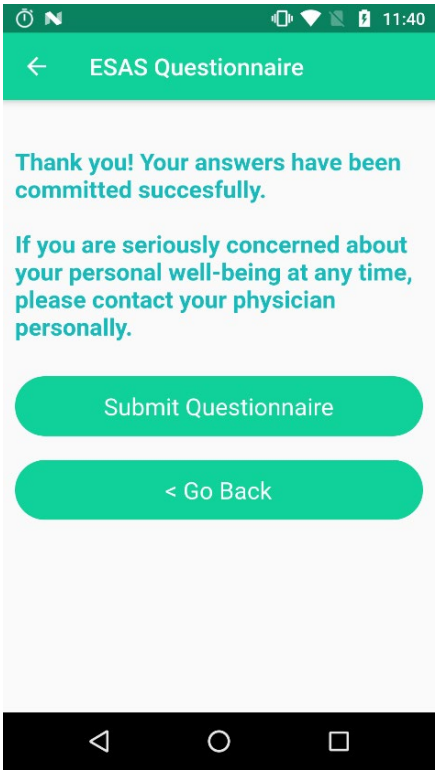


Figure 10. ESAS Questionnaire Submission

After clicking the button “Go to the next step”, you will be forwarded to the next questionnaire.

2.3.4 Brief Pain questionnaire

It is for reporting your pain and contains 17 questions. All parts of the questionnaire are shown below. For the Brief Pain questionnaire, apart from the questions that can be answered using a scale of 0-10 and the user interface is the same as of the ESAS questionnaire, there is a functionality where the user can select body areas where she/he feels pain. User can toggle front and back body parts by clicking on the icon on the top right button. By tapping on a body part, the user can indicate where she/he feels pain. This body part is colored with red. Additionally, if user double taps on a body part, then she/he indicates that this body part hurts the most. If the user wants to change her/his selection(s), she/he can tap on the “Clear” button to clear the selections and try again.

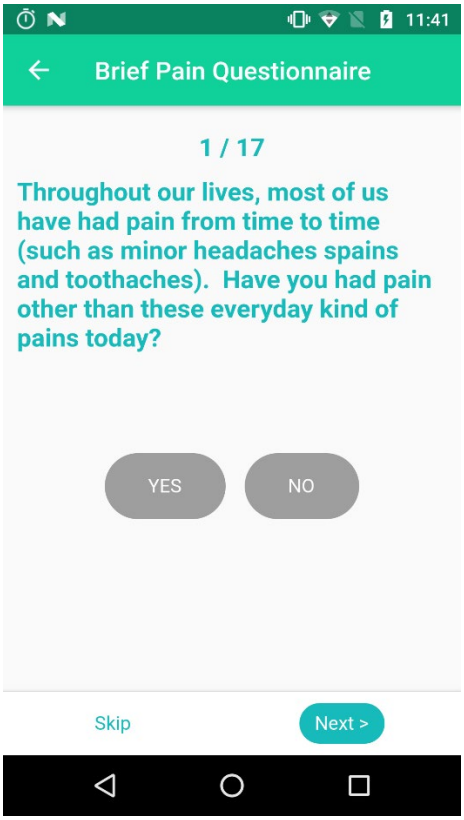


Figure 11. Brief Pain Questionnaire

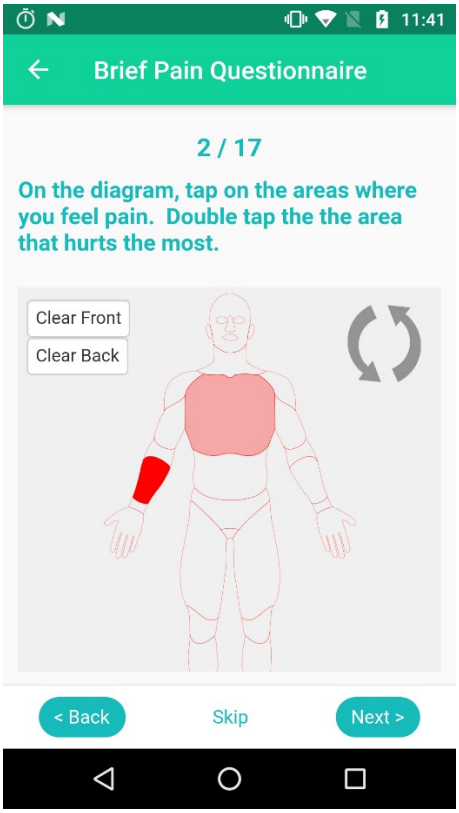


Figure 12. Brief Pain Questionnaire: Pain Diagram

Please complete the questionnaire and press on the button “Submit Questionnaire” on the last view. It will be transmitted to the MyPal server and you will be forwarded to the overview of the setup steps where the already completed four steps are shown with the green background

After clicking the button “Go to the next step”, you will be forwarded to the next questionnaire.

2.3.5 Psycho-emotional state questionnaire

It is for reporting your psycho-emotional condition and contains 7 questions. All parts of the questionnaire are shown below.

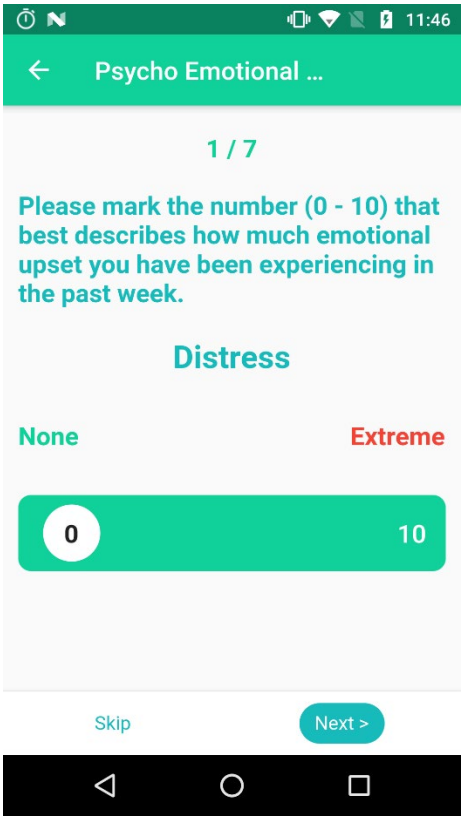


Figure 13. Psycho-Emotional State Questionnaire

Please complete the questionnaire and press on the button “Submit Questionnaire” on the last view. It will be transmitted to the MyPal server and you will be forwarded to the overview of the setup steps where the already completed five steps are shown with the green background

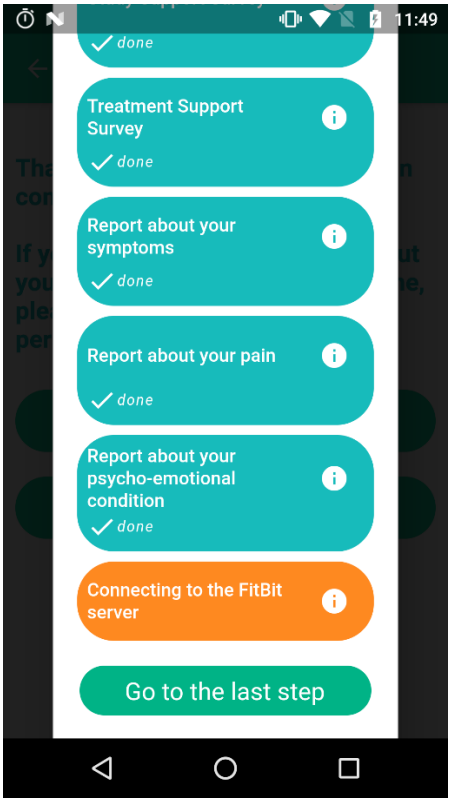


Figure 14. Initial Setup: Last Step

After clicking the button “Go to the last step”, you will be prompted to the screen to login on the FitBit server inside the MyPal app in order to synchronize you activity (steps) and sleep data.

2.3.6 Login on the FitBit server

On the picture below the screen for login on the FitBit server is shown in German, but the patient will see this screen in the language used during creating his account on the FitBit server.

On the second view you have to allow the FitBit server to store your authorization data for one year. You need to do this step in order to avoid entering the credentials every time for synchronisation. The full set of data, which can be requested from the FitBit server contains steps, sleep data, heart rate, weight, location and GPS, FitBit devices and settings, profile, food and water logs, and heart rate, but in the MyPal app we have limited a scope of the data in the parameter “scope”, which contains only data necessary for the MyPal project: the sleep and steps data. The value of the “scope” parameter is sent to the FitBit server together with the login data. As a result, only the sleep and steps data are available to select for allowing synchronising them between the FitBit server and the MyPal Adult app.

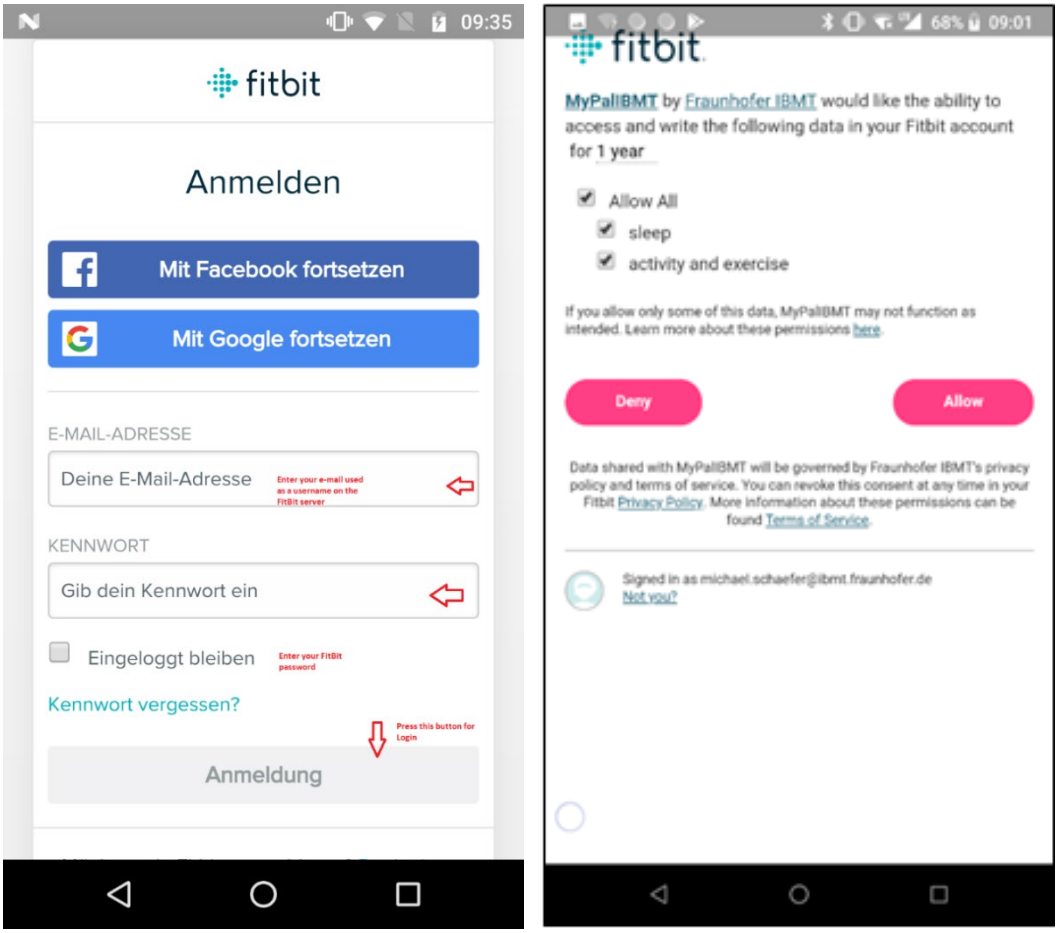


Figure 15: Login on the FitBit server and allowing to store your credentials for one year

Please enter your FitBit credentials in the test fields and press on the “Login” button (on the picture above it is the “Anmelden” button). With this step the setup of the app is finished and you will be forwarded to the home screen of the app.

3. MyPal Adult app for usage in your clinical study

3.1 Home screen

The home screen of the app is divided in two areas: a section with the pending tasks – a set of questionnaires which should be completed today or tomorrow, and a section with buttons representing access points to the following functionality:

- Report symptoms – for reporting symptoms spontaneously
- All reports - a list of all spontaneously reported symptoms
- Questionnaires - a list of all scheduled questionnaires (symptoms, pain, psycho-emotional state, four assessment questionnaires, Study Support and Treatment Support surveys)
- MyPal search
- FitBit – viewer for steps and sleep quality data recorded on the FitBit device
- Drugs – a list of drugs with specified intake reminders

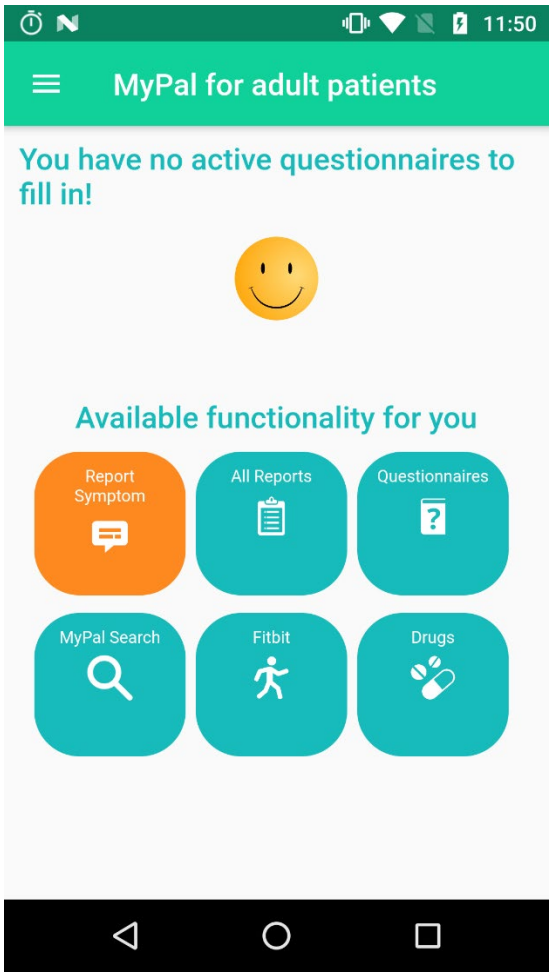


Figure 16. Home Screen: No Active Questionnaires

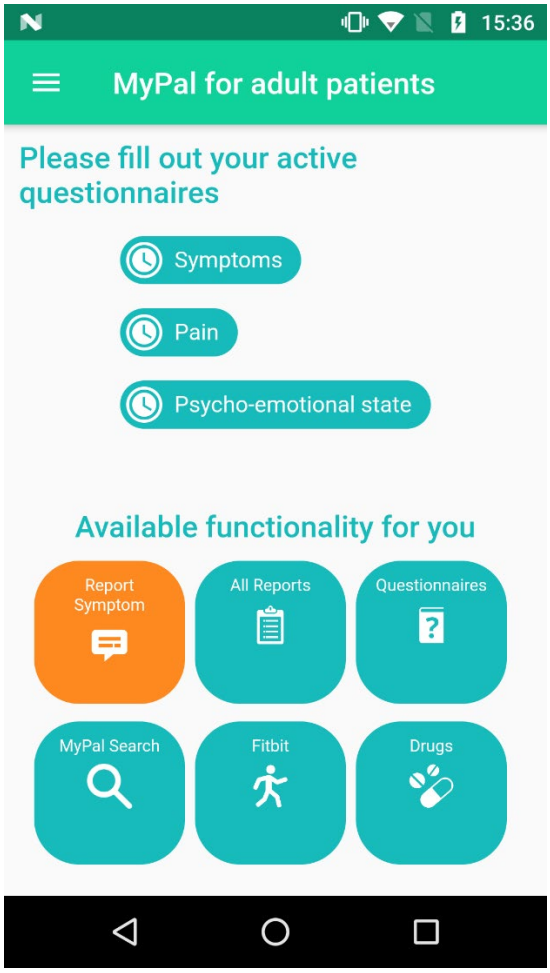


Figure 17. Home Screen: Questionnaires pending

3.2 Home screen: active tasks

If you see active (or pending) questionnaires in the first part of the home screen, you can select them one by one and complete them like shown in the section Setup.

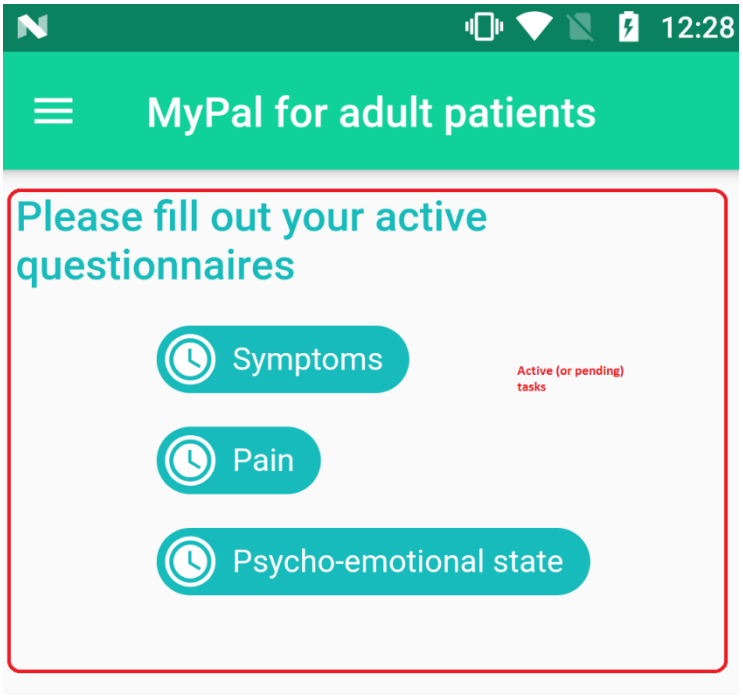


Figure 18. Active or pending tasks

3.3 Home screen: available functionality

3.3.1 Reporting symptoms spontaneously

In "Symptoms reporting", you can report your symptoms or side effects in the provided questionnaire for entering details of your symptoms and forward it to the MyPal server, where it will be available for your health professional.

When pressing on the “Report Symptom” button, a view for completing a questionnaire will be opened.

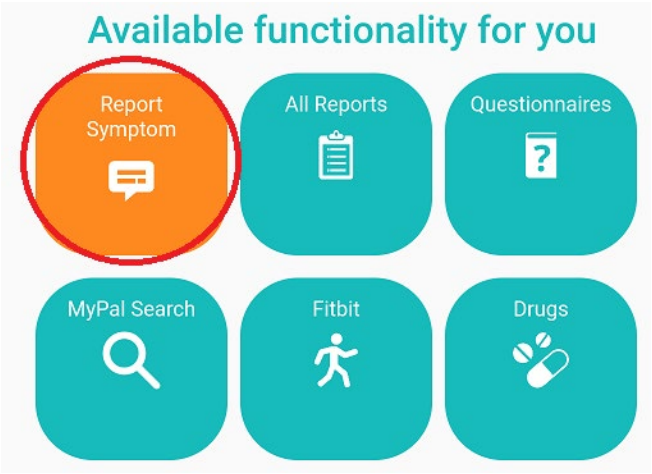


Figure 19. Spontaneous Symptom Report

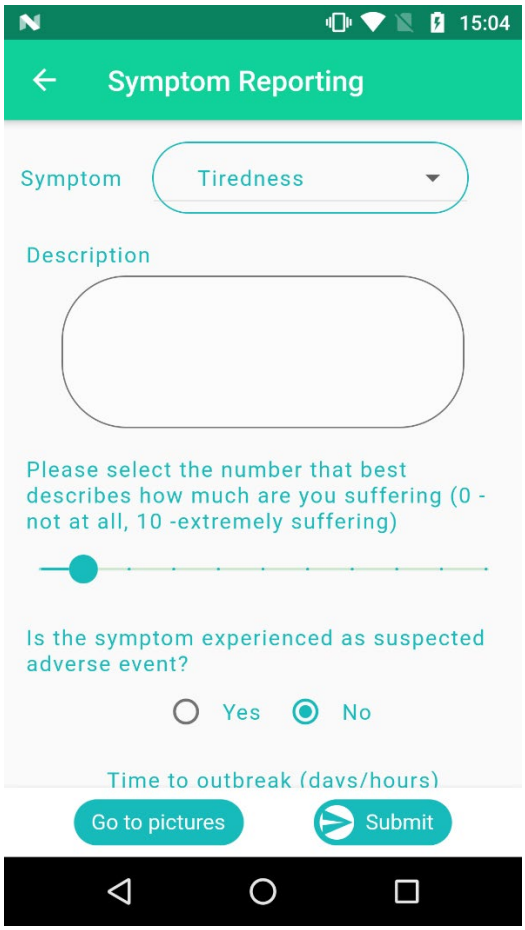


Figure 20. Spontaneous Symptom Report

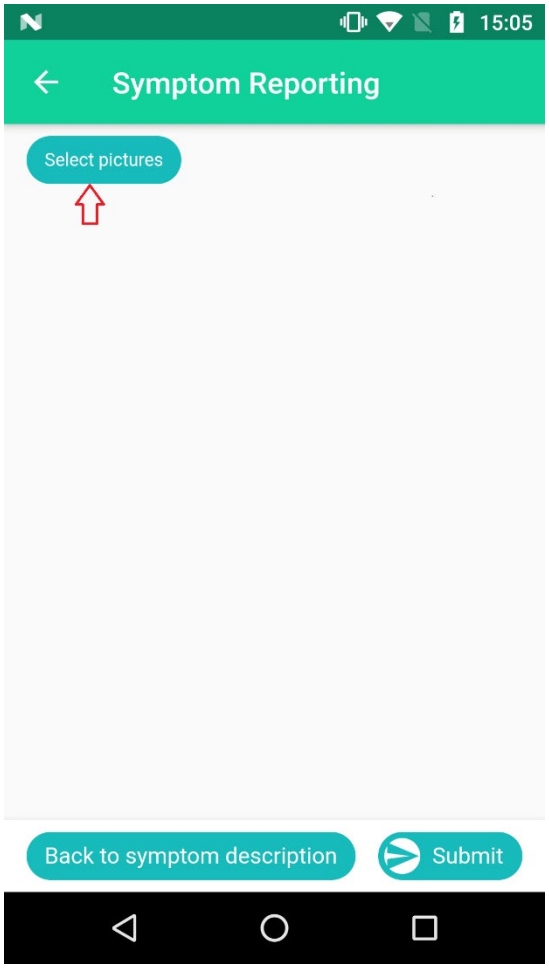


Figure 21. Button to Upload Picture in Spontaneous Symptom Report

For adding some pictures to your symptom report from the pictures available on your mobile device, you can use the button “Go to pictures”. Please press on the button “Select pictures”. You will be asked to grant the app permission to access your picture gallery.

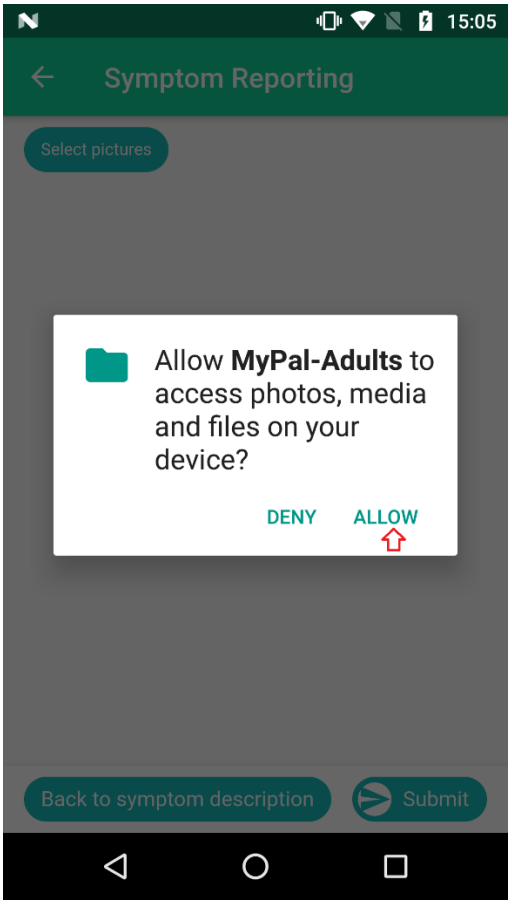


Figure 22. Permission Request for Uploading Image

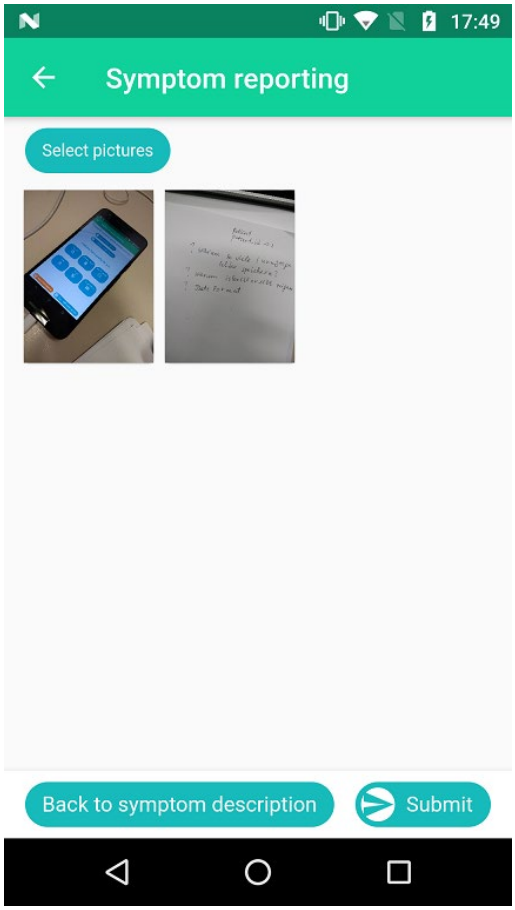


Figure 23. Previews of available pictures

Previews of the available pictures will be shown. You can expand the pictures to see them in large format when clicking on the previews. You can select the pictures describing your symptom and add them to your report. After filling out the form, you have to press on the "Submit" button. If the report has been successfully sent to the MyPal server, you will be notified about it.

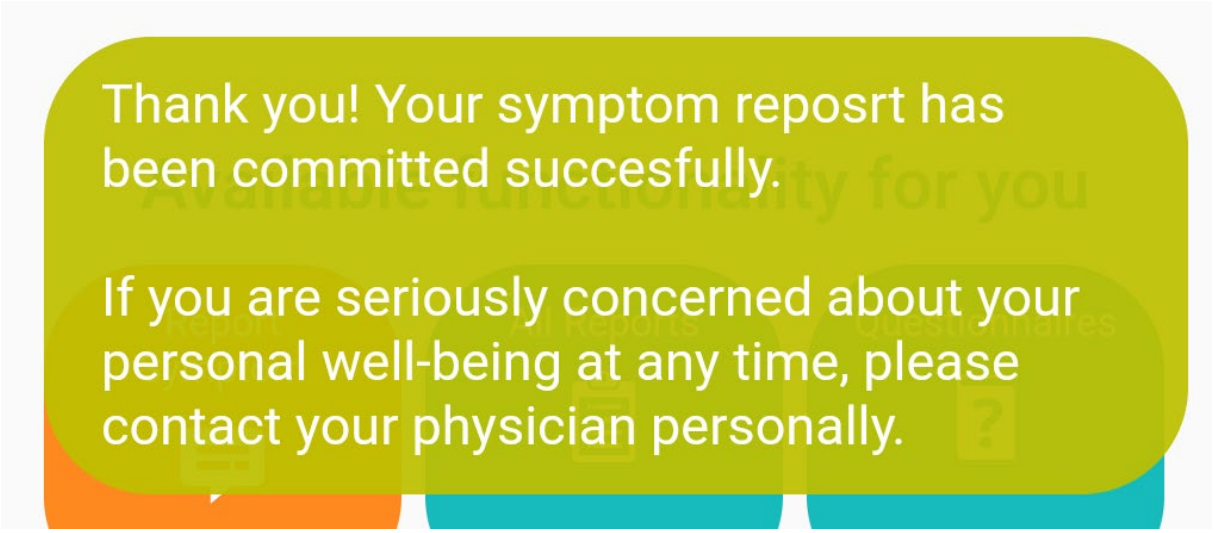


Figure 24. Symptom Report successfully committed to the MyPal Platform

3.3.2 List of all spontaneously reported symptoms

You can see all previously spontaneously reported symptoms in the app when pressing on the button “All Reports” on the home screen of the app.

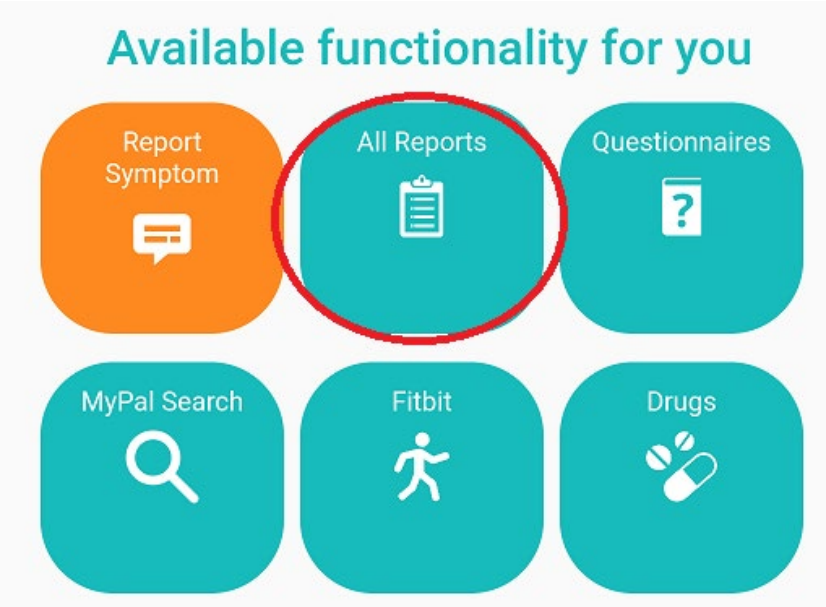


Figure 25. All Reports View

A view with the list of all reports will be opened. You can expand each report by clicking it for expanding the view.

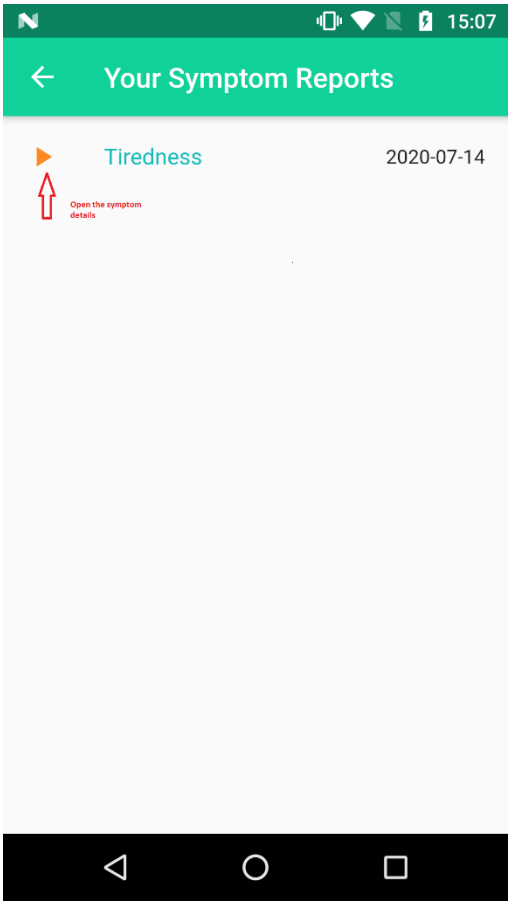


Figure 26. Expansion button to see previous Symptom Report

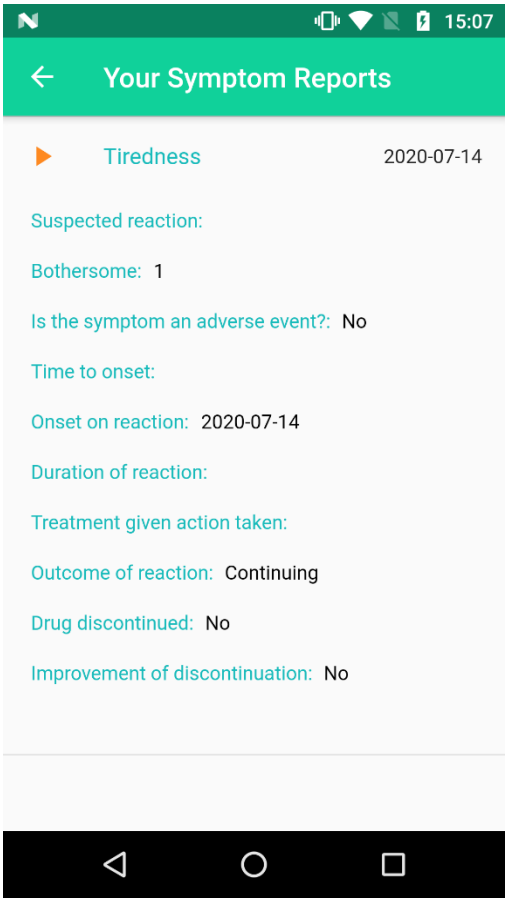


Figure 27. Expanded view of symptom report

3.3.3 List of all scheduled questionnaires

The list of scheduled questionnaires can be accessed through the button “Questionnaires” on the home screen. It includes qquestionnaires for reporting symptoms (a set of symptoms, pain, psycho-emotional state), for completing four different assessment questionnaires on the Web Application (Quality of Life, Health condition, Palliative care outcome, patient’s satisfaction), Study Support and Treatment Support surveys.

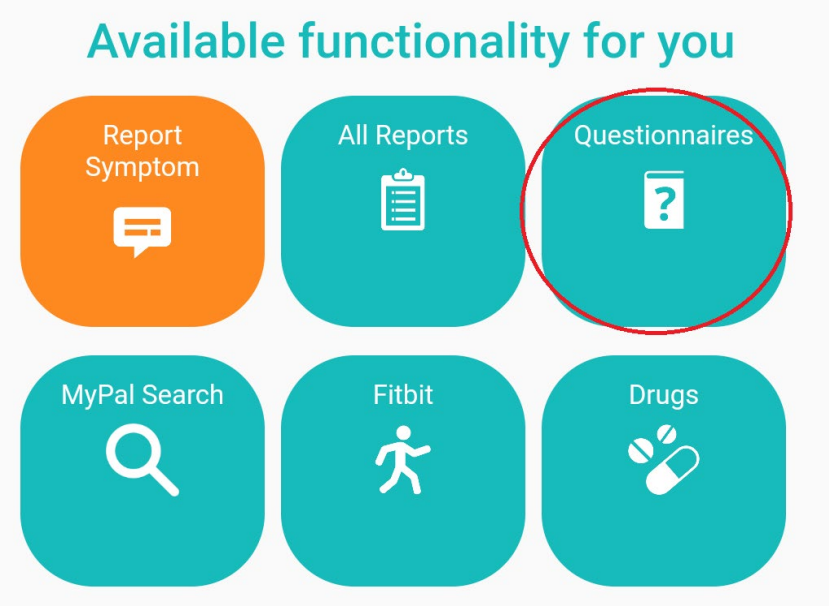


Figure 28. Scheduled Questionnaires button

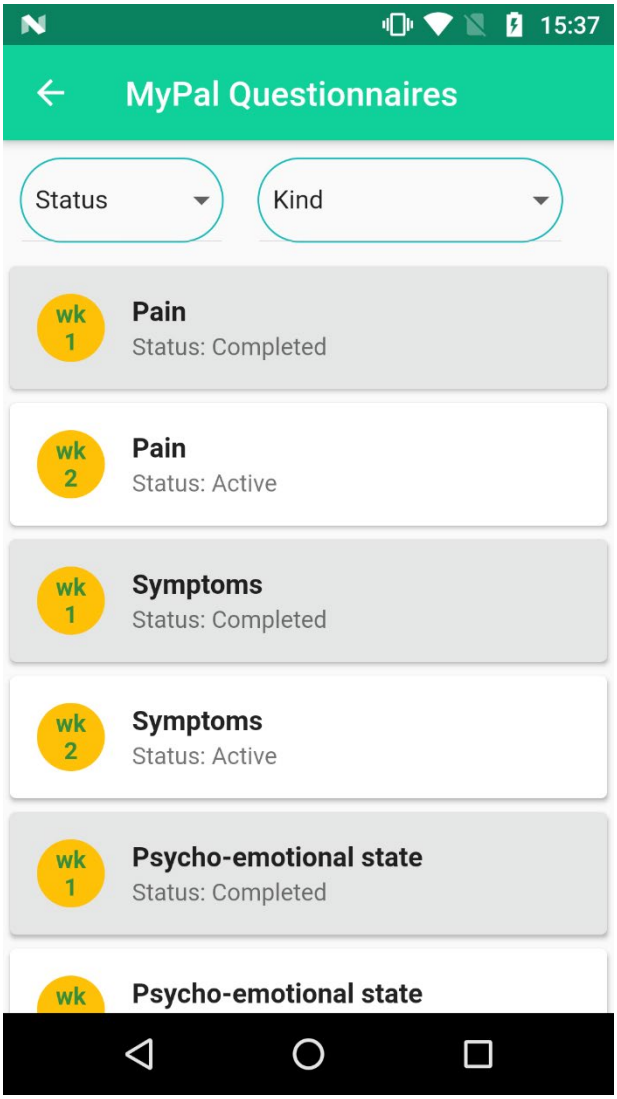


Figure 29. List of Scheduled Questionnaires

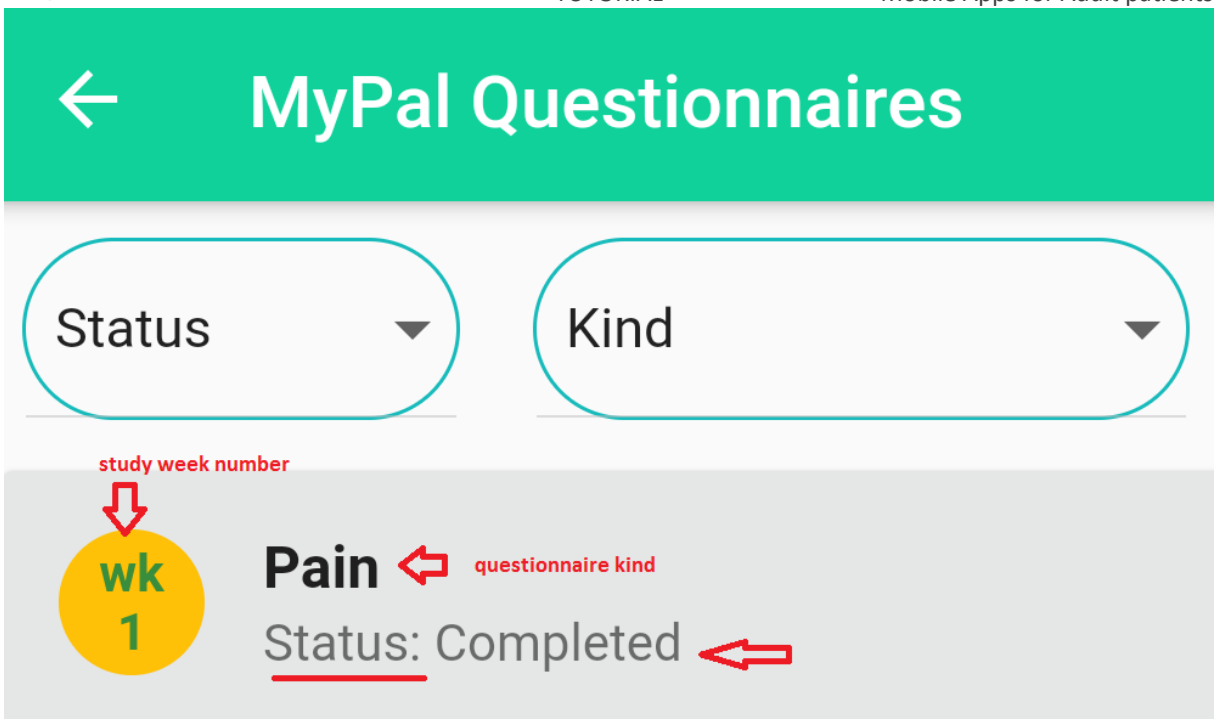


Figure 30. List of Questionnaires: Label explaination

The questionnaires can be filtered and sorted by different parameters: by kind and by completing status.

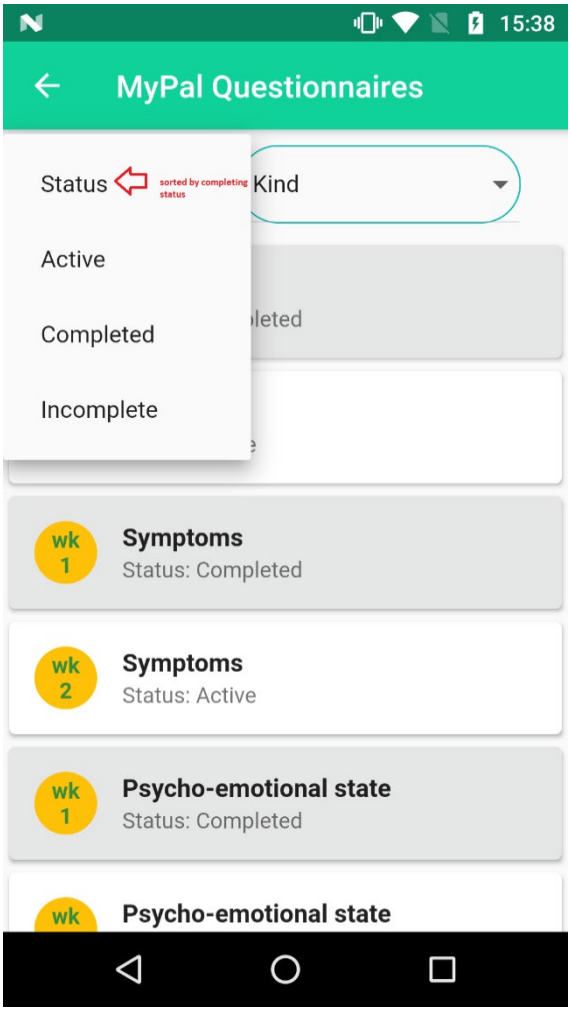


Figure 31. Filtering of Questionnaire List

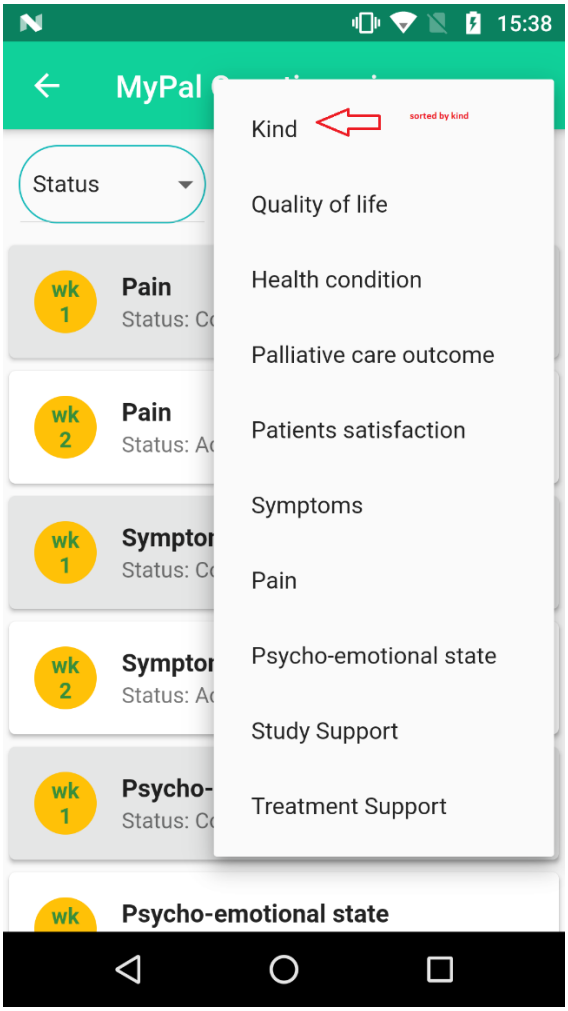


Figure 32. Questionnaire sorting by Kind

Already completed questionnaires can be viewed, but it is not possible to change the already entered and reported to the MyPal data. Only the questionnaires in the active status can be completed as shown in the section Setup.

The symptom questionnaires (a set of symptoms, pain, psycho-emotional state) should be completed weekly, the assessment questionnaires (Quality of Life, Health condition, Palliative care outcome, patient's satisfaction) should be completed monthly, the Study Support and Treatment Support surveys should be completed every three months. Patients will receive notifications and additional reminders for completing the questionnaires regularly.

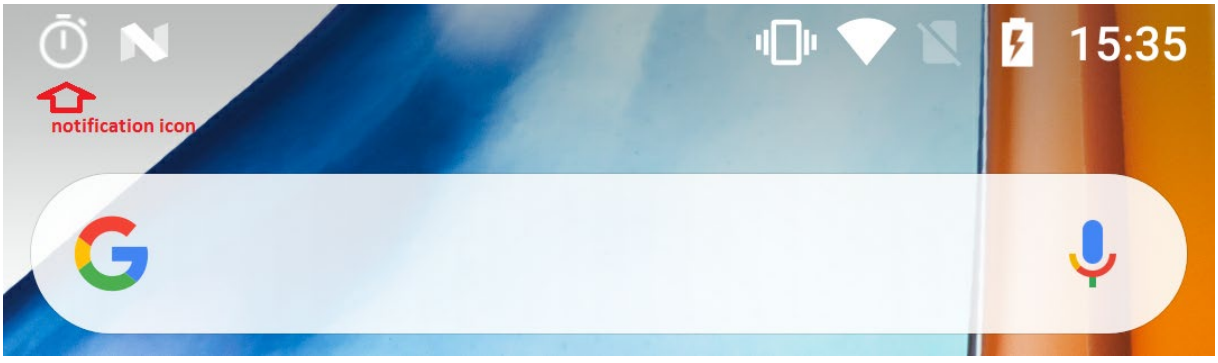


Figure 33. Notification Icon on mobile

The notifications can be expanded:

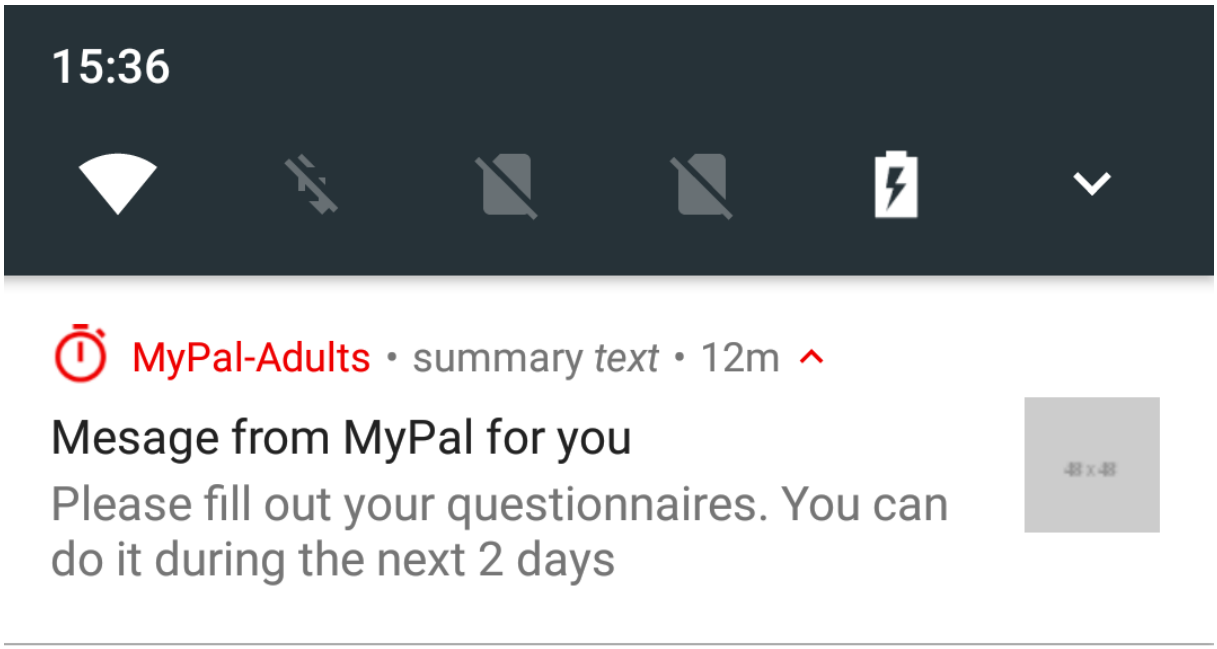


Figure 34. Expanded Notification View

When clicking on the notification, a corresponding dialog will be opened.

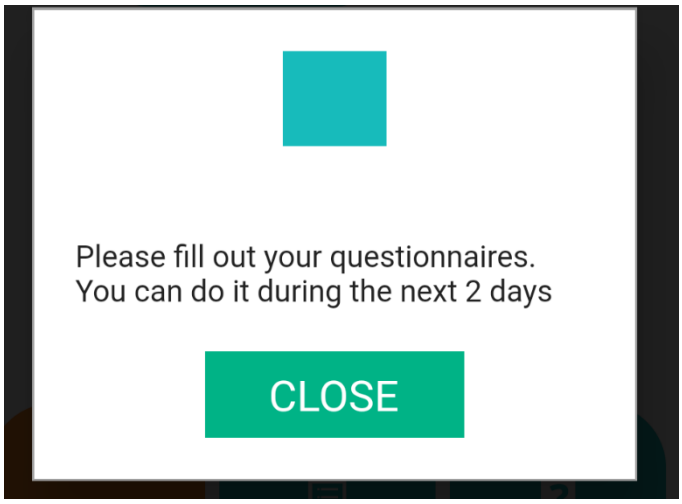


Figure 35. Close button for notification

When clicking on the button “Close”, the user will be forwarded to the home screen of the app, where the corresponding questionnaires, which should be completed, are shown.

As a result of completing the Study Support survey, you will receive motivational messages on weekly basis as well.

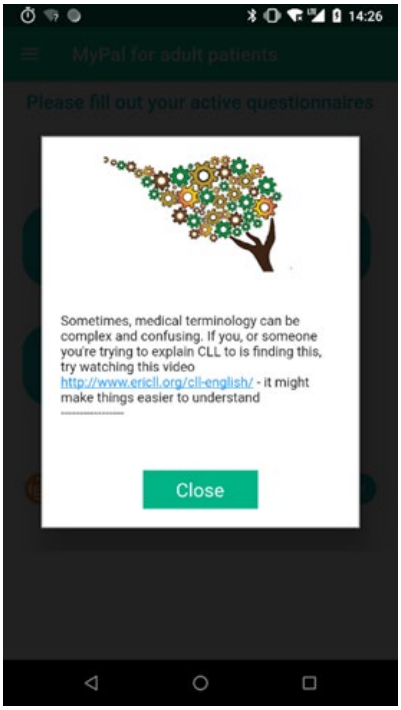


Figure 36. Motivational Messages for completing questionnaires

3.3.4 MyPal search

The patient can use the MyPal search engine to search for content related to her/his disease. Using the available online search engines for medical information, a patient should possess the necessary skills to identify and accurately judge the relevance of some information to his own case. Moreover, online information can lead to patients' being misinformed, lead to distress, and increase the tendency towards self-diagnosis or self-treatment. For that reason the MyPal search engine has been designed to deliver accurate sources to patient that have need identified and validated by the team of the HCPs. This increases patient's knowledge and changes the way of thinking which is usually referred to as patient empowerment. As a result, the patient's dependency for information from the doctor reduces, the time with the doctor is more focused and productive and makes patients feel autonomous and more confident. The patient can search for content from her/his mobile application by selecting the "MyPal Search" button on the home screen.

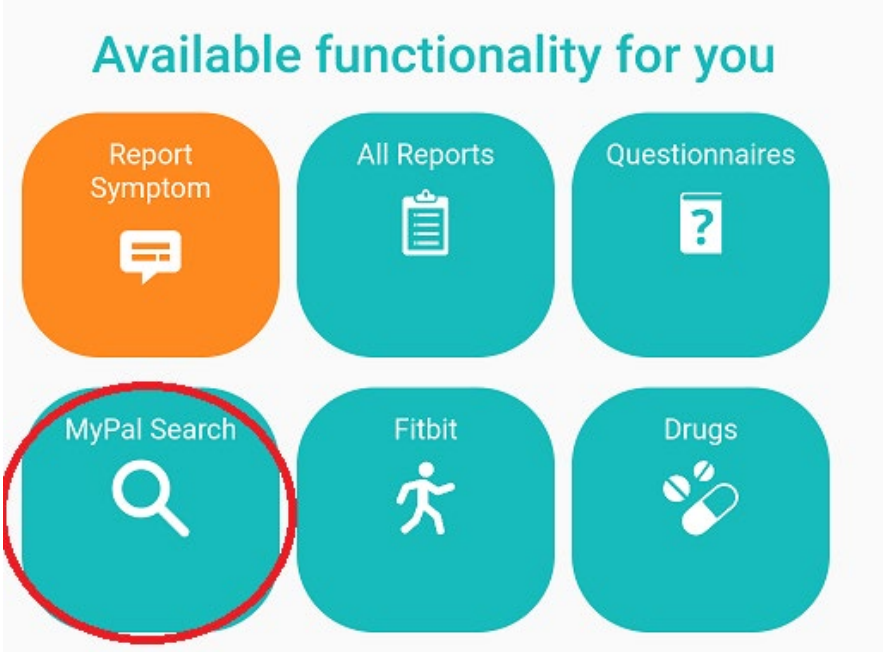


Figure 37. MyPal Search button

Then the search engine will appear where the patient can search for content related to her/his disease using keywords or sentences (the same way a typical search engine works).

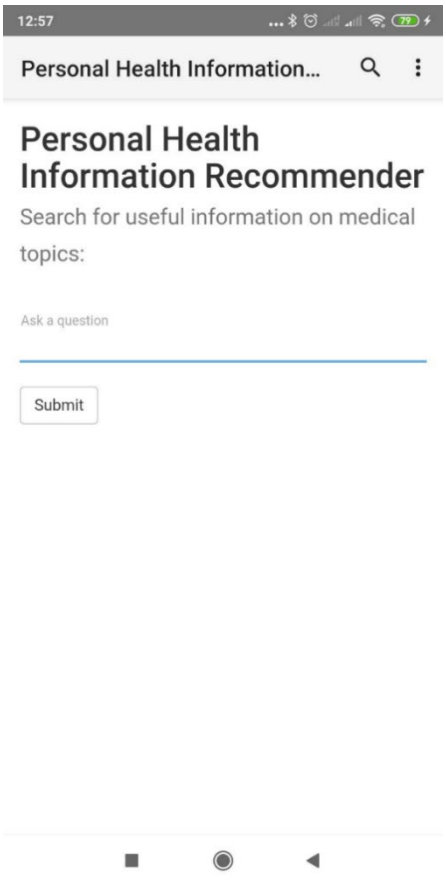


Figure 38. MyPal Search screen

3.3.5 FitBit – viewer for steps and sleep quality data

You can access the FitBit data (steps and sleep data) using the button “Fitbit” on the home screen of the app.

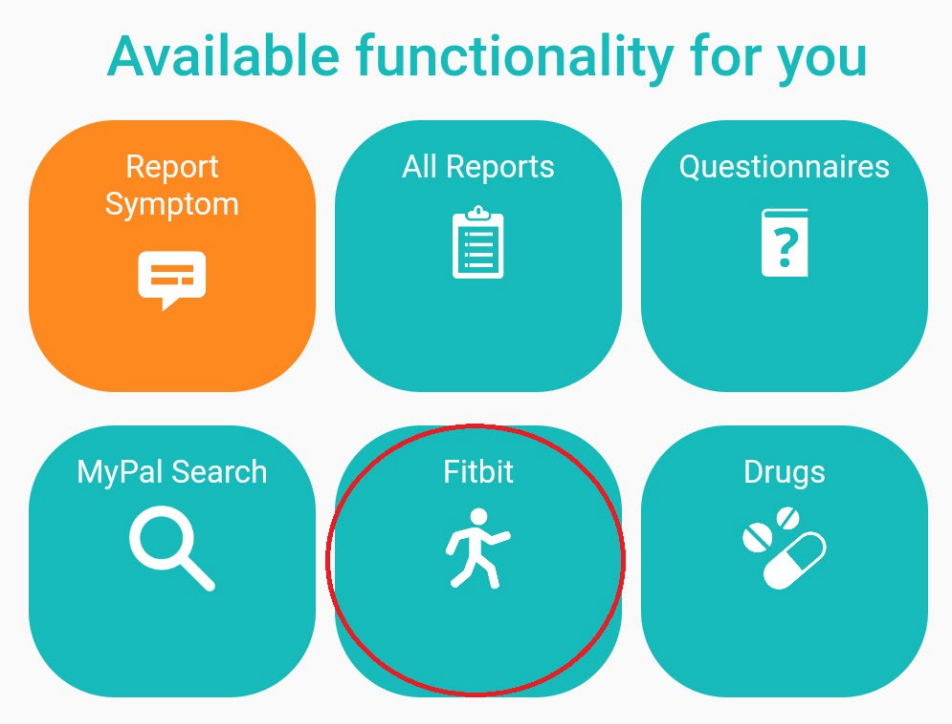


Figure 39. Fitbit button on Home screen

By the very first start of the app, the view will be empty.

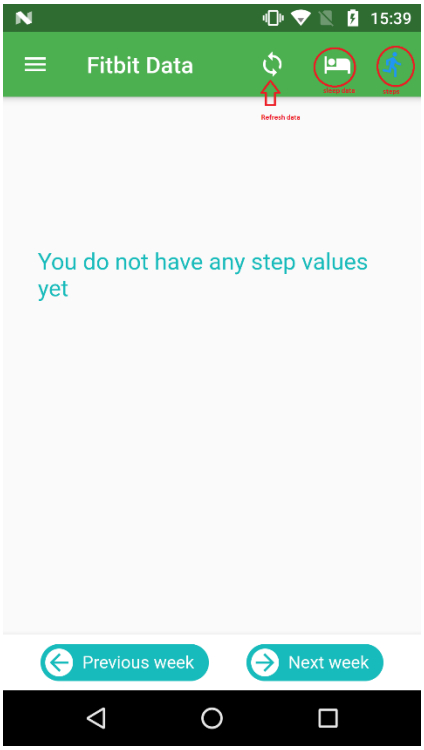


Figure 40. Initial view of Fitbit screen (no synchronisation yet)

As result of this action, the app loads the activity and sleep data from the Fitbit server on daily basis and stores them in the local database. The data are also transmitted to the MyPal server automatically and are available for the health care professionals in your patient record.

You can retrieve the data for steps and sleep quality using the refresh-icon on the top of the view. Using the buttons “Previous week” and “Next week” you can navigate through the values. The chart for sleep data represents times of your deep, light and so-called REM sleep as well as time in awake state. The chart for steps shows the steps covered in the current week.

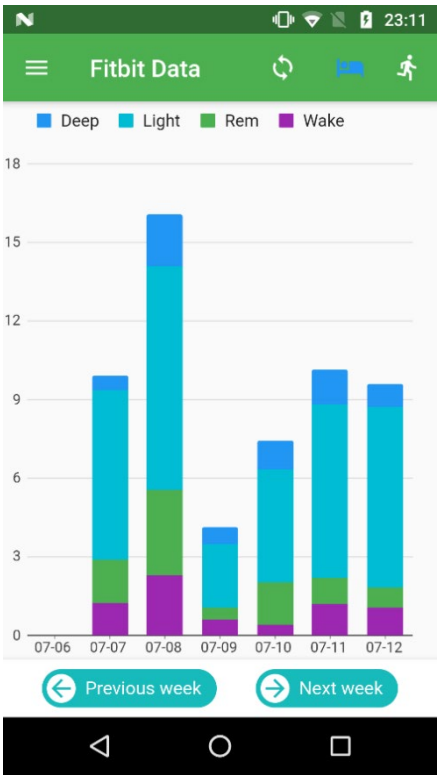


Figure 41. Sleep quality data screen

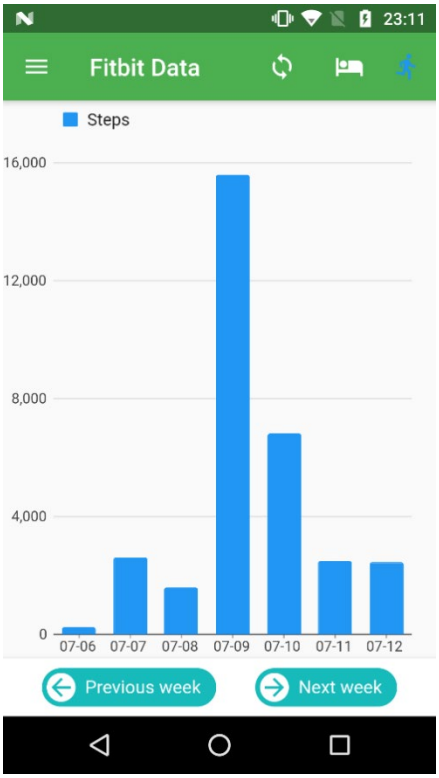


Figure 42. Steps screen

3.3.6 Medication

The app retrieves drugs entered in the patients' profile on the MyPal server and shows them to the patient when clicking on the "Drugs" button on the home screen of the app.

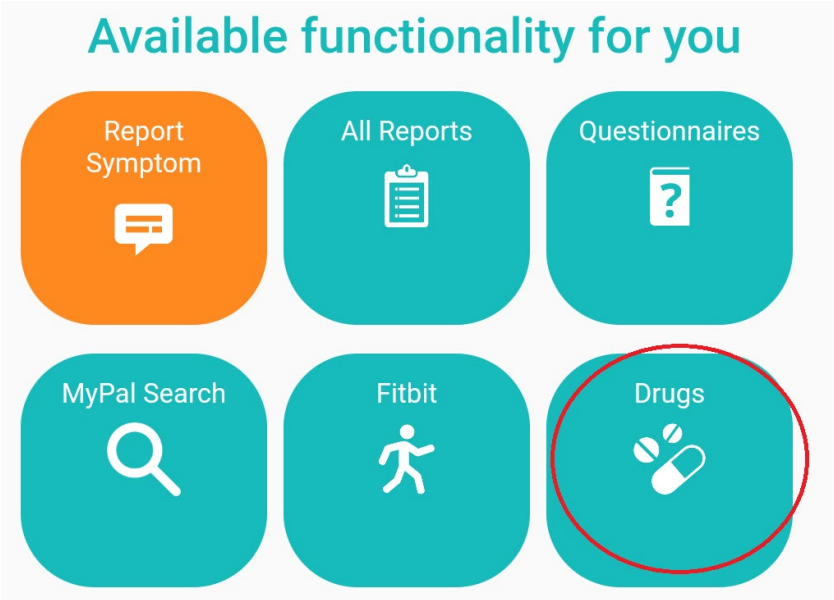
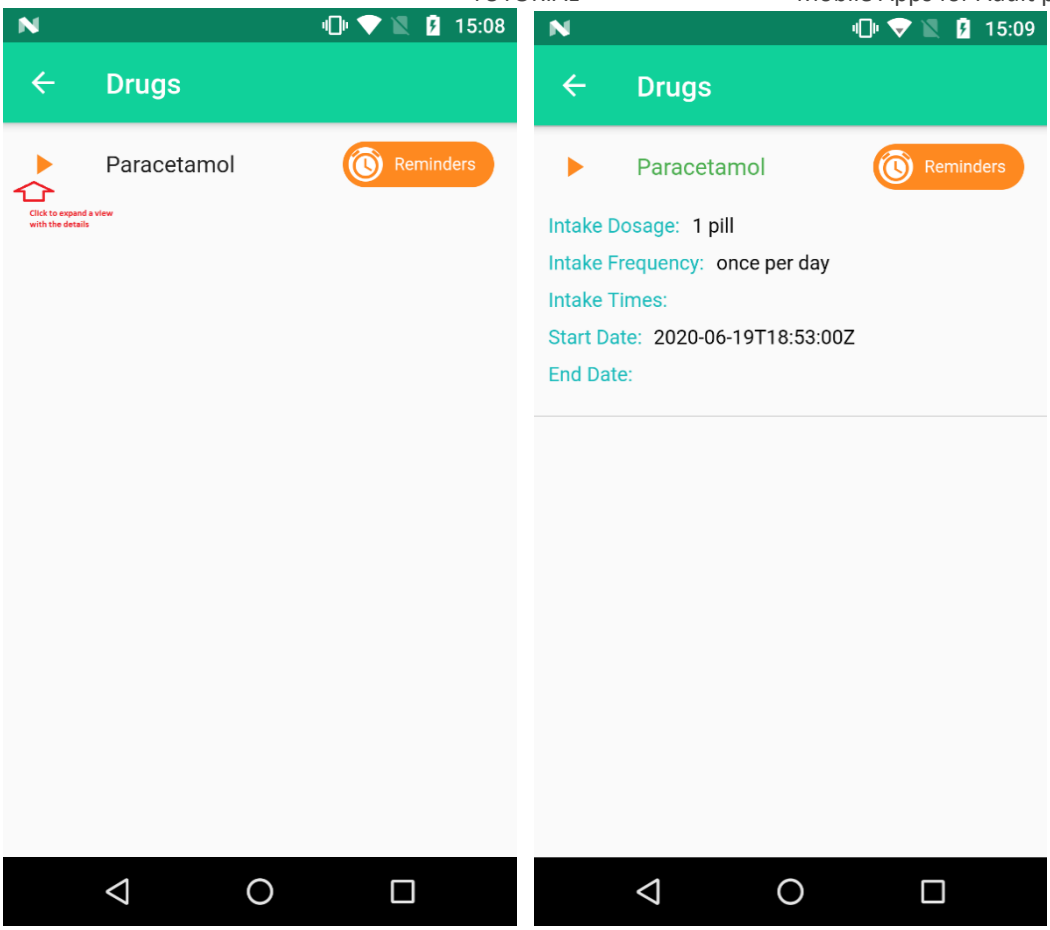
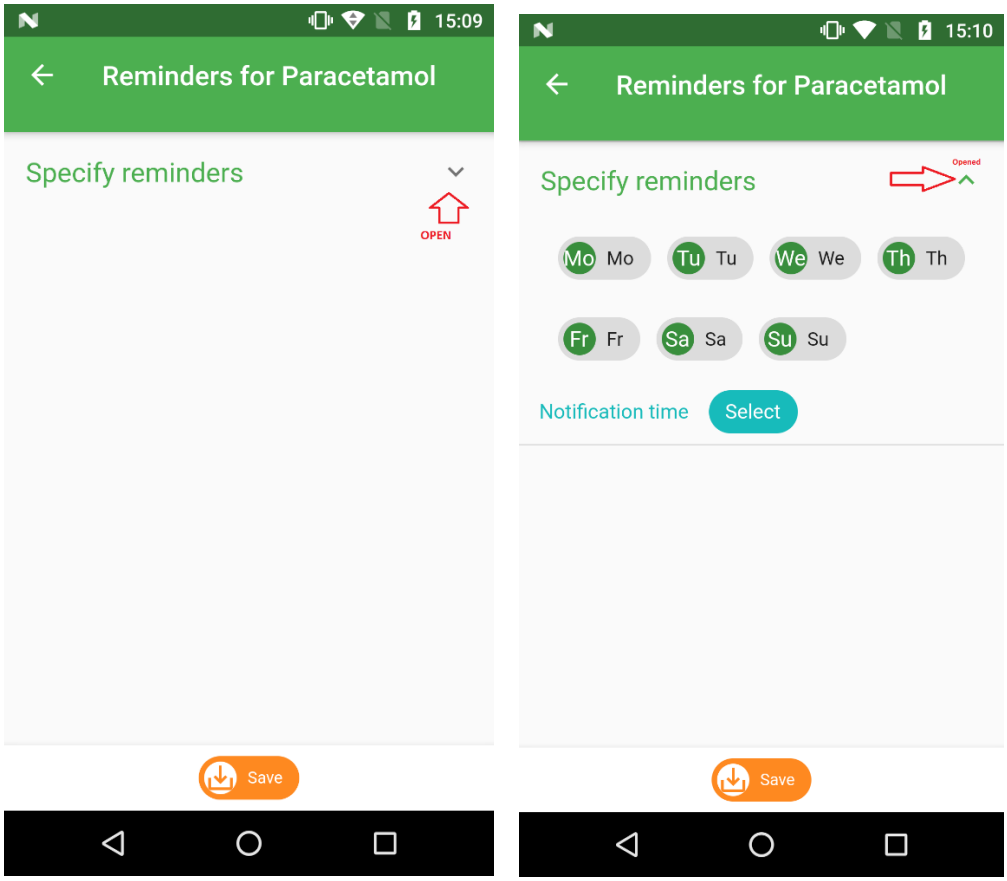


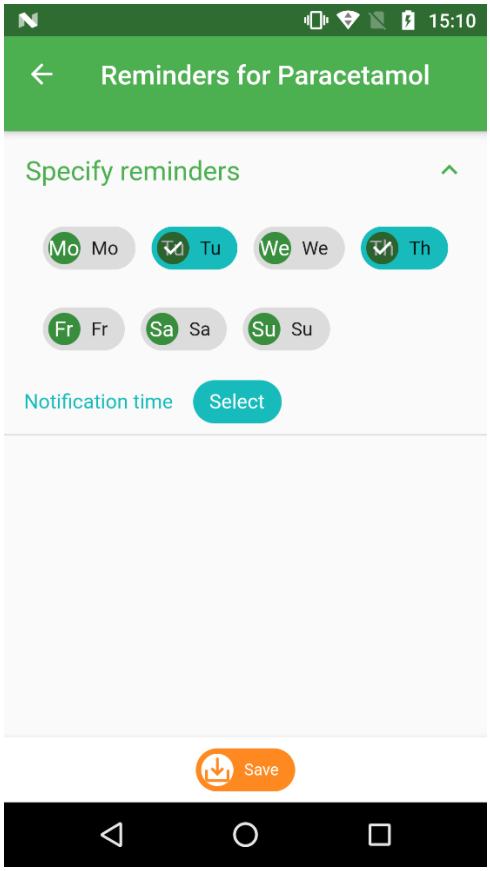
Figure 43. Medication button on Home screen

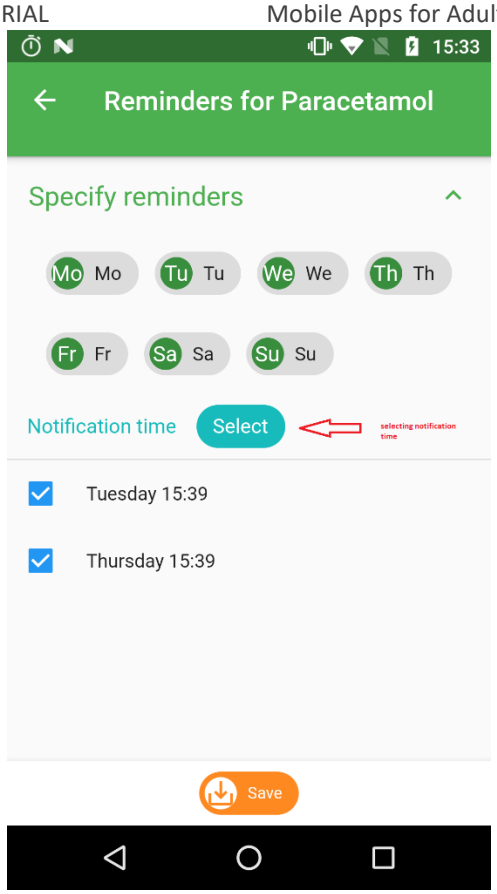
A list of the drugs will be shown.

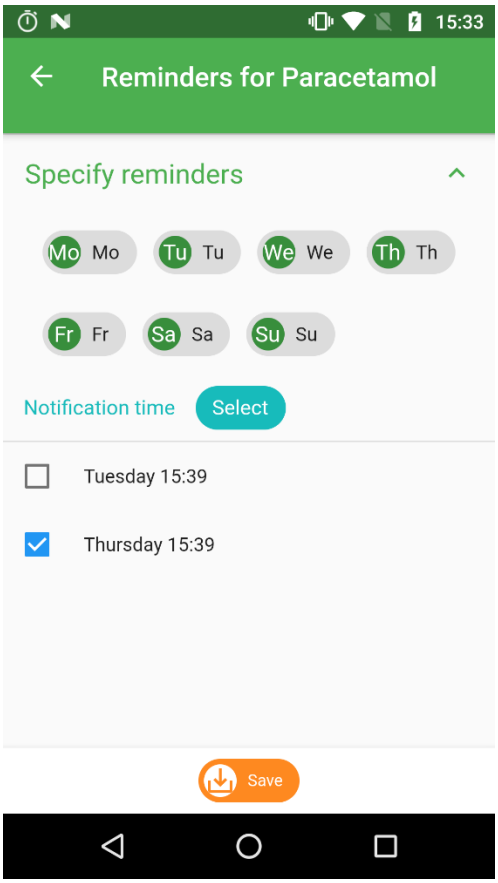


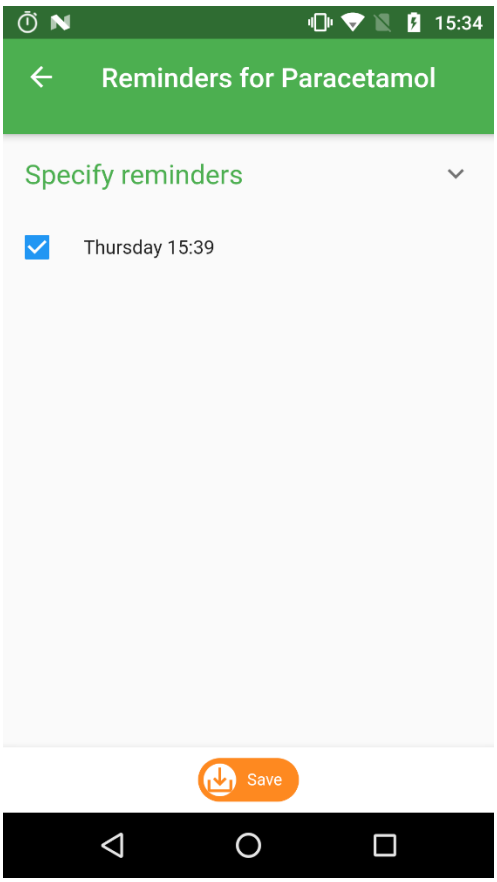
In the app you can specify drug intake reminders for your drugs.




15:10
Reminders for Paracetamol
Specify reminders
Mo Mo
Tu Tu
We We
Th Th
Fr Fr
Sa Sa
Su Su
Notification time
Select
Save


15:33
Reminders for Paracetamol
Specify reminders
Mo Mo
Tu Tu
We We
Th Th
Fr Fr
Sa Sa
Su Su
Notification time
Select
selecting notification time
Tuesday 15:39
Thursday 15:39
Save


15:33
Reminders for Paracetamol
Specify reminders
Mo Mo
Tu Tu
We We
Th Th
Fr Fr
Sa Sa
Su Su
Notification time
Select
Tuesday 15:39
Thursday 15:39
Save


15:34
Reminders for Paracetamol
Specify reminders
Thursday 15:39
Save

According to the specified drug intake reminders, you will receive notifications

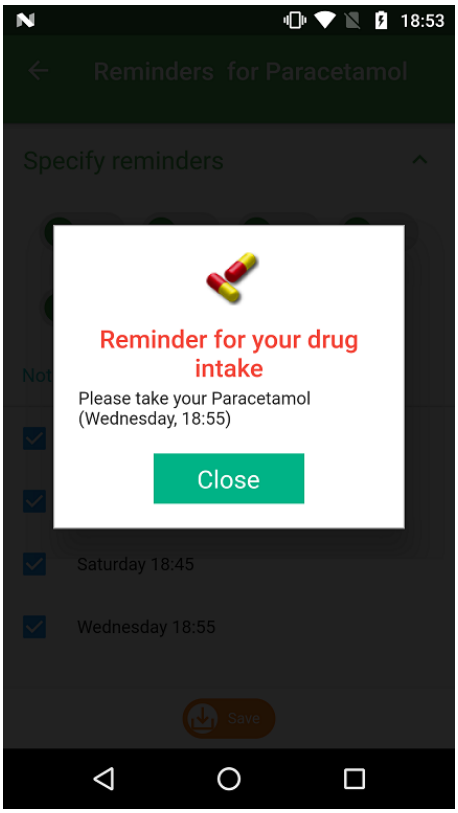


Figure 44. Medication Reminder

3.4 Side navigation bar

The functionality provided on the home screen is available in the side navigation bar as well. To access it, you can press the corresponding icon on different screens.

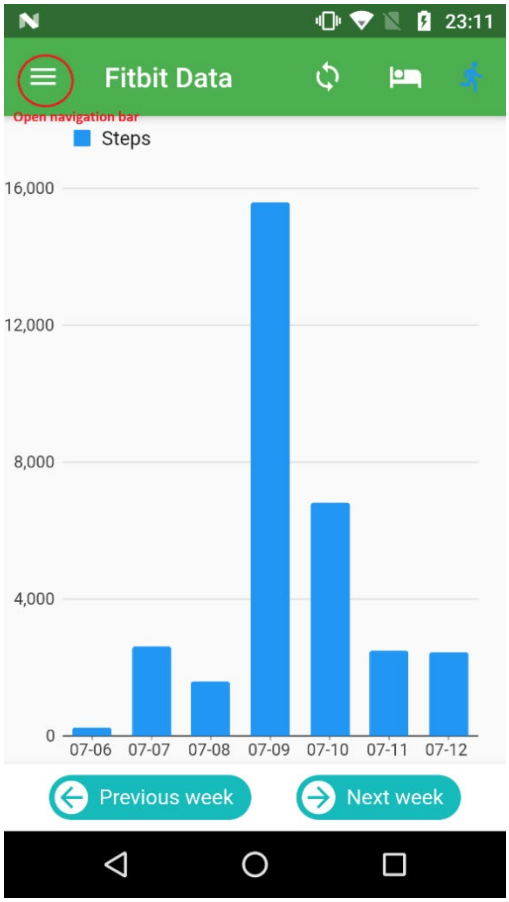


Figure 45. Sidebar Navigation button

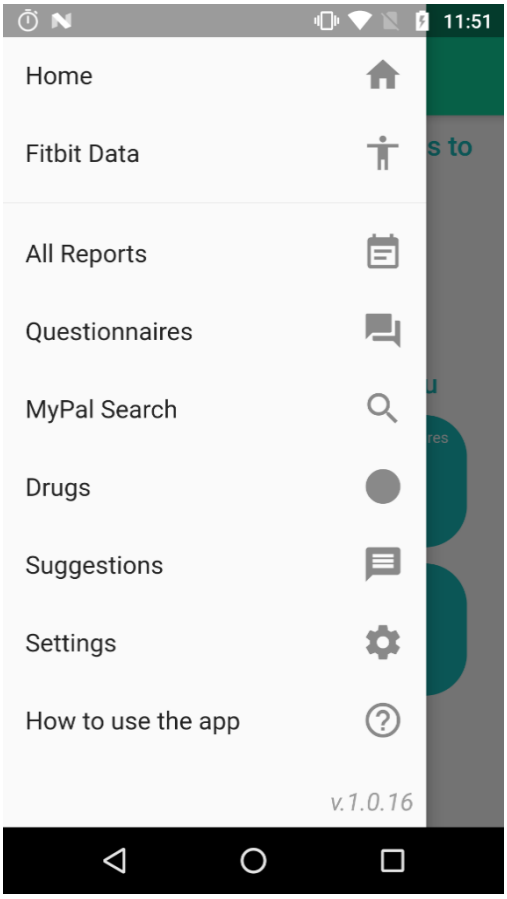


Figure 46. Sidebar Navigation expanded

They will receive these messages as app notifications twice weekly for weeks 1-4, then weekly from week 5 to 24 from their study start date. They will also be able to review all messages received over time within the MyPal app. An example of a motivation message presented as a dialogue is given in Figure 39.

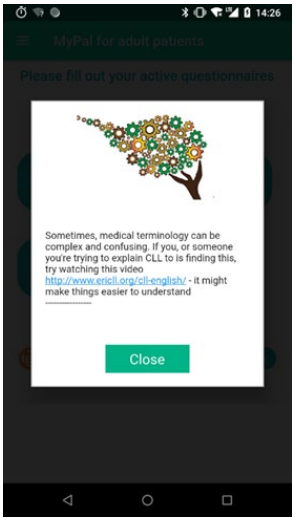


Figure 47: Motivational message delivered via app dialogue

During the clinical study where you participate, you will be prompted three times to complete a 'Study Support' screener through the MyPal app containing six questions: at the baseline, after three and after six months. You will receive a notification about the available questionnaire for you (Figure 6).

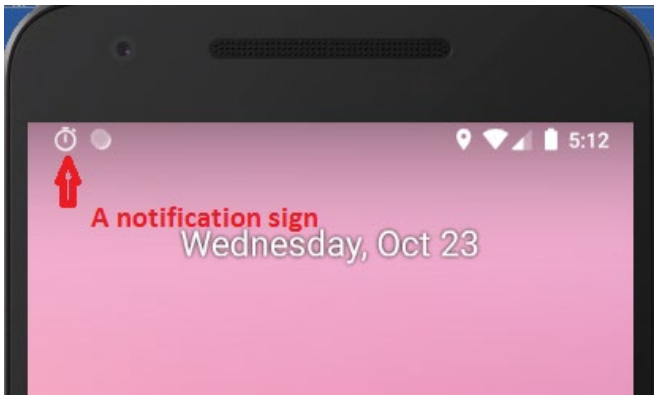


Figure 48: Notification on a mobile device

You can open this notification in order to see the notification text, which contains details about the questionnaire and information about the time frame for completing it. You will be forwarded to the questionnaire (Figure 7) when you click on the notification body. Please answer the questions by selecting a number in the slider that best describes your opinion.

Figure 49: Motivational screener

Please press on the "Submit" button for sending your answers to the MyPal server to make them available to your health care professional.

You will be reminded to complete the questionnaire twice if after two days it is still not completed.

The results of this screener will tailor a series of messages designed to motivate you to stay engaged with the MyPal intervention. You will be notified with motivational messages every week during your clinical study. You can see the messages when you click on the notification text (Figure 6). The messages will be shown in a

separated window (Figure 8), which can be closed using the “Close” button. You can press on the web links available on the some of the messages. You will be forwarded then to the particular external web page or to any resource in the app accordingly (e.g. to the pending questionnaires).

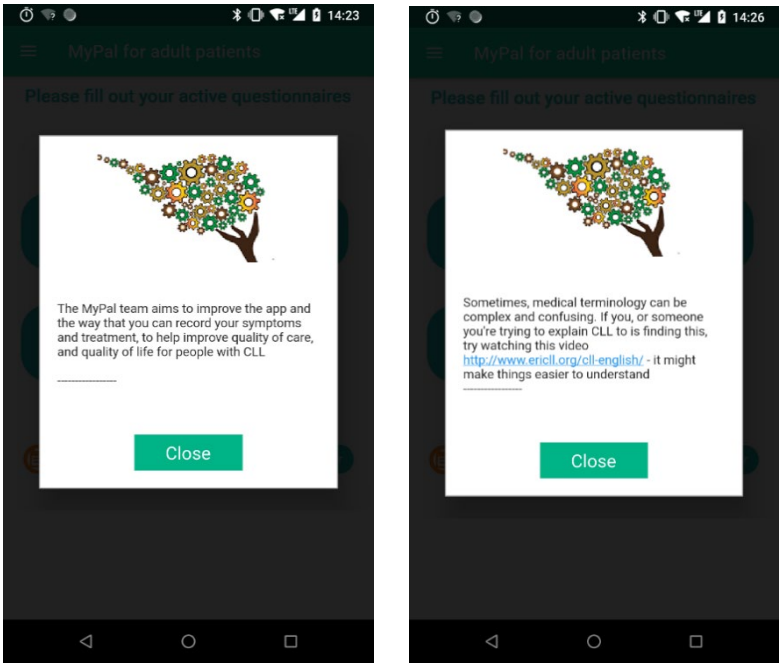


Figure 50: Motivational messages