

Patient Feedback on a Mobile Optimized Web App for Tuberculosis (TB) Medication Adherence

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Background

- > TB remains a top 10 cause of death worldwide
- > Treatment adherence is complex with know barriers
 - Combination medication for a minimum of 6 months
 - Socio-economic factors
- > Non-adherence a major problem in some settings
 - > → poor patient outcomes, further disease transmission and drug resistance



Background, Cont'd

- > Innovative interventions needed to promote adherence**
- > Technology-based patient self-management interventions may provide an effective strategy for improving TB treatment adherence.**
 - Patient-focused mobile phone apps**



Purpose

- > To understand experiences and information needs of patients with TB and to solicit recommendations for refinement of a TB support intervention
 - Mobile application and direct adherence test strip



Methods

> App development:

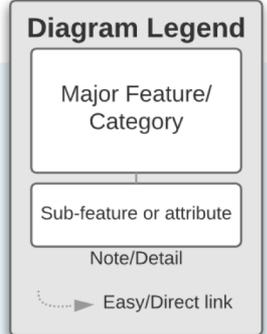
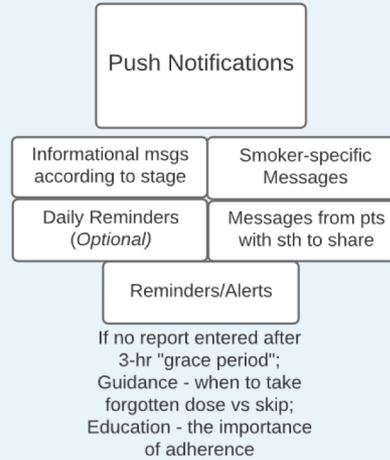
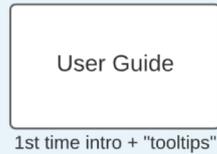
- Agile-iterative development methods
 - > Integrated end-user and expert input

> Study site and period:

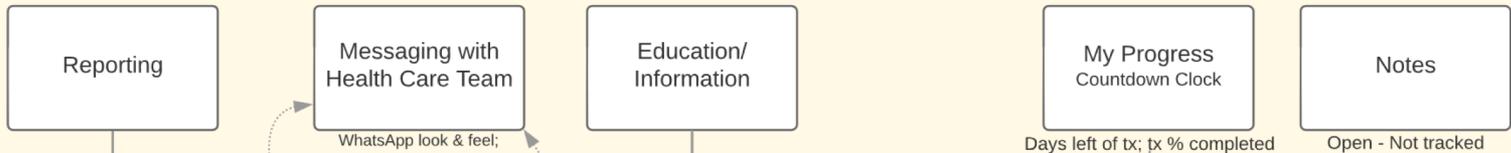
- Pulmonary specialized reference hospital in Buenos Aires, Argentina
- Spring 2018
- Focus groups audio recorded



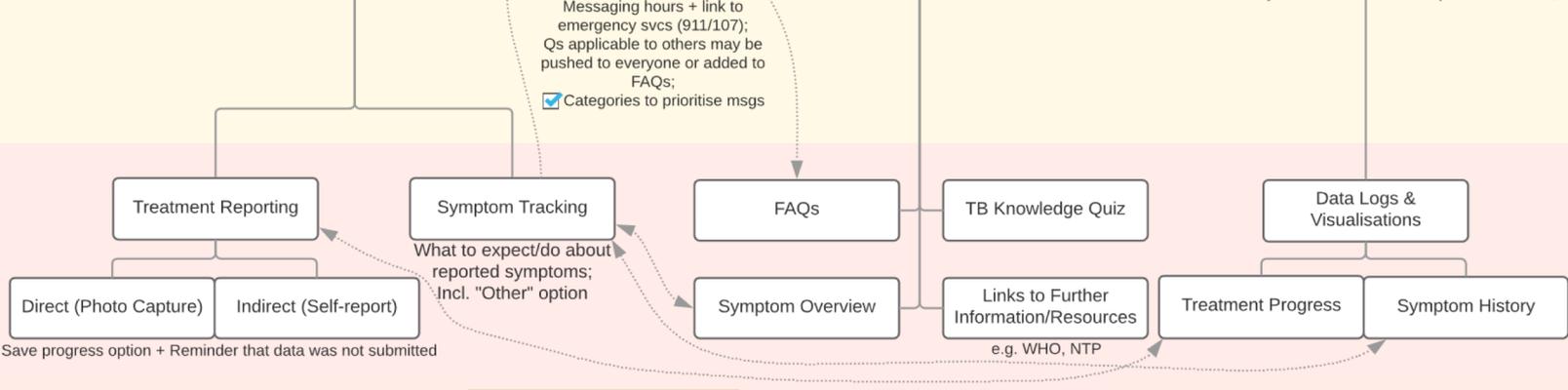
Free-floating



Menu Icons/Options



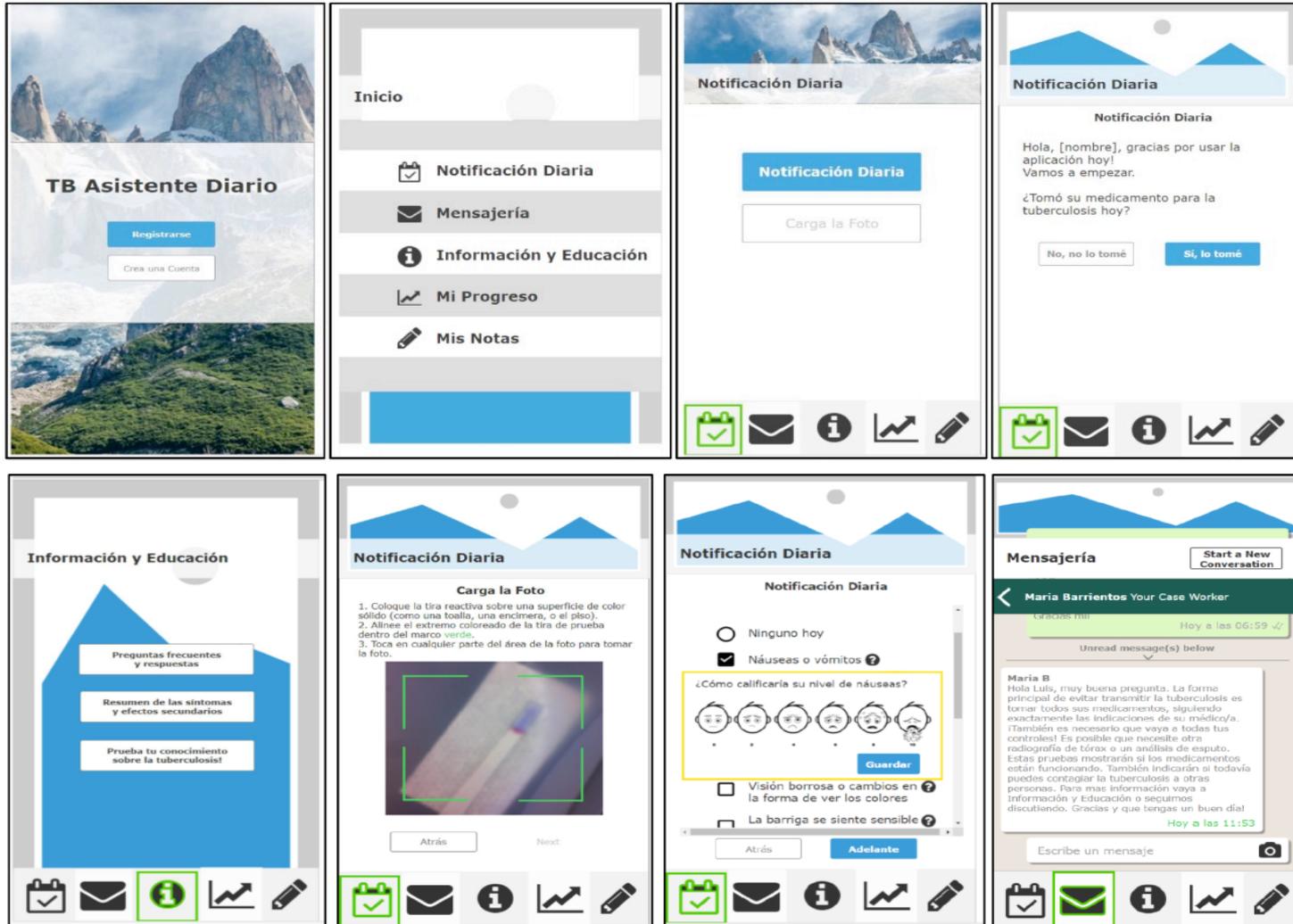
Specific Feature Level



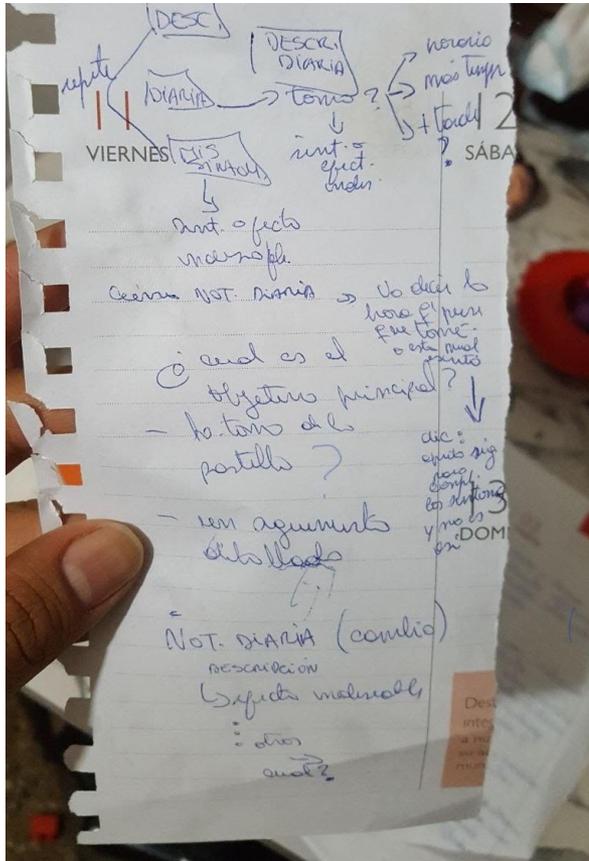
Outstanding Qs
Signup/login process
Setting reminders for self - how/where?
Text a designated fam/friend if multiple days are missed?

Potential/"for later" ideas
Lottery
Social features

Screen shots



Methods



- Focus group → Field testing → focus group or individual interview
- Coding: Information-Motivation-Behavioral Skills Model and Mobile Application Reviews Scale (MARS)
- Data summarized and main themes and recommendations compiled to guide iteration



Results

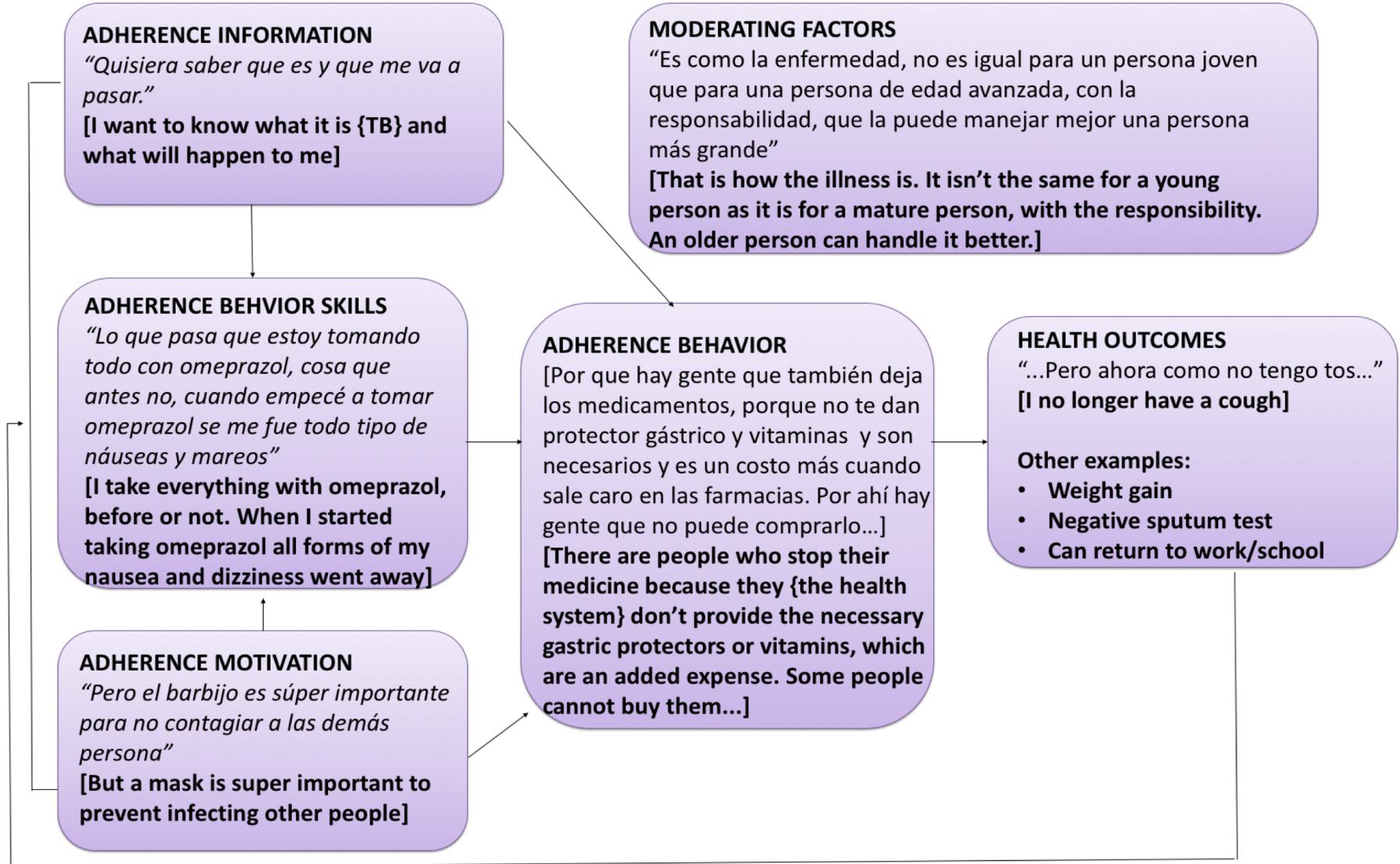
- > **7 TB patients were recruited for focus group interviews and app testing (Table 1).**
- > **Participants found the app to be a useful and relevant tool (Figure 1).**
- > **Participants provided recommendations for app refinement.**



Table. 1 Demographics and Patient Characteristics

Variable	N (%)
Age (mean yrs, range)	29.7 (23-40)
Male	4 (57.1)
Months in treatment (mean months, range)	1.57 (1-3)
Years having personal mobile phone	8.57 (1-16)
Access to internet other than phone: No	2 (28.6%)
App use on mobile phone	
Regular basis	5 (71.4)
On occasion	1 (14.3)
Never	1 (14.3)
Current Smoker: No	7 (100)

Figure 1. IMB Model* with Participant Quotes



*IMB model adapted from Aliabadi et al., 2015.

Results

- Experiences being diagnosed, needs, starting treatment
- Many questions
- Internet main info source
- Recommendations
 - *“don’t worry too much because there is treatment, don’t be frightened.”*
- App useful and relevant
- Quality information useful
- Recommendations:
 - Calendar view of progress
 - Reminders/built in alarm
 - Interactivity with others (WhatsApp)
 - Links to videos
- Issues



Discussion

- > **Participants eager to contribute their ideas for improvement and additional functionality**
 - **Informed refinement of app in subsequent iterations**

- > **Limitations:**
 - **Sample size (target was 10)**
 - **Limited to one geographic region of Argentina**



Conclusion

- > Experiences and needs of patients in active TB treatment were identified and their recommendations summarized to develop the next iteration of a mobile TB support app.
- > Participants expressed a priority need for reliable information and assurance and support (provider and peer).
- > A more streamlined graphical user interface may lead to shorter entry times and easier usability.



Next steps

- > We incorporated recommendations and feedback for the next app iteration which is being tested with additional users in a pilot study
- > Future studies needed to determine the efficacy of this app to improve TB treatment outcomes with diverse populations from different geographical regions.



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THANK YOU!

References

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