



Abstract #438

DEVELOPMENT AND VALIDATION OF AN APPLICATION TO OPTIMIZE CONSULTATION TIME IN UROLOGICAL CARE

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ABSTRACT

The objective is to validate a Personal Health Care application using person-centered medicine, for clinical follow-up and adoption of care interventions in urological patients with LUTs. The pandemic caused by the Coronavirus (SARS-COV-2) has opened up a relevant opportunity for app developers. The mHealth apps, mobile health, have grown infinitely in the last year due to the need for greater knowledge and access to health information and monitoring. The Application already developed for this purpose, called JOIA®, empowers patients to manage health data, prepare for consultations, and enhance doctor-patient communication. Among 50 participants, 96% appreciated the appointment preparation method, and responses showed improved health awareness and satisfaction. Additionally, 28% of patients acknowledged missing required tests, a concern mitigated by the app's utilization. Impressively, 80% affirmed transmitting pertinent information post-consultation, while 96% expressed a willingness to engage with the app in future consultations. The app's potential benefits include patient empowerment, streamlined care, and improved patient-professional interaction. The study highlights the app's significance within the Brazilian Public Health System (SUS) and its role in promoting self-awareness and adherence to treatment in a digital healthcare landscape.

METHODS

Patients are identified in advance with LUTS symptoms. These are contacted by telephone in the days prior to their consultations and guided about the day, time and place of the consultation, as well as about the possibility of participating in the study. After accepting participation, the patient is instructed to download the application on his cell phone. Also after acceptance, the patient responds to a pre-consultation survey and receives a booklet via WhatsApp® with the necessary guidelines.

The study variables are related to the information present in the application's database and the answers obtained in the questionnaires. With N of **50 patients**, assuming an effect size of 0.5 based on Cohen's D coefficient, a necessary sample size of 47 individuals was calculated to find a significant difference between the two data collection moments, considering a level of significance of 0.05 and a power of 90% for the Wilcoxon test for paired samples. After calling and applying the first questionnaire, **the patient will prepare at home through the application for the medical appointment. During the consultation, the patient enjoys the experience of having prepared in advance. After the consultation, they receive a new link to apply the proposed post-consultation questionnaire.**

For data analysis, the age of the participants was described using mean and standard deviation, and the other responses to the applied questionnaires were descriptively analyzed using absolute and relative frequencies. For the questions applied before and after the consultation, the scores were compared between the two moments using the Wilcoxon test for paired samples. The answers were also classified as “Yes” and “No”, in order to compare the proportions before and after the consultation using the McNemar test. The answers “Fine” and “Very well” were grouped as “Yes”, while the others were grouped as “No”. All analyzes were performed using the R statistical computing software, considering a p value below 0.05 as statistically significant.

RESULTS

Patients with a mean age of 65 years and mean IPSS score of 13.25 and OAB-V8 of 15.80. So far, it has been possible to observe that **96% of the patients who completed the research cycle liked the method of preparing for the appointment.** It is also possible to observe that in the questions that are repeated in the first test (before the consultation) and in the second test (at the end of the consultation) **there is an evolution in health awareness and in the level of satisfaction with health** (Table 1). 100% of participants responded that they would like to understand better about their own health and that they believe it is important to participate in health decisions. So far, we have observed that 20% of patients reported having difficulty in answering questions from health professionals, while only 55% answered no, a difference considered moderate (Table 2). 28% of patients forgot to take all the exams they were supposed to. **After using the application, 80% of patients said they did not forget to pass on important information and 96% said they would like to use the application again in the next consultations.**

Table 1 - Pre- and post-consultation numerical comparisons			
Characteristics	Pre-consultation, N = 50 ¹	Post-consultation, N = 50 ¹	p-value ²
Do you consider yourself conscious about your health?	2.00 (2.00, 3.00)	4.00 (3.00, 5.00)	<0.001 ²
Do you consider yourself happy with your health?	1.00 (1.00, 2.00)	3.00 (2.00, 4.00)	<0.001
Do you consider preventive care an important aspect?	3.00 (2.00, 3.00)	4.00 (4.00, 4.00)	<0.001
¹ Median (IQR)			
² Paired Wilcoxon Test			

We can observe from the research that the use of **the application is useful to organize the patient's journey and can encourage health professionals with patient-centered care, thus facilitating clinical follow-up and the adoption of care interventions in different scenarios.** Validation is being carried out exclusively for SUS (Brazilian Public Health System) patients, which today number 150 million people. It is possible to observe several benefits with its use, including savings for the health system. For the patient, the benefits include **generating the ability to identify their health conditions, as well as reflection on the need for self-observation, including willingness to prepare for the appointment, better understanding of signs and symptoms, impacting on self-knowledge, - conscience, responsibility and independence (1).** They also participated in the observation of the physicians' perception of the impact of using the application in their daily lives.

Table 2 - Questions regarding the application		
Characteristics	Missing	N = 50 ¹
Found the app useful	0	
Totally disagrees		2 (4.0%)
Disagrees		0 (0%)
Neutral		1 (2.0%)
Agrees		10 (20%)
Totally agrees		37 (74%)
Filled in all fields	5	
Yes		18 (40%)
No		27 (60%)
Found the application easy to use	0	
Totally disagrees		10 (20%)
Disagrees		5 (10%)
Neutrals		15 (30%)
Agrees		7 (14%)
Totally agrees		13 (26%)
Would change something in the app	2	
Yes		9 (19%)
No		39 (81%)
Found the health professional's questions easy to answer	1	
Yes		27 (55%)
Moderately		12 (24%)
No		10 (20%)
May have forgot to provide important information to the health professional	0	
Yes		10 (20%)
No		40 (80%)
Brought all required tests	0	
Yes		36 (72%)
No		14 (28%)
Would like to use the application in future consultations	0	
Yes		48 (96%)
No		2 (4.0%)
¹ n (%)		

CONCLUSIONS

Health apps promote well-being, emotional, psychological and physical growth and have become increasingly popular due to the pandemic. The use of an application to prepare the patient for a urological consultation can **increase the quality and quantity of information provided to the specialist, optimizing consultation time and encouraging a patient-centered approach.**

The use and expansion of digital health solutions could revolutionize the way people around the world achieve higher standards of health and access services to promote and protect their health and well-being (1).

The application allows the patient to have full control over their health data, record personal experiences, in addition to **facilitating the follow-up of the treatment by the health professional and ensuring a greater connection between doctor and patient.** In this way, the application encompasses elements of values at a functional level (simplify, integrate, organize), emotional (well-being, therapeutic value), transformational (motivation, self-knowledge, self-realization) and transcendental (self-transcendence). In the post-pandemic world, healthcare will tend to become more digital and **the implementation of solutions focused on patients is an important step towards increasing self-knowledge and, consequently, adherence to treatments (2,3).**

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