

THE APP THAT LINKS HEART AND BRAIN

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INTRODUCTION

We cannot understand Health without Mental Health. And nowadays we know for sure that heart and brain are linked. Anxiety is one of the most common mental health conditions (more than 15% of general population) that affects quality of life. If we add health problems such as cardiac ischemia, this percentage is multiplied by 3. The same happens with depression, the 65% of people who suffered from a heart attack has depressive symptoms. In the same way, we know that anxiety and depression can interfere in self care and recovery of these people with cardiac problems.

In the Hospital del Mar in Barcelona, we developed a heart rehabilitation program which includes a group therapy that consists in 4 sessions (one to describe the heart problem, another to talk about exercise, another to talk about diet, and the other one to talk about anxiety and state of mind). After this, the user participates in a rehabilitation program that includes progressive physical exercise and also some meditation techniques such as mindfulness, to reduce anxiety and to prevent from vascular diseases.

However, many people don't find it easy to come to the hospital to do that, so we created a mobile app to support this program. This app contains the information described before and proposes some physical and relaxation exercises progressively.



AIMS

With this pilot study we want to evaluate the degree of acceptance and satisfaction of people with coronary disease when using a mobile app with some relaxation exercises to reduce anxiety.

METHOD

We included patients with coronary disease that took part in the heart rehabilitation program in the Hospital del Mar. We installed this mobile app in their phones, that was designed to allow the practice of some relaxation and meditation techniques. The user had to practice these exercises once a day for a minimum of a week, and then they answered a questionnaire to evaluate the satisfaction degree about the app. The user also answered at the beginning and at the end (a week later) the Hamilton Anxiety Depression Scale (HAD).

RESULTS

10 people participated in this study (6 men and 4 women) with a medium age of 55.6 years old. The medium score of the satisfaction questionnaire about the use of the app was 17.16 for men and 15.33 for women (in a 24 total score). The 78% of the users referred an important reduction of their anxiety levels, and the 88% wanted to keep using the app during all the process of disease.

The level of Anxiety (HAD) at the beginning was 10,9 (± 5), after the sessions of meditation with the app it was 6,6 ($\pm 2,7$), $p=0,004$.

HAD questions	HAD at the beginning	HAD at the end
I feel nervous	1.78	1.00
I'm afraid something bad could happen	1.22	0.78
My head is full of preoccupations	2.11	1.11
I can remain seated, quiet and relaxed	1.78	1.00
I feel an unpleasant feeling of nerves and tingling in the stomach	1.22	0.78
I feel restless, I can't stop moving	1.33	0.89
Suddenly I feel anguish and fear	1.44	1.00

CONCLUSION

The users referred a satisfactory use of the app, they considered that the anxiety level decreased and most of them wanted to keep using the app for more time.

The use of mobile devices could be used as a method of support for cardiac rehabilitation in patients with coronary disease.

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