Supporting anaphylaxis patients through a mobile application

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Aim: This study was performed to identify the critical success factors (CSFs) of an anaphylaxis app to support patients in an emergency situation.

Method: CSFs were identified through a literature study, by analyzing existing anaphylaxis apps and by surveying a sample of patients who visited the website of the Dutch Anaphylaxis Network. An expert interview was used to further reflect upon the findings.

Results: Five existing anaphylaxis apps were found, with different features, most were for the UK or US market, available for free or at low costs. The literature presents the following CSFs that influence the adoption of mobile technology for allergic patients: 1. being context-aware through scanning of physical items; 2. automating the retrieval of product-related allergy information; 3. helping to improve the patient’s understanding of their condition in general; 4. ensuring medical validation of given advice; 5. being tailored to patient’s medications and 6. providing advice in a patient-sensitive manner, based on age and level of experience. The survey yielded 276 responses, 80% was female, mean age of 40.96 (sd = 11.2) years and an average of 9.81 (sd = 7.5) years of experience with anaphylaxis. The desirability of an app to support anaphylaxis patients was rated with an average of 8.34 on a scale of 1 to 10 (sd = 1.8), while the probability of the respondents using such an app was rated with an 8.75 (s = 1.9). Most important features of an app according to the respondents was Clarity of information (6.68); Medical validation (6.62) and Emergency procedure information (6.48). Less important features were Interactivity of the app (4.50); Allergy knowledge quiz (3.33) and use of games (2.66). The expert mentioned that the app should be available at no cost to boost its use.

Conclusion: An app that includes medically validated and clear information on allergy symptoms and treatment procedures has great potential to fill a gap in the support of anaphylaxis patients. Relevance for daily practice. An app in Dutch language will be developed to support patients or caregivers in emergency situations. The app will be patient-tailored, so that a patient can import his own emergency medication and personal information. The main feature is a step-wise approach to cope with allergic reactions. Besides general information about the most important causes for anaphylaxis: food allergy or insect sting allergy will be given. The app will be built in cooperation with Allergy patient’s organizations, the Dutch dermatologists’ association and the University Medical Centre Utrecht, the Netherlands.