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WHAT DO PATIENTS WITH LARYNGECTOMY EXPECT FROM THE NEXT GENERATION OF VOCAL ASSISTIVE SYSTEMS? A QUALITATIVE AND QUANTITATIVE ANALYSIS OF USERS' NEEDS AND DESIRED IMPROVEMENTS

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Literature indicates that there is a high variability among patients who have undergone laryngectomy procedures, in terms of success of the recovery and satisfaction using different vocal assistive methods. In this study we used both qualitative (in-depth interviews, focus-groups) and quantitative methods (online surveys) in order to assess: (1) satisfaction of patients and their caregivers with voice assisting methods available today, (2) identify main problems that they are confronted with in every-day life, (3) identify the needs or requirements that should be addressed by new vocal assistive technologies, (4) test users' reaction to a new assistive method implying the use of a smart-phone for voice synthesis based on text-to-speech and / or automatic lip-reading software.

Our results pointed that both patients and caregivers are generally satisfied with vocal assistive methods they currently use. They reported that the main problems they are facing are: difficulties in being understood by the communication partners, the fact that others avoid to communicate with them, the fact that they speak much less as compared to the condition before surgery, difficulties in being heard when speaking from a considerable distance, and difficulties in being heard when there is background noise. In terms of improvements that should be addressed by future assistive methods, the patients reported that the most important functionalities they are expecting are: a clearer voice, a device that does not require fixation or closing a valve, a higher speaking volume, an assistive method that requires less effort when speaking. Finally, reports indicated that users are more interested in using a phone-based assistive method that integrates real time lip-reading, rather than text-to-speech voice synthesis. Implications for the development of new assistive methods for patients undergoing laryngectomy are discussed

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