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An Osteoporosis App: Can users & designers develop it together by using Participatory Design?

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Background:
Osteoporosis is estimated to afflict more than 40% of women aged 50 years and older and 1 in 3 will experience a fracture. A fracture is associated with an increased risk of further fractures. Those fractures can be prevented by medication, bone healthy lifestyle and increased intake of calcium and vitamin D. The effect of mHealth on self-management appears to be promising. However mHealth is not yet applied in the field of osteoporosis to help women manage their chronic disease. Therefore we involve users and designers to design, develop and test an app for women diagnosed with osteoporosis before having a fracture. The aim is to help them handle being diagnosed, get involved in treatment decisions and manage the disease in their daily life.

Methods and design:
We use Participatory Design consisting of three phases. The phases move in iterative cycles with ongoing and parallel actions including literature studies, field studies, user activities and development until a viable mHealth solution is developed based on the identified needs. The solution is tested in a pilot test before it is adjusted and prepared for implementation.

Identification of needs:
After a literature study needs among users were identified using field studies (10 hours), semi-structured interviews of women recently diagnosed with osteoporosis without fractures (n=17) and a focus group with some of the women (n=3). General practitioners (n=3) and osteoporosis doctors (n=2) were also interviewed. Overall there is a perceived need for not causing the women to feel or become sicker than necessary. In addition they express a need for being able to participate in treatment decisions and manage the disease themselves.

Design and development:
Ideas were generated through creative processes. Users and designers participated in three workshops with focus on designing a viable solution based on the identified needs. A team of women with recent osteoporosis diagnoses, researchers, health care professionals and designers (n=15) participated in the workshops. A prototype of the app was developed in an iterative process together with the users and designers.

Pilot test:
The prototype will be tested in a pilot study. The pilot test will involve health care professionals and women with osteoporosis, who have not participated in phase 1 and phase 2, to test the prototype in a real life setting. Based on feedback gained through the pilot test the solution is adjusted and prepared for implementation.