Supplements

Preface

Supplement A: E-health Website ‘SaltModule’ of the SUBLIME Study

Supplement B: ‘Salt Down, Spice Up!’– An Example of Societal Impact
Preface.

The clinical studies in this thesis offer a panoply of means for societal interactions. We believe that societal interaction ought to be the logical consequence of a clinical trial. In these Supplements, we share our experiences wherein we aimed to bring academic knowledge to the general public in a fun and easy accessible way. In (→ Supplement A), we describe the e-health intervention deployed in the SUBLIME study in more detail. The e-health intervention ‘SaltModule’ is partly based and partly a more-developed version of the publicly available website www.mijnnierinzicht.nl, customized for the SUBLIME study. However, after implementation of the feedback of our participants, this may well form the basis of a new publicly accessible version. In (→ Supplement B) we describe a HealthHack we performed at the arts, theatre and music festival ‘Noorderzon’. HealthHacks are smart, easy ways to ‘hack’ your daily routine in order to implement a more healthier routine. Our HealthHack aimed to raise awareness of excess salt consumption: “Salt Down, Spice Up!”.
Supplement A.

E-Health Website ‘SaltModule’ of the SUBLIME Study

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The development process
The SUBLIME study (→ Chapter 10) deployed an e-health application based on self-regulation theory, to facilitate behavioral change in sodium intake in patients with chronic kidney disease (CKD). The e-health intervention consisted of a website created by Bonstato BV and third-party IT-developers. Its infrastructure was based on www.mijnnierinzicht.nl, a publicly accessible website of Bonstato BV and owned by its director Hannie Piels. This website consists of a food diary function that has been linked with the NEVO-tables, and thus all available information on nutrients. This diary function is suitable for monitoring of goals, i.e. sodium intake. Self-monitoring is only a part of the self-regulation therapy. The medical psychologists (Sandra van Dijk, Yvette Meuleman) within the project group SUBLIME designed several exercises to address other components of self-regulation theory as outlined below. The e-health module (SaltModule, Dutch: Zoutmodule) underwent pilot testing with volunteers and patients with CKD to improve its interface. Nierpatiënten Vereniging Nederland (NVN, Dutch Kidney Patients Association) was also involved in the development of SaltModule. They strongly advised to maintain the option to visualize changes by moving switches (Figure 2). This was the most-expensive part of SaltModule to design and it was designated to be scrubbed, however after consultation with NVN representatives and the positive results from pilot tests, the project group allocated additional budget to implement this part into the SaltModule.

Implementing e-health: SaltModule.
The SaltModule is a text-based website that was only available for SUBLIME participants who were randomised to the intervention group. The SaltModule consists of two lines (Let’s Start and Evaluation) that consist of different submodules: Introduction, Risk, Motivation, Monitoring, Self-efficacy, Goals, Support, and Options for Change. We briefly describe the components of the Let’s Start module below.

Further, the Monitoring menu reports the sodium content and offers options for change (Figure 2).

Self-Efficacy In this exercise patients identify barriers and possible solution to achieve sodium restriction. They state their own strengths and weaknesses regarding sodium restriction in a
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**Introduction**  General information about the study

**Risks**  Brief overview about the relation between salt, blood pressure with cardiovascular and renal events.

**Motivation**  Patients are asked what they consider important in their life by selecting a picture. Next, they are asked how a healthy lifestyle fits within these important things in life. Finally, they are asked for reasons why they do or do not pay attention to salt, and to score on a 1–10 scale how important they think a sodium restriction is in their own situation.

**Monitoring**  Here patients can fill-out the diary and select food products that constitute their meals. SaltModule remembers earlier choices, so filling out the food diary will take less time (Figure 1).

![Figure 1. Monitoring/Diary](image)

Diary of the Monitoring Module. Upper left are preferred products (‘voorkeuren’), that have been filled out earlier at this time of day (breakfast). Patients can specify units and quantities of a given food product.

multiple choice menu. Next, they are asked to what extent the barriers are a problem, given the self-reported solutions. Finally, patients score their own confidence in their ability, or self-efficacy, to maintain a sodium restriction.

**Goals**  After a brief introduction on how to set achievable goals (SMART, specific, measurable, achievable, relevant and time-bound. Patients review their earlier answers on barriers and options for change and are then triggered to set their own goal.

**Support**  In this exercise patients are asked to identify social support: who could help them to achieve their sodium goal, how could they help (multiple options e.g. “by helping reading contents on food products”. Next, they are asked how they will reward themselves when a goal has been reached.
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**Introduction** Here is explained that behavioral change is a continuous process, and that the purpose of this module is to evaluate the execution of the Change Plan so far.

**Monitoring** Similar as above, patients can register their food intake.

**Experiences** Patients are asked what went well and what could be improved in the last period.

**Change plan** a summary of the previous answers, that is used by the coach as guidance for e-coaching.

Figure 2. Monitoring/Options for Change. Ranks food products in a given time period for their sodium content. The switches (red circle) can be moved to assess the effect of reducing portions. Alternatively, patients can replace a product by clicking the change symbol (blue circle), and select for example ‘low-sodium bread’. The effect of reduction/change is displayed in blue bars (upper panel), the current intake in gray bars.
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Goals, Support, and Change Plan

Relapse

Figure 3. The Change plan summaries why health is important, important reasons to restrict sodium, reiterates the set goals and steps from the Options for Change menu. Finally, two persons are asked for support in finding recipes and reinforce good behavior.

Relapse Patients are reassured that goals are not always met (and that this is not a bad thing). They are invited to describe a situation where they failed to achieve a sodium restriction goal and to possible challenges that may emerge. Next, they are asked to identify why it was difficult and change their value of the Barriers from the Let’s Start program. Finally, patients could score their self-efficacy.

Goals, Support, and Change Plan are similar as above. This way, patients update their Change Plan, that forms the basis for consecutive e-coaching moments.

Although the abovementioned order is recommended, patients can access all components at their own discretion. To conclude, SaltModule is an e-health application that offers several tools to enhance the self-regulation skills of patients to support a sustainable sodium restriction.