

Mobile health in health-related consumer protection

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INTRODUCTION

Young children (7 months to 6 years) have a high risk of accidental poisoning. To support caregivers in minimising exposure, preventing intoxications and rendering first aid, the German Federal Institute for Risk Assessment [Bundesinstitut für Risikobewertung, BfR] developed the app 'Vergiftungsunfälle bei Kindern' [Accidental poisoning in children]. Little research has sought to investigate caregivers' information behaviour regarding child injuries and the role of mobile applications within this context. Against this background, the aim of this study is twofold. First, applying apps effectively requires adapting them to the precognitions, needs and conditions of their users. Hence, the information needs and behaviour of caregivers focusing on child injuries as well as their use of mobile apps were explored. Second, the user-friendliness of the BfR app was tested providing insights into the affordances of scientific knowledge brokerage. This research project expands the framework on risk regulation explicitly taking into account the combination of information behaviour, risk environments, evidence-based toxicology as well as the potentials and barriers of digital means.

METHODOLOGY

Both studies are based on respective systematic reviews shedding light on a) The theoretical base of communication strategies to prevent child injuries and their effectiveness, and b) the needs of caregivers and health professionals when using mobile health apps to prevent and/or handle child injuries. The reviews were followed by, first, examining behavioural determinants such as informational needs, risk perceptions, and media use to identify the caregivers' information behaviour. Behavioural determinants were conceptualised theoretically and examined empirically by conducting qualitative focus group interviews with parents, professional caregivers, and intermediaries, and a standardised online survey with a representative sample of parents. Second, the remote usability test measured how users navigate through the app in order to achieve the goals defined in test scenarios. Video and audio recordings as well as participant observation were used to identify usage difficulties. Focused interviews were conducted to explore the significant advantages as well as challenges of the app. The remote usability test also included standardised measures of effectiveness and efficiency.

RESULTS

Results of the focus groups and online survey emphasised the potential of apps for child health and injury prevention. Although less than 10 % of the parents have already used them (esp. apps regarding child development), more than one third intended to use an app for poisoning prevention in the following three months. An advantage of apps is access to up-to-date and condensed information – independent of time and place, facilitated by special app functions like barcode scanner or plant identifier via the smartphone camera. In critical situations, however, most caregivers would prefer a direct contact to health professionals. Based on further results regarding parents' information behaviour and determinants of app use and prevention behaviour, an evidence-based communication strategy will be developed (adequate messages and communication channels). The remote usability test of the BfR app revealed the importance of practical, unbiased, detailed, and professional information along with the need for specific functions such as plant identification or chemical substances. It also brings to light the relevance of information and interaction design when it comes to health literacy.

DISCUSSION

Digital media can provide caregivers with tailored information on child health and injury prevention. In order to do so, it is important to know which target groups accept technology as a means for information and which information requirements they have. Communication science provides insights into the determinants of mobile information behaviour and the value of mobile application within consumer protection research and digital health. Furthermore, socioeconomic factors as well as sociocultural backgrounds have to be taken into account when researching information needs and preferences – considering e.g. health literacy. In other words, information on the prevention and first aid measures of unintentional child injuries has to be accessible for non-experts. This research reveals significant implications for risk assessors and communicators working on child health: It illustrates how social sciences offer a more holistic approach on transforming evidence-based scientific knowledge into a knowledge that is shared and used by people to protect their loved ones and themselves.