

# Health literacy in childhood and adolescence – Findings and conclusions from a systematic literature review on definitions and conceptualizations

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Identifying sub-themes:

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## **Introduction (518 words of 600):**

As higher health literacy levels in individuals have been associated with better health outcomes and lower health care costs (Berkman et al. 2011), health literacy has received renewed attention as an operational health variable in health research, practice and policy-making. Health literacy for adolescents and children was defined by Paakkari and Paakkari (2012) as a learning outcome of health education, entailing “a broad range of knowledge and competencies that people seek to encompass, evaluate, construct and use. Through health literacy competencies, people become able to understand themselves, others and the world in a way that will enable them to make sound health decisions, and to work on and change the factors that constitute their own and others’ health chances” (ibid., p136). Considerable attention has been contributed to addressing the child’s/adolescent’s health literacy in school health promotion and education (St Leger, 2001; Ormshaw et al., 2013). As children spend several hours per day in school, Kickbusch and Maag (2008) stress the vital role of the education system in developing the general literacy and health literacy of their students, by equipping them with the knowledge and skills needed to participate in decision-making processes concerning their own health. Moreover, schools can provide access to high risk populations that are difficult to reach (Rubene et al. 2015). From a health promotion perspective, it is essential to recognise children and adolescents as a target group of health literacy research and interventions: Childhood and youth are regarded as foundational life phases impacting on healthy human development, personal health and well-being throughout adulthood (e.g. UNICEF, 2013). Accordingly, it was argued that if we fail to provide the young populations with health literacy and health promoting capacities this would constitute an increased risk for the individual and society in terms of poorer health outcomes and higher costs (e.g. Borzekowski, 2009).

The development and acquisition of health literacy is increasingly recognized as a continuous process, starting in early childhood and continuing throughout the different life stages (Zarcadoolas, Pleasant & Geer, 2005). Sanders et al. (2009) call for addressing child and adolescent health literacy from a health promotion perspective with a multidisciplinary approach. A US Institute of Medicine report recommended that health literacy interventions should target four different levels, namely the individual patient care, health systems, educational systems and community systems (Nielsen-Bohlman, Panzer, & Kindig, 2004). Several open issues therefore need to be clarified in order to follow up these recommendations. The open issues refer e.g. to the

construction of health literacy in childhood and adolescence or to its development and acquisition over the life course.

This study aims to provide an overview of the current understanding of health literacy in childhood and adolescence by use of a systematic review of health literacy definitions, concepts and theoretical explorations for persons aged <18, in the English and German literature. The goal is to outline and analyse child/adolescent health literacy conceptualizations as reflected by the scientific literature. The study represents the first phase of the project TeCoMo that aims to develop an integrated definition and conceptual framework of health literacy, capturing the unique needs and characteristics of children and adolescents.

### **Methods (397 words of 400):**

The systematic review, following PRISMA guidelines, was conducted between May-Nov 2015. Six bibliographic databases (PubMed, ERIC; PsychINFO, CHINAHL, Web of Science and FIS Bildung) were searched by two researchers independently. The search strategy consisted of different combinations of search terms from three topics, namely 1) main topic (health literacy), 2) subtopic (e.g. defin\*, concept\*, model\*) and 3) target population (e.g. children, adolescents, school). After removing duplicates, articles that did not address at least two of the three topics were excluded in the abstract screening phase. In the full-text screening phase, only publications a) focussing on generic health literacy, excluding any domain- or topic-specific health literacies, b) with relevant content for defining and conceptualizing health literacy in children and adolescents, c) with a target population younger than 18 years, and d) which were accessible and available in English or German were passed for full-text analysis. Articles stating a life-course perspective on health literacy, without specifying the target group, were included as well. Inclusion for full-text analysis was determined based on the articles' assessed potential for answering the research question by two researchers separately. Publications, for which the researchers reached a distinctive decision, were discussed again. A complementing hand search in google scholar and the reference lists of studies included for analysis retrieved 13 additional articles that met the eligibility criteria.

Articles selected for full-text analysis (N=45) were qualitatively assessed in four steps.

- 1) A matrix with background variables was completed, including age of target group, rationality for focussing on target group, whether target groups' perspectives were considered, and setting(s) for which definitions and concepts were developed.
- 2) Articles were scanned for definitions, concepts, and theoretical explorations of health literacy.
- 3) These were coded and extracted, performed by two researchers working independently.
- 4) The definitions and conceptualisations were then discussed with a panel of health experts and within the research team, drawing on the theoretical perspectives retrieved from the literature and perspectives on childhood and adolescence from adherent disciplines. Examples are a) the four dimensions that distinguish children's situation and needs from those of adults as applied by Rothman et al. (2009), namely differential epidemiology, demographic patterns, developmental change, dependency, b) Schön's (1987) approach of reflective coaching and democratic practice, c) Freire's (1970) critical pedagogy, and d) different autonomous- vs. ideologically-oriented literacy perspectives (Street, 2006).

The review results will inform the development of a draft definition and conceptual model.

### **Results (300 of 300):**

The systematic review identified eleven definitions and 21 conceptualizations for child/adolescent health literacy. With two available definitions and four conceptualizations for elementary school children (aged eleven or younger), adolescents were the main target group. The focus was either on a skill dimension, describing a cluster of competences health literacy entails, or on an action dimension, defining tasks that a health literate child/adolescent should be able to perform (i.e. access, understand and evaluate information or navigate the health care system). Within the skill dimension, there is a strong emphasis on individual skills, namely functional skills (reading, writing, and numeracy skills), operational or practical skills as well as theoretical knowledge, critical thinking, self-awareness and self-regulation. Other conceptualizations included skills that were important for acting in a socially responsible way and for working towards better health (chances) of the

people in one's close or distant environment (e.g. citizenship, holistic health literacy, community and cultural literacies). Moreover, articles identified a variety of individual and societal factors that influence health literacy and the opportunities for practising it (e.g. Peak, Reber and Lariscy (2010) describe broader socialization processes by socialization agents, interpersonal channels and the media). However, the emphasis remained on individual prerequisites while viewing the target group primarily as recipients of health information, assuming rationality for thinking, behavioural and decision-making processes. Life phase specificities are mainly considered from a cognitive development perspective. In a nutshell, health literacy is portrayed as a multidimensional concept, with most retrieved definitions and conceptualizations offering poor differentiation to the ones available for adults. As a result, target group's specific health literacy needs and realities were inadequately considered in current concepts. In conclusion, age-specific epidemiological patterns, health risk profiles, vulnerability towards socio-economic factors as well as social and intergenerational (power) relationships need to be integrated more profoundly into health literacy concepts.

#### **Intent of publication:**

The results of the literature review will be published as a review article, publication is in preparation.

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