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Oral health-related resources - a salutogenic perspective on Swedish 19-year-olds

Abstract: The aim was to explore health-oriented resources among 19-year-olds and, specifically, how these resources interact with oral health-related attitudes and behaviour. To represent individuals with various psychosocial environments and socioeconomic areas, the participants were selected from different geographical locations of the Public Dental Service clinics in the county of Jönköping, Sweden. A structured questionnaire was distributed, including the instrument 'sense of coherence', for description of the study group, followed by a semi-structured thematized interview. The qualitative method used for sampling and analyses was grounded theory. Data sampling and analysis were performed in parallel procedures and ended up in a sample of ten informants (five women). In the analysis of interview data, a core category was identified, '*Resources of Wealth and Balance in Life – a Foundation for Healthy Choices*', describing the central meaning of the informants' perceptions of resources with an essential beneficial impact on oral health. The core category was built on five themes, which in turn had various subthemes, describing different dimensions of resources interacting with beneficial oral health-related attitudes and behaviour: '*Security-building Resources and Support*', '*Driving force and Motivation'*, '*Maturity and Insight'*, '*Health Awareness'* and '*Environmental influences.'* The results elucidate personal and environmental health-oriented resources with influence on oral health-related attitudes and behaviours of young individuals. Such beneficial recourses should be recognized by dental personnel to promote oral health.

Key words: behavioural science; oral health promotion; sense of coherence; young adults

Introduction

Oral diseases, such as caries and periodontal disease, are multifactorial and caused not only by biological factors, but also indirectly by non-biological, environmental, social and cultural factors that influence the attitudes and behaviour of individuals towards oral health (1–3).

Cognitive, behavioural and motivational factors are of major importance in health promotion (4). Moreover, it has been argued that it is important to make young people aware of their own resources and find mechanisms to control the internalization of healthy behaviour, that is, health behaviour that occurs naturally without the need to make an effort or think about it (5). More individualized and contextualized knowledge is

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required to ensure the effectiveness of prevention and oral health promotion.

The concept of sense of coherence (SOC) (6), based on the salutogenic theory, has a psychosocial perspective and is oriented towards causes of health rather than causes of disease. The concept is a way of describing an individual's ability to pursue health-promoting behaviour, also in stressful situations. A sense of coherence is assumed to develop during childhood, adolescence and early adulthood and emerges from different life experiences. The concept of SOC is made up of three components: comprehensibility, manageability and meaningfulness. Comprehensibility is a cognitive ability that develops in interaction with the environment. This ability is about perceiving life events/situations as structured, clear and predictable ('I know'). Manageability is described as instrumental capabilities. It involves a sense of coping with a situation and knowing that there is access to both internal and external resources, that is, to be in control (of your own or with the help of others) of the tools ('I can'). The third ability is meaningfulness, which is an emotional competence that refers to the need to feel involved, to be motivated and to want to invest energy and engagement in an activity ('I want') (6).

Previous studies suggest that SOC is positively associated with general (7) and oral health (8–10), as well as with oral health behaviour (9, 11, 12). Moreover, a recent study has shown an association between SOC, dental anxiety and oral health (13); however, most studies have been performed on adult individuals, and most data rely on studies using questionnaires to assess the SOC. In a previous questionnaire-based study, we found that young adults (20 years) had a significantly lower SOC than older age groups and that more than 50% of 20-year-olds had a low SOC (14). The potential association between the SOC and oral health behaviour in adolescents/young adults is, however, poorly investigated. The use of a qualitative methodological approach could contribute with new perspectives and a deeper understanding about underlying health-oriented resources and processes that influence oral health in young people and thus contribute with important knowledge for dentistry to promote oral health. Hence, the aim of this qualitative interview study, based on the salutogenic theory, was to explore health-oriented resources among 19-year-olds and, specifically, how these resources interact with oral health-related attitudes and behaviour.

Material and methods

Qualitative method

The qualitative research methodology used for data sampling and analysis was the constructivist view on the method of grounded theory (GT) as described by Charmaz (15). GT aims to create a manageable and descriptive concept culture based on the amount of information generated by interviews, that is, in this study, to organize data and generate theoretical concepts from data that can describe and explain phenomena and psychosocial processes that are related to the individual's sense of coherence and are favourable to oral health. According to Charmaz (15) the 'discovered reality' is a product or a construction of interactions between the researcher and the informants/interview data. In addition, the power of GT is that it provides tools for understanding and can be used flexibly (15). There are, however, some basic principles of GT; simultaneous collection and analysis of data, hierarchical analysis levels, theoretical sampling and sensitivity referring to that the researchers analytical interpretations of data direct the focus of further data collection and the reflexive way of developing research questions and doing analysis, constant comparisons of 'old and new' data, and saturation, that is, when new data do not bring anything vital into the analysis model (16). In addition, one principle of GT is that analytical processes prompt discovery rather than verification of pre-existing theories. In this study, however, we used a salutogenic theoretical approach and the concept of sense of coherence as a framework for data sampling and analysis. Data sampling and analysis followed the procedures and steps of GT, but the thematized interview guide was based on the concept of sense of coherence, and data were interpreted with this pre-existing theory in mind. Hence, the analysis process involved coding in a hierarchical order and the conceptual analysis model was validated and refined by constant comparison between 'old' and 'new' data. Data sampling and analyses were parallel procedures and proceed until new data did not contribute anything vital to the analysis model. In GT (15), the identified core category is central to the data and related to all the themes and subcategories, together describing a 'psychosocial process'. Each theme was thus based on different subthemes, based on quotes from the data sample, that is, the informants.

Study population

The participants were recruited in connection with their annual examination at the Public Dental Service in the county of Jönköping, Sweden. Potential participants were informed about the purpose of the study, both orally and in writing, by the dentist or dental hygienist, and asked whether he/she was interested in participating. To ensure a varied sample, in terms of the views of the young adults on psychosocial resources and processes that can promote oral health, men and women of different backgrounds and from different socio-economic environments were invited. Against this background, Public Dental Service Clinics representing different socio-economic areas were chosen for the recruitment of the study participants. Individuals who had obvious problems with the Swedish language were not asked to participate in the interview study for practical and study technical reasons. Potential participants were contacted by phone for further information about the study and, eventually, scheduled for an interview. In total, 20 young adults were consecutively selected as possible informants for the study and contacted by phone by the interviewer (first author UL). Six of these individuals declined participation due to lack of time. In addition, four individuals were scheduled for an interview but did not show up. Selection of participants, data sampling and analysis were performed

in parallel and continued until saturation was deemed to be reached in the study group. The final study sample ended up in ten 19-year-old individuals (five women).

Data collection

The interviews were conducted in a suitable room at Jönköping University. Immediately before the interview, participants were asked to answer a questionnaire concerning different background factors and Antonovsky's 13-item SOC questionnaire (6, 17). Moreover, to trigger some thoughts and thereby facilitate the interview, two written vignettes were created, describing two different fictitious cases to illustrate the relationship between lifestyle factors, behaviour and oral health. Oral health and especially in relation to their own lifesituation, can for some people feel uncomfortable talking about. To distance a sensitive subject, one can enlist the help of vignettes designed to demonstrate personal issues and indirect experiences through text, images, voice or other forms of information which is designed as a scenario or hypothetical events (18).

Questionnaire

The structured questionnaire relating to certain sociodemographic background factors contained six questions with fixed response options and referred to gender, housing (both parents/mainly with one parent/own apartment/other), siblings (only child/1–2 siblings/more than 2 siblings), country of birth (born in Sweden or Scandinavia/other countries), principal occupation (working/studying/unemployed/other) and parents' country of birth (born in Sweden or Scandinavia/other country) and occupation (studying/working/unemployed/other).

The SOC questionnaire has been translated into Swedish and has been considered to have high validity and reliability (17). The instrument includes questions regarding comprehensibility (five questions), manageability (four questions) and meaningfulness (four questions), which together measure the individual's sense of coherence. Each question consists of a Likert scale from 1 to 7, giving a total of 13–91 points. Higher scores indicate a stronger sense of coherence. For Swedish adolescents and young adults, mean values of 62–66 points have been reported (14, 19). This value can be compared to an adult general Swedish population with a mean value of 70 points (14), which can be interpreted as a strong SOC (7). In this study, the SOC scores ranged between 51 and 68 points, with the median at 63 (mean = 61.2; SD = 6.4), indicating that average SOC scores for the present study group are in line with previously reported values for Swedish young adults, that is, lower compared to an adult population.

A descriptive statistical analysis was performed using the IBM SPSS Statistics, version 21 for the participants' background factors and SOC score; see Table 1.

Table 1. **Description of the participants' background factors and SOC score (n = 10)**

Variables	Number
Sex	
Men	5
Women	5
Housing	
Both parents	8
One parent	1
Own apartment	1
Siblings	
Only child	–
1–2 siblings	9
>2 siblings	1
Country of birth	
Scandinavia	8
Other	2
Principal occupation	
Working	4
Studying	5
Unemployed	1
Other	–
Parents' country of birth	
Both in Scandinavia	7
One parent in Scandinavia	1
Both outside Scandinavia	2
Parents' occupation	
Father working	10
Father unemployed	–
Father other	–
Mother working	9
Mother unemployed	–
Mother other	1
SOC scores	
SOC min-max	51–68
SOC median	64
SOC mean (SD)	61.9 (6.4)

Interviews

The two written vignettes created described two short (half page each) fictious cases regarding oral health and family situation: (i) one with a young individual that often have new caries-lesions, with a low sense of social support in life, feelings of tiredness and in general with a low sense of control over life and future (ii) one with a young individual with a good oral health status, with feelings of security and social support and in general with a sense of control over life and future. Semi-structured interviews were performed by the first author (UL) with the help of an interview guide. The interview guide was structured around themes that were related to Antonovsky's salutogenic theory and the concept of a sense of coherence (6). The themes focused on in the interview were life situation, perceived health-oriented resources (external and internal), health/oral health-related behaviour and confidence in own ability and participation and motivation. The interview was conducted in the form of an open dialogue around these themes, in which the individuals were given considerable opportunity to raise their own concerns and questions. All the interviews started with an opening question: 'Considering the two different cases that you just have read about, what do you think about your own situation'? Depending on what was brought up, the interviews then took different directions where the respondents were encouraged to tell more

by follow-up and probing questions such as how do you mean; can you please explain a little bit more; how do you feel/think about that, etc. The interview ended when both parties concluded that the subject was exhausted. Throughout the interview, the author made some notes, to increase the opportunity to follow-up questions for better understanding and decrease misinterpretations. In connection with the two final interviews, participant-checks were carried out to strengthen the credibility of the analysis model. The interviews lasted 30 to 70 min (mean 50 min.). The interviews were audiotaped, transcribed verbatim and consecutively analysed in hierarchical coding processes (15). Continuously, the analysis was discussed together with a senior researcher (second author KHA) experienced in qualitative research methodology and GT.

Ethical considerations

The study was conducted in accordance with the ethical principles of the Humanities and Social Sciences (20). Patients were asked about participation. They were also informed that the data collected would be kept confidential, that participation was voluntary and that they may withdraw their participation without any implications for their ordinary dental treatment. Written consent was obtained in connection with the interview. Decoding of interview data occurred immediately after printing, that is, personal data or other information that could be traced to an individual was removed to make sure that no single individual could be identified. The study was approved by the Regional Ethical Review Board in Linköping (Reg. no. 2011/95-31).

Results

Resources of wealth and balance in Life – a foundation for healthy choices

The analysis process resulted in a core category identified as 'Resources of Wealth and Balance in Life – a Foundation for Healthy Choices'. Five themes, consisting of various subthemes, underpinned this core category and described different dimensions of resources interacting with the (oral) health-oriented choices and behaviours of young adults (Table 2).

Hence, a feeling of having a 'Driving force and Motivation', based on normative values, own experiences and perceived needs, seemed to be significant for healthy choices and originated in a health-oriented self-approach and positive attitudes towards health. A balance in 'Security-building resources and support' also seemed to have a significant impact. This balance was achieved in the interaction between the individual and the social context, generating a feeling of control and structure in life that also made it easier to make healthy choices. Moreover, 'Maturity and Insight' and 'Health awareness' seemed to be essential and were based on beneficial routines in daily life, own responsibility and knowledge to make mature and relevant choices, as well as incentives and motivation for a particular behaviour. In addition, external 'Environmental influences', such as health messages provided by schools and the media, availability of supermarkets and grocery stores and training facilities, may also be seen as resources with an impact on the individual's (oral) health. Figure 1 represents a model that illustrates dimensions of health-oriented resources interacting with oral health-related attitudes and behaviours in young adults.

Table 2. **The five themes with subthemes and examples of related areas**

- Driving force and motivation
  - Others and external factors
    - Others' standards
    - Upbringing
    - Role models
    - Appearance
    - Socialization
  - Own approach and attitudes
    - Willingness
    - Self-interest
    - Experience and need
  - Future thoughts about health
    - Keeping healthy when getting older
    - Being able to work and be functional
    - Saving money and energy
    - Preventive action
- Security-building resources and support
  - Significant others
    - Immediate family
    - Social emotional support
  - Self
    - Self-esteem
    - Feeling of independence
    - Feeling of autonomy
  - Daily Strategies
    - Control and structure
    - Meaningful work
- Maturity and Insight
  - Entrance into adulthood
    - Responsibility
    - Volitional decisions
  - New structure and strategies
    - Recovery
    - Awareness of consequences
- Health awareness
  - Health and ill health
    - Diet
    - Tobacco
    - Physical activity
    - Oral care
  - Holistic view of health
    - The mouth is a part of the body
- Environmental influences
  - Availability
    - Proximity to shops, gym, etc.
    - Access to kitchen
    - Opening hours
  - Knowledge/Health messages
    - Media
    - School
    - Dental service
  - Psychosocial environment
    - Stress-related factors

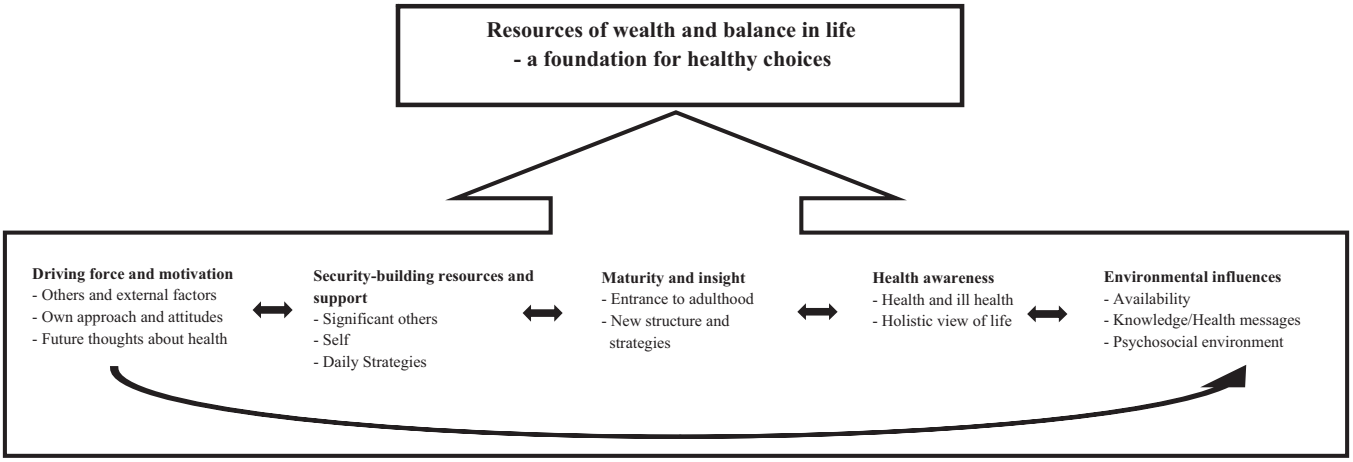

Fig. 1. A model grounded in the empirical interview data that illustrates dimensions of health-oriented resources interacting with oral health-related attitudes and behaviour in young adults.

Driving force and motivation

'Driving force and Motivation' concerns the young adult's self-approach and attitudes to his/her own health. Self-approach and attitudes are interpreted as a willingness based on own experience and needs or simply based on being a certain type of person who is ambitious and wants to take care of his/her own life. Changing a behaviour is also dependent on the perceived advantages of the behavioural change in question; the outcome of the new behaviour must be positive and perceived as being worth the effort.

> …it's worth it [taking care of your teeth], because it doesn't take very long to look after your teeth, so why not do that instead of all that drilling and that… yes, I think it's worth spending time on that because it doesn't take more than 2 min; I mean, 4 min a day, that's worth the trouble. (male, id3)

The informants had thoughts about the importance of a healthy life when getting older, expressed as: 'not being sick', 'working and being functional' and 'saving money, time and energy'. Taking care of the body and mouth may prevent illness and give a person the opportunity to do important and meaningful things in life. Health-oriented actions, such as physical training and beneficial eating and oral hygiene habits, were thus cited as good investments for the future.

External influences are an important part of 'Driving force and Motivation'. During childhood, before becoming an independent person, the individual's choices are based on influences from people in his/her immediate life context. The most important influences usually come from the individual's parents and their normative standards and expectations on how to behave. The parents' attitudes and views of life and health are transmitted through upbringing and lay the foundation for a person's values, attitudes and preferences regarding health and behaviour, such as dietary and oral hygiene habits. Moreover, healthy norms in the family that have become healthy routines in daily life contribute to healthy choices later in life.

> I think it has to do with my childhood. We never had the habit of buying Saturday sweets in my family, or soda pop and things like that. We never had that at home when I grew up so that's probably why… I didn't grown up with that [sweets, soft drinks], so I didn't start buying it when I got older and had my own money. (female, id5)

People are often prepared to make efforts and conscious choices for specific behaviour if this affects their appearance and creates a general feeling of well-being. Such efforts are then seen as worth spending time on. Moreover, experiences of other people's poor oral health can be a driving force for specific behaviour to prevent oral disease.

Security-building resources and support

A feeling of security and support from significant others seemed to be important, basic health-oriented resources. The feeling of being a part of something, of having a social network and not feeling lonely, facilitates healthy choices.

> … I had too many sweets too often in the fall, but then… it has helped a lot to have a boyfriend… we feel very safe with each other, we have been best friends for ages, so now he has made me feel secure about who I am too. (female, id4)

A more internal security resource was identified as a feeling of self-esteem and independence. Support from parents/significant others was an important basic resource; however, at the same time, it was important to have the freedom to grow and care for oneself. A balance in life between support, security and the freedom to grow, interpreted as daring to be independent in making decisions, will increase self-esteem and teach individuals to take responsibility.

> …being independent, to learn… but they [the parents] are there to support you when you need it… you get all

the help you need at home and from your parents, but you're sort of independent anyway, in a good way. (female, id1)

To have daily routines, control and structure in life was important for the feeling of security. Good structures help to develop beneficial and healthy routines, for instance, with regard to exercise, study habits, diet and oral hygiene. If a certain behaviour has become a routine, it is easier to maintain. Deviations from routines in daily life could easily lead to less healthy choices or simply to forgetting for example oral hygiene routines.

Routines are important for maintaining daily behaviour, but the individual's own willingness, based on a feeling of meaningfulness and usefulness of the behavioural outcome, is also important. Moreover, through a feeling of control of certain behaviour, such as tooth brushing or dietary habits, and knowledge about the advantages resulting from such behaviour, worries about unwanted surprises can be avoided. Control leads to a feeling of security.

...it's just that I think it's good to know what I have to do, that's probably it... I feel more secure when I know, so I don't get surprises all the time. (female, id6)

Maturity and insight

Maturation and insight were described as the entrance into adulthood, with self-completed structures and strategies in life. The informants talked about a breakpoint in life, related to their insight of leaving childhood and parental influence and moving on to make their own mature decisions and choices.

... but now I'm more independent and take responsibility for myself. I try to work as much as I can and exercise as much as I can and try not to say: "Could I have this and that," and so on. You could do that when you were younger, then your parents gave you everything, but now... I can't get everything from my parents now that I'm 19, soon 20. You sort of have to take responsibility for your own life. (male, id8)

Routines are developed through childhood and become habits, but as a person gets older, conscious, volitional choices become more frequent. Moreover, from doing things at the request or urging of parents such as 'brush your teeth', the young adult makes his/her own choices because they are perceived as being important. The individual has to take responsibility for his/her own actions, whether it's a matter of suffering from something, needing information or something else.

I still have the routines. In the evening when I'm going to bed, I don't think 'now I want to brush my teeth', but 'now I'm going to brush my teeth', because it's something you just do. But it's still something I choose to do; I mean, I could choose not to do it because I'm a grown-up now and I can do as I please. But I choose to do it because I know it's good and I've learnt that it's what you do. So it's both a habit and a choice. (female, id4)

Mature actions were also the ability to handle 'unhealthy' or stressful life situations. The informants had the ability to find resources that could help them solve their problems, such an experience of an impaired balance and structure in life, but managed to regain balance and control, for example, thanks to new religious belief, going from unemployment to work or from disease to recovery. Insight and maturation were also the ability to seek knowledge and information about important choices in life, including choices of relevance to health.

Health awareness

The informants were aware of the importance of health and had knowledge of factors related to health, such as diet, tobacco, physical activity and oral care. Knowledge was expressed as being important for healthy choices. However, knowledge in itself does not necessary led to healthy choices, but personal incentives and motivation are required to use the knowledge for certain health-promoting behaviour.

Both eating habits and physical activity were related to the willingness to have a healthy lifestyle in general. Health awareness was related to 'what and how much' – not snacking between meals, eating enough so you do not get hungry between meals and a feeling of balance with respect to what is good to eat, both in terms of quantity and frequency.

... I'm not saying that I don't eat them [sweets] - I really do - but I look after my teeth anyway so I don't just forget about it... I sort of think that one is enough, then that's it... so I have a limit [for example, how many sweets to take] - I don't know where it comes from... I suppose I can just decide that enough is enough. (male, id3)

Oral health was seen as a part of general health, even if the informants did not mention it spontaneously. Healthy eating and body function were primarily associated with behaviour related to health in general. Awareness of the importance of having healthy teeth was, however, present as an integral part of general well-being.

... it's not really what comes to mind in the first place [healthy eating for healthy teeth], you think more about eating healthy stuff... and you think about body functions, so that your body works properly... you don't really think about the teeth primarily, but you do consider them because you use them so much when you eat and that. (female id5)

Environmental influences

This theme was related to the external environmental resources that impact on health-related choices and behaviour. Hence, availability of supermarkets and training facilities,

including generous opening hours, may contribute to more beneficial health-oriented behaviour. Moreover, access to good kitchen facilities and proximity to grocery stores or fast food outlets may affect the decision of choosing a healthy or unhealthy diet. '... if it's easy to cook healthy food where you live you may choose to do that' (female, id4). However, the impact of such environmental resources for health-related choices and behaviour may vary depending on many other factors, such as upbringing, normative values and a willingness to observe a healthy lifestyle.

> ...It's usually my mum who buys mouth health stuff... and about the dentist and that... I have no problems getting there and it's fairly central. And now that there are so many new chemist's shops so there are no problems getting things for mouth hygiene. (male, id10)

Messages from the media, schools and in training contexts were also included as possible contributing factors affecting health behaviour. However, the effect of health messages was dependent on how the message was delivered. Hence, health messages were more likely to be integrated into health-promoting behaviour if they generated positive energy and inspiration for a healthy life.

The psychosocial environment and whether you live in an urban or rural area can generate more or less stress and affect health behaviour in different ways. Living in a stressful life context forces the individual to make many choices and quick decisions. Such decisions may not be the most thought-through acts, which, in turn, may contribute to less beneficial behaviour.

> ...if you live in a town or far out in the countryside... when it comes to food or how you go about things... bigger cities may be more stressful and there is more pressure to do things in time, in 1 day, or in a week or during the weekend and so on... but in the countryside, maybe it's a bit more relaxed... and I suppose that affects your choices quite a lot. Because all the choices may not be all that thought-out when you're under pressure and when you're stressed... so, the way things are in life [what your life situation is like] probably makes a difference. (female, id6)

Discussion

The results generated a conceptual model, with the core category 'Resources of wealth and balance in life – a foundation for healthy choices', and its related dimensions describing different health-oriented resources in life that influence oral health-related attitudes and behaviour. The results elucidate that healthy choices for young adults are based on the amount and the content of the internal and external resources in the individual's life context and, more importantly, the individual's ability to use such recourses in a healthy direction, beneficial for general and oral health. The present results complement with new perspectives and understanding to the salutogenic concept of a sense of coherence (SOC) (6) and could be discussed in relation to the results of previous studies using the SOC questionnaire in association with oral health in young adults/adolescents (9, 21, 22) and adults (8, 10–12, 23). Associations between a high SOC and general health behaviour, better social competence, dealing with everyday matters and greater independence have recently been found in adolescents (22). Moreover, personal and environmental factors, interpreted as resources in daily life during childhood and found in this study, seem to be important for healthy choices within this age group, which has also been suggested by earlier studies (21, 24). In the present qualitative study, the SOC questionnaire was used for background description of the study group, with SOC scores in line with previously reported for comparable age groups and somewhat lower than reported for older age groups of adult populations (14, 25–27). According to Antonovsky's, an individuals' SOC is built up during childhood and adulthood to 30 years old (6) and may thus not yet have been fully developed in the present age group of participants.

The five themes in the current study model elucidate different dimensions of resources; however, they were also influenced by each other. Moreover, even if each resource was important, they possessed different strength and importance depending on the nature of the choice and behaviour, which is also in line with the SOC concept (6). For example, the informants own driving force and motivation to make investments towards health, such as tooth brushing to prevent caries, seem to be more important for health-oriented choices than environmental influences from media. Moreover, security and support from significant others seemed to be more important compared to health awareness, with regard to influences on health-related choices, such as not eating sweets too often, and other healthy routines.

The five themes in the current study can also be applied to the SOC components: meaningfulness, manageability and comprehensibility. 'Driving force and Motivation' seemed to be the most important resource for all the informants and included different issues concerning personal aspects, such as own willingness and needs, but also the ability to identify benefits from making behavioural efforts, which is in line with the SOC component of meaningfulness (6). 'Security-building resources', that is, to have a feeling of security from social support when growing up and having daily strategies for control, was central to all the informants and important basic resources to feel prepared for adulthood, that is, 'Maturity and Insight'. This could be an example of healthy resources related to the SOC component of comprehensibility, explained as a cognitive ability, including a feeling of having control that develops in interaction with the environment (6). In a recent longitudinal study on young adults, social support and optimism have been shown to have a positive relationship with oral health and oral health-related quality of life (28). Moreover, the mother's SOC has been shown to be related to her adolescent's oral health (29, 30). In the current study, religious belief was expressed as a resource for dealing with an unhealthy situation. This is in

line with previous studies (24, 31) showing a positive relationship between religiousness and oral health, resulting in more favourable oral health behaviour and better oral health conditions (less periodontal disease and less dental caries).

In the current study, most informants felt that they had the tools they needed to manage life in a healthy way, such as knowledge about health issues and access for instance to supermarkets/grocery stores, etc., which can be related to the SOC component of manageability. This is partly in line with earlier studies that have shown a relationship between strong SOC, knowledge about oral health and access to regular dental check-ups (9, 10, 12) and healthy lifestyle factors (27, 32). However, healthy choices are dependent on the individual's whole life context, which is also controlled by society and politics that the individual does not always have the possibility to influence (33).

A salutogenic approach to oral health promotion has been suggested (34). The results of the current study elucidate the importance of considering health-oriented resources within the individual's whole life context when working with oral health promotion for young people. This is in line with recent results, based on health economic theory and analysis with data originating from an epidemiological survey among 19-year-olds, by Ericsson *et al.* (35) suggesting a relationship between personal and environmental factors, that is, gender, general self-efficacy, upper secondary programme, living area and investments behaviour towards general as well as oral health. Communication about healthy resources to young age groups may also increase the recipient's possibilities of maintaining oral health into old age. In current study, most of the informants raised and used different resources within their context in a healthy way; however, they were not always aware of the benefits for oral health, which has been highlighted as an important factor in promoting oral health (5). Moreover, to enable individuals to make healthy choices early in life, oral health professionals need to cooperate with other professions within the community and the health service, but cooperation at the family level is also required.

There are some aspects and limitation to consider when interpreting the results of the current study. The results originate from data of in-depth interviews with a limited sample of ten young adults. Even so, the interviews from the included informants were rich, and saturation was deemed to be reached within the study group. Saturation is, however, a critical concept (16). Moreover, the present study sample was based on young adults living in the county part of Jönköping and might thus not be representative for Swedish young adults in general. Another methodological aspect to consider with regard to GT is the use of a theoretical framework in data sampling and analysis. This might be seen as a limitation regarding the principles of GT (16). However, data sampling and analysis followed the systematic procedures and steps of GT and that contributed to stringency and methodological quality of the present study. Moreover, it has been suggested that a framework can be used in relation to qualitative methods, when the purpose of the study is to get a deeper understanding about a theory and to develop a concept (15), which also has been suggested with regard to the concept of SOC (6). The vignettes were useful to help the informants to talk in an area, which may be difficult to understand and the interview guide supported the researcher to have a salutogenic focus.

Conclusions

The results elucidate a model, including different dimensions of salutogenic resources, which influences oral health-related attitudes and behaviour in young adults. Such beneficial resources should be recognized by dental staff to promote oral health.

Conflict of interest

The authors report no conflict of interest.

Clinical relevance

Scientific rational for the study

This study contributes with new perspectives and deeper understanding about personal and environmental health-orientated resources and processes that influence oral health in young adults.

Principal findings

The results elucidate various internal and external recourses of importance for wealth and balance in life, fundamental for health-oriented choices and with positive influence on attitudes and behaviours towards oral health.

Practical implications

The findings contribute with a deeper understanding about personal and environmental health-oriented resources interacting with oral health-related attitudes and behaviours among adolescents and could thus be useful in clinical practice to promote oral health.

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