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ORIGINAL ARTICLE

Self-perceived oral health-related salutogenic factors in orally healthy older Swedes. A qualitative interview study

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ABSTRACT

Objective: This study aimed to explore oral health-related salutogenic factors in orally healthy older Swedish people, applying the three components of Antonovsky's Sense of Coherence (SOC) concept: comprehensibility, manageability and meaningfulness.

Material and method: Interviews were conducted with 12 orally healthy patients, aged 75 years and older, enrolled at public dental clinics. The interviews were subjected to qualitative content analysis, applying the SOC concept as the theoretical framework.

Results: Three themes were formulated under the predefined SOC components, describing the central meaning of the informants' perception of factors favourable to their good oral health. The theme 'comprehension of cause and effect' consisted of three categories, for example importance of oral hygiene, and reflected the component comprehensibility. The theme 'living in confidence and trust in supporting society' consisted of five categories, for example self-esteem, and reflected the component manageability. The theme 'good oral health as a basis for satisfaction and social confidence' consisted of two categories, for example social norms, and reflected the component meaningfulness.

Conclusion: This study discloses how orally healthy elderly Swedish people perceive the lifelong impact of salutogenic factors in response to lifelong stressors on their oral health and highlights the important roles of their internal resources, dental professionals, family and society in supporting and reinforcing lifelong oral health.

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Introduction

Salutogenesis is a perspective which focuses on health instead of disease [1]. The term was introduced by Aron Antonovsky in his salutogenic theory, emphasising resources which support health and well-being (here referred to as salutogenic factors) and the ability of people to recognise and use these resources, the sense of coherence (SOC). The SOC comprises three components and refers to the way in which people (i) make sense of the world, (ii) use the available resources to respond to stressful situations and (iii) feel that some things in life are really worth caring about. These three components are categorised as (i) comprehensibility, (ii) manageability, and (iii) meaningfulness [1,2].

There is a growing body of literature applying a salutogenic perspective to different research areas, such as health, education and psychology [3–5]. Much of this research uses the SOC concept, which has a broad theoretical base and extensive empirical evidence supporting its application in linking SOC to diverse health outcomes [6–8]. However, in the health field, there is relatively little research on resources which support health i.e. salutogenic factors [9]. For example, Griffiths et al. [10] in a thematic analysis of the works of Antonovsky and others, identified fifteen themes of salutogenic factors, such as 'structure in life', 'predictability in life', 'social support', and 'coping strategies'. Moreover, using a phenomenological approach, Malterud and Hollnagel [11] studied patients with medical conditions, in order to understand how these patients still regard their health as good. The results disclosed the patients' detailed grasp of their symptoms and a variety of personal and social resources, such as their personalities or attitude, their physical ability, and having the support of a wonderful family.

The focus in oral health research, has been mainly on measuring the SOC and its association with a variety of oral health-related outcomes. However, little attention has been paid to oral health-related salutogenic factors, and there are relatively few publications adopting an explicit salutogenic focus in their study design [12–14]. Therefore, the fundamental idea of the present study was to contribute to our understanding of salutogenic factors which support the maintenance of oral health in the population. We assumed that salutogenic factors can effectively be studied in a group of orally healthy older people, reflecting the lifelong impact of salutogenic factors in response to lifelong stressors on their oral health. Previously, a review on oral health-related

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salutogenic factors among older people confirmed that most studies focussed primarily on pathogenically oriented outcomes [13]. Therefore, our further assumption was that using an explicit salutogenic focus would provide an understanding of resources for maintaining good oral health. In this study we use a qualitative approach. Apparently, there are very few qualitative studies with an explicit salutogenic focus [15,16]. For example, a study by Lindmark and Abrahamsson [15], exploring health-oriented resources among 19 year-olds, demonstrated a variety of personal and environmental health-oriented resources combined in five core categories, such as 'security-building resources and support', 'driving force and motivation', 'maturity and insight', 'health awareness' and 'environmental influences'. In another study, Östergård et al. [16] explored older patients' perspectives of what it means to move in the direction of health. The result described how patients' successive increased efforts, in cooperation with other people, leads to better oral health. A number of salutogenic factors emerged, such as 'improved self-care includes understanding and automatic routine', 'having good thoughts and being satisfied with one's own capacity', and 'experiencing trust and participation along with an expert'. To our knowledge, there is no research to date on orally healthy elderly people, exploring the lifelong impact of salutogenic factors in response to lifelong stressors on their oral health.

The aim of this study was to explore oral health-related salutogenic factors in orally healthy older Swedish people, applying the three components of Antonovsky's Sense of Coherence concept: comprehensibility, manageability and meaningfulness.

Material and method

This was a qualitative study, using semi-structured interviews for data collection and a qualitative content analysis method for data analysis.

Participants

The participants comprised elderly orally healthy patients who attended dental clinics in Kalmar County, Sweden. The target population was drawn from the Public Dental Service (Folktandvården) Registry in Kalmar County Region. The selection criteria were: patients 75 years or older; had undergone a baseline examination in 2017 or 2018 including DMFS, number of remaining teeth, number of intact teeth, periodontal status; no teeth with probing pocket depths (PPD) more than 4 mm; no extensive prosthetics or implants.

Further selection was made of the most elderly patients, ranked according to being healthiest from a dental health perspective, with the highest number of remaining teeth, the highest number of intact teeth, the lowest DMFS and the least marginal bone loss. Patients were identified, contacted, recruited and interviewed consecutively from top of the ranking list until saturation had been reached [17]. Their dental records were verified against the selection criteria to ensure data collection (Table 1). Patients with incomplete records, or a disease which could hinder communication, e.g. dementia, were excluded. Identified patients were contacted by post, asking for expressions of interest in participating in the study. Fourteen were recruited and interviewed. Two interview records were excluded from the analysis, one due to a technical fault and the other because the informant expressed herself incomprehensibly. No further interviews were conducted because of new collected data tended to be redundant of data already collected [17]. Thus, the final analysis was based on twelve interviews.

The analysis was based on interviews conducted on four women and eight men. The informants' age range was 76–83 (median = 80). The number of remaining teeth ranged from 27 to 32 (median = 30) and the number of intact teeth from 18 to 26 (median = 20.5). Those with few missing teeth had lost them due to trauma. Descriptive statistics for age and oral health indicators are presented in Table 2. All the informants were born in Sweden and most of them had tertiary education. Data on general health was not collected because it was not considered relevant for the aim of this study.

Data collection

The interviews were conducted by the first author and addressed various aspects of maintaining lifelong good oral health. The questions were based on the SOC concept and were related to all three of its components (Table 3) [1,2]. The informants' answers were followed up with clarifying and exploratory questions, such as, 'Could you tell more?' or 'How did it feel?' The informants were also encouraged to

Table 2. Descriptive statistics for age and oral health indicators ($n = 12$).

Variable	Median	Min	Max
Age	80.0	76.0	83.0
Number of remaining teeth	30.0	27.0	32.0
Number of intact teeth	20.5	18.0	26.0
DMFT-index	11.5	6.0	14.0

Table 1. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
• 75 years or older; • Orally healthy, i.e. the highest number of intact teeth and best periodontal conditions; • Had undergone full clinical examination 2017 or 2018, including complete dental records; • No disease which could hinder communication, i.e. dementia; • Wanting to and able to communicate their self-experienced dental health.	• Incomplete or missing dental records for clinical examination 2017 or 2018 • Unable to communicate self-experienced dental health

talk about and reflect on situations relevant to oral health during their lifetime, particularly their childhood.

The interviews were conducted over a period of 4 months from March to June 2020 and ranged from 28 to 91 min (median 48). All interviews were audio-recorded and transcribed verbatim by the first author, including non-verbal expressions such as pauses, laughter and sighs. Because of the outbreak of the COVID-19 pandemic, only one interview could be conducted in person: the remainder were conducted *via* telephone.

Data analysis

The transcribed data were analysed by qualitative content analysis in accordance with a deductive approach, which means that the analysis was based on an earlier model or theory [18,19]. We used the SOC components, i.e. comprehensibility, manageability and meaningfulness, as predefined categories for interpretation of accounts from the informants.

The analysis was based on the guidelines provided by Graneheim and Lundman [18] and comprised several steps. Firstly, the transcribed text was read several times to gain an overview and to identify the three areas of content that reflected the SOC components, *comprehensibility*, *manageability* and *meaningfulness*. Secondly, the text within each area of content was divided into meaning units. A meaning unit comprises several words, sentences or paragraphs related to each other through their content and context [18]. Each meaning unit was condensed in such a way that it did not lose its content, and labelled with a code. The codes were compared for differences and similarities, and sorted into categories. Thereafter, the underlying meaning, the latent content, of the categories was read, critically analysed and formulated into the themes. A theme is a thread of meaning running through a category at an interpretative level [18]. Three themes, one for each predefined category, i.e. each component of the SOC concept, were formulated: 'comprehension of cause and effect' (comprehensibility), 'living in confidence and trust in a supporting society' (manageability), and 'good oral health as a basis for satisfaction and social confidence' (meaningfulness). Throughout the analysis process, the codes, categories and themes were initially identified by the first author and thereafter discussed by all authors until consensus was achieved.

Table 3. Interview guide.

SOC component	Interview questions
Comprehensibility	Can you describe what it's like for you still to have your own teeth today?
	Can you describe what you think your future oral health will be?
Manageability	What do you think is the reason you still have your own teeth today?
Meaningfulness	Is keeping your own teeth worth the effort? Explain!
	Can you describe/imagine what your life would be like if you didn't still have your own teeth?

Ethical considerations

The study was approved by the Regional Ethics Board at Uppsala University, Dnr 2019-04486. The participants received written and verbal information about the aim of the study. The information contained the rationale and aim of the study, as well as design and procedure. Participants were also informed that they had the right to withdraw without having to specify the reason, and that confidentiality and anonymity in presentation were guaranteed. All participants signed the informed consent form.

Findings

The presentation of the findings is organised according to the SOC concept, which guided the analysis. Three themes, adherent to the SOC components, are represented by categories which emerged from this analysis. An overview of the SOC components, categories and themes is presented in Table 4. Findings related to each of the three SOC components are addressed and representative quotations from the interviews are inserted throughout the findings section. Quotations are identified by a letter assigned to each informant.

Comprehensibility

'Comprehension of cause and effect'

This theme contains the essence of three categories referring to comprehensibility: *importance of oral hygiene*, *importance of eating habits* and *genetic inheritance*. The informants demonstrated comprehensibility for cause-effect relationships and for genetic impact on oral health.

Importance of oral hygiene

The informants often mentioned the importance of oral hygiene as a factor for maintaining good dental status. Several informants stated that if they kept brushing their

Table 4. Overview of SOC components, categories and themes.

SOC component	Category	Theme
Comprehensibility	Importance of oral hygiene	Comprehension of cause and effect
	Importance of eating habits	
	Genetic inheritance	
Manageability	Self-esteem	Living in confidence and trust in supporting society
	Trust in dental professionals	
	Access to dental care	
	Social support	
	Good living standards during childhood	
Meaningfulness	Social norms	Good oral health as a basis for satisfaction and social confidence
	Commitment to retaining teeth and masticatory function	

teeth and following the oral hygiene advice of dental professionals, then they expected to retain their teeth in future. A woman in her eighties with impaired vision said: 'If I keep going and nothing happens, unless something happens, like … if I break … if I have a fall and break them (my teeth) … then I don't believe that anything much will happen … if you keep going and brush like this' [C]. Several informants referred to a general logical comprehensibility of cause-effect relations for dental diseases, such as this man: 'Most things that happen … they are consequences of something that … which is added to … like what you are doing here … if you neglect your teeth … there will be consequences later on … maybe not in the first year … or after five years but … but after nine years … I try … I think I'm trying to see a pattern in it all' [G]. Another man believed that his oral hygiene routine is the basis for retaining his teeth; tooth fractures and chipping can occur, but for reasons other than disease progression. A woman recalled brushing her teeth when she was a little child. She assumed that it had a positive impact on her teeth later in life.

Importance of eating habits

The informants demonstrated knowledge about the impact of eating habits on dental health. Many talked about diets favourable for healthy teeth and about the importance of limited intake of sweets. One man stated that if he maintained his (good) eating habits he would keep his teeth intact. Another man, said: 'I must have got it into my head early on that … that sweets were not so good for your teeth … I know that's how I thought when I was little' [G].

Genetic inheritance

The impact of genes was also often mentioned by the informants. Many of them were convinced that inheritance was a determinant of good oral health. Informants stated that either one or both parents, as well as their siblings, had maintained their teeth throughout their lifetimes. A woman in her eighties with all her teeth present said: 'It is probably something you inherit from your parents, the kind of teeth they have, as I understand it … mother had good … so I wonder if it is inherited, the (healthy) teeth … something one takes in as their child' [D].

Manageability

'Living in confidence and trust in supporting society'

This theme contains the essence of five categories that concern manageability: *self-esteem*, *trust in dental professionals*, *access to dental care*, *social support* and *good living standards during childhood*. The informants talked about internal and external resources, which were available to them throughout life and which they perceived contributed to their good oral health.

Self-esteem

The informants expressed confidence in their problem-solving abilities and positive outlook on life. Some spoke about seeking flexible solutions related to oral hygiene, such as different cleaning devices or strategies they have learned, while other about seising opportunities, such as this man: 'Just take advantage of opportunities … see no difficulties, only see opportunities … yes, I believe so … then you will keep your teeth as well' [E].

Trust in dental professionals

The informants described relying on the dentist's professional judgement, such as a man who spoke about extraction of third molars for preventive purposes, on his dentist's recommendation. Another man expressed reliance on receiving necessary information when needed. He said: 'Because I go regularly (to the dentist), I'm told what to do … but … so far in the years I have been attending, they haven't told me that things have been getting worse' [I].

Access to dental care

The informants perceived that access to dental health services was another contributory factor to good oral health. One man talked about the regular dental care provided during his employment. Another man talked about it in terms of dental health awareness: 'Anything can happen of course … and I have never had any trauma to my teeth that needed treatment … yes … once I fell and chipped a bit off a front tooth, so I went to the dentist immediately to see if there was any damage that might cause problems in the future, but there wasn't' [I].

Social support

Several informants referred to social support, both within the family and at school. The informants spoke about established routines for tooth-brushing in their family homes, which was under the strict control of the parents, particularly the mothers. A woman said: 'Brushing your teeth at night was very important, I remember … (we) were not allowed to go to bed if we had not done it … so … so it was very important … so it is clear too, right from the start that one has kept this up all the time' [D]. A man in his eighties said: 'When we went to primary and intermediate school and so … there was talk about this … "You do brush your teeth, don't you" … the teachers went on about it … I remember that … one knows of course that … it was already an established routine … since childhood' [J].

Good living standards during childhood

There were different stories about growing up during the 1930s and 40's when not all Swedish families had modern living conditions. Some informants mentioned the positive impact of good living standards during childhood as a factor for their good oral health. A man in his eighties said: 'Before I turned eleven years old I had not brushed my teeth even once … then when the home I grew up in was renovated

and became semi-modern … with an indoor washbasin and so on … then things changed' [F].

Meaningfulness

'Good oral health as a basis for satisfaction and social confidence'

This theme contains the essence of two categories that concern meaningfulness: *social norms* and *commitment to retaining teeth and masticatory function*. The informants stated that satisfaction and socialisation were important considerations in the context of oral health.

Social norms

There was frequent emphasis on the impact of social norms. Several informants talked about a fresh feeling in their mouth and avoiding bad breath. A woman mentioned the importance of having clean teeth as she was used to working with people. Another woman spoke about being proud of her straight intact teeth. Informants frequently mentioned how incomprehensible it was that some people could allow their dental status to deteriorate so badly. One man, who is still employed at almost eighty, said: 'I would in fact feel ashamed (of my bad teeth) … it would be the same as if I … yes … as if I had neglected myself … as if I would look shabby … and so on … I would think that people would look down on me … or something like that … almost like a tramp (a loser) … who drinks and suchlike' [F]. Some informants talked about a parent, brother or friend as a role model for maintaining good oral health, such as this woman: 'I had this friend … her parents were strict about most things … and I learnt from her because I did not want to be worse' [A].

Commitment to retaining teeth and masticatory function

The informants described their commitment to retaining their teeth: it was of importance for satisfaction and for masticatory function. A man spoke about retaining his teeth regardless of cost. Another man talked in terms of suffering. He mentioned that he would suffer if he lost a tooth. The informants talked about enjoying their meals. In this context, being able to chew was important. A man in his eighties said: 'I love food so it is obvious that you want your teeth to function properly' [J]. Many informants expressed their motivation for good dental self-care in terms of satisfaction. They talked about the need for clean teeth and a fresh feeling in the mouth as a motive for maintaining regular dental self-care. A man said: 'If I realise that I have forgotten … when I'm going to bed … that I have forgotten to brush my teeth, then I have to get up … I would just not be able to fall asleep if I had not brushed my teeth … I notice it immediately … that's just the way it is' [F].

Discussion

This qualitative study explored oral health-related salutogenic factors in a purposive sample of orally healthy older Swedish people. The analysis was based on the SOC concept, using its three components as predefined categories to structure the results. This study indicates how orally healthy elderly people perceive the lifelong impact of salutogenic factors in response to lifelong stressors on their oral health. The following three themes emerged in the analysis under predefined SOC categories: comprehensibility for cause and effect (comprehensibility), living in confidence and trust in a supporting society (manageability), and good oral health being a basis for satisfaction and social competence (meaningfulness).

Comprehensibility

The Swedish dental service has a long tradition of educating patients about the causes and prevention of dental diseases. This was reflected in the informants' responses. The informants demonstrated comprehensibility of the cause and effect relationship between oral health and modifying factors including oral hygiene practices, eating habits and genetic inheritance. The importance of these factors for oral health has been described in numerous studies [20–24]. There is also evidence supporting the fact that proper oral health knowledge contributes to better oral self-care in practice [25] and that a positive attitude to oral health practice encourages better oral health habits [26].

All our informants were born in the 1930–1940s. For a major proportion of the Swedish population at that time, family income was limited. Some of the informants, from low income families, described a diet which is now acknowledged to be dentally healthy, and limited access to sweets during their childhood. On the contrary, other informants described free access to sweets, which they did not abuse. They explained it as a family tradition of a healthy diet, with little interest in sweets. The informants talked about dietary preferences and oral hygiene habits established during childhood, which they continued in their adult lives and continue to maintain. Furthermore, the informants associated these factors with their current good dental status and demonstrated an understanding of the underlying causes of dental diseases, corroborating results from previous studies [25].

Manageability

In this study, the manageability component comprises internal and external resources supporting maintenance of good oral health throughout life. Among other aspects, the informants highlighted self-esteem and trust in dental professionals. In accordance with Antonovsky's statement, 'what is important is that location of power is where it is legitimately supposed to be' [1,p.128], our informants placed the power to determine oral health outcomes both in their own hands and in the hands of dental professionals, depending on the element of legitimacy. They talked about their own responsibility for maintaining daily dental care and about trusting the advice of dental professionals in case of treatment need. The informants believed that dental professionals will act in the informants' best interests. There is also

evidence supporting the facts that patients' trust affects the health outcomes, improves health status and patient satisfaction [27,28].

Access to dental care was another factor that emerged in the context of manageability. The informants described availability and regular use of dental services during their lives. In previous research, regular use of dental services has shown to be effective in reducing the prevalence of oral diseases [29] as well as in prevention and early diagnosis [30]. Moreover, access to dental services is essential for promoting and maintaining good oral health [31,32]. However, some of the participants reported that during childhood they only visited the dentist for emergency care. This finding is in contradiction with previous research that shows importance of regular dental care during childhood for adult oral health [33]. This might indicate that important salutogenic factors are also to be found elsewhere, which is an interesting result of this study and support a salutogenic approach in research.

In our study, having social support included parents' control of oral hygiene practice as well as the influence of teachers at school. The informants described how their mothers ensured daily tooth brushing. This finding is in accordance with existing literature confirming the importance of the parents, particularly the mother, for children's oral health, as well as for establishing oral hygiene habits [34,35]. The role of school teachers in health education, and specifically in reinforcing oral health habits, as has emerged in this study, has been previously discussed in the literature. For example, Kwan et al. [36] argued that oral health messages can successfully be reinforced throughout the school years and that healthy behaviour developed at a young age is more sustainable. In accordance with these arguments, Baltaci et al. [37] recommended schools as suitable centres for oral health education, as they provide a stable environment and stabile conditions for regular and long-term health education.

Furthermore, good living standards during childhood emerged as a factor for good oral health. The informants talked about the availability of reticulated water and sanitation which they perceived contributed to establishment of favourable oral hygiene practice and subsequently led to their good oral health, which was in accordance with previous research [38].

Meaningfulness

In this study, meaningfulness, as described by Antonovsky, can be related to social norms and commitment to retaining teeth and masticatory function. The informants perceived that these two factors were important to them and were worth the time and effort required. As emerged in our findings, social norms embrace individual perceptions of acceptable group conduct learned in childhood. According to Bandura [39], children imitate behaviour that they observe. Our informants talked about significant people (role models) in their lives: growing up they observed the appropriate oral health habits of these people and followed their behaviour. They talked about feeling motivated to follow good health habits, emulating the behaviour of significant persons, not only parents, but also siblings and peers. Our findings support the previous research. For example, a review by Puri et al. [35] showed that older siblings reinforce good habits in younger siblings. Other factors mentioned in the same review were the importance of peers and maternal influence. Bozorgmehr et al. [40] argued that some health behaviours in parents, such as tooth brushing habits, are important for imparting this behaviour to their children.

Another motivating factor was the commitment to retaining teeth and masticatory function. This is socially based. Good dental status has day to day benefits. It influences overall health, social life, relationships and career [41,42]. Moreover, in previous research in a population of people 60 years or older, confidence in maintaining good oral health was significantly correlated with a high number of remaining teeth and low DMFT-index [43].

Findings in relation to the SOC concept

The analysis was based on the SOC concept and used its three components as predefined categories. Coded data were found related to all three pre-defined categories. This confirmed that the SOC concept matches well with records of informants describing self-perceived factors underlying their good oral health. The formulated themes, describing the categories which emerged on the interpretative level, reflected the SOC concept and each of its components in particular. The comprehensibility component concerns understanding life events and reasonably predicting what might happen in the future [1,2]. In accordance with Antonovsky's description, our informants demonstrated understanding of what should be done to maintain good oral health and comprehensibility of cause and effect related to oral health. The emphasis here is cognitive rather than emotional, in other words it can be expressed as 'a solid capacity to judge the reality' rather than as 'things will work out' [1]. The manageability component implies ability to use resources available to respond to stressful situations [1]. Our informants talked about internal and external resources available to them throughout their lifetimes to maintain good oral health. This comprised resources under the informants' own control as well as those controlled by legitimate others, such as the parents, in particular mothers, peers, school teachers, dental professionals, and society. These findings embrace living in confidence and trust in a supportive society, and are in accordance with Antonovsky's description of the manageability component. The meaningfulness component implies the feeling that things in life are really worth caring about [1]. Antonovsky considered meaningfulness as the motivational component of the SOC concept [2], which was reflected in our findings. As perceived by our informants, good oral health is a basis for satisfaction and social competence and it is worth the emotional investment and commitment necessary to maintain this. Previously, Lindmark and Abrahamsson [15], exploring (oral) health-oriented resources in 19 year-olds, could also apply themes identified in their study to the SOC components. For example, the theme 'driving force and motivation' was related to the

meaningfulness component and embraced diverse personal aspects, such as willingness and needs, but also the ability to identify benefits from making behavioural efforts. For example, the themes, 'security-building resources' and 'maturity and insight' were included in the comprehensibility component. The former theme includes a feeling of security from social support when growing up and having daily strategies for control, and the latter includes important basic resources needed to feel prepared for adulthood [15]. Our findings in a population of older people have many points of agreement with Lindmark's study in 19 year-olds, such as social support, self-esteem, diet, oral care and commitment to maintaining oral health. However, our study differs in that the informants are orally healthy elderly people reflecting on the lifelong impact of salutogenic factors in response to lifelong stressors on their oral health.

Methodological considerations

Using the Public Dental Service Register for selecting the participants in this study was a dependable way to identify orally healthy patients. It increased the chance finding the most suitable participants for this study, those who experienced the phenomenon of having good oral health during their lives and who could share their experience about it. This is a crucial aspect to achieve credibility [44]. According to the literature, choosing participants with diverse experiences improves the potential to shed light on the research question from a variety of aspects [18,45]. Our informants were similar in that they, were about the same age and had been born and lived all their lives in Sweden. However, the informants' different genders and varied of social background, such as social class, educational level and working life experience, contributed to a richer variation of the phenomena. On the other hand, the fact that the study was performed in a Swedish context could influence the informants' self-perceived factors for good oral health related to that context. These factors can differ from what older people in different contexts and with other backgrounds can experience.

All interviews and transcriptions were conducted by the first author, which could influence the interview conditions and the analysis. However, the interviews, the coding as well as the categories and the core statements were discussed by all authors until consensus was achieved. We also included quotations from the interviews to help the readers to make their own judgement. Krippendorff [46] argues that a text never implies one single meaning, just the most probable meaning from a particular perspective. Thus, our interpretation should be considered as one possible interpretation of the self-perceived salutogenic factors for oral health. It should be noted that all interviews were conducted and transcribed in a relatively short period of time and all the interviews were based on similar questions. These two factors reduce the risk of inconsistency in data collection [18]. For interpretation of accounts from the informants, we used the SOC components as predefined categories. This also helps addressing challenges to dependability as this approach allowed for systematical differentiation between categories [44].

Initially, all interviews were intended to be conducted face to face. However, due to the outbreak of the COVID-19 pandemic, only one interview could be held as planned. The remainder were conducted *via* telephone. It has been argued that a telephone interview is a less attractive alternative to a face-to face interview as it might result in loss of contextual and non-verbal data due to the absence of visual cues [47]. On the other hand, qualitative telephone data have been judged to be rich, vivid, detailed, and of high quality [48,49] and there is no evidence that telephone interviews produce lower quality data [50]. Rather, telephone interviews are a valuable method of collecting information on sensitive topics [51] and can be considered a first choice option in qualitative research [52].

Conclusion

This study demonstrates how orally healthy elderly people reflect on the lifelong impact of salutogenic factors in response to lifelong stressors on their oral health. Our findings describe various salutogenic factors for oral health, expressed as three themes in the context of the SOC concept. The findings suggest informants' comprehensibility of cause and effect relations of importance for maintaining their good oral health, as well as their perception of living in confidence and trust in a supportive society, and perceiving their own good oral health as a basis for satisfaction and social competence. The findings highlight the roles of their internal resources, dental professionals, family and society in supporting and reinforcing lifelong oral health.

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