

# “Grin(d) and Bear it”: Narratives from Sami Women With and Without Temporomandibular Disorders. A Qualitative Study

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**Aims:** To explore thoughts, experiences, and beliefs regarding temporomandibular disorders (TMD) among Sami women with and without TMD in order to gain insights into their health care experiences and to generate a hypothesis regarding factors associated with long-standing TMD. **Methods:** Qualitative thematic interviews were conducted with a strategic sample of 17 Sami women, of whom 10 had a TMD diagnosis according to the Research Diagnostic Criteria for TMD and 7 age-matched women who had no signs or symptoms of TMD. Their ages were between 23 and 58 years. The thematic interviews were audiotaped, transcribed verbatim, and analyzed based on Grounded Theory, a qualitative methodology aiming to generate hypotheses grounded in the gathered data. **Results:** The core category that evolved was “Grin(d) and bear it,” which summarizes the Sami participants’ various ways and stages of processing and handling the interacting categories (triggers, strains, distrust, and reconciliation with pain and/or difficulties in life). They described divergent as well as similar understandings of triggering factors. Maintaining factors were described as mental-physical strain and stress, and also a jaw-clenching behavior. Women without TMD contributed with factors that helped them to handle strains, reconcile, and stay healthy. They relied on strong social support. **Conclusion:** Based on the analysis, the following hypothesis was generated: Women with TMD, associated headaches, and neck-shoulder pain may benefit from efforts aimed at empowering them to use their own abilities to reduce stress behavior, strain, and disuse of the jaw. Rehabilitation strategies in groups might increase their sense of coherence and increase social support, which seems to be more limited than in women with no symptoms of TMD. *J Oral Facial Pain Headache* 2014;28:243–251. doi:10.11607/ofph.1180

**Key words:** chronic pain, consultation, qualitative research, Sami, temporomandibular, women’s health

The Sami people are the indigenous population, and an ethnic minority, in Sweden, Norway, Finland, and the Kola Peninsula in Russia. Reindeer herding, fishing, hunting, and handicrafts were their traditional ways of living.<sup>1</sup> Based on estimates, approximately 20,000 to 50,000 Sami are living in Sweden,<sup>1,2</sup> of whom about 2,500 are working full-time with reindeer herding.<sup>1</sup> The vast majority of the Sami population is integrated into modern society and assimilated into its lifestyle, thereby also sharing many accompanying diseases.<sup>3</sup> Studies based on national registers have disclosed a lower cancer incidence among Sami compared with the general populations in Sweden, Norway, and Finland, with the exception of stomach cancer.<sup>4</sup> Reindeer herders in Sweden and Norway had a lower incidence of cardiovascular diseases than other Sami, while women from reindeer-herding families and Sami men not involved in reindeer herding had an increased risk of stroke.<sup>5</sup> Pain in the neck and shoulders was prevalent in both men and women in reindeer-herding families. Among men, the symptoms seemed to be related to the use of terrain vehicles, but for women, poor social support, high effort, low reward, and high financial responsibilities seemed to have the greatest impact.<sup>6</sup>

Four decades ago, the first epidemiologic study on pain and dysfunction in the jaw and face region was published.<sup>7</sup> This pioneer study on a Finnish Sami population revealed that these conditions were very common; 88% had clinical signs and 57% reported symptoms related to dysfunction of the masticatory system. No other population studies have thereafter reported prevalence figures as high. In samples of patients with temporomandibular disorders (TMD), 70% to 90% are women,<sup>8</sup> and in population-based samples TMD is approximately twice as prevalent in women than in men.<sup>9–13</sup> Several theories about the female predominance have been advocated and recently summarized in a biopsychosocial model<sup>14,15</sup> which indicates that adaptive processes, coping strategies, and behavior may influence the grade of related disability. The prevalence and related impact of TMD among Sami women living in the Swedish Arctic region have been previously reported.<sup>16–18</sup> Of these Sami women, 44% reported ongoing or previous symptoms of TMD, and 8% reported more severe TMD symptoms in terms of frequency, duration, and intensity. Almost one-third of the Sami women reported frequently occurring pain in the neck or shoulder region,<sup>16</sup> and about 20% reported more severe cervical pains.<sup>18</sup> This is consistent with previous population-based studies.<sup>19,20</sup>

The vast majority of studies concerning pain and dysfunction in the jaw and face region have used a quantitative approach. Few studies have reported on the patient perspective or ethnic impact. Wolf et al reported in 2008 that patients with orofacial pain experienced feelings of hopelessness, resignation, and a lack of faith.<sup>21</sup> The patients also expressed difficulties in communicating with care providers. Johansson et al have proposed that, in order to understand women with pain disorders, it is important to understand their experiences of ill health and health care in a sociocultural context, including aspirations and experiences as workers, mothers, and spouses.<sup>22,23</sup> With regard to symptoms indicative of TMD, pain had the greatest impact on daily activities among Sami women.<sup>18</sup> Based on the results from the longitudinal study, the present study was developed to obtain a more comprehensive understanding of these women's life experiences. The aim of this study was to explore Sami women's thoughts, experiences, and beliefs regarding TMD in order to gain insights into their health care experiences and to generate a hypothesis regarding factors associated with long-standing TMD.

## Materials and Methods

### Participants

Participants for this interview-based study were recruited among Sami women who had previously par-

ticipated in a questionnaire study<sup>16,18</sup> and a 2-year follow-up clinical case-control study.<sup>17</sup> They were all living north of the Arctic Circle in Sweden, in the municipality of Kiruna (population of 23,000) or Gällivare (population of 18,000). In connection with the follow-up study, the participants were asked if they would agree to be contacted for an interview to share their experiences and beliefs regarding TMD, general health, health care utilization, life, and the Sami heritage. Participants were selected to represent women with more severe TMD as well as those without any symptoms and signs indicative of TMD. The strategic selection procedure was based on the two consecutive questionnaire studies and the outcome of the clinical examination.

The inclusion criteria of more severe TMD cases were: reported presence, at both examinations, of long-standing symptoms of TMD (> 1 year), occurring with a frequency of at least once a week and with a stated intensity of 5 or more on an 11-point numerical rating scale, and with clinical signs confirming a diagnosis of TMD according to the Research Diagnostic Criteria for TMD (RDC/TMD<sup>24</sup>). The inclusion criteria of the reference group were no symptoms of TMD, no pain in the neck and shoulder region at baseline or at the 2-year follow-up, and no clinical signs indicative of TMD, ie, no pain on palpation over the temporomandibular joint (TMJ) region, jaw, and neck muscles, no pain and no TMJ sounds during jaw opening and closing, and a normal mandibular mobility. There were no other factors added in the selection of informants.

All of the women who were contacted agreed to participate. Ten women from the TMD group were interviewed. Their ages ranged from 23 to 58 years. These women also reported symptoms of the cervical spine area and cephalic symptoms such as headache and tinnitus. Their characteristics are presented in Table 1. The reference group was seven age-matched women. Their ages ranged from 26 to 54 years.

The social situation among the informants was not homogeneous for education level (comprehensive school to university level), family situation (single to living together with six family members), and working condition (retired, unemployed, student, full-time worker), with no obvious differences between those with TMD and those without. All Sami women strategically selected for the interview considered themselves assimilated into western lifestyle. It is estimated that approximately 10% of the Sami population in Sweden is working actively in reindeer herding.<sup>1</sup> This is consistent with the results from the basic study population from which the informants were selected.<sup>16</sup> No older women were included, since they did not present severe TMD symptoms and did not fulfill the inclusion criteria. The central ethical review board of Umeå University, Sweden, approved the study.

**Table 1 TMD Participants' Ages, Stated Impacts of Symptoms on Activities of Daily Living (ADL), and Diagnosis**

Age (y)	Symptoms in jaw/face (ADL)	Other cephalic symptoms (ADL)	Cervical pains (ADL)	Diagnosis (RDC/TMD)
58	Jaw pain, jaw tiredness, TMJ sounds and locking (5)	Headache (8) Tinnitus (5)	Neck and shoulder (9)	Myalgia Arthralgia Arthrosis DDwR
54	Jaw tiredness, TMJ sounds (3)	Headache (10) Tinnitus (2)	Neck and shoulder (10)	Myalgia
49	Jaw pain, jaw tiredness, TMJ sounds (*)	Headache (3) Tinnitus (5)	Shoulder (5)	DDwR
42	Jaw pain, jaw tiredness, TMJ sounds (7)	Headache (9) Tinnitus (6)	Neck and shoulder (9)	Myalgia
42	Jaw pain, TMJ sounds, jaw impairment (3)	Headache (5)	Neck and shoulder (3)	Myalgia DDwR
37	Jaw pain, jaw tiredness, TMJ sounds, jaw impairment (7)	Headache (6) Tinnitus (8)	Neck and shoulder (7)	Myalgia DDwR
36	Jaw pain, TMJ sounds (1)	Headache (3) Tinnitus (3)	Neck and shoulder (3)	Myalgia
29	Jaw pain, jaw tiredness, TMJ sounds, jaw impairment (5)	Headache (8)	Neck and shoulder (8)	Myalgia DDwR
29	Jaw pain, jaw tiredness, TMJ sounds and locking, jaw impairment (6)	Headache (8) Tinnitus (2)	Neck and shoulder (6)	Myalgia DDwR
23	Jaw pain, jaw tiredness, TMJ sounds, jaw impairment (4)	Headache (0) Tinnitus (2)	Neck and shoulder (6)	DDwR

\*Missing data.

The ADL numerical rating scale had the end points 0 = no impact at all and 10 = maximum impact on daily life activities.

TMJ = temporomandibular joint; RDC/TMD = Research Diagnostic Criteria for Temporomandibular Disorders; DDwR = disc displacement with reduction.

## Data Collection

The participants were phoned and an agreement on time and place for the interview was made. All participants gave their informed consent and were assured confidentiality. The participants could choose to have the interview either in their own home or at one of the local public dental clinics. All interviews were conducted by one of the authors (CSM). A pre-tested thematic interview guide was used, covering life history, the Sami heritage, and health and illness experiences and beliefs. The interviews took 45 to 75 minutes and were tape-recorded. They were fully transcribed verbatim and then cross-checked with the tapes for accuracy.

## Data Analysis

The analysis utilized a Grounded Theory approach,<sup>25</sup> the primary goal of which is not to test, but to generate new hypotheses. It is a method that includes all research steps, from data collection to analysis and theory construction.

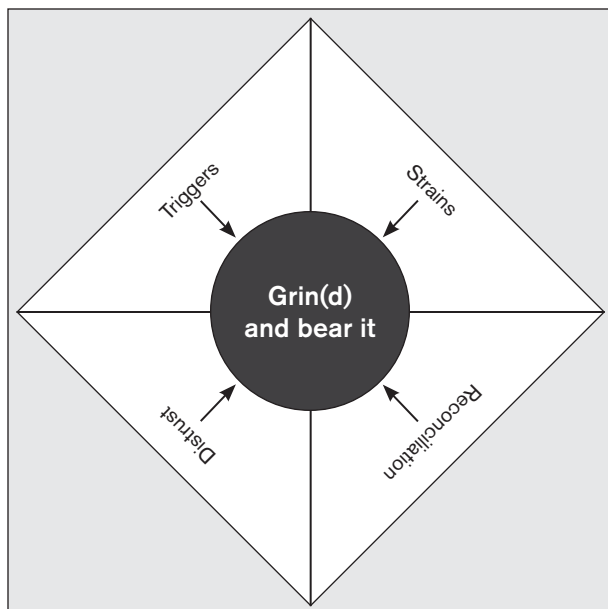
Constant comparisons are core activities in Grounded Theory analysis. This implies that analysis and data collection go on simultaneously. Newly developed codes, categories, and hypothetical ideas are compared and revised in comparison with former ones continuously during data collection. New interviews are guided by ongoing analysis. When the findings are saturated, ie, categories are solid and

recognizable in all interviews, no more interviews are conducted.

A computerized tool, Open-Code (version 3.3, University of Umeå, Sweden), was used in the analysis for coding and categorizing the data. Table 2 shows the process. To enhance credibility, the three researchers performed the first coding procedure manually and separately, going through the texts and writing down codes and tentative categories in the transcripts. Thereafter, numerous researcher meetings followed that involved comparisons of codes and evolving categories, putting new questions to data, and formulating a core category and theoretical outlines. Discussions continued until consensus of the categorizations was reached. Categorization is central in Grounded Theory and is the process of finding fitting concepts for organization of reality. The core category is the overarching concept that relates to the identified categories. The three investigators have different backgrounds, pre-understandings, experiences, and perspectives, which were considered an advantage, as they contributed to triangulation in the data analysis. One of the investigators is a native Sami woman herself, thus having an "insider perspective" used as knowledge. The other two investigators provided the perspectives of a male dentist specialized in TMD (AW) and a female general practitioner (EEJ) with specific interest in chronic pain.

**Table 2 The Analysis Process: Examples of Quotations, Codes, Subcategories, and Categories Leading to the Core Category**

Quotation	Codes	Subcategories	Category	Core category
"I was chewing a caramel and then something happened here on the left side, like it jumped out. I don't know what happened. And then it swelled up and that's what I've had ever since then. I think it began with this injury with the caramel . . . that there was an uneven stress and that it affects the entire body."	Chewing Something happened Don't know what Ever since Impairment Strain Musculoskeletal problems	Biting behavior Inflicted injury Bodily strain	Triggers	<b>Grin(d) and bear it</b>
"No, when I get stressed I bite. I bite and become so focused on what I'm doing so that I'm not aware of what is happening around me. I'm extremely focused on getting done whatever is lying around waiting for me. I bite down and become quiet, until, until I have finished doing most of the job."	Stress Bite together Focused Awareness Active	Stress Bite together	Strain	
"He [the dentist] examined every which way. He turned and twisted and checked everything and he didn't find anything wrong. He couldn't figure what I had. He was downright rude, I think."	Examined from all angles Nothing wrong Unfriendly Blame on me	Ignorance Mutual mistrust	Distrust	
"Sure there are days when you don't feel so great, and then I usually think that it's just my imagination and then you get a second wind. In some way I've accepted that you aren't always at your best."	Bad days Not feeling fit It's imagination Come through Accepted Not always on top	Visions of health Acceptance	Reconciliation	



**Fig 1** Grounded Theory model: Illustration of the interaction between triggering factors, maintaining factors, and curative circumstances.

**Results**

The core category, "Grin(d) and bear it," summarizes all the Sami participants' various ways and stages of

processing and handling the interacting categories: (1) triggers, (2) strains, (3) distrust, and (4) reconciliation with pain and/or difficulties in life. Women with TMD expressed both similar and divergent understandings and experiences of related impairments. The women without TMD contributed foremost with their thoughts regarding factors that helped them to handle strains, reconcile, and stay healthy. For women with TMD, the core category described their awareness of regular jaw-clenching behavior; for women without TMD, the expression was considered rather as a metaphor for a strategy to go on. Figure 1 illustrates the interaction between triggering factors, maintaining factors, and curative circumstances in these Sami women's lives. The following presents the analysis and quotes that are the basis for the four categories.

**Triggers**

This category includes the women's narratives, involving reflections of why and how pain symptoms in the jaws evolve. A symptom's onset was sometimes related to a sudden local injury in the orofacial area, neck, or elsewhere. One woman related her jaw problem to an ankle fracture a long time ago, which she believed had changed her body posture and thereby caused TMD. Mostly, however, the jaw dysfunction had evolved insidiously. Comorbidities were described between TMD symptoms and symptoms from the

neck and shoulder region. Sinusitis, muscle diseases such as congenital myotonia, and rheumatic diseases such as rheumatoid arthritis, asthma, glaucoma, and hypertension were also reported. One woman related her problems to a viral infection in the 8th cranial nerve. Another woman thought heredity might be a cause, as her mother had arthritis and her father had rheumatic disease: *“So you wonder, is it something hereditary, is it something in our genes that caused it, or just what is it? Because the fact is that of the five of us siblings, none of us is really healthy. Everyone has pain in some joint or muscle.”*

Some women with TMD linked dental treatments, such as a tooth extraction or a dental prosthesis, to their pain. One woman had to clench the jaws together to keep her dentures in place. Bruxism, both tooth clenching and tooth grinding, were common explanations presented by most of the women with TMD.

Women without TMD symptoms suggested plausible reasons for why they were spared from these problems. They mentioned that they did not have many medical issues, and had no muscle tenderness or hereditary muscle disease. The impact of economic or other personal problems on health was also considered. For example, one stated: *“Maybe it’s because I’m not stressed. I don’t lie around, gnashing my teeth . . . I think you develop pain if you have this kind of stress, money worries and one thing after the other. In the end it just gets to be too much, I don’t have anything like that.”*

Women without symptoms, more often than those with symptoms, described awareness of ergonomic relationships to musculoskeletal disorders, eg, *“. . . and at work I think about lifting properly so then it doesn’t happen, either.”*

These women also expressed that their perceived health could be related to physical activities during childhood that protected them from pain and dysfunction disorders. As an example: *“And it may also be because when we were little, we also had to work a lot. Carry in wood and carry water and work hard outdoors . . . That you’ve really built up your muscles. That could be it. And we were outdoors a lot and went skiing and sledding. We were active. Really active. We were rarely indoors. I don’t know if it has to do with that.”*

### Strains

The narratives among women with TMD revealed a relationship between stressful situations and tensions or pain in the body, foremost from the jaw and face, the head, and the neck region, but also in other locations. This category involves behaviors of biting/clenching/holding teeth together, mental strain, bodily strain, and stress. The women were aware of biting, clenching, or holding their teeth together in specific

life situations. Some reported these activities as a part of their normal everyday behavior, a short-term clash and more as an expression of “something to put one’s teeth into.” Others described clenching their teeth together as an ongoing habit: *“Yes, I’m always sitting around with my teeth clenched. You see, I grind my teeth a lot, you know. I feel like I wake up with it. I can wake up with the worst headache in the world and my jaw is stiff. And it’s because I’ve clenched my teeth, quite simply.”*

The participants had many common experiences of difficulties in early life and recalled various stressful situations. Some had been separated from their parents, as they were sent to nomadic schools—special schools for Sami children from the age of seven. The participants, those with and without TMD symptoms, shared experiences of early separations and traumatic events such as teasing and harassment by other school children. One stated, for example: *“When you got to school, you didn’t know anyone. There was one person who became my guardian angel. When she graduated, you could say that all hell broke loose. I was bullied then and it wasn’t much fun.”*

Some expressed feelings of having been treated as outsiders by the majority group and having experienced marginalization of the Sami society under Swedish laws. Many had been forbidden to speak their mother tongue and had therefore lost their Sami language, one important marker of ethnic affiliation. They also described situations when they had to defend the Sami people and culture, and times when they had chosen to hide their Sami origin.

### Distrust

The women expressed feelings of distrust in their contacts within medical and dental health care; they had sensed that physicians and dentists suspected that their main objective was to be on sick leave or to have other secondary gains. They had in common negative experiences of the general health services and mentioned inaccessibility, eg: *“And he asked if I wanted to go on sick leave. I got angry at him. I said that I don’t run here because I want to go on sick leave; I come because I want to get help. And yes we discussed it—in the end, I felt that he did not believe anything I said, so I walked away. I said that I have no reason to be here if you don’t believe me and so I left. Yeah, he was really stupid, in my opinion.”*

The women expressed mistrust of the care providers’ competence and ability to manage their problem, such as: *“What kind of a doctor could there be who would understand this? I’ve looked high and low.”*

They also reported mistrust toward treatment received. Many reported that they had tried oral splints or adjustments of the occlusion. Their common experiences of these treatments were that they had no

major effect on symptoms, eg: *"I've had oral splints. I've tried several of them, but I don't know that I've gotten any better."*

A few women expressed passiveness regarding things they needed to manage, such as physical activities, work ability, and household work. They seemed to be stuck within the pain condition, which was keeping them back from enacting changes in their lives.

### Reconciliation

The women related to their Sami heritage with pride and appreciation for the possibility of gaining health: a free, unrestricted, and sound life "up in the mountains." To be included and accepted in the Sami group was also of great importance. The category *Reconciliation* describes the women's wish, intention, and strength to "bear it" and move on with life, despite difficulties. The participants described various physical activities undertaken to improve their well-being. The majority of the women also utilized care from physicians, physiotherapists, and dental surgeons, and also from alternative medicine therapists, in their search for alleviation.

Self-treatments were a part of the participants' strategy to find their own way to manage daily life. Over-the-counter medicine, stretching, and massage were common examples mentioned by the participants. Some women had reached a point of acceptance and tried to make the best of their situation, eg: *"In some way I've accepted that you aren't always at your best. You can't always feel so great. It's just sometimes like this."*

Social networks with others in the same situation were important for managing their long-standing TMD problems. The healthy women handled difficulties in life by leaving bad experiences behind, looking forward, and striving to get on with their lives, despite difficulties. To succeed in this strategy they relied heavily on support from family and friends. The Sami women without TMD tended to have a more conciliatory approach to problem solving and handling shortcomings, such as: *"I try to manage to get the (important) things done that I have to do. In other words, I know that maybe I planned so I would have time to do more, but then I don't. It really doesn't matter. If you don't have time, you don't have time."*

Good health was mainly described and perceived by the women in terms of ability to work and having energy left for leisure time. *"If you don't have the strength for physical activities, you don't have good health and quality of life,"* according to the participants. Other important factors related to good health were feelings of safety, freedom, good mental health, stable finances, and a healthy family.

## Discussion

The Sami women in this study shared their thoughts and experiences regarding factors they found to trigger and maintain TMD symptoms, headaches, and neck and shoulder pain. Strains and distrust in health care, but also reconciliation experiences, were expressed in the narratives.

The participants were recruited from an epidemiologic sample with the aim to obtain a more comprehensive understanding of experiences and beliefs regarding TMD symptoms. The experiences from women with and without TMD were compared and subsequently illustrated. However, in the analysis a choice was made to display a variety of beliefs toward and experiences of jaw, neck, and shoulder pains from the Sami women's non-expert perspective, since the "cases" also had neck and shoulder pains as well as headaches and tinnitus, and described, expressed, and regarded all these symptoms as more or less unified. The pathophysiological background of such perception has been attributed to convergence of trigeminal and cervical nerves in the brainstem.<sup>26,27</sup> Women serving as "controls" also contributed with their thoughts regarding triggering factors, strains, distrust, and reconciliation. Most triggering factors were inflicted injuries, but behavior, heredity, and life circumstances were all proposed and fit with the biopsychosocial model.<sup>14,15</sup> The model could therefore be used as a model for shared understanding in patient information and treatment sessions.

The study population was uniformly women, living in the same Arctic region and sharing the culture and the context of being a Sami woman. The strategic choice to include only women was based on the observations that long-standing TMD pain are more commonly found among women than among men,<sup>10,28</sup> and despite several hypotheses about possible causes, including psychosocial factors<sup>12,29</sup> and sex hormones,<sup>30</sup> no conclusive knowledge has been reached why these symptoms predominantly affect women.

A common statement among the participants with TMD symptoms was that they were aware of clenching their teeth. Bruxism (tooth-clenching and/or grinding) is often suggested to be an etiologic factor for TMD. The participants comprehended that their biting behavior was a cause for their TMD problems. Several studies have found relationships between reported bruxism and TMD.<sup>31,32</sup> This relationship has also been questioned with reference to the weakness in self-reported awareness of bruxism and analyses mostly based on cross-sectional samples.<sup>33,34</sup> In a recent systematic review on bruxism and TMD,<sup>35</sup> the authors concluded that self-reported bruxism was associated with TMD pain but studies using more

specific methods to diagnose bruxism showed a low association with TMD symptoms. The present study gives support to the existence of a relationship between TMD and jaw-clenching habits, based on the participants' narratives and experiences.

The Sami women shared experiences of distrust of both medical and dental health care. Similar results were found in a qualitative study of chronic orofacial pain patients referred to a pain clinic.<sup>36</sup> The orofacial pain patients, however, expressed anger and frustration and regarded their pain as elusive. Such strong expressions were not used among these Sami women. This difference may be related to differences in the explicit dental health care situations and related expectations. Participants in the orofacial patient sample also expressed feeling helpless and a need of be taken care of.<sup>36</sup> The Sami women, on the other hand, indicated empowerment in their self-management and coping strategies, and they gave examples of factors that provided them at least temporary pain relief. Both of these studies, however, indicate that the consultations are a critical event, which at least among those with long-standing pain has not favored recovery and rehabilitation. Responsibility, blame, and identity protection among pain patients and professionals have also been revealed.<sup>37</sup> The consequence of not being believed and questioned severely damages the trust between patient and caregiver. Such experiences may even prolong the pain and are less likely to motivate the patient to adherence to suggested treatment strategies. The consultation event thus seems to be a potential area for development among physicians and dentists. The caregiver should pay attention to the subject's own thoughts and beliefs, since this could be a good platform to start from in the rehabilitation process.

Most participants shared thoughts about the healing and reconciliation processes. For these women, good health was equal to, and a prerequisite for, independence and freedom. The ability to work was thus an important keystone, together with the vision of physical fitness. Access to nature was also important. The participants reported various types of physical activities, such as walking, running, skiing, and taking part in group training. Exercise is also recommended as an important part of rehabilitation in patients with chronic pain.<sup>38</sup> A study from the north of Norway showed that ethnic origin has an impact on the level of physical activity. Sami women were more active than the Norse women.<sup>39</sup> The results indicate that there is a common understanding that exercise is an important part of a coping strategy to stay healthy. In those with long-standing pain in the jaw, head, and neck, strengthening the empowerment to take part in physical activities may be fruitful both for the individual and for society.

A qualitative research approach is appropriate when the aim is to gain insights into individuals' experiences and beliefs. Grounded theory was chosen for the present study because it is a well-established method that is often used to explore complex phenomena and patient experiences in the health sector. To enhance credibility (internal validity), triangulation, peer debriefing, and negative case analysis<sup>40</sup> were used. The authors were all involved in the analysis. Preliminary findings were discussed with colleagues outside the process for input and comments. Negative cases were included as references not for direct comparisons, but to distinguish what were general life experiences among Sami women and what were more specific to those with TMD. The data collection was stopped when the categories were considered solid and recognizable in the interviews. The participants were derived from an epidemiologic study population, which may increase transferability (external validity). No Sami women of older age were included, since there was none available with severe symptoms. This finding is interesting by itself and may warrant further qualitative studies addressing specifically women after retirement age. The selection of participants was based on their experience of severe TMD symptoms or having no experience of TMD. The women were also in approximately the same age range. No other factors were included specifically in the selection of informants; consequently, the included women had varying experiences relating to education level, family status, and working conditions, as a reflection of different social living conditions.

Based on the analyses of the Sami participants' narratives, the following hypotheses have been formulated in relation to long-standing TMD pain:

- An approach from health care providers that includes listening, confirmation, motivation, and information will build trust and reconciliation and improve adherence to treatment regimes.
- Relieving jaw-clenching behaviors and related strains should be an essential element in treatment of TMD pain patients.
- Reinforcement of patients' empowerment to take part in physical activities will improve patients' quality of life.
- Chronic TMD pain patients have comorbidities with cervical pain and sometimes widespread pain. A multidisciplinary approach in more severe cases may improve the outcome of the rehabilitation and in the long term be a cost-effective approach.
- Patients with persistent TMD may benefit from rehabilitation in TMD groups to improve their sense of coherence and social network.

## Conclusions

Sami women with TMD symptoms related these symptoms to fairly simple triggers and an ongoing jaw-clenching behavior. Comorbidity with other pain conditions, stress, and distrust in health care may be factors that maintain their pain problems. The generated hypothesis is that women with TMD, associated headaches, and neck-shoulder pain may benefit from efforts aimed at empowering them in their own ability to reduce stress behavior, strain, and disuse of the jaw. Rehabilitation strategies in groups may increase their sense of coherence and increase social support, which seems to be more limited than in women with no symptoms of TMD.

## Acknowledgments

The study was supported by grants from the Göran Gustafsson Foundation, Visare Norr, and the County Council of Norrbotten. The authors report no conflicts of interest related to this study.

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