

# Primary healthcare nurses' experiences of symptoms and treatment needs of patients with RLS-associated symptoms at telephone nursing – an abductive analysis based on the Four Habits communication model

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## ABSTRACT

**Background:** Restless legs syndrome (RLS) is a common, neurological disease. Primary healthcare (PHC) nurses are often the patient's first contact, but studies regarding their experience assessing RLS-associated symptoms and treatment needs in telephone nursing (TN) are lacking.

**Purpose:** To describe how PHC nurses experience symptoms and treatment needs of patients with RLS-associated symptoms during TN.

**Methods:** A descriptive abductive design, including semi-structured interviews with 18 PHC nurses from six Swedish regions. Data was deductively analyzed using the Four Habits communication model. Facilitators and barriers were inductively identified.

**Results:** Invest in the beginning included the use of professional competence, interpretation of influencing factors at the start of the conversation and initial understanding of the patient's RLS symptoms. Elicit the patient's perspective involved originate from the patient's perception of the symptoms and comprehending the symptoms' impact on the patient's life situation. Relate to the patient's situation and the importance of trust in the patient meeting described demonstrating empathy. Invest in the end involved triaging patients with RLS-associated symptoms, providing self-care advice to patients with RLS-associated symptoms and achieving consensus at the end of the conversation.

**Conclusion:** Using the Four Habits communication model could enrich communication regarding RLS-associated symptoms and treatment needs during TN.

## ARTICLE HISTORY

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## Introduction

Restless legs syndrome (RLS) is a prevalent neurological, sensorimotor disorder (Khachatryan et al., 2022) affecting about 3% of the global population (Broström et al., 2023). It presents unpleasant sensations that are mainly in the legs, but sometimes the arms and other body parts can be affected. The symptoms worsen in the evenings and during the night-time and often cause sleep disturbances (Allen et al., 2014), anxiety and depression (Chenini et al., 2022). RLS is either primary, with a genetic component, or secondary to conditions such as iron deficiency (Trenkwalder et al., 2018). The pathophysiology behind RLS is not yet established (Cathiard et al., 2021), but it is probably caused by a lack of iron in the brain (Allen et al., 2018) combined with genetic factors (Ferré et al., 2019). Five diagnostic criteria that must be met are used to set the diagnosis (Table 1) (International Restless Legs Syndrome Study Group, 2012).

Diagnosing RLS, however, demands a thorough understanding of its multifaceted symptomatology, given the absence of specific diagnostic tests (Fulda et al., 2021). The prevalence is higher among women, with pregnancy considered as a contributing factor (Allen et al., 2005). It increases with age (Broström et al., 2023) and the severity differs greatly (Silber et al., 2021). Additionally, the symptoms and the descriptions of them can differ between genders (Holzknecht et al., 2020, 2022). Both pharmacological and non-pharmacological treatments are used, depending on the cause and symptom burden. It is important to rule out or supplement iron deficiency. Medications include alpha-2-delta ligands, dopaminergic agents and opioids (Garcia-Borreguero et al., 2018). Dopaminergic agents are often effective, but the risk of augmentation needs to be considered (Garcia-Borreguero et al., 2016). Non-pharmacological strategies include physical activity (Guay et al., 2020),

**Table 1.** Diagnostic criteria for RLS (all must be met) according to the IRLSSG (2012).

1. An urge to move the legs usually but not always accompanied by or felt to be caused by uncomfortable and unpleasant sensations in the legs.
2. The urge to move the legs and any accompanying unpleasant sensations begin or worsen during periods of rest or inactivity such as lying down or sitting.
3. The urge to move the legs and any accompanying unpleasant sensations are partially or totally relieved by movement, such as walking or stretching, at least if the activity continues.
4. The urge to move the legs and any accompanying unpleasant sensations during rest or inactivity only occur or are worse in the evening or night than during the day.
5. The occurrence of the above features are not solely accounted for as symptoms primary to another medical or a behavioural condition (e.g., myalgia, venous stasis, leg oedema, arthritis, leg cramps, positional discomfort, Habitual foot tapping).

massage, stretching, cognitive distraction, warm or cool baths and sleep hygiene (Gossard et al., 2021). Finding the right treatment can be difficult for neurologists, which is why it is often challenging to provide adequate RLS care in primary healthcare (PHC) where RLS patients in many cases are diagnosed and treated (Fulda et al., 2021). Despite its prevalence, RLS remains both underdiagnosed and undertreated (Chenini et al., 2023). This underscores the importance of considering the condition in patients with comorbidities, such as insomnia in PHC, as approximately 9.6% of the patients in this setting exhibit RLS symptoms, and of those, 3% requiring medical interventions (Hening et al., 2004), highlighting the need for increased awareness by nurses during TN.

PHC manages different types of healthcare needs in non-hospitalized populations through preventing, promoting, and curing interventions. Even though organization and routines differ between countries, multiprofessional teamwork has been shown to be effective (World Health Organization WHO & UNICEF, 2018). In Sweden, PHC often consists of larger practices with different occupational groups. The general practitioner (GP) and nurse work closely together using a holistic approach. For example, in relation to RLS, GPs oversee the diagnostic procedure and treatment initiation, but nurses often assess symptoms and set up appointments based on telephone assessments and make their own clinical visits and follow-ups (Strandberg et al., 2007). Patients with RLS often have had their symptoms for a long time before receiving a diagnosis, and a lack of understanding from healthcare professionals can cause feelings of hopelessness (Varela et al., 2013). However, lack of time and organizational support can limit both GPs' and nurses' ability to provide the right care (Lundin Gurné et al., 2021).

In the Western world, the number of telephone assessments is increasing, and since most contacts in PHC occur via telephone nursing (TN) (i.e., telephone calls to the PHC taken by nurses), TN can be crucial for providing the right RLS care. TN requires, apart from medical knowledge, communication skills with a focus on listening and asking the right questions (Eriksson et al., 2020). Failure to listen is the most common reason for malpractice claimed calls (Kaminsky et al., 2017). In Sweden, the experience-based TN dialogue process

structured into five phases is commonly used to enhance patient satisfaction and safety. However, this seemingly well-functioning process still lacks solid empirical support (Gustafsson & Wahlberg, 2023). TN interactions are complex and have shown to require development and support, partly as emotional acknowledgement and affective responses often are insufficient during the phases of the TN dialogue process (Mattisson et al., 2024). To provide additional dimensions to TN work concerning RLS, a validated (Krupat et al., 2006) and recognized communication model within PHC (Stein et al., 2010) called the Four Habits communication model has been used throughout this study. This patient-centred model has sound evidence improving nurse-patient communication (Fisher et al., 2014; Saltrøe et al., 2021) and ease complex communicative situations (Kvæl et al., 2024). The Four Habits communication model aims to build trust quickly and achieve an effective exchange of information while showing concern, and through this, increase adherence and positive health outcomes (Frankel & Stein, 2001). It consists of four "Habits": *invest in the beginning*, *elicit the patient's perspective*, *demonstrate empathy*, and *invest in the end*. There are several similarities between the TN dialogue process and the Four Habits communication model (Frankel & Stein, 2001; Gustafsson & Wahlberg, 2023), as they both have a clear beginning and end. Furthermore, eliciting the patient perspective, summarizing and checking for understanding is essential within both models. However, showing empathy is highly valued and expressed as important throughout communication in the Four Habits communication model, and from an RLS-perspective, this seems highly valuable for increased understanding (Odzakovic et al., 2024) and recognition in a TN situation. The first Habit in the model, *Invest in the beginning* focuses on building rapport, addressing patient concerns, and setting expectations by creating a welcoming environment, adapting tone and language, and planning the visit. *Elicit the patient's perspective* involves asking about the patient's ideas, requests, and the impact on their life through exploring questions. *Demonstrate empathy* highlights being open to patient emotions, making empathetic statements, and adjusting to the patient's needs, such as tone and demeanour. *Invest in the end* emphasizes delivering diagnostic information, educating the patient, involving them in decision-making, and

addressing concerns, offering self-care advice, and exploring options based on patient preferences (Frankel & Stein, 2001). Allen et al. (2013). have highlighted the importance of paying attention to descriptions given by patients with RLS as the diagnosis often constitutes a major health problem. This is further complicated when patients with RLS avoid seeking healthcare as they feel powerless regarding symptom management and lack knowledge about the disease and treatment options (Harrison et al., 2021).

Using the Four Habits communication model could increase the identification of patients with RLS-associated symptoms in TN and contribute to sustainable development within this work. Therefore, the aim was to describe how PHC nurses experience symptoms and treatment needs of patients with RLS-associated symptoms during telephone counselling, in PHC with a focus on facilitators and barriers based on the Four Habits communication model.

## Materials and methods

### Study design

A descriptive abductive design (Graneheim et al., 2017) with qualitative content analysis (QCA) (Graneheim & Lundman, 2004) based on the Four Habits communication model (Frankel & Stein, 2001) was used.

### Participants

A purposive sampling was chosen (Campbell et al., 2020) for a geographically sound distribution of PHC regions and informants that could give a representative and transferable view of the research question. Eighteen informants with a minimum of 2 years' experience in PHC with TN as their current task assignment were strategically chosen. To achieve a clinically unbiased representation of nurses, diversity in terms of age, educational background, and work experience was pursued. This diversity also extended to PHC facilities, where a balanced variation in size and location was

sought. Even so, all informants recruited were women. The informants originated from 14 distinct PHC centres in six different regions in Sweden (Table II).

### Data collection

Initially, an information letter was sent by email to managers at different PHC centres. After their approval was received, an informational letter was sent to the selected nurses working with TN at the PHCs. Written consent was obtained from the nurses before the interviews, and all were informed about their attendance being voluntary throughout the study. The semi-structured interviews, using video calls, were performed by a researcher who had no personal relationship with the participant. Information was given that only the audio would be recorded. A couple of days before the interview, the participants were emailed three fictitious cases (Table III), developed by the multiprofessional research team in collaboration with members of the national patient organization for RLS, to read. The intention with the cases was to inspire the nurses, stimulate reflection, and elicit detailed descriptions (Wilks, 2004). None of the patient data included in the cases were related to real-life situations.

The pilot-tested interview guide (Table IV) was based on an initial open-ended question related to the three fictitious patient cases to stimulate narrations in the beginning of the interview. However, the interviews continued, followed by specific questions inspired by the Four Habits communication model (Frankel & Stein, 2001). Probing questions were used, as described in Table IV. The length of the interviews varied between 20 and 40 min, and they were transcribed verbatim.

### Data analysis

The audio-recorded interviews resulted in 112 A4 pages of double-spaced text in 12-point Times New Roman. The abductive analysis was conducted through combining both deductive and inductive

**Table II.** Sociodemographic characteristics of the participants ( $N = 18$ ).

Age, mean (range)	42,7 (31–62)
Years since nurse graduation mean (range)	16,4 (7–38)
Nurses (n)	10
District nurses (n)	8
Years working in primary healthcare, mean (range)	9,7 (3–35)
Informants with education in telenursing (n)	10
Informants with education in Motivational Interviewing (n)	11
Listed patients at the primary healthcare centres, mean (range)	11005,6 (5000–16500)
Primary healthcare centres demographic location ( $n = 14$ )	
Countryside	2
Small town with population between 5000–20 000	3
Town with population between 20 000–100 000	3
City with population >100 000	6

**Table III.** Three fictitious cases that were presented to the nurses before the interviews to inspire and enrich descriptions of experiences. Case 1 presented a vague description of RLS symptoms, case 2 a clear description of RLS, while case 3 described augmentation. The names, age and sex are fictitious and none of the patient data are related to real-life situations.

#### Case 1

"Lena, a healthy 54-year-old woman calls the PHC because of trouble sleeping. She lives with her husband, and their two adult children have moved out. Lena is an active woman who likes to play golf in her spare time and usually has a lot going on. But in the last year, she's not been able to maintain her intensive activity level due to feeling increasingly tired during the days. The fatigue has begun to affect her performance at work where she has a high workload as a manager. To cope with her everyday life, her coffee consumption has increased, and she has resumed her use of snuff after several years of abstaining. Lena's husband Bengt usually complains that she sleeps restlessly at night and that she kicks her legs when sleeping. 'That may be true because I wake up quite a bit at night and find it difficult to settle down again. Sometimes I need to stay up for a while before I can go back to sleep'. As her tiredness during the day is only getting worse, Lena now wishes to get help to better cope with her everyday life. 'Yes, it feels a bit awkward to call the PHC for something like this, but I haven't called for three years, when I had a Borrelia infection. Is it possible to get an appointment with the doctor as soon as possible?'"

#### Case 2

"Lars-Göran is a 75-year-old widower who calls the PHC late in the afternoon. He had meant to call for a long time to ask for help with his legs, but years just went by without him doing it. Lars-Göran always watches the news on television at 19.30, sitting on the sofa, but must get up and move because his legs start to give trouble just before the weather forecast. 'It feels like water is flowing along my lower legs, it tingles and hurts a little. I'm not one to complain, though there must be something that can be done about this'. It also appears that the leg problems continue after he goes to bed for the night. 'The neighbour below me probably thinks I'm a real sleepwalker' he laughs. During the conversation, Lars-Göran says that he is tired during the day and that he has lost more and more desire to do things. He has never smoked and now rarely drinks alcohol as it is not as fun as a widower. Lars-Göran has medication for high blood pressure and for atrial fibrillation. He thinks that the leg problems may have been caused by his weight gain after his wife's passing. 'It's probably all the good food in front of the TV that's made me put on weight on my stomach and a little everywhere.'"

#### Case 3

"Caroline is 30 years old and two years ago was diagnosed with RLS. She is now calling the PHC as she can no longer stand the pain in her legs, which is getting worse. In the background, the TV sound is loud with children's programs on. 'I can't take this anymore and soon I'll going crazy. The medication doesn't help anymore, even though the doctor has increased the dose just recently!'. Now children's cries are heard, and Caroline must pause the conversation while she resolves a sibling dispute. Afterwards, she explains that she is at home from work with her sick children, six and four years old. Caroline says that there is not an evening or night without discomfort and the pain now affects her entire everyday life. 'I have no patience any longer and the worst thing is that the symptoms have begun to affect my arms as well. Before it was only pain in my legs just before going to sleep but now pain starts in the afternoon'. She says that her mother also had the same problem and that they both got RLS-associated symptoms along with their first pregnancy. At first, she did not think so much about the leg pain but gradually the pain became more pronounced, especially during the second pregnancy. Caroline says that for a long time she felt that she was not taken seriously... After the diagnosis, she started treatment with high hopes that it would get better. It did in the beginning, but now it's worse than ever."

analysis (Graneheim et al., 2017) by a multidisciplinary research team with clinical experience and methodological competence. The interviews were read several times and checked for accuracy. The initial step, i.e., the deductive analysis (Elo & Kyngäs, 2008) was based on the Four Habits communication model (Frankel & Stein, 2001). Rich descriptions in methodological papers (Frankel & Stein, 2001; Stein et al., 2010), also providing tables of the model's key elements were used to guide the deductive analysis. To begin with, quotes related to the aim of the study were deductively sorted into each "Habit" of the model through continuous discussions. Secondly, a manifest inductive approach (Graneheim & Lundman, 2004) was applied to the data in each Habit by choosing meaning units, condensing, coding, and sorting data into different subcategories and categories. Thirdly, facilitators and barriers were identified in relation to the focus of all subcategories, resulting in all the subcategories being expressed as either facilitators or barriers. Discussions continued until consensus on the category system was reached.

## Results

### Habit 1 - invest in the beginning

In relation to Habit 1, three categories and six subcategories, expressed as facilitators and barriers, were identified (Figure 1).

### Use of professional competence

"Having knowledge of RLS-associated symptoms" was described as a facilitator. Initial descriptions of well-known clinical symptoms, such as a crawling sensation in the legs, difficulty being still and sleep disturbances, as well as pain, tingling, and a feeling of anxiety, were easy to associate with RLS and facilitated the beginning of the call. However, understanding vague descriptions early in the conversation required professional judgement, communicative skills, and knowledge of diagnostic criteria for RLS. "Lacking experience of meeting patients with RLS" was described as a barrier. The nurses emphasized that their experience with exploring RLS-associated symptoms in TN was limited, and the often-unclear descriptions of complex symptoms made it even more challenging. A pre-understanding that RLS primarily affected older people influenced the ability to derive the symptoms to RLS.

### Interpretation of influencing factors at the start of the conversation

"Using an open explorative mode of communication" was described as a facilitator. Letting the patient talk freely while listening unconditionally with a friendly attitude, along with focused follow-up questions, especially about RLS-associated symptoms, was seen as an effective and quick way to get the needed



**Table IV.** Interview guide used when collecting data with the informants.

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1. **After reading the cases, what thoughts come into your mind?**
    - Do you recognize similar descriptions?
  2. **When a patient with RLS-associated symptoms calls, please tell me how you experience that call.**
    - Do you have a patient case you can share?
    - Can you see any similarities between patients who seek care for these kinds of symptoms?
    - How long have the patients usually had their problems when they seek care?
    - What symptoms are the most tangible for the patient?
    - Are there symptoms that you recognize, that the patient has not connected with the other symptoms? In that case, what kind of symptoms?
  3. **At the beginning of the conversation, what can you do to get an idea of what the patient is seeking?**
    - Do you have any tactics?
    - What questions could be asked?
    - Can you share any tips?
    - What is the patient's perspective of their symptoms?
  4. **Please tell how you use the patient's description of symptoms in your assessment?**
    - In what way is the patient's lifestyle affected?
    - How can a possible pre-understanding of the patient's symptoms affect your assessment?
    - Can the patient's description play a role in what type of care is offered? If so, in what way?
  5. **How do you create trust with the patient during the call?**
    - Do you use any basic structures to create trust?
    - Do you have any words that you use?
    - What challenges may there be to building trust?
  6. **Based on your experience with patients calling and describing RLS-associated symptoms, what advice on actions would you give?**
    - Self-care advice?
    - Physical activity?
    - If the patient is booked for an appointment, to which profession in that case?
  7. **What are your experiences concerning the patients' needs for treatment?**
    - What are the needs for treatment?
    - What can the treatment needs appear?
    - How are the needs for treatment expressed?
    - What are the reasons why the patient himself experiences these treatment needs?
    - Pharmacological aspects?
    - Self-care?
    - Experiences of symptom relief?
  8. **When the phone call is about to end, what do you think is important to think about?**
    - What challenges are there?
    - If a consensus cannot be reached, what do you do?
    - What opportunities do you see?
- 

information. *"Feeling limited by time to explore symptoms"* was described as a barrier. Although the initial description was understood, and the symptoms were perceived as difficult, more effort and time were required to explore the patient's situation. With the knowledge that the estimated call duration was 6 min, nurses expressed a sense of pressure to establish an in depth understanding of the often-non-acute symptoms to properly triage when a patient with potential RLS-associated symptoms called.

### **Initial understanding of the patient's RLS-associated symptoms**

*"Using structured symptom mapping"* was described as a facilitator. Web-based counselling and support systems, and medical records were used as well as repeated consultations with GPs, with whom nurses could discuss unclear descriptions of symptoms potentially associated with RLS. *"Feeling forced to rule out other diagnoses"* was described as a barrier. The initial focus, with the time constraints in mind, was to identify patients with acute symptoms. Questions to explore concerning other diseases that the nurses considered more important were therefore focused on at the beginning of the call. They admitted patients with potential RLS could be overlooked. Especially those with diffuse long-lasting

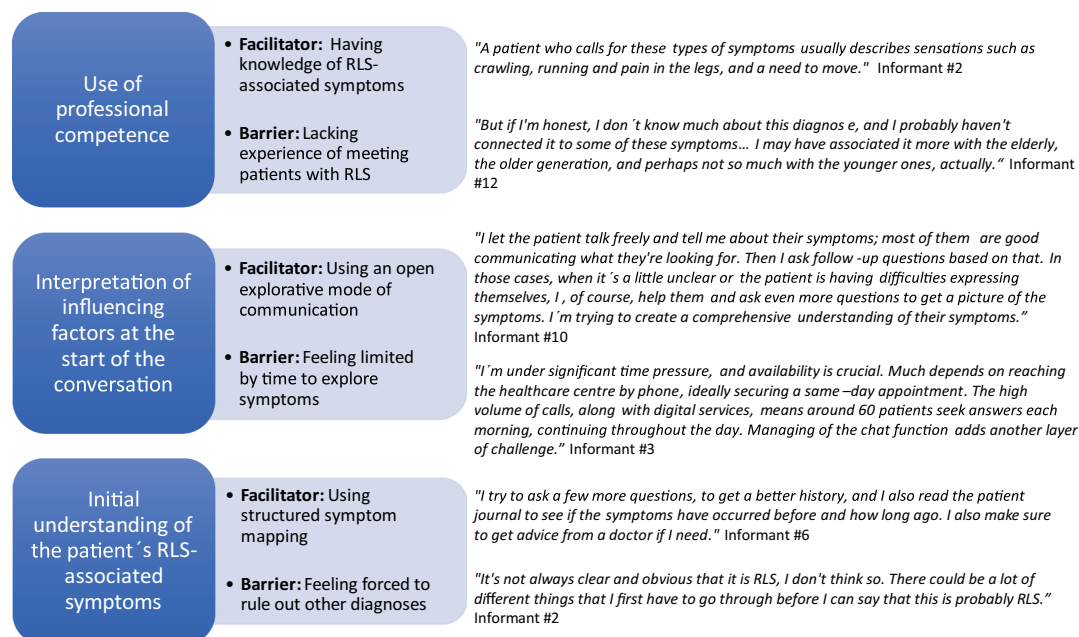
symptoms were given less focus, even if symptoms were associated with stress, sleep disturbances and psychosocial factors.

### **Habit 2 - elicit the patient's perspective**

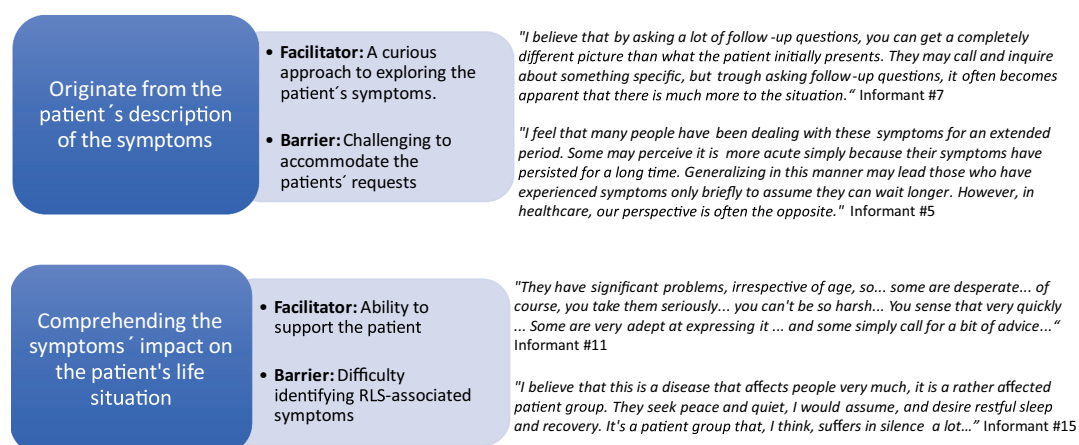
In relation to Habit 2, two categories and four sub-categories, expressed as facilitators and barriers, were identified (Figure 2).

### **Originate from the patient's perception of the symptoms**

*"A curious approach to exploring the patient's symptoms"* was described as a facilitator. Letting the patient talk freely, showing deference to the patient's experience of living with RLS and exploring the symptom picture by asking follow-up questions were important. Questions included self-care and were valuable for the assessment regarding the severity level of the symptoms. *"Challenging to accommodate the patients' requests"* was described as a barrier. The nurse's experience was that patients with RLS took too long to seek care, making it difficult for them to understand that they needed to wait for a GP appointment even though, from a medical point of view, patients with long-term symptoms are often not



**Figure 1.** Experiences from the nurses ( $N = 18$ ) describing Habit 1 (i.e., Invest in the beginning) in the Four Habits communication model.



**Figure 2.** Experiences from the nurses ( $N = 18$ ) describing Habit 2 (i.e., Elicit the patient's perspective) in the Four Habits communication model.

assessed to be in need for an immediate GP appointment.

### **Comprehending the symptoms' impact on the patient's life situation**

"Ability to support the patient" was described as a facilitator. Experience in interpreting what was not said, and taking the patient's report into account, was used to understand to what extent the RLS-associated symptoms affected the patient's everyday life. "Difficulty identifying RLS-associated symptoms" was described as a barrier. It was seen as a complex task to get a complete understanding of the impact of the disease when patients with RLS-associated symptoms were perceived as not seeking care in the first place even though they

could be frustrated, exhausted, and in need of help to get some rest and recuperation.

### **Habit 3 – demonstrate empathy**

In relation to Habit 3, two categories and four sub-categories, expressed as facilitators and barriers, were identified (Figure 3).

#### **Relate to the patient's situation**

"Wanting to confirm the patient's experience" was described as a facilitator. Listening, taking the patient report seriously and confirming the impact of the RLS-associated symptoms were described as important elements of demonstrating empathy. Even if the symptoms were not seen as alarming, it was still



**Figure 3.** Experiences from the nurses ( $N = 18$ ) describing Habit 3 (i.e., Demonstrate empathy) in the Four Habits communication model.

important to consider the patient's concerns. A personal experience of RLS also facilitated understanding of the difficult situation of living with the disease. *"Challenging to obtain the patient's trust"* was described as a barrier. Limited resources in the PHC made it difficult to meet expectations when the patients wanted an appointment with the GP. Having a heavy, long-lasting symptom burden made it even more urgent. The nurses balanced between trying to satisfy everyone's needs while taking actual resources into account.

#### ***The importance of trust in the patient meeting***

*"Building a confidential relationship"* was described as a facilitator. Communicating with a calm, friendly tone without a nurturing appearance was used as a strategy to gain trust, especially when the conversation did not result in a booked appointment with the GP. Another helpful strategy was involving the patient in the assessment, especially when nurses lacked competence in assessing the patient's RLS-associated symptoms. These strategies were important for motivating self-care and enabling trust in the nurses' medical competence. *"Having to deal with the patient's fragile trust in the healthcare system"* was described as a barrier. The nurses expressed that patients with RLS-associated symptoms could have had earlier experiences of not getting the right help, which made it difficult to build mutual trust. This created frustration since the nurses could not get access to the patient's experience.

#### ***Habit 4 – invest in the end***

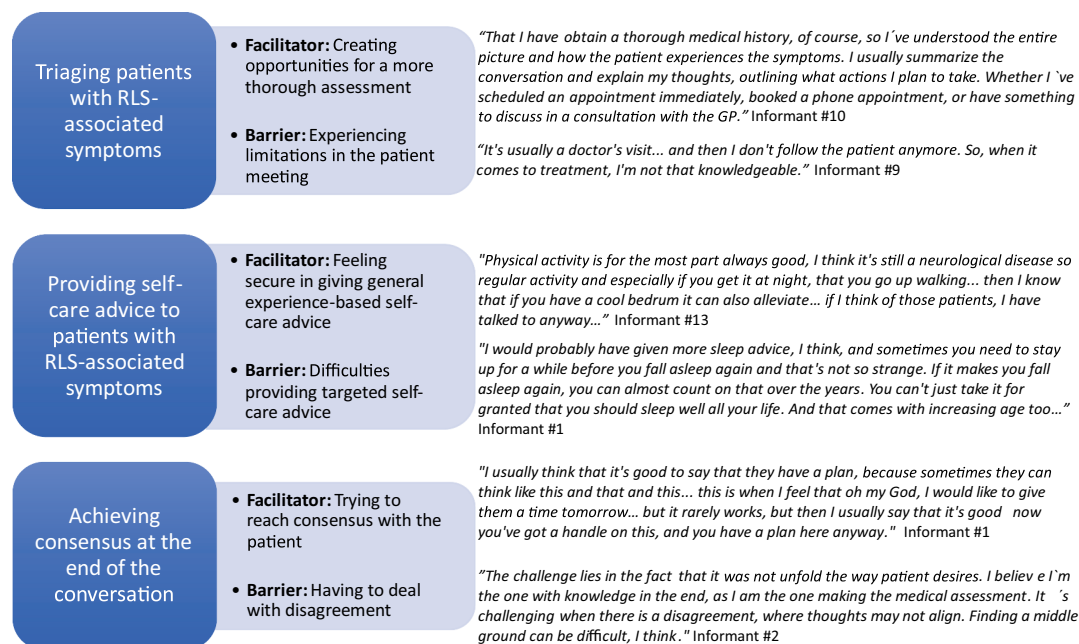
In relation to Habit 4, three categories and six sub-categories, expressed as facilitators and barriers, were identified (Figure 4).

#### ***Triaging patients with RLS-associated symptoms***

*"Creating opportunities for a more thorough assessment"* was described as a facilitator. Even though RLS-associated symptoms were perceived as challenging to assess in TN, it was important to obtain the correct information. Sometimes the patient was booked for a physical appointment with the nurse, which often generated a more detailed history. *"Experiencing limitations in the patient meeting"* was described as a barrier. The nurses described their role in caring for patients with RLS-associated symptoms as limited. A complex symptom picture combined with a lack of knowledge about different treatment options was contributing factors for this, but also the experience that patients with RLS-associated symptoms could be helped only by a GP. Other factors were a lack of nurses' involvement in health outcomes, treatment and follow-ups.

#### ***Providing self-care advice to patients with RLS-associated symptoms***

*"Feeling secure in giving general experience-based self-care advice"* was a facilitator. Knowledge about self-care advice suitable for many different diseases and health-related problems was described as valuable and was often applied to RLS-associated symptoms. This included balancing or increasing physical activity, sleep hygiene and reducing caffeine- and/or nicotine intake. Advice on massage, temperature regulation, warm and/or cool showers/baths, relaxation, walking, compression treatment and magnesium was described as more directed towards RLS. *"Difficulties providing targeted self-care advice"* was identified as a barrier. RLS-associated symptoms such as pain and/or cramps in the legs were seen as hard to treat with self-care advice, and limited knowledge combined with uncertainty regarding non-pharmacological treatment contributed to this. Patients could be advised to keep doing what they themselves found



**Figure 4.** Experiences from the nurses ( $N = 18$ ) describing Habit 4 (i.e., Invest in the end) in the Four Habits communication model.

to be symptom-reducing. The patients could also receive information that good sleep could not be taken for granted at higher ages.

### *Achieving consensus at the end of the conversation*

*"Trying to reach consensus with the patient"* was identified as a facilitator and involved summarizing the conversations to prevent misunderstandings and to communicate medical assessments and reach a common understanding for the patient's further care with shared decision-making. Individuals with RLS-associated symptoms often had to wait for a GP appointment with the reassurance that having a booked appointment was the first step to getting the right help. *"Having to deal with disagreement"* was a barrier and concerned situations when the nurse's assessment did not agree with the patient's, e.g., concerning the urgency of the RLS-associated symptoms or when specific wishes of the patient could not be met. This was seen as a part of the communication with patients in TN and something that the nurses had to manage.

## Discussion

This study, the first of its kind, provides a wide range of in-depth descriptions of how nurses experience communication with patients contacting PHC regarding RLS-associated symptoms. The Four Habits communication model was used to reflect the results from a deductive perspective. The first Habit, invest in the beginning, described experiences in relation to professional competence, factors influencing the start of

the conversation, and how to understand the patients' RLS-associated symptoms. The second Habit, elicit the patient's perspective, comprised experiences related to descriptions of symptoms and how symptoms impacted the patient's life situation. The third Habit, demonstrate empathy, comprised experiences related to communication about the patient's situation and the importance of trust in the patient meeting, while the fourth habit, invest in the end, concerned triaging patients with RLS-associated symptoms, self-care advice to individuals with RLS-associated symptoms and achieving consensus at the end of the conversation. Several facilitators and barriers were identified in each Habit, which clarified which communicative factors to preserve as well as those in need of development for better care for individuals suffering from RLS-associated symptoms.

In Habit 1, the nurses described that professional competence along with an explorative approach helped them navigate various factors to quickly identify patients with symptoms corresponding to the diagnostic criteria for RLS and constituted important facilitators in investing in the beginning. This corresponds to the goal of Habit 1, to create a rapid report while showing concern (Stein et al., 2010). TN is a complex task, and a result of a quest for efficient, cost-effective healthcare demanding medical, nursing, behavioural, technical, and communication skills (Kaminsky et al., 2017). In the present study, time pressure seemed to affect communication at the beginning of a call, causing the nurses to feel stressed, especially when evaluating complex and long-term symptoms, such as in RLS. Even so, listening with friendliness and interest while using different probing



questions was important. It has been shown that effective, patient-centred communication in TN is important, especially for complex conditions (Eriksson et al., 2020) such as RLS, when a varying symptom burden combined with a vague understanding of diagnostic criteria (Ramsey et al., 2012) can create problems. The Declaration of Astana, adopted by the WHO in 2018 emphasizes the importance of getting access to care at a PHC as well as reducing inequalities and maintaining and developing physical and psychosocial well-being for individuals (World Health Organization [WHO], 2019). Unfortunately, there is still no consensus about best practice in TN (Morony et al., 2018), which nevertheless plays an increasing role in healthcare (Eriksson et al., 2020). It is essential to underline the importance of the professionals working in PHC and their professionalism for providing person-centred care for sustainable development (van den Muijsenbergh & van Weel, 2019). Creating a warm, welcoming atmosphere at the beginning of the call strengthens rapport, enabling a quicker focus on core issues before advancing in the Four Habits communication model (Frankel & Stein, 2001). On this basis, a theoretically grounded patient-centred communication model could be useful when talking to someone regarding sleep-related problems possibly associated with RLS.

In Habit 2, nurses primarily relied on their own follow-up questions, but they also used non-verbal communication skills to *elicit the patient's perspective*. Descriptions of RLS-associated symptoms can vary between genders (Holzknecht et al., 2022) which can complicate the nurse's detective work. There are also patients who in some way amplify symptoms, while others trivialize them, requiring nurses to carefully interpret descriptions to minimize the risk of misunderstanding. According to Möller et al. (2010), 20% of patients seeking PHC for different leg symptoms meet the diagnostic criteria for RLS. Holmström et al. (2016) emphasize the importance of nurses possessing knowledge about different symptom descriptions to obtain patient satisfaction and safety within TN services. Therefore, knowledge about RLS is important for explorative communication. In this present study, nurses experienced that, even if prevalence figures are high, patients do not seek care that often, which might be a reason they expressed a vaguer understanding, which in turn constituted a barrier to communication. Our findings are in line with Harrison et al. (2021) who state that individuals with RLS avoid contact with healthcare as they feel powerless regarding symptom management and experience a lack of knowledge about the disease and treatment options. A person-centred communicative approach, based on in-depth medical and pathophysiological knowledge, could simplify the exploration of symptoms during data collection.

In Habit 3, facilitators were taking the patient report seriously, regardless of symptoms, acute or not, and confirming the RLS-associated symptoms' great impact on the patient's life situation in a calm and humble way while involving the patient in the assessment. According to Varela et al. (2013), important factors in reducing feelings of hopelessness and stigma among patients with RLS were also valuable resources for the nurses in this study. When the nurses lacked knowledge about RLS-associated symptoms, empathic communication was seen as a prerequisite for being able to motivate self-care instead of a booked appointment at the PHC, or when handling the barrier of communicating with a patient having RLS-associated symptoms for a long period of time without the right diagnosis. Frankel & Stein (2001) describe that the Habit of *demonstrate empathy* apart from giving depth to the communication, trust and valuable medical information, also enables patients to handle different limitations within the healthcare system. Having to balance available resources while trying to meet patient expectations is common in TN (Kaminsky et al., 2017) and constituted a barrier to gaining the trust of patients with RLS-associated symptoms and aggravated the exploration of patients' symptoms when patients wanted to obtain a booked GP appointment. Our findings conclude with Gustafsson et al. (2016) where patient satisfaction increased if nurses booked an appointment with the GP, however the nurses' ability to communicate reassurance and strengthen patients' feelings of security in TN increased the implementation of self-care. Further, healthcare personnel must be humble and accept that people living with chronic diseases such as RLS are experts in their disease. Involving patients in the decision-making process, as when practising person-centred care improves compliance, health outcomes and patient satisfaction (Ekman et al., 2011). Treating RLS from a long-term perspective is complicated, and medications could lead to complications such as augmentation (Trenkwalder et al., 2018). This further emphasizes the importance of working in a person-centred way by complementing medical treatment with non-pharmacological options such as evidence-based self-care advice.

In Habit 4, nurses unwittingly gave some RLS-suited self-care advice and were also identified to facilitate communication with booked face-to-face consultations, to improve their understanding of the RLS-associated symptoms. Motivating self-care demands an understanding of the patient's situation and self-care capacity. However, according to Wilkinson & Whitehead (2009), giving self-care advice is a complex task, demanding an understanding of factors affecting the outcome, especially in chronic diseases, such as in RLS. Self-care needs to be seen in relation to self-

management, self-monitoring and symptom management. Furthermore, the patient's self-efficacy is essential for how the concepts integrate, not to forget the important role of motivation in the implementation of self-care actions (Jaarsma et al., 2020). Motivating patients through digital nursing support has, for example, been shown to be effective in the treatment of diabetes. Klompstra et al. (2018) argue for the importance of motivation in the treatment of heart failure and show its positive impact on self-efficacy, increasing the patient's self-care actions. In this study, the nurses expressed a lack of knowledge about RLS-associated symptoms, specific RLS self-care advice and other treatment options. They further described a limited role in the care of patients with RLS-associated symptoms, which constituted barriers to communication in *invest in the end*. Wilkinson and Whithead (Graneheim & Lundman, 2004) emphasize the need for enhanced knowledge and organizational support within health-care as well as the right economic and social conditions for motivating self-care in patients with chronic diseases, such as RLS. Sufficient knowledge among nurses in TN can, according to Kaminsky et al. (2017), have a great influence on positive health outcomes. This highlights the need to create the right conditions for increased RLS awareness and knowledge among nurses in TN within PHC and corresponds to Chelminiak et al. (2018) who emphasize nurses' important role in RLS treatment and the need for knowledge development.

Methodological considerations will be discussed in relation to the concepts of trustworthiness. *Credibility* was obtained through choosing a method relevant to the purpose of the study, i.e., QCA (Graneheim & Lundman, 2004). Even so, another qualitative method, for example, the critical incident technique (CIT), could have brought a deeper understanding of facilitators and barriers in communication (Viergever, 2019). However, by using abduction (Graneheim et al., 2017), the combination of deductively applying the Four Habits communication model, and then inductively exploring the data, enabled a comprehensive understanding of facilitators and barriers in relation to each Habit. The 18 informants (10 district nurses and eight nurses) were chosen based on different work experiences, geographical locations and educational levels and contributed to enhancing different aspects of the aim for this study. Having diversity in gender may have brought other aspects to the results and improved *credibility*, even so, only one out of 10 nurses in Sweden is male (The Social Welfare Board, 2020). Moreover, vignettes have been recognized as particularly valuable in research on sensitive topics, as they facilitate the elicitation of informants' perceptions and experiences in a non-threatening manner (Azman & Mahadhir, 2017). In the present study, the vignettes appeared to provide reassurance, as RLS was not widely recognized among the nurses. The

vignettes seemed to allow them to engage more confidently in discussions, explore potential RLS symptoms and treatment needs from a broader perspective, which enhanced the data collection, analysis, and the results. Continuous discussions in a multidisciplinary team throughout the analysis process further benefited the study. A risk when using an abductive approach is "left over data" during the initial deductive part (Graneheim et al., 2017). However, the semi-structured interview guide, based on the well-used and validated Four Habits communication model and vignettes, alongside informants' targeted responses, effectively minimized data unrelated to the study aim or identified Habits. Any remaining irrelevant content was excluded from the analysis. *Dependability* was enhanced by the research team through developing an interview guide based on the Four Habits communication model. The interviewers' pre-understanding was discussed, and this awareness helped develop different probing questions in the pilot-testing, which added more aspects and a richer understanding of the subject. However, the different lengths of the video-performed interviews, which varied between 20 and 40 min, could be seen as a disadvantage, though the average time was 30 min and prepared informants through vignettes made the interviews more effective. *Confirmability* was strengthened through discussions to reach consensus regarding subcategories and categories tied to describing quotations. Video-performed interviews could restrict understanding of the nurses' experiences because of the physical distance during the interviews, though it made it possible to get a wider geographic distribution and the large number of informants enhanced *transferability*.

## Conclusion and clinical implications

This study, through the identification of facilitators and barriers in communication with patients experiencing RLS-associated symptoms, aims to contribute to a more specific understanding of areas in need of development. Additionally, it seeks to highlight aspects that must be preserved for the better treatment and identification of patients with RLS-associated symptoms. Nurses working in PHC lacked experience of patients with RLS-associated symptoms in TN. A complex symptom picture unrelated to the diagnostic criteria was harder to associate with RLS, and time pressure in TN may seemingly have contributed to less focus being placed on longer lasting symptoms such as those that occur in RLS. However, the nurses highlighted the importance of listening to patients with RLS-associated symptoms and taking the patient report seriously, even if the symptoms were assessed as non-acute. The nurses experienced a vague understanding of

treatment needs and different treatment options for RLS-associated symptoms but based on their work experience they gave self-care advice suitable for several different diseases, some of which could be applied to RLS. The Four Habits communication model has the potential to enrich TN work, as demonstrated in this study, where it was effectively applied in the nurses' communication with patients experiencing RLS-associated symptoms. It was evident that the nurses aimed to demonstrate empathy, an element the Four Habits communication model emphasizes as crucial for effective communication. Hopefully, this will inspire further improvements also in existing communication models in TN and contribute to facilitating the care of patients with RLS moving forward.

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## Authors' contributions

A.S and A.B devised the research aim. A.S conducted data collection. A.S and A.B led the analysis. All authors provided critical feedback and assisted in shaping the analysis. A.S, E.O and A.B wrote the initial draft of the manuscript in consultation with M.U and J.L. All authors provided critical feedback and assisted in shaping the manuscript. All authors approved the final version of the manuscript before submission.

## Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

## Ethics approval and consent to participate

Ethical approval was obtained from the Regional Ethics Committee, Sweden (Dnr 2022 -01,515-01). Written informed consent was obtained from all the participants. The study was carried out in accordance with the Declaration of Helsinki.

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