"I had already tried that before going to the doctor" - exploring adolescents' with knee pain perspectives on 'wait and see' as a management strategy in primary care

a study with brief semi-structured qualitative interviews

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"I had already tried that before going to the doctor" – exploring adolescents' with knee pain perspectives on 'wait and see' as a management strategy in primary care; a study with brief semi-structured qualitative interviews

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Abstract

Objectives: The aim of this study was to examine how the "wait-and-see" recommendation affects adolescents' understanding of their illness and symptoms and their care-seeking behavior.

Methods: This study included brief qualitative, semi-structured online interviews. Adolescents (age 10–19 years) with long-term knee pain, who had been recommended "wait-and-see" by their general practitioner (GP), were recruited via previous studies and social media. Two researchers conducted brief semi-structured interviews through Microsoft Teams. An interview guide with open questions was created prior to the interviews and updated as new questions emerged. The extracted data was transcribed and analyzed via a reflexive thematic approach in NVivo.

Results: Eight adolescents (mean age 17.8) with long-standing or recurrent knee pain (mean duration 3.5 years) were included. The analysis identified four main themes: (1) The perception of wait and see over time, (2) The GP's acknowledgement and consideration, (3) experienced limitation from knee pain and (4) the importance of getting a diagnosis. The perception of "wait-and-see" approach changed from positive to negative when adolescents received the recommendation multiple times. Adolescents experienced frustration with their situation and a lack of consideration from their GP made them cautious about seeking additional care. Knee pain significantly limited the adolescents' physical-and social activities. Receiving a diagnosis was important and helped adolescents dealing with their pain.

Conclusions: The connotation of wait-and-see changed from positive to negative for adolescents when receiving the recommendation multiple times. The participants felt getting a clinical diagnosis was a relief. Furthermore, the lack of consideration and acknowledgement from the GP plays an essential role in the adolescent's understanding of their knee pain.

Implications: Recommending adolescents to "wait-and-see" multiple times in relation to their knee problems can lead adolescents experience frustration and a lack of consideration from their GP. It would be advisable for GPs to provide adolescents with a diagnosis as it can facilitate them in dealing with their pain and to use simple language when explaining adolescents their condition to improve communication.

Keywords: adolescent; general practitioner; knee pain; pain management; primary care; wait-and-see.

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Introduction

Musculoskeletal pain affects four out of every 10 children and adolescents [1]. One of the most frequent

musculoskeletal conditions among children and adolescents is knee pain, which affects 1 in 3 adolescents [2, 3]. The two most prevalent knee conditions are Patellofemoral Pain (PFP) and Osgood-Schlatter Disease (OSD) [2]. Knee pain is associated with reduced quality of life (QOL) and limitations in physical- and social activities [2]. Long-standing knee pain is associated with a withdrawal from leisure time sports activities which have negative effects on the overall physical activity levels during adolescence [3, 4]. Therefore, it is important to ensure initial effective treatment to counteract the potential negative consequences of long-standing knee pain.

In the past, knee pain during adolescence was considered a self-limiting condition with no long-term impact [5]. However, this assumption has been questioned by several population-based studies, which showed that 1 in every 2 adolescents still report knee pain after one year, and 4 in every 10 after five years [3, 5, 6]. Typically, the general practitioner (GP) serves as the first point of contact with the healthcare system, where knee complaints are the second most common reason for seeking out a consultation, among adolescents [7]. In general practice, about 20–50% of adolescents with knee pain are provided with the recommendation to wait-and-see (Rathleff et al. 2021 in review) [8]. Despite the commonality of this approach, it is unclear how adolescents perceive being told to wait and see, and how this might influence subsequent care-seeking behavior.

A recent systematic review and consensus statement highlights that self-management and staying physically active are important predictors for better health outcome in patients with knee pain [9]. Engaging with patients, understanding their preferences and aiding their health decisions are essential for creating such positive outcomes [10]. The first care provider contact has been shown to be an optimal time for supporting health behavioral change [11]. A recent qualitative study documented this in adolescents with knee pain, by showing that a diagnosis was experienced as a facilitator of acknowledgment of the condition and aided the adolescents' acquisition of self-management skills [12]. While several studies have identified a similar pattern of results in adults with chronic conditions [13–15], two studies have documented how obtaining a diagnostic label decreased pain catastrophizing and functional limitation in adolescents [16] trough relief of stigma and psycho-social adjustments [17]. However, there is very little knowledge on whether receiving the 'wait-and-see' recommendation carries the same positive properties as getting a diagnosis, or how being told to 'wait-and-see' affects the adolescents experience of the consultation and understanding of their ability to self-manage their knee pain. The purpose of this study is to describe the meaning of the 'wait and see' approach for adolescents regarding their understanding of illness, and motivation for future healthcare seeking through qualitative online interviews with adolescents with knee pain.

Methods

The study was conceptualized as qualitative study with online interviews [18] and reflexive thematic analysis [19, 20]. The Descriptive Phenomenological approach outlined by Giorgi et al. [21] was included on a methodological level, to aid our reflection on how to capture the essence of the adolescents' experience with receiving the "wait and see" recommendation from interviews to the data analysis [22]. All interviews were conducted via Microsoft Teams using a semi-structured approach as described by Knox and Burkard [23]. Reflective thematic text analysis by Braun and Clarke was included to structure the analysis of qualitative data extracted during online interviews. The study was conducted at Aalborg University in collaboration with the Center for General Practice at Aalborg University from March to May 2021, who provided the infrastructure for conducting the study. According to Danish law, qualitative studies without any form of intervention are exempted from ethical approval. The study was therefore deemed exempt from approval by the local ethics committee. All participants signed consent forms and a parental written consent was required, since all participants were under 18 years old. The reporting of the study was conducted in accordance with the COREQ consolidated criteria for reporting qualitative interviews and focus groups [21].

Interview design

The study utilized a semi-structured approach as described by Knox and Burkard [22] to plan and facilitate the collection of experiential data, during brief qualitative interviews. All interviews were conducted by four female medical students (BA level) who received basic training in conducting qualitative research (FR, MH, SR, TD) and had a basic understanding of treating adolescents with musculoskeletal pain in general practice, supervised by two male experts in musculoskeletal pain in adolescents (MSR; Professor, physiotherapist, AA; PhD, epidemiologist) and one male researcher with experience in conducting qualitative interviews with adolescents and adults with musculoskeletal conditions (SKJ; PhD student, information science). To ensure a high degree of synergy between interviews, an interview playbook and interview guide was drafted by all members of the research team. The interview guide was defined (see Appendix 1), utilizing knowledge acquired from a systematic literature search and input from experts in adolescent musculoskeletal pain and qualitative research in accordance with the guidelines suggested by Kvale and Brinkmann [18]. The interview guide included 6 open-ended questions which were formulated to elicit in-depth descriptions of their experiences with the knee pain, along with several suggestions for probing questions which interviewers could include as they deemed necessary during interviews. The interview guide was pilot tested in a trial

interview before the data collection was initiated, to ensure that the probing questions were relevant, comprehensible, and promoted shared construction of knowledge during the interview sessions [18]. As the trial interview was deemed successful, it was decided that it should be included into the study on equal terms as the following interviews.

Setting

As the study was conducted during the Covid-19 pandemic, all interviews were conducted via Microsoft Teams to comply with social distancing regulations. All interviews were conducted with two researchers present (FR, MH, SR, TD), with one acting as interviewer and one acting as observer to avoid that no topics were overlooked [22]. Prior to commencing the interviews, participants and a parent or legal guardian (for participants under 18 years) were briefed on the geal aim of the project, the aim of the interviews, the medical students' personal goals, their rights as participants and the procedures for data treatment according to the EUGDPR. Participants and parents were then given the option of asking questions, before parents were excused and the interviews were initiated. During interview sessions, the interviewer would sometimes deviate from the interview guide questions and follow the participants narratives about their experience with the wait-and-see approach [23]. After the interviews, the researchers debriefed the participants and parents (for participants under age 18 years) and gathered oral and written consent for data treatment. All interviews were audio and video recorded trough the Microsoft Teams recoding features, uploaded, and stored at a secure server at Aalborg University for further analysis.

Eligibility criteria

For this study we included adolescents between the age 10–19 years, with long-term knee pain, who had been allocated to wait-and-see in relation to their pain, by their GP. The age range was chosen based on WHO's definition of adolescence [24]. Participants with knee surgeries prior to experiencing knee pain and those with competing musculoskeletal pain in regions different from the knee were excluded. Furthermore, participants with competing long-term illnesses, physical disabilities which required care, as well as self-reported psychological issues which were deemed to affect their ability to recall their knee pain, were also excluded. The decisions to exclude respondents with previous and current conditions, was based on the perception that past experiences with longstanding pain and/or frequent contacts to the healthcare system may affect their experience of being told wait and see, since patients might have adjusted to their pain or being in treatment [12, 25, 26]. The study aimed to facilitate equal access by including both males and females without discrimination. To create an incentive to reply, we offered the participants a cinema ticket, which was sent them by email after they participated in the interview.

Participants

Potentially eligible participants were identified from a previous survey study [27] or through a survey shared over social media (i.e., Facebook). All eligible participants answered an eight questions online survey, through Research Electronic Data Capture (REDCap) software [28]. The online questionnaire contained demographic questions on age, sex, occupation, onset and duration of knee pain, whether participants had been provided the wait-and-see recommendation, along with a description of the researchers' background, the study's aim, methods, data treatment procedures and participants rights. Of the 41 potential responders who engaged with our post, 2 did not meet the inclusion criteria for age, leaving a total of 39 adolescents who clicked on the questionnaire and started the survey. However, 29 did not complete the survey or decided not to provide contact details or consent to be contacted. Furthermore, 2 responders who provided contact information and consent to be contacted were excluded because they could not be reached. In total, eight participants were included; seven of the participants were respondents to the online survey, and one was found through a previous study, which aimed at developing a prognostic tool for managing adolescent knee pain [27]. The process of recruitment of the participants via the online questionnaire is illustrated in Figure 1. Participants were included consecutively throughout the study. The inclusion was halted when eight participants had been included. This was deemed a sufficient sample size, based on the information power of the individual participants [29].

Data analysis

To facilitate our analysis of the data extracted from the qualitative interviews, we included a reflexive approach to thematic text analysis (TTA), as described by Braun & Clarke [19]. We included the five-step approach for TTA to guide our exploration of data, which included 'familiarization, generating codes, identifying themes, revisions and extracting a narrative [30]. NVivo coding software was included to manage, organize, and analyze the data across each step of the analysis. To safeguard against tunneling and interpretive bias, four members of the research team (FR, MH, SR and TL) partook in the analysis, interpretation and validation of the data [18], under the supervision of AA, MSR and SKJ. All interviews were transcribed ad verbatim for meaning retention [18], and thoroughly read through by all interviewers, to make them familiar with the data. An initial set of codes were identified on the semantic level, discussed, and agreed

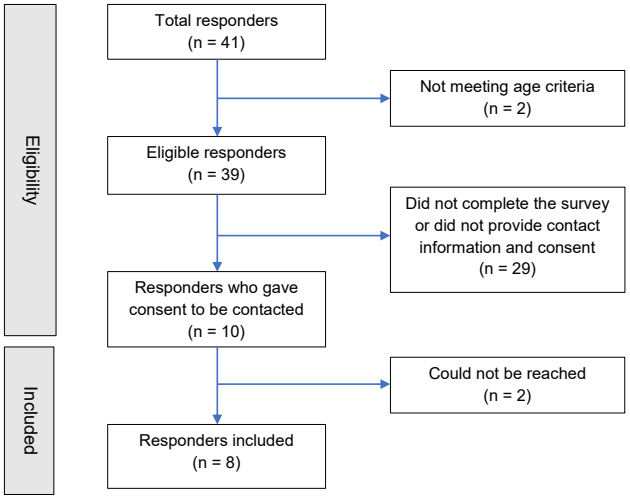

Figure 1: Flowchart showing the process of recruitment of participants to the study.

upon after the initial read-through. Subsequently, additional circles of coding were conducted, where codes were identified, discussed, and noted within a coding list as the analysis progressed. The latent themes present in the text were identified reflexively, through the inductive grouping and merger of the identified codes [19], centered around the participants' descriptions of their experiences with the 'wait-and-see approach', as well as their experience with their knee pain, and their relationship with their GP. Throughout the process a mind map was created and maintained to organize the identified themes and sub-themes hierarchically. The extracted themes were noted on post-its, grouped and discussed to identify the overarching, storybook themes. Finally, the themes were opened up, condensed into summary form and merged to form a combined narrative.

Results

Sample characteristics

Eight participants (6 females) were included in the study. The participants were located across different regions of the country, were between the age of 13–18 years (17.8 mean age) and had struggled with knee pain between 2 months and 5 years (3.5 years mean duration) with the majority experiencing knee pain in both knees (75%). All participants had received the *'wait and see'* recommendation when consulting their GP for their knee pain. Six participants (75%) had eventually received a diagnosis for they knee pain at a later stage, of whom 3 from an orthopedic surgeon, 2 from the physiotherapist and one from the GP. Two participants (25%) had surgery to their knee (Table 1).

Table 1: Demographic characteristics of the study sample.

	Category n (%)
Age (years)	Mean age 17.8; range: 13–18
Gender	Male: 2 (25%)
	Female: 6 (75%)
Location	North Denmark region: 2 (25%)
	Central Denmark region: 2 (25%)
	Region Zealand: 1 (12.5%)
	Capital region of Denmark: 3 (37.5%)
Occupation	Students: 8 (100%)
	Working: 0 (0%)
Knee pain	Right knee: 1 (12.5%)
	Left knee: 1 (12.5%)
	Both knees: 6 (75%)
Knee pain duration	Mean: 3.5 years; range 2 months – 5 years
Diagnosis (ICD)	Yes: 6 (75%)
	No: 2 (25%)
Had knee surgery	Yes: 2 (25%)
	No: 6 (75%)
Sport	Yes: 7 (87.5%)
	No: 1 (12.5%)
Painkillers use	Yes: 1 (12.5%)
	No: 7 (87.5%)

Overview of themes

The coding of the data identified a complex system of 26 themes, consisting of 13 main themes and 13 sub-themes which emerged across interviews (see Appendix 2). The emerging thematic system outlined how adolescents experience of being told 'wait and see' did not only influence how participants perceived current and previous knee pain, but also impacted their perception of self, perception of the GP and their view of the 'wait and see' recommendation.

The clustering of the themes and subthemes, led to the emergence of the four, overarching story book themes [1]: the perception of wait-and-see over time [2]; acknowledgement and consideration from the GP [3]; experienced limitations because of knee pain [4]; importance of clinical diagnosis. One interview was conducted with the presence of the participants' mother. Table 2 outlines the uncovered themes and the main findings.

Interpretation of interview data

The condensation and interpretation of the texts within the four storybook themes provided additional insights into

Table 2: The final storybook themes identified through the clustering, including shorth descriptions of what they encompass.

Themes	Description
1. The perception of wait-and-see over time	This category consists of statements the participants made about their perception of the wait-and-see recommendation, and how it has changed.
2. Acknowledgement and consideration from the GP	The category contains descriptions of the participants consulting the GP for knee pain and their experience of the clinical encounter.
3. Experienced limitation because of knee pain	The category contains descriptions of how knee pain limits physical-and social activities.
4. Importance of a clinical diagnosis	This category consists of descriptions of the participants' difficulties with getting a clinical diagnosis, as well as the change they experienced after receiving a diagnosis.

how adolescents experienced being told to wait-and-see (once and multiple times) when consulting their GP for their knee pain. In addition to this, it also gave an insight into the relationship between the GP and patient, where the GP's consideration and acknowledgement of the knee pain was highlighted. Furthermore, knee pain has shown to affect both physical-and social activities. The themes found in the interviews are outlined below.

Theme 1: The perception of wait-and-see over time

The first emerging theme consisted of statements describing how adolescents initially experienced receiving the wait and see diagnosis, but also how the feelings and beliefs related to receiving the diagnosis were subject to change across GP visits. A common theme during interviews was how the participants generally perceived "wait-and-see" as a recommendation rather than an actual form of treatment. Several participants described how they initially viewed the "wait and see" recommendation as a reasonable request, as well as an indirect indicator or confirmation that their knee pain would eventually subside in time. One adolescent described her understanding of why GPs would initially recommend wait and see to adolescents in these terms.

> I think there is a lot (of adolescents) who visits the GP with something that has only been causing them pain for a short period of time, and where there is not really anything wrong (…) and then it passes maybe 14 days later, because it is simply a case of (the adolescent) having trained too hard.

While most participants described their first experience with receiving the 'wait and see' recommendation as something positive, two participants described how their initial experience with wait and see as negative. One participant elaborated, how this was due to him disagreeing with the GP's diagnosis and therefore also the treatment.

> Yes … I understood why it was important to relax to alleviate my knee pain, but I didn't agree with him on that it (the diagnosis) was what it was, but that is a different question altogether.

From the interviewed participants, the majority described having received the wait-and-see recommendation more than once. A recurring theme, described by 6 participants, was how their perception of wait-and-see changed across multiple visits to the GP or over time. While all six participants initially held a positive attitude towards their knee pain, being repeatedly presented with the "wait and see" recommendation led participants towards adopting a more negative view on the 'wait and see' recommendation, and how this was described as being related to participants losing hope in that they could improve their condition. One participant described how her attitude change was nested in a feeling that she had already tried waiting before receiving the recommendation a second time:

> First time I saw it (wait and see recommendation) as something positive, because I saw it like, now the world wasn't ending (….) It is not something that cannot be repaired, so it is okay. Second time it was really annoying, because now I had done what I was supposed to, wait-and-see, and I had rested it (the knee), and did the things the doctor had said before. Then it was really annoying to be told that there was nothing I could do about it, because I had not gotten any instructions to improve it.

In addition, experiencing being told to "wait and see" repeatedly during multiple GP consultations increased the adolescents' doubts regarding their knee pain status. As a result, adolescents started building up alternative explanations as to why the GP would not do anything (e.g., the GP does not know what is going on or is too busy to take care of my knee). When prompted one participant articulated her suspicions towards her GP in this way:

> I started to get the feeling that he (the GP) wanted us to come in quickly, so we could be out of there quickly. I didn't feel that he took the time to see me as a young individual, rather than a person who needed to get out of the clinic, that it (the knee pain) wasn't the end of the world, and we could look at it at another time if it got worse.

Finally, the analysis uncovered how several adolescents described how repeatedly being recommended to "wait and see" eroded their trust in the GP's recommendation and on whether they could help them to improve their condition. In addition, being given different diagnosis at different timepoints (as it was the case for two participants) was a source of additional frustration, which enhanced the participants doubt on how to manage the pain. One participant articulates the doubt in the sentence below:

> I was of the impression that I should wait and see if the pain would go away. I think that this was a very unclear message to give as a GP. It made it hard to know when it was enough … I didn't know If I was supposed to return to her after a month, two weeks or when I had waited long enough.

Theme 2: Acknowledgement and consideration from the GP

Most participants experienced of not been taken seriously by their GP. Several participants described how receiving the wait and see diagnosis repeatedly felt as the GP negated or didn't recognize what experiencing knee pain meant for them and the efforts, they had taken to manage their knee pain. Two participants described how they initially felt that

getting the 'wait and see' recommendation was a recognition that their pain experience was real, but also that nothing was broken inside them. Furthermore, three participants highlighted how they felt that receiving the 'wait and see' recommendation didn't add anything to their understanding of their knee pain, and how this played a part in how receiving the 'wait and see' recommendation repeatedly, resulted in the participants stopped seeing it as a source of recognition.

> At first, I saw it as something positive, because I saw I realized that this (the knee pain) was not the end of the world, and it (the knee pain) was not due to me having broken every single tendon in joint. (…) It was really good to know that it wasn't caused by anything being broken. It wasn't something that couldn't be fixed so that was okay.

Subsequently, one participant described how the experience of being provided with the 'wait and see' recommendation multiple times resulted in her starting to fear visiting the GP for her knee pain. This was related to experiences of frustration, anger and loss of trust, which several participants recalled experiencing as a result of receiving multiple 'wait and see' recommendations. The participant articulated the emerging reluctance in these words:

> "No, I do not think so, especially not when you're told it (wait-and-see) several times. I got a little scared. I did not feel good about visiting my doctor. I knew I would just be told to wait-and-see, and let the physiotherapist do their job. So yeah, I became somewhat afraid of contacting the doctor."

Several participants who felt that the GP did not acknowledge their knee pain, speculated on whether another GP would have reacted differently. Conversely, one participant attributed the GP's ability to recognize her situation and empathize with her as being due to his/her young age. Furthermore, several participants reported how they recalled having difficulties in understanding the GP's instructions and recommendations during the clinical visits, due to what participants described as use of medical terms and jargon. This made it difficult to form an understanding of how to adhere to the "wait and see" recommendation, both in terms of the duration of the "wait and see" period, how much they were allowed to participate in physical activities during the wait and see period, and when they were allowed to return to sport. Participants also felt the recommendation interfered with their ability to participate in important activities. Two participants specifically mentioned, how they experienced that the use of medical terms made it difficult for them to understand the GP or knowing whether they were understood. One adolescent used the "google translator" analogy to describe the difficulties experiences during consultations.

> "I thought it became very half-and-half". Because I could see some of his points, but there were some, where I was a bit "what is it, you are trying to tell me here?" Because I was not that old at the time, and he used many medical terms, so I was kinda "we could use a google translator".

Theme 3: Experienced limitation from the knee pain

The majority of participants reported being what they perceived as physically active prior to the onset of their knee pain. All eight participants reported being affected by their knee pain to such a degree in which they had to reduce their participation in sports. Three participants described how receiving and complying with the 'wait and see' recommendation resulted in an additional loss of willingness or motivation towards participating in their sports, since the adolescents felt they were no longer able to perform on their previous competitive level. One participant described how complying with the 'wait and see' recommendation resulted in her not being able to sustain an elite training regime:

> "It meant that I haven't felt like attending volleyball practice anymore. I have often wanted to go train on an elite level or something like that but was always told that I have to limit myself to 2–3 training sessions per week or else it becomes too much."

Additionally, half of our participants reported experiencing how their knee pain limited them socially, due to them not being able to participate in sports, attending certain school events or how the GP's restrictions meant they couldn't bike to see their friends. Several participants described how they felt that the limitations imposed on them by their knee pain had impacted them mentally at some stage, and how this was related to the adolescents feeling like they were missing out, as their friends were enjoying activities that they could not partake in due to the knee pain. Three participants described how adhering to the wait and see recommendation, meant they had to be driven to school or social events by parents, one of them mentioned how this made him stand out in a negative way.

> "I feel like I am the weirdo. Who, if we're biking somewhere, can't do that. So I need to be driven there".

Theme 4: Importance of clinical diagnosis

All participants highlighted the importance of receiving a diagnosis, and all participants who had been provided with a diagnosis expressed relief after receiving it. This was also because not having a clear diagnosis might result in some practical issues, such as not having a valid justification to skip activities that caused them pain

(i.e., physical education at school or sport training). However, most participants received a diagnosis from a healthcare professional other than the GP (i.e., orthopedic surgeon, physiotherapist). Several participants reported that receiving a diagnosis did not necessarily answer all of their doubts and could result in new challenges or could indicate that the chances for improvement were slim. One participant articulated how getting a diagnosis from a surgeon is as follows:

> "(I) was really relieved. (I) sat outside the surgeons' office and waited for the answer with my granddad. Then he asked, "are you nervous?" I said, I am worried that they will not find anything. So it was very freeing when they found something. And that it was something they could do something about. Even if the prognosis was not so good for becoming completely pain free, it was still good".

Discussion

This study investigated adolescents' experiences and feelings connected with being recommended "wait-and-see" as a management strategy for their knee pain when consulting their GP. A significant finding highlighted that most of our participants initially felt positive towards a wait-and-see approach during their initial GP consultation, but this perception changed and became negative when they received the recommendation more than once. Following the wait-and-see recommendation, adolescents also experienced frustration with their situation and felt a lack of consideration and acknowledgement from their GP. Secondly, our analysis suggested adolescents experienced that their knee pain limited their physical- and social activities significantly. In addition, participants reported that receiving a clinical diagnosis was important and facilitated them in dealing with their pain.

Comparison with previous studies

Most adolescents in this study were initially positive regarding the wait-and-see approach, with one participant describing how the absence of a diagnostic label still provided a sense of hope. However, participants eventually ended up feeling frustrated when receiving the wait-and-see recommendation multiple times. The development of negative feelings after receiving the recommendation multiple times is slightly in contrast with findings from Plinsinga et al. [31] where adult patients with gluteal tendinopathy immediately felt the wait-and-see recommendation as disappointing and frustrating [31]. One of our participants mentioned fearing to visit the GP again after being recommended to wait-and-see several times and feeling not being acknowledged due to this. This effect has also been documented in a study of adult individuals who reported that their pain was not acknowledged when they were adolescents, due to the belief that adolescents should not have pain, and this left them with a feeling that their condition should have been considered more seriously and better examined by the GP [32]. Several participants expressed a lack of understanding from the GP in regard to the daily limitations associated with pain. This is in line with McCracken et al. [33] who described how it is both the injury and the person who needs treatment. Conversely, one participant felt that the GP acknowledged her knee pain, despite advising 'wait and see' and associated this to the GP's young age. In contrast with recent findings [34, 35], only 1 out of 8 participants self-managed knee pain with pain medication. Future studies might explore whether receiving the wait-and-see recommendation has a direct impact on the use of pain medication, their future ability to self-manage their knee pain between consultations and future care seeking behaviors [36].

Explanation of findings

In our study, most participants felt reassured after receiving the recommendation during the first encounter with the GP and the negative feelings only developed after receiving the recommendation multiple times. We found that the participants felt a lack of acknowledgment of the severity of their pain. Our analysis indicated that this could be an element of the participants' frustration, which could also be caused by a lack of knowledge on what wait-and-see entails. Participants described that the approach could have been easier to follow if communication with the GP had been better. Furthermore, our analysis uncovered that several participants had difficulty understanding the GP's message due to the GP's use of medical terms. Previous studies showed that using simple language increases the patients' ability to recall information [37–39]. In addition, studies on the health literacy of adolescents, highlight how remembering and understanding health information is difficult for adolescents, who have a limited capacity to understand and adhere to health instructions [38, 40]. As a consequence, the doctor patient relationship might be affected from this [38–40].

In this study, some participants were uncertain regarding the GP's expertise in managing knee pain. This could be due to receiving the wait-and-see recommendation multiple times, or that most of them subsequently

received a different diagnosis from a physiotherapist. This could result in adolescents feeling frustration and mistrust directed to their GPs.

Participants also emphasised the importance of being provided with a diagnosis. This could explain part of the frustration with wait-and-see, as this approach does not provide the patient a diagnosis, and consequently, does not provide them the feeling of relief associated with receiving a diagnosis.

Self-management of chronic pain is a problem-based activity, driven by trial and error, and knowing one's own condition is important for this process [41]. This might highlight the importance of receiving a diagnosis and is consistent with previous studies that stated that a diagnosis could contribute to a feeling of relief and being taken into consideration [31, 41]. This was further supported by Johansen et al. [12], which stated that receiving a diagnosis was experienced as validating by adolescents consulting health professionals (GP and physiotherapists) for knee pain, and how this removed doubts on how they experienced their knee pain, and made the participants' conditions more tangible to self-manage when it emerged in everyday situations.

Strengths and limitations

Due to the study's status as an explorative investigation, its narrow scope and focus on identifying anchor points for future research via short semi-structured interviews, several limitations emerged to be considered when reading the results. By keeping interviews short (approximately 20–25 min each), our study aimed specifically at extracting in-depth, vivid descriptions of our participants' experience of receiving the '*wait and see'* recommendation from their general practitioner, and adjacent topics. While this strategy strengthen our focus on the participants experience, this also constituted a limitation since some of the more underlying or latent themes (like e.g., psychological and social impacts after GP visits) related to the phenomena were not explored [19, 42]. Another limitation relates to the low number of participants included in the study. To alleviate this, special attention was given, to ensure a high level of diversity in our participant group though social media inclusion, plus ongoing observation and reflection on the information power of each participants [29]. Still the study's overall topic and focus, may result in some degree of selection bias, since patients with negative experiences with 'wait and see' may have been more inclined to respond to our search for participants [43]. This might result in overemphasis on some findings from the study and limited external validity. The decision to conduct the interviews through Microsoft Teams expanded our reach in terms of where participants could be included. However, this also inhibited the interviewers' ability to communicate non-verbally compared to face-to-face interviews. Still, the mediational aspects may have interrupted the flow of the interviews and the interviewers' ability to connect with the interview participants, build report and engage in a shared construction of knowledge [44], which also constitutes a limitation. Furthermore, the interviews revolved around the participants' past experiences with knee pain, meaning that participants descriptions of their experiences was susceptible to some degree of recall- and salience bias [45] and should be viewed accordingly. Due to the short duration of the study (three months duration), gaining participants feedback on the identified themes and combined narrative was not deemed a priority, which constitutes a limitation. Finally, Danish citizens generally place a high trust in GP's [46], which the general population can access free of charge. This may result in care seeking behaviors differing from countries where patients pay pr. GP consultations [47, 48], impacting patients' expectations and willingness to accept a 'wait and see' recommendation, and GPs willingness to engage in defensive practices [49, 50]. These factors may severely impact the direct transferability of the findings presented in this paper to countries with for profit healthcare systems.

Clinical implications

Our data analysis showed that the participants sought acknowledgement and information about their knee pain to understand, why they are recommended to wait-and-see. This can help patients accept and come to terms with their knee pain as suggested by McCracken et al. [33]. The findings of our study indicate that the patients' interpretation of wait-and-see risks creating a barrier for their development of self-management post GP visits, and eventually best possible health outcomes. Clinicians need to be aware to include an adequate explanation of why wait-and-see is used as an initial management strategy and be careful to use it multiple times as this carries a number of potential risks as highlighted by the participants in the current study. A recent study (Guldhammer et al. in review) found that GPs acknowledge the importance of managing adolescent knee pain and take this condition very seriously, but also expressed the need for evidence-based treatments. Tools that can support and guide the GPs in both the diagnosis and treatment of adolescent knee pain [51, 52] might help to fill this gap. Future larger studies might also investigate the long-term effect of the wait-and-

see recommendation on the knee health and the coping strategies adopted by adolescents with knee pain (e.g., reduction of physical and social activities, load management and use of pain medication).

Conclusions

This study highlighted that the connotation of wait-and-see changed from being positive to negative for adolescents when receiving the recommendation multiple times. The participants felt getting a clinical diagnosis was a relief. Furthermore, it has shown that the lack of consideration and acknowledgement from the GP played an essential role for the adolescent's understanding of their knee pain, but also the reason behind receiving the recommendation.

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Informed consent: All participants signed consent forms and a parental written consent was required, since all participants were under 18 years old.
Ethical approval: According to Danish law, qualitative studies without any form of intervention are exempted from ethical approval. The study was therefore deemed exempt from approval by the local ethics committee. The study was performed in accordance with the tenets of the Helsinki Declaration.

Appendix 1: Interview guide

Welcome

- The conversation is confidential. All your data is anonymous.
- This is a thesis which is a part of our medical education.
- We wish to understand how adolescents (age 10 to 19 years) with knee pain experience recommendation "wait-and-see" when seeking treatment.

Preliminary questions:

Name:
Age:
Ethnicity:
District:
Occupation/education:
Sport activity:
Previous illness / injury history:
Parental occupation:
How long have you had knee pain?
Which knee?
Have you been diagnosed or did your doctor tell you to "wait-and-see"?
How long have you had the diagnosis?
Did you use pain killers?
Are you knee operated?

Knee pain pre-visit

1. Describe the situation where you experienced the knee pain for the first time.
   - Where were you? What were you doing? (Go through the experience step by step - let the patient talk).
   - What did you think when you first felt the knee pain? (Did the patient think it would disappear spontaneously).
   - When did you tell your parents about the pain? What did your parents say?
   - How long did it take you to visit the doctor the first time?
   - Who contacted the doctor? You or your parents?
   - Did you take any painkillers or receive any other treatment regarding this matter prior to the first consultation at the doctor's office? Did you reduce physical activity prior to the visit?

Consultation

2. Describe your consultation with the doctor. Go through it step by step.
   - What did you expect the doctor would do about your knee pain?
   - Did you feel the doctor acknowledged your injury? - In that case how did it change your perception of your knee pain?
   - Did you get any restrictions from the doctor?
   - How did it feel when you got diagnosed, was it a relief or did it create concerns?
   - Did you get a diagnosis?

3. What is your understanding of wait-and-see?
   - What should you look for and when?
   - How long do you think you have to wait before you will contact the doctor again?
   - Why do you think you were asked to wait-and-see?
   - Which phrasing did the doctor use, when the doctor said wait-and-see, and how did it make you feel?
   - Did you get painkillers with your "wait-and-see recommendation?

Parents

4. Can you describe what your parents have done for your recovery?
   - How did you feel your parents reacted to what the doctor said, "wait-and-see"?

Alone

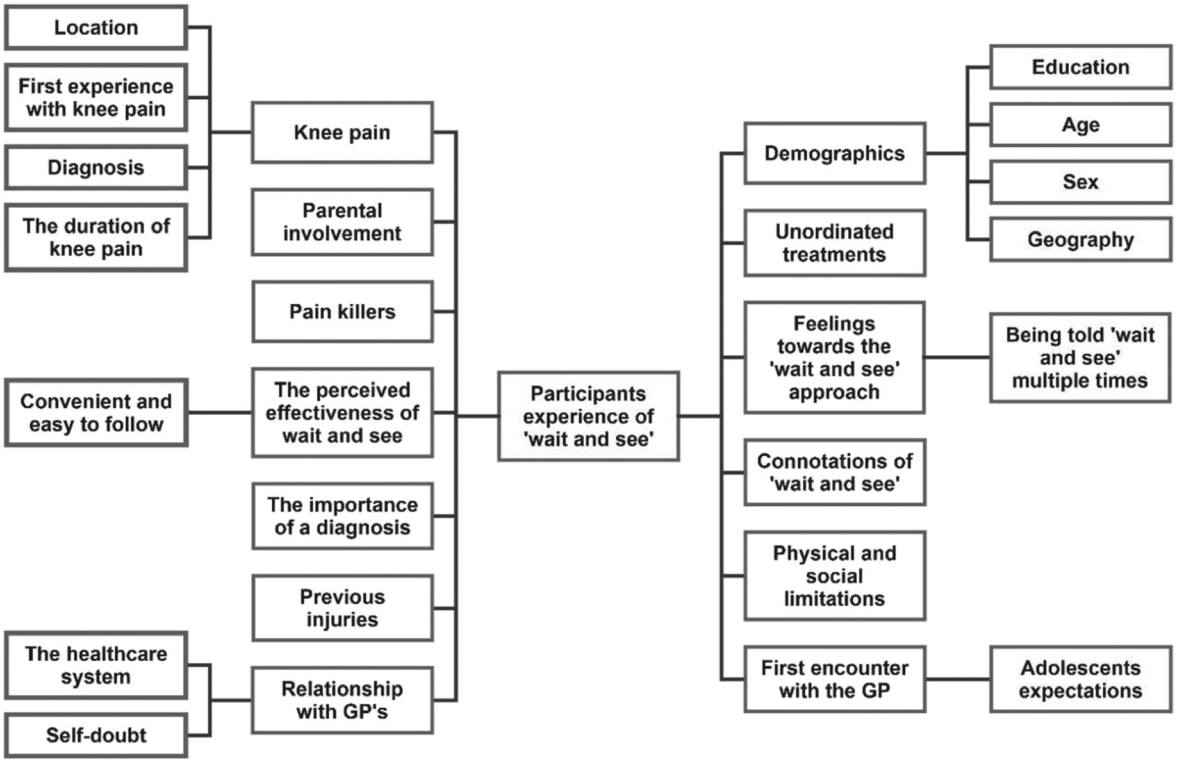
- Did you feel safe without your parents?
- Did you wish your parents were with you/or not at your visit to the doctor?
- Did you understand what the doctor told you about your injury?

Knee pain post visit

5. How did you handle your pain after the doctor's visit?
   - Did you choose alternative treatments (medicines) without the doctor's recommendations?
   - Did your behavior and perception of sport change after you were told to wait-and-see?
   - How did your understanding of your pain change after the doctor said that you should wait-and-see?
   - Based on the message "wait-and-see"-would you seek out your doctor again?
   - How did you perceive "wait-and-see"? Do you consider it as positive or negative? And why?
   - How would you perceive it, if you received the message "wait-and-see" the next time you go to the doctor regarding your knee pain?
   - Have you reduced your daily activity level for example by avoiding sports after receiving the wait-and-see recommendation?
6. Is there anything else that you think might be relevant that we forgot/neglected to talk about?
   - What did they experience afterwards?
   - How they experienced and understood it.
   - The clinical meeting.
   - Indications of experiences with pain.

Appendix 2

An overview of the themes, subthemes and thematic relationships identified through the coding of the data.



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