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Original Research

Primary Care Physical Therapists' Experiences When Screening for Serious Pathologies Among Their Patients: A Qualitative Study

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Abstract

Objective. A vital part of the initial examination performed by a physical therapist is to establish whether the patient would benefit from physical therapist intervention. This process includes knowledge about contraindications for treatment and screening for serious pathologies. However, little is known about the physical therapists' views and thoughts about their own practice when screening for serious pathologies. The purpose of this study was to explore the experience gained by physical therapists when screening for serious pathologies among their patients.

Methods. This was a qualitative study based on individual semi-structured interviews with 9 primary care physical therapists. The interviews were analyzed using reflexive thematic analysis, and generated themes were explained and reported with relevant quotes.

Results. Three overall themes were generated: (1) the role of physical therapists in the diagnostic process; (2) responsibility from the individual to the group; and (3) the difficult task of cooperation. The physical therapists described how they relied more on their clinical suspicion than on asking red-flag questions when screening for serious pathologies. They also questioned their differential diagnostic abilities. Finally, they saw a potential to further enhance their confidence in the area by reflecting on the matter with colleagues and by receiving more feedback about their clinical reasoning regarding serious pathologies from general practitioners.

Conclusion. These findings suggest that physical therapists primarily rely on their clinical suspicion when screening for serious pathologies but at the same time are uncertain about their differential diagnostic abilities.

Impact. These findings can inform future interventions targeting the physical therapists' abilities to detect serious pathology.

Keywords: Primary Care, Qualitative, Red Flags, Serious Pathology

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Introduction

Musculoskeletal conditions remain one of the largest burdens of disease in primary care settings,[1,2] and a central part of the treatment pathway for individuals with musculoskeletal conditions is primary care physical therapy. Physical therapists have comprehensive knowledge about assessment and treatment of musculoskeletal conditions and are therefore considered experts within the musculoskeletal area. A vital part of a physical therapist's initial examination is to establish whether the individual would benefit from physical therapist intervention, which requires knowledge about contraindications and precautions for physical therapist intervention. This knowledge, combined with the physical therapist's ability to adequately screen for serious pathologies (eg, cancer or vertebral fractures), is one of the most important aspects of the clinical reasoning process,[3] because the physical therapist's ability to correctly identify pathologies that require specialist referral and handling could ensure timely treatment and therefore enhance patient safety. The focus on patient safety and physical therapists' differential diagnostic abilities seems more important than ever because there is increased attention on direct access to physical therapy. Direct access poses a treatment pathway for the patients that could reduce delays in assessment, improve clinical outcomes, decrease health care costs, and reduce workloads on general practitioners.[4,5]

Regardless of whether the setting is based on referral or direct access, it is evident that physical therapists play an important role in relation to screening for signs and symptoms of serious pathologies (commonly known as red flags). Nevertheless, we have limited knowledge about how physical therapists actually screen for these serious pathologies, and little attention has been given to practical guidance about how this should be done. On the one hand, specially trained first-contact physical therapists express concerns about the complexity and responsibility as a first-in-line practitioner in relation to patient safety.[6] On the other hand, queries about the challenges faced by physical therapists in referral-based practice settings have revealed frustrations with the lack of autonomy, which in some cases has led to them to just providing prescribed treatments with a reduced sense of responsibility for patient safety.[7] Whereas previously conducted studies have mainly focused on physical therapists' experiences in relation to their role as clinical practitioners,[6,7] little attention has been given to their views and thoughts about their own practice when screening for serious pathologies and any difficulties and successes they encounter while doing it. Such insight could inform future initiatives or interventions that aim to improve the abilities of physical therapists in this area in both referral-based and direct access settings.

On this basis, the aim of this study was to explore the physical therapists' experiences when screening for serious pathologies among their patients.

Methods

The study was based on semi-structured individual interviews with primary care physical therapists and was reported as recommended in the Standards for Reporting Qualitative Research.[8]

Setting and Participant Description

The Danish health care system is divided into primary care (such as general practitioners and physical therapists) and secondary care (eg, hospitals and emergency care). General practitioners act as gateways to the health care system, which means that the general practitioner is the free-of-charge primary health care contact for patients and responsible for referral to primary and secondary health care. Hence, general practitioners can refer patients to primary care physical therapy with approximately 40% reimbursement. However, direct access to primary care physical therapy is also a possibility, often via private health insurance, but off-the-street treatment without reimbursement is also a possibility that is becoming more common.[9] At present, direct access does not require the physical therapist to complete additional education or acquire certification. As in many other countries, there is an ongoing debate about further extending the possibilities of direct access.

For this study, C.R.B. approached physical therapists working at primary care practices in the Central Denmark Region (1 of 5 regions in Denmark). Physical therapists with different characteristics (eg, sex, age, and experience) were strategically included to gain a range of views and experiences. A total of 24 physical therapists were approached by email, and 9 agreed to participate (most of those who declined did so due to time pressure). C.R.B. and H.R.S. decided that 9 interviews were enough based on the principles of information power.[10] Because the study aim was relatively narrow, there was a dense sample specificity and a strong quality of dialogue. Also, data from the last interviews mostly repeated those expressed in previously conducted interviews, meaning data saturation was obtained.[11] The interviews (lasting 30–45 minutes) were performed online via Zoom and recorded in January 2021 by C.R.B.

All participants gave their written and oral informed consent to participate in the study. The study was approved by the Danish Data Protection Agency (No. 1-16-02-41-19). According to Danish law, this study did not need ethics approval (Act on Research Ethics Review of Health Research Projects, October 2013).[12]

Approach and Paradigm

The research paradigm behind this analysis was critical realism based on a combination of a realist's assumption that there is a real world to be studied and a constructivist epistemology, where our understanding of the world is inevitably a construction based on our own perspectives and standpoints.[13,14] The paradigm of pragmatism also plays a role in this study because the research question is very much real-world and practice oriented.[13,14] Both critical realists and pragmatists appraise the researcher as an inevitable and important partner in the development of knowledge, which also means that the researcher's prior assumptions must be transparent.

The main researcher in this study (C.R.B.) is a physical therapist and PhD student who has been involved in several research projects in physical therapist practice. The interviews for this study were part of a larger mixed-method study with the purpose of examining the physical therapists' abilities to make correct management decisions.[15] The main researcher's (C.R.B.) assumptions and presuppositions

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Table 1. Semi-Structured Interview Guide

Main Questions	Probe Questions
• How do you handle screening for serious pathology among your patients? What do you do? Can you give examples?	• Does the existence of a medical referral change your approach to your patient? • Why or why not?
• Have you ever tried having a patient in a course of treatment, which eventually turned out to have a serious pathology? Could you try and tell about the experience?	• What made you react? • Did that change your approach to screening for serious pathologies afterwards? • How and with whom (colleagues /general practitioners) did you reflect on the episode afterwards?
• Do you feel confident in detecting or screening for serious pathology among your patients? Why or why not? • What do you think of physical therapists being first-in-line practitioners in a direct access setting? • What could help or guide you in the process of screening for serious pathologies?	• If not, what is missing? • Benefits or opportunities in this?

regarding this study are therefore shaped by the conclusions from the already performed study. The study shows that physical therapists have difficulties in making correct management decisions (especially in relation to potential serious pathologies), and this has been the basic assumption while conducting the interviews, which have inevitably had an influence on the main researcher's questions and attitudes.

Interview Guide

An interview guide was developed by C.R.B. and H.R.S. (Tab. 1). There is very little literature in the area, and the guide was therefore developed to cover the overall aspects of the screening process. The guide focused on experience gained by physical therapists in relation to their own practice and covered both open-end and follow-up probe questions. After the first 2 interviews, which were performed as pilot interviews, transcripts were read by C.R.B. and H.R.S. to ensure the interviews covered the research question as intended. Once determined, the pilots were included in the analysis. The guide was used as a reflexive director of questions, and even though the guide was used, there was also development in the questions, meaning that some of the points that were raised in the early interviews were included in the later interviews with additional questions and examples.

Analyses

The interviews were analyzed using reflexive thematic analysis,[14,16] with the purpose of identifying patterns of meaning across the data set. The analysis was inductive and semantic, meaning that the coding and theme development was directed by the content of the data while reflecting the explicit content. The interviews were transcribed by an experienced transcriber, and C.R.B. and H.R.S. familiarized themselves with the data by reading and re-reading the transcripts, and C.R.B. and H.R.S. subsequently performed the initial coding of the transcripts separately. C.R.B. and H.R.S. then discussed and shared their initial coding to reach a common understanding of which codes could be developed into candidate themes. Afterwards, C.R.B. generated initial themes by collating codes into broader patterns of meaning. The themes were reviewed, refined, and analyzed in a recursive process by C.R.B. and H.R.S. and debated in the author group. The generated themes are described and reported in the following with relevant quotes presented alongside the text to illustrate the results. To make the analysis more transparent, we chose to present themes with incorporated subthemes.

Establishing Trustworthiness

Several actions were taken to establish trustworthiness of the analysis results.[17] This included ensuring credibility through prolonged engagement with the data and researcher triangulation as described in the analysis section. Also, written memos with reflections were made throughout the interview and analyses process to ensure an audit trail, which was documented using electronic software (QSR International [1999] NVivo Qualitative Data Analysis Software).

Role of the Funding Source

The funders played no role in the design, conduct, or reporting of this study.

Results

Characteristics of the 9 participating physical therapists are presented in Table 2.

The final themes generated were (1) the role of physical therapists in the diagnostic process, (2) responsibility from the individual to the group, and (3) the difficult task of cooperation (overview in Fig. 1).

The Role of Physical Therapists in the Diagnostic Process

This theme relates to the requirements and abilities of the physical therapists when screening for serious pathologies or making differential diagnostic reflections. Interestingly, the physical therapists acknowledged the important information obtained in the initial anamnesis (patient interview), but they described how their clinical suspicion was often raised not only during the initial assessment but perhaps even more so during the course of treatment. They explained that this suspicion is often aroused when patients do not improve as anticipated, and this makes them rethink their approach to the patient's treatment. Although they believe experience has a significant impact on how fast this clinical suspicion is aroused, it seemed clear that newly educated physical therapists pay attention to the (lack of) improvement over time. One physical therapist describes that initial red-flag questions might, in some cases, have revealed what he discovered later, but because he was inexperienced and did not know what to look for, he missed the initial signs of serious pathology.

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Table 2. Participants

No.	Age, y	Sex	Practice Experience, y	Practice Size[a]	Direct Access	Quality Audit[b]
1	36	Female	11	Large	Yes	Yes
2	28	Female	3	Large	Yes	No
3	30	Male	5	Large	Yes	No
4	60	Female	12	Large	Yes	Yes
5	30	Female	4	Large	Yes	No
6	37	Male	2	Large	Yes	No
7	34	Male	1	Large	Yes	Yes
8	41	Male	15	Small	Yes	Yes
9	47	Female	14	Large	No	Yes

[a]Small = <6 physical therapists employed; large = ≥6 physical therapists employed. [b]Indicates if the physical therapists have passed a national quality audit, which includes inquiries into red flags in the patient record.

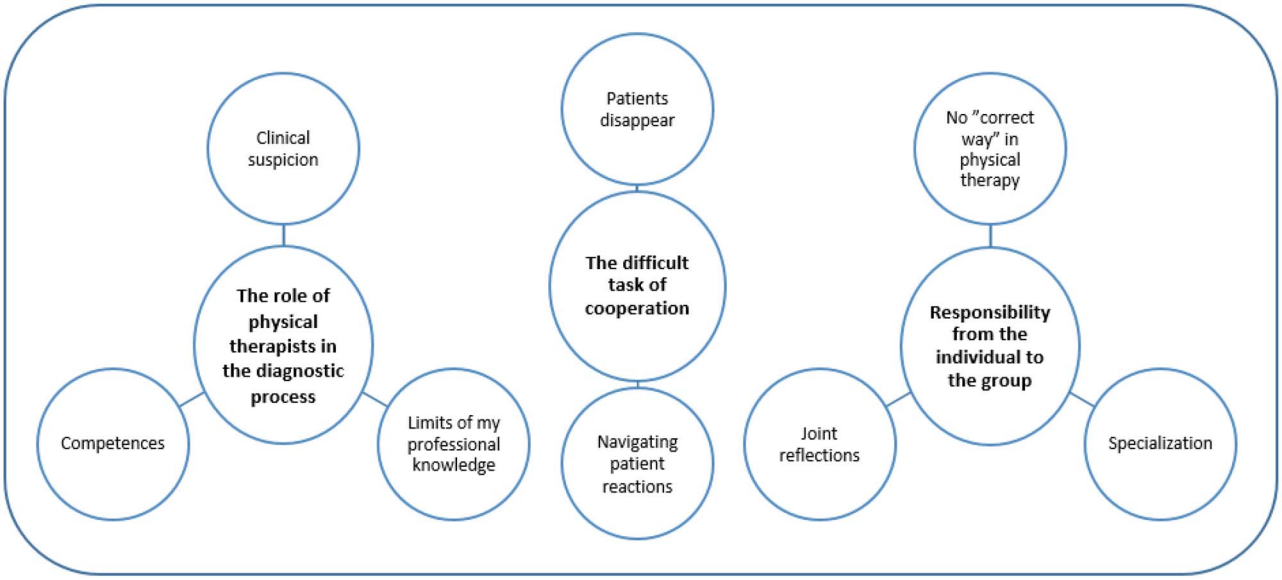

Figure 1. Identified themes.

> "I think I would have noticed it if I had made a thorough anamnesis. There was something there, it wasn't just a facet joint, she had intense pain during the night, not related to any positions or anything. Okay, here I need to think there's something wrong... I hadn't learned about it or hadn't been paying attention to the red flags. It was only that gut feeling that this should improve, and it didn't—it's getting worse. We have to do something." [Participant 3]

The physical therapists also connect the clinical suspicion to the limits of their professional knowledge. They describe that they feel capable of identifying musculoskeletal conditions and therefore also capable of identifying when something is not right. However, they also acknowledge that perhaps they may not be able to make the specific differential diagnosis and question whether they need to do this.

> "If it's in the organs, there's pain under the ribs, right? I would think; is this something musculoskeletal? And I would start my assessment. But I wouldn't be able to say what it was." [Participant 9]

> "I hope that even though I perhaps don't ask the questions, I can feel something is off or wrong here, something doesn't make sense. So I notice it even though I can't diagnose it." [Participant 3]

The above relates to the physical therapists' competences, which reflect their ability to convert red flag questions, or their clinical suspicions, into meaningful reasoning. This will precondition them to know what to look and ask for. Some of the physical therapists questioned this ability because they felt uncertain, due to unclear definitions of red flags, as well as limited resources and guidance in how to screen for serious pathologies.

> "I really think it is difficult to find, you know, precisely what the red flags are, because it is so broad. I can see that's a quite big problem when you can barely find decent knowledge about this, or you don't know where to look for it." [Participant 5]

> "First of all, I'm always uncertain when someone says red flags, what they actually cover. So when you talk about red flags it's like a common thing. But, is it a mortal illness or is a diabetic with a wound on the foot with increased risk of amputation, is that also a red flag? Perhaps he won't die from it but he'll be disabled. I haven't seen that clear definition of what to consider a red flag. Perhaps it's just because I haven't been paying attention, but to me it's unclear." [Participant 6]

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Responsibility From the Individual to the Group

The physical therapists acknowledge their responsibility when it comes to patient safety while screening for serious pathologies.

> "As a practicing physical therapist I have a huge responsibility. It all comes down to me, if I don't have a patient record, a thorough assessment, and then there's some serious pathology, I've missed . . . " [Participant 3]

They also stress that they have very different approaches to the screening process and treatment in general. They point to the individual approach as the consequence of there being no single correct approach in physical therapy. This reflects both their personal feeling of uncertainty and which type of specializations the physical therapists have completed.

> "We're different as physios in relation to how cautious we are, it's not always how skilled you are, it can also be that certainty in saying; no, you have to go to your general practitioner before I'll do anything, right? . . . In practice, we're very different people and that reflects our different ways of assessing and systematizing, our approach to treatment, training and so on." [Participant 9]

An individual and narrow approach is found among physical therapists who specialize in specific areas (eg, shoulder). Their focus when examining patients is often on their area of expertise, and often, they do not make an initial screening.

> "When I have students, I want to teach them to think in broad terms and then zoom in. But that's probably not how I work. I think that I already have an idea about what's wrong when I start the anamnesis and then I will confirm it. And if I can't confirm it, then I'll start opening the box and think: well, what's going on then?" [Participant 6]

Physical therapists with certified musculoskeletal specializations (such as the Musculoskeletal Specialization [MT] or the McKenzie method) describe how this has helped them structure and prioritize the initial screening.

> "I'm taking the MT where we learn to screen for red flags. And that means, when I see a patient, I want to get that cleared first . . . It's not until after I started the MT that I think I've become confident in doing it." [Participant 2]

However, some question whether the structured approach alone increases their ability to screen for serious pathologies.

> "Well, there are all these standardized phrases where you can say; I have to get though these predefined questions in my anamneses, and then there's this little area around the red flags I'll have to remember and then I'm home safe. But I'm not really sure why I'm asking these things, but I'll be able to say I've covered it." [Participant 7]

Furthermore, the physical therapists point to the joint reflections with colleagues as one of the most beneficial things when addressing difficult patients. This also applies to screening for serious pathologies, where discussions about the definitions of red flags and how to ask red-flag questions enhance their ability to look beyond the initial questions and strengthen their clinical reasoning skills. Joint reflections have to a certain extent been forced on some of them because of a national quality audit in primary care physical therapy, which involves inquiries into red flags in the patient record. Physical therapists from clinics that have passed the quality audit reports have made a joint effort to address the documentation of red flags, which has further revealed the benefits of joint reflections in this area.

> "I'm happy we've been through this quality audit, because we sat down together and we had this ping pong back and forth and talked about what do you do and why and so on." [Participant 8]

Also, the benefits of trying to relieve the individual of some of the responsibility and place it on the group become clear when they talk about newly educated physical therapists and how they have an even greater need for guidance on how to address serious pathologies, because pregraduate training in serious pathologies is described as insufficient.

> "Today, I'm not at all afraid of going in and asking some of the more experienced physios. Go in and say: can I get a second opinion on this. To confirm my own theory, that's one of the things that has really helped me, when I finally had the nerve to do that. If we agree, it's a confirmation that hey, I can do this, but also to get someone else's view on it, because perhaps I've missed something." [Participant 5]

The Difficult Task of Cooperation

The physical therapists acknowledge the learning potential in obtaining confirmation regarding their reasoning about their patients. They describe that, in most situations where they suspect serious pathology, this is not possible because the patients are most often sent back to their general practitioner for specialist referral. As a consequence, the patient disappears and the physical therapists are left with an unsatisfying and frustrating doubt because they do not know if their reasoning was correct. They would like to receive feedback from general practitioners because they believe that this would improve their ability to detect these serious pathologies.

> "In general, I think it's difficult, also because we can look for the red flags and stuff, but then we send them to the general practitioner and then often we actually don't know if there was anything, because then we don't see them again." [Participant 7]

The cooperation also includes navigating patient reactions when confronted with the possibility that the cause of their symptoms is based on something serious. It can be difficult to make the patient understand that they need to go to the general practitioner for additional tests without alarming them unnecessarily. This also relates to the (lack of) cooperation with the general practitioner, where confirmation of differential diagnosis can sometimes come from the patient and not the general practitioner.

> "And I said to her; I don't really believe in this anymore. There has to be something else than your muscles or joints. I think you need to go to your general practitioner. And then she came to me a couple of weeks later and told me she

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> had cancer 3 or 4 different places and in the organs. And she was just so happy. And I thought, wow, it would have been the opposite, now I've given you this really serious . . . You've found out it is really bad. But she was just so happy that a physical therapist had explained why she was in so much pain and now she could get some treatment, otherwise it would have been weeks or months or who knows how long before it would have been discovered." [Participant 3]

However, the physical therapists' experience is that when they send a patient to the general practitioner because of a suspicion, the patients are generally positive and grateful. Some of them say that sometimes it even increases the trust between them and the patient because the patient feels that he or she is being taken seriously.

Discussion

This study provides an insight into physical therapists' experiences when screening for serious pathologies. The physical therapists describe that they rely on their clinical suspicion when screening, and although they acknowledge their responsibility from a patient safety perspective, they also question their abilities and role in differential diagnostics. They point to the benefits of trying to relieve the individual of the responsibility and placing it on the group through joint reflections with colleagues. Furthermore, they see a potential for further enhancing their abilities and confidence in the area if it were possible to receive feedback from the general practitioner on their clinical reasoning.

Experience gained by physical therapists when screening for serious pathology highlights an interesting gap between practice and clinical guidelines, because most guidelines recommend screening for serious pathologies by asking red-flag questions.[18] Although red flags are a well-known concept to physical therapists, it seems that red-flag questions are not what they rely on most when addressing possible serious pathologies. Instead, they point to their clinical suspicion as the key source. Furthermore, in our study, the physical therapists expressed clear doubts about what red flags actually cover, and describe that, in their experience, red-flag questions are asked in very different ways. Other studies have found similar results when examining physical therapists' understanding and documentation of red flags.[19,20] This raises the question of whether the guideline-endorsed screening method is the best. This aligns with other studies that problematize the use of red-flag questions and claim that they should not be used as the main screening method.[21–23] Also, red flags are inconsistently being used in guidelines, there is a lack of consensus about which red flags are the most important ones,[24] and the majority of red flags in themselves are of no interest or significance when screening for serious pathologies.[25]

The evident problems with the use of red-flag questions may imply that our results are reassuring, seeing that physical therapists rely heavily on their clinical suspicion and not red flags. If the physical therapists are able to identify serious pathologies primarily based on clinical suspicions, then the guidelines regarding serious pathologies would benefit from a shift from red flags to clinical suspicion and knowing how to strengthen this ability. Interestingly, clinical suspicion is already defined in the literature as a red flag; looking at, for example, red flags for malignancy in low back pain shows that "strong clinical suspicion" and "past history of malignancy" are the only 2 informative red flags based on diagnostic accuracy.[25] This aligns with the fact that general practitioners' "gut feeling" is increasingly being acknowledged as an important diagnostic tool when diagnosing, for example, cancer.[26,27] Furthermore, clinical suspicion plays an important role in one of the few practical guidelines recently published by Finucane and colleagues, who argue that one of the most important things when screening for serious pathologies is the level of concern raised during the examination.[28]

There is a need to further develop and implement practical guidelines on how to perform the screening process, because, at present, the clinical guidelines for the musculoskeletal area do not take the complicated nature of serious pathologies into consideration when merely advocating screening for red flags. In this study, the physical therapists question whether there is a correct way of screening for serious pathologies. The before-mentioned focus on clinical suspicion underpins that perhaps there is no one single correct way of screening, because it is the combination of red flags, time, pattern recognition, and experience that lead to the clinical suspicion. This further highlights the need to focus on how to strengthen and enhance the clinical suspicion, and perhaps this is most important at the pregraduate level or among newly graduated physical therapists to counter-balance their lack of experience. This is supported by evidence that suggests that experienced clinicians are able to use a range of strategies (fast and slow reasoning as well as inductive, deductive, and abductive hypothesis inferences) to inform their clinical reasoning and thereby enhance the reliability of their clinical suspicion.[3]

The results of our study also contribute to a relevant discussion of the differential diagnostic abilities that physical therapists should possess. The physical therapists state that often, they do not know what the specific differential diagnosis is; they just feel something is wrong. That raises the question of whether it is sufficient to be specialized in a certain area, for example, the musculoskeletal field, and to be able to identify the characteristics and symptoms of conditions or complaints within that field. Perhaps physical therapists' differential diagnostic abilities should focus on them being able to describe why the patients' symptoms *do not* fit within their area of expertise instead of expecting that the physical therapists are capable of navigating and identifying a long and comprehensive list of possible differential diagnoses. This, however, contradicts the literature on clinical reasoning skills, where knowledge about possible differential diagnoses is considered to be very important.[3] The differential diagnostic task, however, seems overwhelming to some physical therapists. It would be beneficial if this task could be lifted from the individual and shared in the group (or the clinic). This aligns with one of the main themes in this study, namely that the physical therapists' experience of lifting the screening process from the individual and placing it with the group by means of joint reflections improves their individual reasoning skills.

The further development of shared reflections internally in practices could be seen as a possibility to develop physical therapists' abilities and could also be incorporated in the differential diagnostic processes. Another interesting angle on joint reflections or cooperation could be expanded by rethinking the physical therapists' role in the diagnostic process in primary care by attempting to incorporate further interprofessional collaboration with general practitioners into the

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area of suspected serious pathologies. This taps into an interesting and challenging reality faced in primary care: How do we tailor treatment pathways for patients with musculoskeletal conditions that are appropriate and safe while taking advantage of the abilities of various health care professionals and securing inter-professional collaboration between the individual players?[29,30]

Limitations

The interviews were performed by 1 interviewer (C.R.B), and the data analyses were performed in collaboration with a highly experienced interviewer and qualitative researcher (H.R.S.), which enhanced the credibility and dependability of the findings. Written memos were used to record reflections and preconceptions to try to avoid a confirmatory approach to the interviews and analysis. Also, some of the physical therapists may have answered questions in a certain way or agreed in order to please the interviewer. However, an effort was made to avoid this by stressing and recognizing how difficult and complex the screening process is, thereby appreciating their honest answers and justifying expressed uncertainty. Based on the present study, we can only report findings on the experience gained by the physical therapists while screening for serious pathology as they describe it, but future studies could advantageously focus on observations during the screening process to cast further light on how the physical therapists actually conduct the screening process. Also, studies focusing on thick descriptions with different data sources would be of interest. Although the limited number of participants could be a limitation, the purposeful sampling of participants alongside the semantic and inductive approach to the analyses makes the results viable and enhances the transferability. Another limitation is the fact that health care systems, educational training, and specializations vary widely across nations and regions. However, we believe that our results provide valuable knowledge about universal concerns among physical therapists regardless of practice settings.

This study contributes with knowledge about physical therapists' views on screening for serious pathologies. Although the physical therapists explain that they are able to screen for serious pathologies by relying on their clinical suspicion, they also point to several uncertainties, such as unclear definitions of red flags and their feelings of sometimes possessing limited differential diagnostic abilities together with a lack of feedback about suspected serious pathology findings. Perhaps it is time for a shift in the guideline-advocated screening methods from red flags (which are often informative) to clinical suspicion and how it can be enhanced. This especially applies to students during early clinical practice, because these groups have an extra need for guidance when faced with possible serious pathologies.

Author Contributions

Concept/idea/research design: C.R. Budtz, H. Rønn-Smidt, J.N.L. Thomsen, R.P. Hansen, D.H. Christiansen
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Project management: C.R. Budtz
Fund procurement: C.R. Budtz, D.H. Christiansen
Consultation (including review of manuscript before submitting): H. Rønn-Smidt, J.N.L. Thomsen, R.P. Hansen, D.H. Christiansen

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Disclosure

The authors completed the ICMJE Form for Disclosure of Potential Conflicts of Interest and reported no conflicts of interest.

Ethics Approval

The study was approved by the Danish Data Protection Agency (no. 1-16-02-41-19). According to Danish law, this study did not need ethics approval (Act on Research Ethics Review of Health Research Projects, October 2013).

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