EMPIRICAL STUDIES

Experiences of low back pain in adolescents in relation to physiotherapy intervention

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Abstract

The aim of this study was to generate a substantive theory, based on interviews with children and adolescents with low back pain (LBP), explaining how they manage their main concerns in daily life. Tape-recorded open interviews were conducted with 14 boys and girls with LBP, aged 12–18 years, who participated in a 12-week physical therapy intervention. The grounded theory was used for analyzing the transcribed interviews. A core category, *mobilizing own resources*, emerged from the analysis, describing how adolescents with LBP succeed in managing their main concern, *gaining body confidence*, in daily life. The core category was divided into four categories labelled: *coaching from the physiotherapist, seeking for information, compliance with physiotherapy* and *gaining energy from pain-free moments*. The categories formed a substantive theory, illuminating how young people with LBP experienced physical therapy intervention. The theory explains and provides a deeper understanding of the main concerns of these adolescents and their strategies in managing their life situation.

Key words: *Physiotherapy, low back pain, adolescents, grounded theory*

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Low back pain (LBP) is one of the most common reasons for patients to seek primary care (Wadell & Burton, 2005). An estimated 69% of Sweden's population experiences back pain at some point in life (Ihlebaek et al., 2006). In recent years, research has shown that the incidence of LBP has increased among children and adolescents (Jeffries, Milanese, & Grimmer-Somers, 2007; Kjaer, Wedderkopp, Korsholm, & Leboeuf-Yde, 2011). We know that chronic pain among adults may, in part, be rooted in untreated painful experiences in childhood (Schechter, Berde, & Yaster, 2003) and that young people who have suffered from LBP are more likely to suffer from these problems as adults (Kjaer et al., 2011; Watson et al., 2002). It is estimated that more than one-third of the children with recurrent pain continue to have problems in adulthood (Alfvén & Olsson, 2008).

The occasional experience of pain and discomfort that affects our ability to function is a natural part of life. Pain is also likely to be the primary symptom that motivates us to seek care. The definition developed by the International Association for the Study of Pain (IASP) is considered to be the most accepted: "Pain is an unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage" (Merskey, 1994). Chronic or persistent pain is becoming increasingly recognized and is defined as pain that continues beyond the normal healing time of 3 months (Victor & Richeimer, 2006) or that it is present most of the time over a span of 6 months or more (Gureje, Von Korff, Simon, & Gater, 1998). When pain leads to avoidance behaviour with fear of moving, the individual risks entering a vicious cycle, resulting in functional disability and an increasing perception of pain (Leeuw et al., 2007; Lundberg, Larsson, Östlund, & Styf, 2006). Knowledge about the incidence and significance of chronic pain in children has increased over the past decade and shows a high frequency (Alfvén & Olsson, 2008). Longitudinal studies are scarce, but those that have been done indicate a considerably worse prognosis than previously suspected (Alfvén & Olsson, 2008).

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LBP can be defined as pain or discomfort located between the lower costal arch and the gluteal folds, with or without referred leg pain (Van Tulder, 2003). Many factors have been shown to be related to the occurrence of LBP in children and adolescents. LBP is more common among girls and increases with age (Kjaer et al., 2011; Van Tulder, 2003; Watson et al. 2003). Other risk factors are poor physical condition (Harreby et al., 1999), intensive sports (Lundin, Hellström, Nilsson, & Swärd, 2001), reduced strength in muscles that support the back (Sjolie & Ljunggren, 2001), as well as reduced hamstring flexibility (Sjolie, 2004). Psychosocial and emotional factors have also been observed to play a role (Balagué, Dudler, & Nordin, 2003), as does family history of LBP (Gunzburg et al., 1999). A study by Watson et al. (2003) showed a strong correlation between LBP, emotional and behavioural problems, as well as other physical problems such as headaches, stomach aches, sore throat and fatigue. Awareness of these factors is important, as is knowledge about the maturity and development levels of children and adolescents, so that support and information can be appropriately provided in a way that young people understand (Sällfors, 2003). Pain is subjective, and regardless of whether we can find its cause, the child's experience of being in pain must remain the central issue (Jedel, Carlsson, & Stener-Victorin, 2007). Researchers now consider it to be important that children and adolescents personally assess their problems as parents often underestimate their child's pain (Jedel et al., 2007; Sundblad, 2004).

The ability to manage and master difficult situations is called coping. The most frequently used definition of coping is the one by Lazarus and Folkman (1984), "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." According to Lazarus and Folkman (1984), the choice of coping strategies a person makes emanates from this definition. The inclinations children have to develop and use coping strategies differ from adults', a fact that is often explained in terms of developmental and environmental conditions (Fields & Prinz, 1997). Several studies describe different types of coping strategies used by children in different states of pain as part of their healing process (Alfvén & Olsson, 2008; Schanberg, Lefebvre, Keefe, Kredish, & Gil, 1997). It has been shown that girls use more emotional strategies and are more docile in treatment, whereas boys use more problem-solving strategies (Sällfors, 2003).

An active approach with the resumption of normal activity, while maintaining function, is the primary objective in the rehabilitation of patients with LBP (Hayden, Van Tulder, Malmivaara, & Koes, 2005; Krismer & Van Tulder, 2007). Exercise as treatment is an effective method to reduce pain and improve function in adults with subacute and chronic LBP (Hayden et al., 2005), although no consensus has been reached yet about the kind of exercise or active treatment that is preferable (Hayden et al., 2005; Rasmussen-Barr et al., 2009).

Research also shows that physical activity and exercise programmes are more effective when formulated and applied according to the unique situation of each individual (Hayden et al., 2005; Rasmussen-Barr et al., 2009). Physiotherapy seems to enhance personal healing factors such as positive expectations of trust and confidence in the individual's ability to manage problems, which promote patient recovery (Rasmussen-Barr et al., 2009). It is also shown that an individual's ability to cope with LBP in daily life determines the treatment outcome in terms of perceived quality of life and limitation of activity and also that each patient must be considered individually to achieve optimal care (Leeuw et al., 2007).

Few treatment studies on children and adolescents with LBP have been published. One published study on children and adolescents shows that individual assessment and follow-up, including active treatment intervention, carried out by an experienced physiotherapist improves self-perceived health and function and reduces pain, while increasing mobility and strength (Ahlqwist, Hagman, Kjellby-Wendt, & Beckung, 2008). Another study shows that an exercise programme tailored for children and adolescents with recurrent non-specific LBP has a beneficial effect, including reduced pain intensity (Jones, Stratton, Reilly, & Unnithan, 2007).

We need to gain an improved and deeper understanding of how children and adolescents personally perceive their LBP. If physiotherapy is to provide preventive help to children and adolescents, we "from the perspective of the physiotherapist" need to strive to view the world and the concrete situation through the eyes of the children and meet them on their own terms. We cannot investigate this process unless we go to the experts, the patients themselves.

Purpose

The aim of this study was to generate a substantive theory, based on interviews with adolescents with LBP, explaining how they succeed in managing their main concerns in daily life.

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Method

The grounded theory method used in this study is an approach to data collection and data analysis, originally developed by Glaser and Strauss (1967) and further by Glaser (1992) and Charmaz (2006). This study relies on the subjective experience of adolescents with LBP and has an inductive approach. We used Glaser's classical version of grounded theory (2003). Our intention was to generate a substantive theory explaining the studied area.

Study group

In this study, 14 informants—boys (6) and girls (8), aged 12–18—participated. The informants were strategically selected on the basis of age, gender, family structure, disease activity and duration of LBP. Also, categories generated in the analysis of data directed further theoretical sampling that continued until saturation was reached. The informants had participated in physiotherapy intervention in conjunction with this study or had participated in an earlier treatment intervention conducted in 2006 (Ahlqwist et al., 2008). The treatment intervention involved individual assessment with follow-up and individually tailored physiotherapy, as well as a 12-week home exercise programme (Ahlqwist et al., 2008).

Data collection

Informants and their parents were contacted through an information letter describing the purpose of the study and requesting participation in the study. It was made clear that participation in the study was voluntary (informed consent) and that no unauthorized person had access to the data during the course of the project, i.e., information would be treated in accordance with the provisions of the Secrecy Act. Informants were requested to share their experiences during a tape-recorded open qualitative interview lasting 45–60 min. An interview guide with a few open questions was used. The interviews began with the open question, "When reflecting on the physiotherapy you received, what are your thoughts?". This open question was aimed at starting the interview, allowing the informants "to express their experience" in their own words. The interviews continued with questions concerning how the informants experienced their LBP and whether they had a strategy to cope with their pain. The interviews covered how the informants felt about the physiotherapist and their communications, also if the treatment intervention had any other effect on them. The questions were not predetermined in the open qualitative interview, and the interview guide only explained the goal of the study. The interviews were tape-recorded and then transcribed by the first author (A.A.). Collection and analysis of data were carried out simultaneously according to the guidelines for grounded theory (Glaser & Strauss, 1967) and continued until new data did not provide additional information, i.e., until saturation was reached (Glaser & Strauss, 1967).

Data analysis

In this study, the transcribed interview protocols were analysed according to the guidelines for classical grounded theory (Glaser, 2003). A grounded theory study includes quality and trustworthiness in all phases of the process according to Glaser and Strauss (1967). The purpose of the coding process is to gradually identify the concepts and categories that emerge from the text (Hallberg, 2002). The key point in the analytical process is that the emergent categories show as many graduations in the data as possible. Coding was done in several steps to create what Glaser and Strauss (1967) refer to as categories with different properties. The concepts or codes are always developed from and grounded in the empirical data, and coding is carried out word by word or sentence by sentence. The concepts can then be created directly from the words said by the informants (i.e., *in vivo* codes), e.g., to feel powerless, be limited, having care and assistance from others. In the open coding, the text is broken down into meaningful units and assigned a name (a substantive code) that describes the significance of the meaning-bearing unit (Glaser, 1978). The units are compared to identify similarities and differences and are then combined into preliminary categorie. Codes with similar meaning were clustered into summarizing subcategories, e.g., exercises provide structure, getting energy from treatment and gaining confidence in exercises (Table I). Each category, e.g., coaching from the physiotherapist, was further developed by identifying its subcategories, e.g., professional support and being aware of inherent capabilities. Thoughts and ideas that arose during the course of the project were recorded as memos and dated. Documents on the categories were highly meaningful and saved time when writing the report on the study.

In the selective coding process, all the generated categories were saturated with information from new interviews (i.e., theoretical sampling). Questions like "What is this all about?" and "What is the main problem of the young informants with LBP?" were put into the data to find a core category. A core

Table I. Illustration of steps in the coding process.

Interview text	Subcategory	Category	Core category
. . . "It felt good, it was as though someone wanted to tackle it. Yeah, it feels like someone cares. That you're taken seriously. Like someone is listening to your problems and all."	Professional support; being aware of inherent capabilities; trust and hope	Coaching from the physiotherapist	Mobilizing own resources
. . ."I was paralyzed by the pain and really needed to know what was wrong. So I went to the school nurse."	Information from the school nurse; information from the physiotherapist; insight and reorientation	Seeking for information	
. . . "You feel you've gotten stronger and capable of doing more exercises and all that, like pushing yourself a little harder."	Exercises provide structure; gaining energy from treatment; gaining confidence in exercises	Compliance with physiotherapy	
. . . "I feel I'm on a good path. Like my back can handle more and I feel stronger. Really nice. It feels like I'm back."	Handling pain; ability to achieve change; distraction by recovery	Gaining energy from pain-free moments	

category, which was central to the data, was identified and labelled *mobilizing own resources*. The results of the analysis clarified a process of how young people experienced LBP in relation to physiotherapy. A second assessment by the co-author was used for the emerging categories. All quotes followed the categories throughout the analysis. The most descriptive and content-rich quotes have been kept in the compilation of results to illustrate the categories. Glaser (1992) stresses that a grounded theory must fit well and explain the studied phenomena analytically, work appropriately and be of relevance.

Ethical aspects

Interviewing young people involves special demands. Children are a vulnerable group and therefore extra care must be taken when children are involved in research (Medicinska forskningsrådet; MFR 2000). It is important to create a secure atmosphere and explain to the young ones the purpose of the interview as well as how the information will be used (Barnombudsmannen, 2004). The Regional Ethics Committee in Gothenburg approved the study (reg.665-09), and participants and their parents gave their informed consent in accordance with the Helsinki Declaration and also ethical principles for the humanities and social science research in Sweden (HSFR 1990).

Results

In the analysis, a substantive theory was generated, explaining how adolescents with LBP succeed in managing their main concern, gaining body confidence, in daily life, which is described as a process of change and was identified as their efforts to mobilizing own resources (core category).

According to the data, the main concern of the adolescents with LBP was to gain body confidence in daily life. The results show that, with these boys and girls, LBP and its consequences affect all aspects of daily life, both practical and social. They lose control over their bodies, their daily routine and their ability to govern their daily lives. They spend much less time with their friends, and they do not dare expose themselves to situations that may cause pain. They no longer feel like participants, but increasingly view themselves as outsiders, which leads to an identity crisis that culminates in loss of self-esteem. This situation may give rise to a negative spiral with major consequences as to how the adolescents view themselves and their future.

The adolescents used different coping strategies for managing their main concern of mobilizing their own resources (core category). Four conceptual categories labelled (1) *coaching from the physiotherapist*, (2) *seeking for information*, (3) *compliance with physiotherapy* and (4) *gaining energy from pain-free moments*, explaining the participants' strategies for handling the situation, were related to the core category (Figure 1). Each category was related to several subcategories (Table I). According to the interview data, the adolescents experience a process of change in which the physiotherapy intervention is an obvious part of the healing process. The study shows that the physiotherapy intervention of treatment creates a base for a process of change where the coaching from the physiotherapist is of major importance. This contributes to start the process with treatment and training, which leads to getting control of LBP and its consequences. The inner sense of safety, strength within the body

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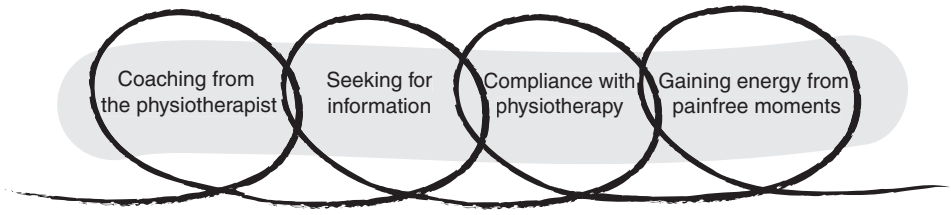

Figure 1. The core category "mobilizing own resources," the related categories labelled "coaching from the physiotherapist," "seeking for information," "compliance with physiotherapy" and "gaining energy from pain-free movements" and related subcategories describing how adolescents with LBP succeed in managing their main concern (gaining body confidence) in daily life.

and confidence in the ability to achieve change, strengthens self-confidence in young people. Gradually, assuming greater responsibility for their own treatment and being ready to take the step to fend for themselves represent the growth and progress that contribute to a greater degree of autonomy. The teenagers feel that they are moving in the right direction, which inspires hope and confidence in progression. They are no longer primarily preoccupied with LBP, instead they are focused on viewing their lives from a new perspective. They mobilize their own resources by using different strategies.

Mobilizing own resources

This core category describes how young people experience the physiotherapy intervention as a process of change from chaos and powerlessness to body confidence and control in which coaching from the physiotherapist, seeking information, compliance with physiotherapy and gaining energy from pain-free moments are highly significant. The young ones describe how they vacillate between chaos and control before real trust in the future emerges.

The results show that the young people report immense relief when they see the physiotherapist. They feel that their pain and problems are taken seriously. Someone is listening to them and they feel that someone understands. The teenagers experience trust and peace of mind. The results show that the young ones find strength by mobilizing their own resources, coached by the physiotherapist. Confidence in their own ability to bring about positive change strengthens their self-confidence.

Data show that physiotherapy exercises and treatment help the young ones to regain order and structure in their lives. The exercises provide a new opportunity to take control of the pain and thereby mobilize their resources. The focus on the treatment shifts away from their symptoms. The realization that the exercises are able to provide such relief inspires great confidence in their capacity. They become more aware of what is happening to their bodies, what their problems are, and this knowledge reduces fear. As a result, the symptoms decline or become less important. Fear of recurring pain need not be overwhelming when young people have been equipped with the tools to turn the situation around.

Seeking information about one's complaints is a way of trying to mobilize one's own resources and gain influence over one's body and LBP. The young ones report how they have been busy in different ways finding out how to manage their LBP. They sought information from media and Internet, but they could not identify themselves with the given descriptions. Often, the information was about adults with LBP and descriptions of different methods of operations, which made them even more worried about the future.

They sought information from the school health service to get rid of their pain. The school nurses' support was of great importance, and the results show that young people need adults around them who care and take their pain seriously. The youngsters report that it was important for them that the school health service staff trusted and believed in their suffering, which gave them hope.

By seeking information from the physiotherapist, they acquired a greater understanding and knowledge about their bodies and regained the faith to mobilize their own resources. They say that they acquired a contextual understanding of their situation. This insight relates to their understanding and leads to change. It provides the young ones with new opportunities and optimism for the future and the experience of getting back to being healthy and "normal" and maintaining this process of change.

The adolescents notice that they gain energy from moments of pain relief. They can find relaxation, feel better and get better at coping with everyday life. This generates positive thoughts and a feeling of regaining energy and finding balance in life. They were able to disconnect their pain more than before and felt calmer. When the pain is reduced, the young people feel that they have achieved control over pain and have been able to mobilize their own resources.

Distraction by recovery is a way of gaining energy from pain-free moments. The adolescents are able to divert their thoughts and forget the pain when they are enjoying themselves. They feel the joy of

freedom without the feeling of pain. Hope of permanent recovery starts to develop. The teenagers report that they are strengthened by finding their resources and that they trust in themselves. They take an active role, assume personal responsibility for feeling better and gain body confidence in daily life. The teenagers attain a new identity and mobilize their resources, realizing that it is possible to feel good even though they still may be in pain. Something that may be related to their self-image had transpired. One youngster said:

> I changed my way of thinking and I am now more open with myself as well as with others. My mood has improved and I feel that I want so much more than I did before. I have more energy and I understand myself better and thinking in a different way even helps me to face other types of problems. Also I do not get anxious as I did before.

Coaching from the physiotherapist

This category consists of three subcategories: professional support, being aware of inherent capabilities and trust and hope.

Data show that trust in the physiotherapist is crucial. The young people appreciate the attitude and professionalism of the physiotherapist. The encounter is described as warm and open. All this helps to initiate the process of exercise and treatment, which strongly contributes to gaining control of the back pain and its consequences. Affirmation serves as a catalyst. It helps to inspire faith that things will improve. Furthermore, affirmation is provided because the physiotherapist listens when the patients describe their pain, tries to understand, explains why the pain feels as it does and proposes treatment. In this study, the young people express relief that someone wants to help them take charge of everything that has been so stressful. They point out that they are being seen as well as taken seriously. One girl expressed it in this way,

> It felt good, it was as though someone wanted to tackle it. Yeah, it felt like someone cares. That you're taken seriously. Like someone is listening to your problems and all. Especially if you're a bit like me, a little insecure or like very shy and maybe had, uh, a difficult period in life in general.

Being taken seriously is important for the young people in this study, who often have felt that no one paid serious attention to their pain before. Sometimes words are redundant, and it may suffice for them to feel that an adult is available. Being understood also makes the teenagers feel that everything is going to be well and that now things will turn out just fine. The process of physiotherapy also makes them feel engaged in their problems and in finding a solution that works. One boy expressed it like this:

> But I think that's exactly what it was, a positive experience. That it was even available, that there was a place where you could go to see someone who was trained and could help you. And then to be able to agree on what the problem is and what to do about it. And even in some way, it wasn't just up to me, but like a joint effort. Yeah, and like someone who cared.

The teenagers in this study describe how they lack knowledge of their body's capacity and are afraid to cause injury by pushing themselves and exposing themselves to pain. They experienced an inability to manage their training on their own, which initially made them dependent on the physiotherapist. The results show that for the young people in this study, testing entails daring to exceed an invisible boundary and challenging their uncertainty with support. They become aware of their own ability by daring to test their limits. The analysis of the data shows that they enter the process of change along with the physiotherapist for the mutual goal of gaining body confidence. The results show that under the supervision of the physiotherapist, young people dare to expose themselves to situations that they previously avoided, after which they can develop their own approach to controlling and handling back pain.

The teenagers experience trust and peace of mind, which buoys them up to move on. They have more energy in daily life to do things which make them feel good. As they get better, they feel pleasure and joy at continuing to be active.

The results indicate that the young people in this study are happy on being able to resume their activities and do things they previously were unable to do because of pain. The feeling of hope and regaining control over their lives is expressed as follows, "I've found that it has become more and more fun to do things so I've been motivated all along. And now when I can see progress, I feel like, wow! I used to play tennis and I want to start doing that again and I want to dance again too."

Seeking for information

This category contains three subcategories: information from the school nurse, information from the physiotherapist and insight and reorientation.

Seeking information about one's complaints is a way of trying to mobilize one's resources, achieving

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influence on one's body and LBP. The adolescents describe how they have been busy trying to find out the best ways of managing their LBP and how to get rid of it. Several of the young ones narrate that they looked for facts about LBP on the Internet. They did not succeed because they could not identify themselves with the given descriptions. Often, the information was about adults with LBP and descriptions of different methods of operations, which made them even more worried about the future.

The young persons in this study report how they go to see the school nurse to find out how to get rid of the pain temporarily. The school nurse helps them to get in touch with the school doctor and the physiotherapist. They appreciate this support and help. The information shows that the young ones need adults around who care and take their pain seriously. One adolescent describes it like this:

> I had a feeling that my back might have to be operated on. It's difficult to explain just now, but I felt empty, thinking about it. And the fear I experienced was very troublesome and unpleasant. I feared the worst and then you want to know. Well, I couldn't think of anything else. When I was alone it was the only thing I thought about, e.g. watching a film I thought only about pain and operation and so on. I was paralyzed by the pain and really needed to know what was wrong. So I went to the school nurse. She was very good and she was the one who sent me to the doctor and finally to the physiotherapist.

The results of this study indicates that the young people, through seeking information from the physiotherapist, have developed an ability to be capable of exerting an influence as well as an understanding of their back problems. They felt that the physiotherapist contributed expertise to find new ways to move on. They become more aware of what is happening to their bodies and what their problems are. Perception of how the body feels and works provides an understanding that results in knowledge on how to proceed. They attained a contextual understanding of their situation. This insight relates to their understanding and leads to change. One young person explains that

> So it was like I understood the actual context better because before I didn't really know what that meant and it was a little bit like I didn't dare, but now I just push harder and struggle to make progress.

It also makes them feel involved in their problem and in finding a working solution. Being able to explain their problems gives them independence, and they make new discoveries. One of them expressed it like this, "At last I understood this thing about my back! Then I could explain to my gym teacher why I was in pain; that felt good."

Compliance with physiotherapy

This category includes three subcategories: exercises provide structure, gaining energy from treatment and gaining confidence in exercises.

The analysis reveals that exercises with the physiotherapist restore control to the young people on physical as well as psychological levels. They explain that when treatment began, it was difficult to look ahead as well as to understand how much the body could actually accomplish. They were pleased with the customized programme, including illustrated exercises with instructions, dosage and firm, clear information, which provided a sense of security about the required movements. The data calls attention to how important structure and security are for the young people, as is the opportunity to periodically review and practise the exercises with the physiotherapist. The young people in this study also stressed the importance of having set a specific goal for their exercises in collaboration with the physiotherapist: A goal that is hard enough to be a challenge, but easy enough to succeed in. Follow-up and evaluation enable them to monitor their progress. This feedback from the physiotherapist reinforces the young ones in their quest to regain control and motivates them to proceed with the training programme.

The data show that the teenagers desired and strove to achieve the same control over their back pain as after physiotherapy, which prompted them to return for the next appointment. This is what one youth said about how physiotherapy helped him:

> It was like a reward, yeah, because it felt good afterwards. My back always felt best after being at the physiotherapist's and having had everything checked. That's why I wanted to keep going because if my back could feel this way sometimes, it could feel like this all the time.

Once the teenagers learn that their exercises result in reduced pain, the treatment process becomes meaningful. One youth expresses it as follows, "I was so relieved. It felt so good. Now I know that if I do this I won't hurt." This quote clearly illustrates how a teenager had the opportunity to learn to control the pain, rather than having the pain control everyday life.

Feeling comfortable with their exercise programme allows them to successively dare to do more, creating an awareness of their movements and generating confidence, which is then expressed as a need to do their exercises and to trust their own ability. When the teenagers in this study discovered their own resources and strengthened their body awareness, they found that the exercises became more fun and they experienced the joy of movement once again. They felt they were getting stronger, as their bodies now functioned better. One youth describes this as follows,

> You feel you've gotten stronger and capable of doing more exercises and all that, like pushing yourself a little harder. And for me, since I enjoy working out, as I get better it becomes more fun.

The analysis shows that physiotherapy was a significant motivator that inspired the young people to once again do the things they used to do, as well as new things that they want to do in the future. The results show that the desire to act more independently emerges. From a sense of being a participant in the treatment process, they take a more active role with greater responsibility to be able to influence their own situation and get ready to take the step to fend for themselves without support.

Gaining energy from pain-free moments

This category comprises three subcategories: handling pain, ability to achieve change and distraction by recovery.

According to the informants in this study, exercise and treatment made them feel good. The young people experienced a growing awareness of their bodies and their pain, as well as an increased easing of tension and a certain pain relief. They also had positive experiences in the form of an enhanced sense of well-being. The teenagers perceived that they got energy from the moments of pain relief and thought that they could cope with everyday life better. They felt more harmonious and with less bodily tensions a greater comfort presented itself. They were able to disconnect their pain more than before and felt calmer. This in turn provided them with better sleep, and they pointed out that this enabled them to manage more things and resulted in better powers of concentration. They are able to cope with their school work, and they feel like being active again in their spare time, meeting friends, feeling good and having fun: everything that is part of life when you are a teenager. This generates positive thoughts, a feeling of regaining energy and finding equilibrium in everyday life.

When the experience of feeling pain is reduced, the youngsters feel that they themselves have achieved control of the pain. They feel invigorated in being able to handle their pain in a constructive way. Also, they are able to divert their thoughts and forget the pain when they are enjoying themselves. To be diverted by recovery is another strategy to get energy from pain-free moments. The youngsters in the study allow themselves to be distracted from their LBP and related feelings of concern and worry by, e.g., listening to music, watching films and being with friends.

The young ones work actively to reduce their pain, which results in positive feedback on their thoughts and feelings, and feelings of purposefulness and hope of lasting recovery grow. They report that they are strengthened by finding resources and trusting themselves. They express an increased feeling of control, a balance of the mind and a sense of being able to influence the course of their lives. One teenager puts it this way:

> I got much better. And I think it was a real boost for me to feel that after the past twelve weeks I no longer had any pain. So, it was that easy. That was the end of it somehow. And since then I haven't had any more problems with it. I feel I'm on a good path. Like my back can handle more and I feel stronger. Really nice. It feels like I'm back.

Discussion

In this study, the substantive theory, grounded on interview data from adolescents with LBP, explains how the main concern of the teenagers is managed by strategies aimed at gaining body confidence. Strategies related to the core category, mobilizing own resources, were emerging from the interview data and were used by the adolescents. The strategies are labelled: coaching from the physiotherapist, seeking information, compliance with physiotherapy and gaining energy from pain-free moments.

The study points out that young people with LBP experience physiotherapy intervention as a process of change. The young ones describe life with LBP before treatment intervention as a vicious cycle spiralling out of control. Gaining body confidence by mobilizing own resources requires a reorientation process. The results show that physiotherapy intervention creates a foundation for a process of change in which the physiotherapist, as a coach, is of great significance. A shift occurs in the young ones from the impotence of pain towards self-control and

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confidence in their bodies by mobilizing their own resources.

One previous study showed that physiotherapy intervention improves how young people experience their LBP, in terms of self-reported perceived health, better physical function and reduced pain (Ahlqwist et al., 2008). The young people, in this study, noted that physiotherapy intervention changed their outlook about themselves and their LBP. Their body awareness improved, and they described a change towards a new life with a sense of control and were able to view the future with confidence and enhanced self-esteem by mobilizing their own resources. Thus, the process of change involves not only what has been learned, or the LBP in itself, but also results in greater insight and increased understanding of their own potential.

The results demonstrate that LBP has both social and psychological ramifications for adolescents. Initially, the pain is experienced as infinite and unpredictable, which has a significant effect on perceived health and daily activities. The young people in this study struggle to relieve their pain in various ways, while seeking information and acceptable explanations for their LBP. A study by Petersen, Hägglöf and Bergström (2009) has shown that a large majority of children and adolescents with persistent or recurrent pain suffer from impaired quality of life. It has also been established that children and adolescents with persistent pain experience more stress, use more health care resources, have higher school absenteeism and poorer school performance than children with no pain (Eccleston, Crombez, Scotford, Clinch, & Connell, 2004; Roth-Isigkeit, Thyen, Raspe, Stöven, & Schmucker, 2004). LBP may also be a recurrent condition, even during adolescence (Ahlqwist et al., 2008). In this study, young people point out that they feel alienated when comparing themselves with their healthy peers, which has also been pointed out in earlier studies on adolescents with persistent pain (Sällfors, Hallberg, & Fasth, 2001, 2002). Thus, it can be concluded that more attention should be paid to this vulnerable group of young patients to help prevent future LBP.

Brattberg (2003) describes how people with pain suffer from losing control over their lives, which may lead to anxiety, depression and other symptoms. According to Brattberg, patients can compensate for lack of primary control by seeking vicarious secondary control through support from other people. This finding is in accordance with this study, where the young people describe how they seek information from the physiotherapist and also from the school health service. The school nurse's support is of great importance, and the results show that teenagers need adults around them who care and take their pain seriously, which is also shown by Sällfors et al. (2002) in a previous study.

In this study, the results show that the physiotherapist serves the purpose of secondary control by taking responsibility for the teenagers and their treatment through coaching and, at the beginning of treatment, by requiring less personal responsibility from them. Our results show the immense importance of guidance and coaching from the physiotherapist to the process of change in young people. When they feel that someone believes in and listens to them, their confidence and security grow. The support of a professional, affirming and respectful physiotherapist reduces the teenagers' uncertainty and encourages them to dare try new management strategies for their back pain and make them independent and regain control over their lives. Immediate reduction of pain intensity was not always the objective; rather, the strategy was largely aimed at reducing the perception of pain.

Exercise has been shown to affect mental presence and awareness in the individual, which is important for change and the ability to formulate new strategies (Roxendal, 1987; Schön-Olsson, 2009). This was in accordance with our findings where treatment intervention together with exercise helped the young people to reflect on the experiences in their bodies and enabled them to see themselves and their bodies in a new light, which included gained body confidence. Increasing confidence in personal ability has been shown to be linked to an increase in functional capacity and lower self-rated pain after treatment (Altmaier, Russell, Feng Kao, Lehmann, & Weinstein, 1993). Rasmussen-Barr et al. (2009) also showed that if the exercise programme was customized and gradually escalated, the result would likely boost belief in personal ability and increase motivation to continue with the programme. This study can also support the above conclusions in many ways, most obviously illustrated by the young people themselves when describing their trust in their own ability. Achievement of positive change strengthened their self-confidence, creating a meaningful process of change. Thus, motivation is fundamental in achieving the engagement that paves the way to a desire for greater independence.

In qualitative research, it is important to reflect on whether professional interests have been influential, rather than allowing the researcher to remain open to what will be discovered in the field to be explored. Researchers must as far as possible be free of their own pre-understanding, even in relation to research in their own field. On the other hand, inadequate

knowledge of the field may lead to "naive empiricism and inadequate originality" (Alvesson & Sköldberg, 1994). In this study, the author, who is a physiotherapist, is deeply versed in the subject. But the author's knowledge of how young people, with LBP, experience treatment intervention was minimal. This study and its resulting theory is based on how young people with LBP experience physiotherapy intervention.

The results show the experiences of young people as revealed through qualitative interviews. The qualitative design allowed young people to speak freely about their experiences. Interviewing children about their own situation is, however, a relatively new phenomenon in the research world. A fundamental principle of the United Nations Convention on the Rights of the Child (UN General Assembly) is that children have a right to express themselves on issues that concern them, taking into account their age and maturity. The convention reflects a view of children as active and competent beings who, in a variety of ways, are capable of understanding and commenting on their own situation. What children say must serve as the basis for all discussions, investigations and decisions, which are affecting them. Children are experts on their own situation (Ingrids, 2006).

Conclusion

This study shows that physiotherapy intervention creates a foundation for a process of change in young people with LBP, where guidance by the physiotherapist plays a major role. These young people became more self-confident and realized their new found greater control over their lives. Physiotherapy and exercise provide them with a strong boost in self-confidence, resulting in a more positive outlook on their future and the experience of being in a positive spiral.

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Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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