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Pain management using Pediatric Physical Therapy and its ability in managing the conditions that impact the musculoskeletal system

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Abstract

Physical Therapy is an important treatment used to treat diseases and their symptoms. There are many chronic or non-chronic diseases that need physical therapy, ranging from serious cases to minor illnesses. In this paper we will study pain management using children's physical therapy and its ability to manage conditions affecting the musculoskeletal system. Pain is an important and frequent problem for children with weak musculoskeletal system, as the highest severity occurs in children with severe weakness. Despite the importance of the problem, these children are still vulnerable to being unaware and suffering from pain. Barriers to treatment may include uncertainty in the determination of pain along with limited experience and fear of using medications to treat pain. Physiotherapy is defined as one of the health professions that use strength and mechanical movements, manual therapy, or exercise therapy to relieve disease and promote movement within the body. The Sources of pain in this population group include acute pain attributable to muscle injury or inflammation that results in pain causing the pain, with the expectation that the pain will dissolve after treatment directed to the source. For many children, other sources can lead to chronic intermittent pain that occurs. The most challenging are the sources of pain attributable to the weakness of the musculoskeletal system, which require experimental drug trials directed at the causes that cannot be determined by diagnostic tests. The reviewed interventions included integrated treatments and drugs. This paper aims to address the underlying challenges, with evidence-based guidance, with the aim of improving lifelong comfort in this vulnerable group of children.

Key words: Pain, Pediatric, Physical Therapy, musculoskeletal.

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الملخص

إن العلاج الفيزيائي هو علاج مهم يستخدم لعلاج الأمراض وأعراضها، حيث يوجد العديد من الأمراض المزمنة وغير المزمنة التي هي بحاجة لإجراء علاج فيزيائي لها، بدءاً من الحالات الخطيرة إلى الحالات البسيطة. سنقوم في هذه الورقة بدراسة إدارة الألم باستخدام العلاج الفيزيائي للأطفال وقدرتها على إدارة الحالات التي تؤثر على الجهاز العضلي الهيكلي، فالألم هو مشكلة مهمة ومتكررة للأطفال الذين يعانون من ضعف الجهاز العضلي الهيكلي، حيث تكون أعلى شدة للألم عند الأطفال الذين يعانون من ضعف شديد. على الرغم من أهمية المشكلة، إلا أن هؤلاء الأطفال لايزالون عرضة لأن يكونوا غير مدركين ويعانون من الألم. إن معوقات العلاج قد تتضمن عدم البت في تحديد الألم إلى جانب الخبرة المحدودة والخوف من استخدام الأدوية لعلاج الألم. يُعرف العلاج الفيزيائي على أنه أحد المهن الصحية التي تستخدم القوة والحركات الميكانيكية، أو العلاج اليدوي، أو العلاج بالتمارين لتخفيف الأمراض وتقوية حركة الجسم. تتضمن مصادر الألم عند هذه الفئة السكانية ألماً حاداً يُعزى إلى إصابة عضلية أو التهاب ينتج عنه ألماً يسبب الوجع، مع توقع أن يختفي الألم بعد العلاج الموجّه إلى مصدره. بالنسبة للعديد من الأطفال، يمكن أن تؤدي مصادر أخرى إلى حدوث ألم مزمن متقطع، وأكثرها تحدياً هي مصادر الألم التي تعزى إلى ضعف الجهاز العضلي الهيكلي، والتي تتطلب تجارب دوائية تجريبية موجهة للمصادر التي لا يمكن تحديدها من خلال الاختبارات التشخيصية. إن التدخلات التي تمت مراجعتها تضمنت علاجات وأدوية متكاملة. وتهدف هذه الورقة إلى معالجة التحديات الأساسية، مع الإرشادات القائمة على الأدلة، بهدف تعزيز الراحة مدى الحياة لهذه المجموعة الضعيفة من الأطفال.

الكلمات المفتاحية: الألم، طب الأطفال، علاج فيزيائي، الجهاز العضلي الهيكلي.

Introduction

Pain is the most common reason people seek health care. Most patients experience pain for non-traumatic reasons. Although pain therapy has received increased attention during the past decade, pain subject to treatment is widespread in many cases. Pain management protocols and guidelines, if applied consistently, will improve pain treatment outcomes in the short term (Kürtüncü et al., 2019).

Pain is a multi-faceted experience of unpleasant psychological, emotional and physical dimensions. As defined by the International Tax Research Association (IASP) classification committee,

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Pain is an emotional feeling and behavior that is not directly related to a person's previous experiences associated with or not associated with tissue damage in a particular area of the body. What makes assessing pain so complicated is that it is a personal, emotional and sensory experience (Cohen, 2008). Pain may be associated with a life-threatening event in addition to many psychological and emotional consequences that affect a child's educational performance and quality of life (Mitchell, 2016). One of the most important responsibilities of physical therapists and health care is to remove pain in children. Physiotherapists and nurses play a very important role in managing and evaluating pain in children. Because physical therapists provide care for children and spend the longest time with children as health care professionals (Jibb et al., 2015). Pain assessment and pain management are important aspects of patient care and treatment. Pain assessment and management is an area of academic research and postgraduate study (Stewart, 2015) (Kürtüncü et al., 2019).

Pain is one of the most devastating and terrible symptoms that usually spread in people with advanced chronic conditions. Pediatric patients are more likely to be treated and hospitalized for pain than adults, due to the misconception that they do not suffer from pain and do not remember painful experiences (Gerik, 2005).

Regardless of the primary diagnosis, the quality of life for a patient can be greatly reduced. Thus, if the pain is to be managed poorly, it may reflect the effect on the family and occupations that cause a difference which may lead to increased hospitalization rates (Walters, 2009). Uncontrolled pain has a direct impact on health outcomes and more than a few effects on all areas of life. The pediatric, cognitive and emotional components of a pediatric patient are also important for assessing pain and simplifying management practices (Nair, 2013). The long-term negative impact of untreated pain on pain sensitivity, immune performance, neurophysiology, attitudes, and health-care behavior is supported with much evidence. Child care professionals who care for children are mainly responsible for canceling or relieving pain and suffering when possible (Nair, 2013).

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The practice of the Child Pain Relief Protocol has made great progress in the past decade by developing and validating the pain and pest validation tools for pediatric patients. Almost all major children's hospitals now have dedicated pain services to provide immediate assessment and treatment of pain for any child (Canbulat N, 2012). At the age of children, it is difficult to assess and treat pain relatively effectively for adults. The inability to notice pain and immaturity in remembering painful experiences and other reasons is a reflection of the persistence of myths regarding the child's ability to perceive pain (Chiaretti A, 2013). Nevertheless, treating childhood pain is like an adult management practice that includes both pharmacological and non-pharmacological interventions. On the other hand, it relies mainly on an in-depth understanding of developmental and environmental factors that influence pain-causing treatment, pain perception and response to treatment during maturity from childhood to adolescence (Zhu LM, 2012). The practice of assessing and managing pain in pediatric patients can show variations based on different countries and their respective health institutions. Therefore, this review focused on contemporary practice and new developments in assessing and managing children's pain. Pain classification various classification systems are used to describe different types of pain (Mcpherson ML, 2004) (Kahsay, 2017).

Physical therapy is one of the most important scientific disciplines in the field of patient care and rehabilitation to better practice his life and perform his daily tasks independently. Physiotherapy is an integral part of the medical care program and it plays a vital role in maintaining the health of the individual and society.The importance of physical therapy has increased at the present time due to the diversity of needs and the multiplicity of different specialties that it deals with. Physiotherapy has become an essential role in the treatment of bone diseases and neurological diseases. Physiotherapy also has an indispensable role in preparing patients for whom major surgery has been decided, as well as the rehabilitation process for a stage after surgery (Kahsay, 2017).

Physical therapy and rehabilitation uses various physical techniques such as thermal factors, electrotherapy, in addition to therapeutic exercises, behavioral therapy, alone

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or in combination with interventional techniques, and traditional drug therapy for pain usually as part of a multidisciplinary or multidisciplinary program (Geertzen, 2006). The CDC recommends that physical therapy and exercise can be prescribed as a positive alternative to opioids to reduce a person's pain in many injuries or illnesses. This can include chronic lower back pain, hip and knee arthritis, and fibromyalgia. Exercising alone, or in combination with other rehabilitation methods (such as psychological approaches) may have a positive effect on relieving pain. In addition to relieving pain, exercise can also improve an individual's condition and general health (Roger., 2016).

Problem statement

In many cases, children experience severe pain in the musculoskeletal system, which affects the quality of life and cooperation during health care procedures. They are at increased risk for pain compared to the general population due to the frequent occurrence of stomach, muscle and bone problems as well as surgical and procedural interventions. These risk factors may compound your pain during the recommended actions by physical Therapy. Although many pain tools have been developed for use in hospital settings to assess children's pain and distress responses to acute and procedural interventions, few have been developed to assess responses to less invasive procedures. The use, validity and reliability of these assessment tools were not explored during real-time PT interventions. Research led by the physical therapist about interventions to treat pain in this population is limited, despite evidence of widespread pain and increased research supporting the use of pain management using physiotherapy for children and its ability to manage conditions affecting the musculoskeletal system.

Seeing young children suffering causes inconvenience to all, let alone the mother and father of the child, watching his child sit beside him without movement, unable to help him whether to walk or spend his own need without assistance.

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They cannot bear to see their child in pain, or that their child has what prevents him from living his normal life, and participates with children in play and running, and here the problem of research lies in the importance of physical therapy for children, because before you return the child to his normal life, he returns the parents to their smile again, so nothing pleases parents like seeing their child in good health, playing and running safely.

Physical therapists who are sometimes called dots help injured or sick patients to improve their movement and manage their pain, and these therapists are often an important part of rehabilitation treatment and prevention of patients with chronic diseases or injuries, and they master the skills they need to practice effective physical therapy for children, provide This paper provides a contemporary perspective on physiotherapy for children in the form of a suitable outline.

There appears to be a gap between the evaluation and management of pain in children who develop conditions affecting the musculoskeletal system, and through this paper we can learn about everything related to physical therapy for children through the following main question: **"How pain is managed using Pediatric Physical Therapy and its ability in managing the conditions that impact the musculoskeletal system?"**

Research Objectives

The main objective of this study is: **"To identify how to manage pain using Pediatric Physical Therapy and its ability in managing the conditions that impact the musculoskeletal system."**

This main objective is subdivided into the following sub-objectives:

1. Explore pain assessment measures and interventions used by physical therapists in treating children with weak musculoskeletal system.
2. To provide an overview of physical therapy.
3. To provide a brief overview of the pain management approach for pediatric patients with acute and chronic pain in the musculoskeletal system.

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4. Highlighting the mechanisms of action and evidence base of non-drug therapies (physiotherapy) commonly used in multidisciplinary pain management for children.

Research Significance

The study draws its importance from the importance of the subject we will address, which is the topic of "The Pain management using Pediatric Physical Therapy and its ability in managing the conditions that impact the musculoskeletal system", which represents a worldwide issue and an important area of research. Therefore, conducting such a research regarding this topic is expected to have a high positive reflections and significance that can be summarized as in the following:

1) Contribute to public awareness on how to address the problems of pain management using pediatric physical therapy in the musculoskeletal system.
2) The importance of the study and the subject itself is reflected in the results of the previous studies at a number of levels, through Physical Therapy and its ability in Pain managing.
3) Patient's education, understanding and sharing is vital, the importance of this paper lies in educating the general pediatric practitioner in natural remedies, and through this paper, we review both literature for children.
4) This study would represent a good reference for the future studies as long as it would provide the subsequent researchers and interested scholars in the field of Pediatric Physical Therapy with valued literature, recommendations and suggestions that are important for their proposed studies in the light of contemporary.
5) This study could be the basis to suggest new intervention for the musculoskeletal system through the results of the positive study that the researcher conducted in studying the pediatric Physical Therapy.

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Background & Literature Review

As mentioned earlier, the International Pain Study Association defines pain as "a sensory and emotional experience linked to potential and actual tissue damage." Physiotherapy guide defines pain as "a feeling of discomfort causing distress or suffering" (Terman, 2001). It is evident in both preceding definitions that pain is a patient's subjective experience. Repeated or prolonged exposure to pain can lead to a marked change in responses to future painful stimuli (hyperactivity) and even to non-painful stimuli (allodynia) (McGrath P, 2001).

Additional factors that may affect the experience of a traumatic event include cognitive and emotional development, gender, chronological age, coping skills, conditions, and culture surrounding the event. Consequently, the child's response to painful and stressful events is not significantly stable and can be adjusted by knowledgeable adults (Swiggum, Hamilton, Gleeson, & Roddey, 2010).

Assessment of Pain in Pediatrics

Pain is often referred to as the "fifth vital sign" and must be recorded and evaluated as other vital signs. Appropriate pain intervention is planned based on accurate pain assessment (Kahsay, 2017). Organized and routine pain assessment using standardized and validated measures is accepted as a cornerstone for effective pain management in patients, unrelated to age or other conditions (Minister of Health. , 2016). Recently, the concept of pain in children expanded as it was discovered that newborns have non-encapsulated nerves capable of transmitting nerve signals, but slower ones in adults. The nerve link between the brain and spinal cord is not fully mature in newborns, which leads to the ability of the nervous system of children to reduce the proportion. A study conducted in Brazil indicates that consistent achievement of a pain assessment using standard measures, such as the degree of face, legs, activity, crying, tolerance, and other physical factors are mandatory to improve pain management in pediatric intensive care units (Dantas L, 2016).

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Since pain is a subjective experience, individual self-reporting is the preferred method for assessing pain. Nevertheless, when a valid self-report is not available as in children who are unable to communicate due to age or developmental status, observational and behavioral assessment tools are acceptable alternatives (Kahsay, 2017).

Pain should be evaluated often as other vital signs and findings are well documented, for ease of reference by all members of the health care team (American Pain Society., 2012). Pain is a subjective experience, and as such, the patient's self-determination of pain is the most reliable indicator. Therefore, it is necessary to obtain a history of pain directly from the patient, when possible, as a first step towards identifying the cause of pain and identifying appropriate treatment strategies. When the patient is unable to communicate orally, other strategies should be used to determine the characteristics of pain. In addition, the patient should be asked about aggravating or mitigating factors. Pain is often felt in more than one area, and doctors should try to show if the pain is coordination, multifocal, or generalized. Pain may also be indicated, usually an indication of visceral pain. The quality of the pain indicates the sensation experienced by the patient, and it often suggests the pathophysiology of pain. This type of pain is usually associated with damage to the bones and soft tissues. Diffuse pain that is described as squeezing, cramping, or swallowing is usually visceral nociceptive pain (Perger AM, 2002).

Although it is easy to assess pain symptoms in adults, choosing the appropriate pain assessment tools should consider age, cognitive level, final disability (Solodiuk, 2003), type of pain, and the situation in which the pain occurs in children. Therefore, healthcare professionals should be aware of their limitations as well as be trained in the use of pain assessment tools (Wong C, 2012).

Measurement of Pediatric Pain

Reliable and valid pain measurements are needed to identify patients who need intervention and to assess the effectiveness of the intervention.

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The terms "evaluation" and "measurement" are widely used in pain literature and distinguished as follows. Measurement refers to the assignment of a number or value and is usually related to the distance of pain intensity. The evaluation describes a more complex process in which information about pain, its meaning, and its impact on a person are considered along with quantitative values (Johnston, 1998). In physiotherapist practice, there are three components to examination: patient history, review of systems, and use of tests and procedures. The term evaluation in physical therapy is similar to evaluation and describes the process of gathering information collected during examination to establish a diagnosis, diagnosis and care plan (McGrath PJ, 1999).

Pain assessment and examination are essential to the physiotherapy profession. Pain is one of 24 categories of measures and tests that are administered during the initial examination of a patient's diagnosis. In addition, the Physiotherapy Practice Manual recommends checking the quality and severity of pain, characteristics, physical and time, reflecting the multidimensional and complex nature of this phenomenon. Although the principles for assessing and examining pain apply throughout a lifetime, infants and children present some unique challenges that require consideration of the child's age, level of development, communication and cognitive skills, past pain experience and associated concerns and beliefs (O'Rourke, 2004).

Musculoskeletal

The musculoskeletal system gives shape, stability and movement to the human body, and it consists of the bones of the body (which make up the skeleton) and of the muscles, tendons, ligaments, joints, cartilage and other connective tissue. The term connective tissue is used to describe the tissue that supports and connects tissues and organs together. The main components of connective tissue include collagen and elastic fibers, which are made up of different proteins.

Musculoskeletal cases account for approximately 25% of patient complaints in the healthcare environment (Pinney, 2001).

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Nevertheless, it has been displayed that some physicians lack high confidence in their evaluation, examination and patient treatment skills (Saywell RMJ, 2002). Although a lack of focus in medical school curricula has been repeatedly implicated, (Bernstein, 2003) nearly half of American medical schools still do not need any formal training in musculoskeletal medicine. This severe lack of confidence in poor performance is reflected in formal assessments of knowledge of musculoskeletal medicine [7] and less than ideal practice patterns for patients with bone and muscle conditions (DiCaprio, 2003).

Matzkin and other in recent years have shown similar levels of high knowledge of musculoskeletal medicine among residents and medical students. With the exception of specialized orthologists, they found that experienced physicians across a variety of disciplines presented less than adequate knowledge of musculoskeletal medicine (Matzkin, 2005).

Freedman and Bernstein also performed a study with the aim of assessing knowledge of musculoskeletal medicine among eighty five physicians during the first week of their post-medical training period using a standardized test. The result was just under 60%, with only 18% of physicians scoring a higher level of orthopedic program managers as a minimum necessary to demonstrate proficiency in musculoskeletal medicine in preparing primary care (Freedman & Bernstein, 1998). The result was that training in both residency training programs in medical schools and non-bone residency training programs were largely insufficient (Akesson, 2003). For this reason, much evidence supports the benefits of early access to physiotherapy care (Childs & Fritz JM, 2004). In particular, physiotherapists increasingly provide their services without direct referral to a doctor (i.e. direct access). Seventy percent of public reports that they will seek care from a physiotherapist without referring a patient to a doctor for musculoskeletal conditions have passed legislation supporting this type of health care delivery in 39 states (Snow, 2001).

Numerous recent studies have demonstrated that physical therapists can provide effective, comprehensive and cost-effective care for patients with muscle and bone pain in the practice of direct access without referral to a specialist,

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Which greatly supports the expansion of physical therapy services. For example, doctor referral rings are said to have increased costs by 123%, office visits by 60%, and physiotherapy claims by 67% than when patients without referral to the doctor directly accessed physical therapy Although the curriculum focuses on managing most musculoskeletal cases in physical therapy programs, so far there are few studies aimed at physiotherapists' knowledge of the skills needed and sufficient to manage patients without referring to a doctor in a direct access environment. A musculoskeletal written examinatio and validation of skeletal muscles has recently been developed for this purpose (Freedman, KB; Bernstein, J.).

This examination was performed on a variety of specialized physicians, medical students and residents and many trained physicians, which makes it a practically referenced standard for conducting a preliminary assessment of adequate knowledge in managing many muscle conditions Structure between students specializing in physical therapy and licensed physiotherapists (Matzkin, 2005). Therefore, this study aimed to describe the knowledge and role of physical therapists in managing many musculoskeletal conditions using this assay. These data together with clinical studies demonstrate the benefits of physiotherapy for direct access which may further clarify the role of physical therapists in direct access environments (Childs, Whitman, Sizer, & Pugia, 2005).

Physical Therapy

Physiotherapy is a medical profession that is offered to individuals in order to restore movement to the maximum level and to develop and maintain functional capabilities in all stages of life a person goes through. Physiotherapy is concerned with improving and determining the quality of life, rehabilitation, rehabilitation, and mobility within the areas of treatment and prevention. The medical qualification of the physician specializing in physical therapy varies from one country to another.

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Some countries require a master's degree, some require a doctor's degree, and some require less than that in countries with little education Regulars (Swiggum, Hamilton, Gleeson, & Roddey, 2010).

Physiotherapy depends on the interaction between the patient and the physician who specializes in physiotherapy where the physiotherapist or physiotherapist who works under his supervision provides the possibility of movement and agreed goals through the use of unique knowledge and science of physiotherapy, where the physiotherapist uses physical examination To which the patient and the person's history are subjected to diseases to reach the diagnosis and develop a management plan and in some cases the use of an electrical test such as a nerve conduction velocity test and an electrical planning of the muscles may require the need to use the imaging R and results of laboratory studies. The most common areas of physiotherapy specialty around the world are (Childs, Whitman, Sizer, & Pugia, 2005):

Aging: as the physiotherapy covers many of the problems that the elderly suffer from, such as Alzheimer's disease, cancer, arthritis, diseases related to osteoporosis and incontinence. Hip replacement where physical therapy came up with a specific program to increase the level of physical fitness, restore movement and stop pain.

Heart: Physiotherapy helps people suffering from disorders and defects in the heart and helps people who have surgery in the lungs and the heart by increasing endurance and functional independence and removing lung secretions, heart attacks and other heart and lung diseases.

Orthopedic: by treating injuries and disorders of the musculoskeletal system and rehabilitation after orthopedic surgery.

Nervousness in people suffering from diseases and neurological disorders such as cerebral palsy, multiple sclerosis, motor neuropathy, and others.

Pediatrics, where it works to reveal health problems and treat pediatric disorders such as people with cerebral palsy, developmental delays and neck abnormalities, which will be studied in this scientific paper.

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State of the Art of Rehabilitation for Pediatric Chronic Pain

There is ample evidence to support early and targeted physiological and psychological intervention for chronic child pain, with many methods that share common features: physical and occupational therapies, psychological interventions, and pain education (Clinch & Eccleston, 2009). Psychological interventions for chronic pain in children focus on self-management of pain and disability, with the ultimate goal of returning to baseline performance. The components of psychological interventions for chronic pain include, for example, the identification and treatment of negative perception, relaxation training, psychological education, parental training, behavioral exposure, acceptance exercises and values (Simons, L.E.; Basch, M.C., 2016).

There is strong evidence that these interventions are effective in reducing mental disorder, disability and pain intensity (for example, anxiety) in children with chronic pain. Within pain states, psychological interventions were found to reduce abdominal pain, headache pain, muscle and bone conditions, and functional impairment in muscle, bone, and abdomen pain (Fisher, Heathcote, Palermo, Williams, Lau, & Eccleston, 2014). Rehabilitation and physiological interventions for chronic pain in affected children, including occupational and physical therapy, focus on improving physical performance by taking the approach to self-management of pain and gradually involving them in pre-avoided activities (Celedon, Amari, Ward, Prestwich, & Slifer, 2014).

The aim of these interventions is to improve more flexibility, strength, joint stability, stamina, coordination, balance, tolerance for weight bearing, and initial aptitude (Simons, et al., 2018). Because the goal of these treatments is to enhance independence and strengthen muscles and bones (i.e. sufficient ability to manage daily life well without requiring significant support from caregivers and parents), active interventions (such as exercise), and return to work (for example, return to Sports and schools) play a more important role than negative interventions (for example, stimulating or massaging the Transcutaneous Electric Nerve (TENS)) (Landry, et al., 2015).

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Most targets of occupational and physical therapeutic interventions often focus on independent performance, as well as increased self-efficacy improving coping, rather than adequately relieving pain (Lynch-Jordan, Sil, Cunningham, Kashikar-Zuck, & Goldschneider, 2014). After conducting an evaluation within the framework of social psychology, including an evaluation of functional goals, a therapeutic treatment plan was developed and implemented appropriately for the development of the individual (Kemani, Kanstrup, Jordan, Caes, & Gauntlett-Gilbert, 2018).

There are many goals for physical therapy in children, including short-term goals, such as: accelerating the healing process, and relieving pain. Stimulating muscle and relieving flatulence, increased range of movement and maintenance of muscles and joints. Increase and maintain muscle strength. Improve balance; relieve muscle tension, inhibition or stimulation of the central nervous system. Improve the body's body, improve walking, kinetic synergy and blood circulation in the body. And long-term goals such as: achieving in the patient the motor and health level that was before the occurrence of the injury, reducing injury and functional problems. Promote maintaining healthy and muscular fitness to prevent certain diseases or disabilities (Harrison, Pate, & Richardson, 2019).

Method

The research methodology is a methodological approach that focuses primarily on finding answers to all research queries and achieving effective results for a specific study (Creswell, 2008).

In order to achieve the goals and objectives of this paper, a descriptive method will be adopted for this research study. The research was conducted in the literature as an integrative review, as many relevant documents, refereed scientific research, magazines, articles, books, relevant foreign references, previous studies and university theses dealing with the subject of the paper were reviewed. This research aimed to evaluate academic postgraduate studies in the field of pediatric physiotherapy and pain management.

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The research terms included combinations of pain, children, Physical Therapy, musculoskeletal, pain assessment, and pain tools. Additional manual searches were performed as specified. Articles directly related to the intervention of Pediatric Physical Therapy with impact the musculoskeletal system were included.

Pain assessment

There are several categories of pain assessment tools, including self-report, physiological pain, behavioral pain, and distress measures.

Self-determination measures

Self-report metrics can be oral, such as structured interviews, questionnaires, self-assessment metrics, and adjective pain descriptions or non-verbal behaviors, such as tables of facial expressions and graphics. Pain aspects that can be assessed through self-report include location, intensity, duration, quality, emotional reactions, and situational factors that increase pain and disability associated with pain. There are many metrics.

Self-report was identified as the gold standard in pain assessment. Nevertheless, restrictions on self-determination measures in children were identified. These include (1) an adequate cognitive and linguistic development requirement; (2) a lack of understanding of children may lead to constructing an answer; (3) children under 5 years old tend to treat scales as dichotomous and not gradual and only choose maximum limits; and (4) Children's reports of pain may be affected by their perception of the consequences of evaluation.

Accurate pain assessment requires a careful study of the child, the nature of pain, the availability and suitability of the various pain measures. Pain scale management also requires careful planning. Adherence to the recommendations in Table 2 may help ensure correct results. Nevertheless, the use of self-report measures in children with cerebral palsy during vaginal treatment procedures is further limited by insufficient evidence regarding the reliability and suitability of their use in this population.

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Behavioral measures

Commonly used behavioral assessment tools include the children's face coding system; the behavioral pain assessment scale for the face and legs, activity, crying, and tolerance

Physiological measures

Physiological measures, such as vaginal tone, blood pressure, heart rate, oxygen saturation, neuroendocrine response, and palmar sweating, can be used to assess pain responses. Challenges associated with the interpretation of these measures in isolation include the following: (1) Pregnancy age, medications, public health, and environmental factors may influence the response; (2) physiological responses to long-term pain seem to get used to. (3) Physiological responses are similar to different types of stress.

Conclusion

In short, many clinical practice guidelines and policy statements have been published in the past ten years on the topic of pediatric pain. These publications are valuable resources for physiotherapists and other health care providers who serve infants, children and adolescents who are suffering, or are at risk, from the pain caused by a variety of causes. Failure to treat acute pain in children well causes psychological and social consequences, including: lack of attention to food, apathy, sleep disturbances, anxiety, fear, despair, and helplessness sometimes, and other consequences include prolonged hospital stay with associated risks. Chronic pain persists for long periods, and its intensity ranges from mild to very severe, and affects the activities of daily life. The child expresses the pain of time in various forms such as headache, abdominal pain, back pain or a combination of all of these symptoms, and may be associated at the same time with acute pain episodes chronic pain can cause psychological disturbances for children, and managing it requires significant attention and significant financial costs Better management relies on a reliable and correct

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measurement of pain. Fortunately, there are many excellent measures for children's pain. Choosing the right measures requires an adequate understanding of the pain, measurement and development of the child. Measuring pain in children with developmental disabilities who are unable to self-report is a special challenge that deserves more attention.

Physiotherapists are well placed to support and implement policy initiatives to improve the identification and management of children's pain and to contribute new knowledge through research. It was also found that there is a large and clear role for the physiotherapist in the diagnosis, prevention and evaluation of each of the cases of diseases and problems of the musculoskeletal system in children: bones, spine, joints, cartilage, muscles, tendons and ligaments.

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