

Physical Therapy as An Alternative to Analgesic Drugs and Its Relationship to The Treatment of Back Pain

Husam Milad Belhaj^{1*}, Osama Naji Aljahmi², Moftah Ali Abulgasem³, Ola Abdusalam Ehmeed⁴

^{1,2,3} Physiotherapy Department, Faculty of Health Sciences, El-Mergib University, Alkhums, Libya

العلاج الطبيعي كبديل للمسكنات وعلاقته بعلاج آلام الظهر

حسام ميلاد بالحاج¹، أسامة ناجي الجهمي²، مفتاح علي أبو القاسم³، علا عبد السلام أحمد⁴
^{1,2,3} قسم العلاج الطبيعي، كلية العلوم الصحية، جامعة المرقب، الخمس، ليبيا

*Corresponding author: husamsalem08@gmail.com

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Abstract:

This research aims to evaluate the effectiveness of physical therapy as an alternative to analgesic drugs in managing back pain. The article explores the impact of various physiotherapy techniques on pain relief, functional improvement, and quality of life, while addressing the potential risks of long-term analgesic drug use. To reach the objectives of the research, the researcher relied on the descriptive approach and analyzed the data through the statistical analysis program SPSS. Findings indicate that physical therapy significantly reduces pain intensity and improves mobility in patients with back pain. Compared to analgesic drugs, which offer short-term relief but pose risks of dependency and side effects, physiotherapy provides sustainable benefits by addressing underlying musculoskeletal issues. Patients undergoing physical therapy reported greater long-term pain management, reduced reliance on medication, and improved functional outcomes. Healthcare providers should prioritize physical therapy as a primary treatment option for back pain, especially for chronic cases. A multidisciplinary approach, combining patient education, lifestyle modifications, and targeted exercises, is recommended to enhance treatment efficacy. Further research is suggested to refine physiotherapy protocols and expand accessibility to non-pharmacological pain management strategies.

Keywords: Physical Therapy, Alternative, Analgesic Drugs, Back Pain.

المخلص

تهدف هذه الدراسة إلى تقييم فعالية العلاج الطبيعي كبديل للأدوية المسكنة في إدارة آلام الظهر. يستعرض المقال تأثير تقنيات العلاج الطبيعي المختلفة على تخفيف الألم، وتحسين الأداء الوظيفي، وجودة الحياة، مع التطرق إلى المخاطر المحتملة للاستخدام طويل الأمد للأدوية المسكنة. ولتحقيق أهداف الدراسة، اعتمد الباحث على المنهج الوصفي، وقام بتحليل البيانات باستخدام برنامج التحليل الإحصائي SPSS. وتشير النتائج إلى أن العلاج الطبيعي يقلل بشكل ملحوظ من شدة الألم ويحسن القدرة الحركية لدى مرضى آلام الظهر. وبالمقارنة مع الأدوية المسكنة التي توفر تخفيفاً مؤقتاً ولكنها تنطوي على مخاطر التعود والآثار الجانبية، يقدم العلاج الطبيعي فوائد مستدامة من خلال معالجة المشكلات العضلية الهيكلية الكامنة. وأفاد المرضى الذين خضعوا للعلاج الطبيعي بتحسين كبير في إدارة الألم على المدى الطويل، وتقليل اعتمادهم على الأدوية، وتحسن النتائج الوظيفية. ينبغي لمقدمي الرعاية الصحية إعطاء الأولوية للعلاج الطبيعي كخيار علاجي أولي لآلام الظهر، خاصة في الحالات المزمنة. ويوصى باتباع نهج متعدد التخصصات يجمع بين التثقيف الصحي، وتعديل نمط الحياة، والتمارين المستهدفة لتعزيز فعالية العلاج. كما يُقترح إجراء مزيد من البحوث لتحسين بروتوكولات العلاج الطبيعي وتوسيع إمكانية الوصول إلى استراتيجيات إدارة الألم غير الدوائية.

Introduction

Physical therapy is an effective means of pain management, as it contributes to improving the functions of the musculoskeletal system without the need for painkillers. With increasing concerns about the side effects of painkillers, such as addiction and negative effects on the digestive system and kidneys, the search for natural alternatives has become necessary. Physical therapy, which includes therapeutic exercises, massage, and manual therapy, is a safe and effective option for relieving chronic and acute back pain (Smith et al., 2020).

Research indicates that physical therapy not only helps reduce pain, but also contributes to improving muscle strength and spinal stability, which reduces the chances of recurrence of injury. For example, a recent study showed that patients who underwent regular physical therapy sessions showed significant improvements in back function and reduced pain levels compared to those who relied only on painkillers (Johnson & Brown, 2021). In addition, physical therapy enhances blood flow to the affected areas, which speeds up the healing process without the need for drug intervention (Williams et al., 2019).

Furthermore, many recent medical recommendations suggest that physical therapy should be considered as a first-line treatment before resorting to painkillers or surgical interventions to treat back pain. By combining physical therapy with lifestyle changes such as regular exercise and improving posture, long-term results can be achieved, reducing the need for painkillers and their associated negative effects (Deyo et al., 2022). Therefore, raising awareness of the importance of physical therapy is an essential step towards reducing reliance on medications and improving patients' quality of life.

Research problem:

With chronic back pain becoming increasingly prevalent among different age groups, many patients rely on analgesic medications as a quick solution to relieve pain. However, frequent use of these drugs may lead to serious side effects such as digestive disorders, affecting liver and kidney function, as well as the risk of addiction to certain potent painkillers (Al-Shammari, 2021). Therefore, there is a need to seek safer and more effective treatment alternatives, including physiotherapy, which is a non-pharmacological method that focuses on improving musculoskeletal functions through therapeutic exercises, massage, and manual therapy (Al-Hajri, 2022).

Despite scientific evidence that physical therapy is effective in relieving back pain, there is a lack of awareness among patients about its feasibility compared to painkillers, which leads to a preference for rapid drug solutions over sustainable therapeutic solutions. The readily available analgesic drugs on the market also makes it difficult to change the therapeutic behavior of patients without adequate awareness about the benefits of physiotherapy (Al-Subaie, 2023).

Based on the above, this research seeks to study the effectiveness of physical therapy as an alternative to analgesic drugs in the treatment of back pain, and analyze the factors that affect patients' preference for the use of physical therapy, with recommendations to promote awareness about its benefits and reduce dependence on pharmacological painkillers.

Research Questions:

- Is there a statistically significant relationship between the motor and functional dimension of physiotherapy as an alternative to analgesic drugs and back pain treatment?
- Is there a statistically significant relationship with the psychological and social dimension of physiotherapy as an alternative to analgesic drugs and back pain treatment?

Research Objectives:

- To identify whether there is a statistically significant relationship between the motor and functional dimension of physical therapy as an alternative to analgesic drugs and the treatment of back pain.
- To examine whether there is a statistically significant relationship between the psychosocial dimension of physiotherapy as an alternative to analgesic drugs and the treatment of back pain.

Research Methodology:

Research methodology is considered as the cornerstone of a researcher in order to reach the results sought by him, and it is considered a way to solve the problem of the research, in addition to being the science on which to rely on how to conduct research. As well, there are many approaches that researchers rely on to reach their desired goals, each approach is consistent with a particular phenomenon, and more than one approach may be used in the same study.

This study relied on the Statistical Package for the Social Sciences (SPSS) software for the data analysis because it is considered more suitable for achieving the research objectives, and it is possible to access all the detailed information concerning the problem of study. Statistical descriptive methods

such as arithmetic mean and standard deviation were used. Adequate referrals were made to previous studies, journals and books before the researcher decided to use the SPSS. For the data collection, questionnaire was distributed in order to collect data and preliminary information in order to obtain the best picture of the subject of the study.

Research hypotheses:

- There is a statistically significant relationship between the motor and functional dimension of physiotherapy as an alternative to medications and back pain treatment.
- There is a statistically significant relationship between the psychological and social dimension of physiotherapy as an alternative to analgesic drugs and the treatment of back pain.

Research Variables:

Figure 1 illustrates study model.

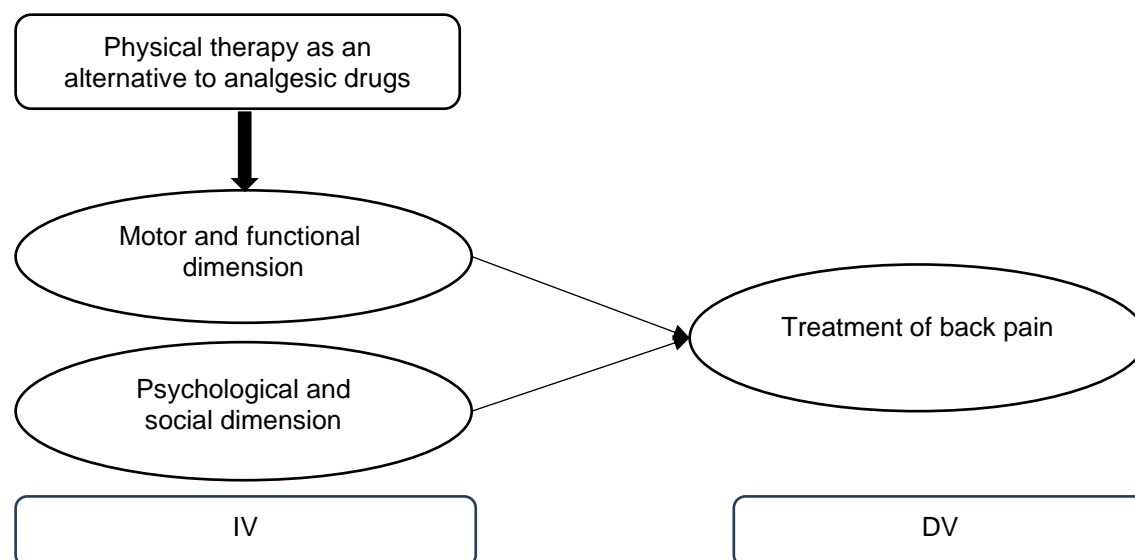


Figure 1: Study Model.

Study Sample:

The study included visitors to physical therapy centers. Due to the large size of the population, a simple random sampling method was adopted, with the study sample size reaching (35).

Validity of Questionnaire:

The questionnaire was formulated with the help of the supervisor who provided valuable suggestions for improving the contents of the questionnaire and after searching in previous studies. The questionnaire was also judged by a number of specialists and experts interested in the field of scientific research, where the amendments were made based on their observations before the final draft was drawn up.

Cronbach's Alpha Test:

In order to verify the validity of the questionnaire for this test, the researcher applied the α - Cronbach equation on the scores of the sample members, and as mentioned by Isaac and Michael (1995), the number of samples between 10 and 30 are useful, wherefore, the experiment was calculated as follows Table 1.

Table 1: Cronbach's Alpha Test.

The axes	Cronbach's Alpha	N.
Motor And Functional Dimension	.752	10
Psychological And Social Dimension	.854	10
Treatment Of Back Pain	.812	10
Total	.806	30

According to the previous results, it is clear that the Cronbach alpha coefficient for all study axes amounted to (.806), which indicates that there is consistency between the paragraphs of the questionnaire. The results of the Cronbach alpha test show that all variables are above 0.7 which is the reliability limit. the Cronbach alpha coefficient for Motor and Functional Dimension axis is (.893), while

the Cronbach alpha coefficient for Psychological and Social Dimension axis is (.866). Also, the Cronbach alpha coefficient for Treatment of Back Pain axis is (.866).

Analysis of the Data of the Study Axes:

Items of the First Axis: Motor and Functional Dimension:

Table 2 shows axis analysis of motor and functional dimension.

Table 2: Axis analysis of Motor and Functional Dimension.

The Items	Mean	St-Deviation	Relative importance
I am able to perform daily activities such as bathing and dressing without assistance.	3.65	.854	High
I can go up and down stairs easily without experiencing significant fatigue.	3.88	.899	High
I maintain good balance while walking or standing.	3.44	1.073	High
I can carry moderately heavy objects (such as a shopping bag) without difficulty.	3.78	1.151	High
I regularly engage in physical activities (such as walking or light exercises) without getting tired quickly.	3.93	1.170	High
I can sit down and stand up without needing help from others.	3.88	1.029	High
I do not experience physical pain that interferes with my daily tasks.	3.54	.925	High
I have sufficient flexibility to perform movements comfortably (such as bending or stretching).	3.58	.865	High
I can use my hands efficiently for fine motor tasks (such as writing or using a phone).	3.51	1.098	High
I believe my motor ability does not negatively impact my quality of daily life.	3.63	1.156	High
Total	3.68	1.022	High

The statistical analysis indicates that participants' responses regarding the motor and functional dimension were at a high level, with a total mean of (3.68) and a standard deviation of (1.022). This reflects a generally positive perception among individuals about their ability to perform daily activities without significant difficulty. All items recorded a high level of relative importance, suggesting strong motor and functional performance across tasks such as mobility, balance, and fine motor skills.

Items of the Second Axis: Psychological and Social Dimension:

Table 3 presents axis analysis of psychological and social dimension.

Table 3: Axis analysis of Psychological and Social Dimension.

The Items	Mean	St-Deviation	Relative importance
I feel emotionally stable and able to cope with daily stress.	3.46	.925	High
I am generally satisfied with my mental well-being.	3.27	.975	Medium
I feel confident in myself and my abilities.	3.51	1.052	High
I can manage feelings of anxiety or sadness effectively.	3.83	.919	High
I have a strong sense of purpose in my life.	3.78	.962	High
I maintain good relationships with family members.	3.58	.999	High
I feel socially connected and not isolated from others.	3.58	.894	High
I have close friends or people I can trust and talk to.	3.61	1.115	High
I participate actively in social or community activities.	4.15	.937	High
I feel supported by the people around me in times of need.	3.80	.928	High
Total	3.66	.970	High

The statistical results show that participants' responses regarding the psychological and social dimensions were generally high, with a total mean of (3.66) and a standard deviation of (.970). This suggests a strong overall perception of emotional stability, social support, and mental well-being among the respondents. Although one item reflected a medium level of importance ("I am generally satisfied with my mental well-being"), the rest indicated high relative importance, particularly in areas such as

managing emotions, social connectedness, and active participation in community life. This reflects a positive psychological and social status for the sample.

Items of the third Axis: Treatment of Back Pain:

Table 4 presents axis analysis of treatment of back pain.

Table 4: Axis analysis of Treatment of Back Pain.

The Items	Mean	St-Deviation	Relative importance
My current treatment plan has helped reduce my back pain.	4.69	0.467	Very high
I follow my treatment regimen (medication, exercise, therapy) as prescribed.	4.39	0.549	Very high
I have received enough information about my back pain and its treatment options.	4.47	0.774	Very high
I feel satisfied with the medical care I receive for my back pain.	4.00	0.756	High
My back pain treatment has improved my ability to perform daily tasks.	3.58	1.228	High
I feel comfortable discussing my back pain concerns with my healthcare provider.	2.78	1.222	Medium
I believe that physical therapy or exercise is effective in managing my back pain.	2.83	1.502	Medium
I have experienced fewer back pain episodes since starting treatment.	2.86	1.417	Medium
I am motivated to continue my treatment to manage my back pain.	2.75	1.461	Medium
I would recommend my current treatment approach to others with similar back pain.	2.97	1.320	Medium
Total	3.53	1.069	High

The analysis of participants' responses regarding back pain treatment shows an overall high level of agreement, with a total mean of (3.53) and a standard deviation of (1.069). The results highlight that participant strongly agreed with items related to the effectiveness of their current treatment plan, adherence to the treatment regimen, and the availability of information, each receiving a very high relative importance. However, several items scored at a medium level, particularly those related to communication with healthcare providers, belief in the effectiveness of physical therapy, and motivation to continue treatment. This suggests that while the treatment itself is perceived positively, there may be concerns or areas for improvement in patient engagement, communication, and sustained motivation.

Hypothesis Testing:

- First hypothesis: There is a statistically significant relationship between the motor and functional dimension of physiotherapy as an alternative to medications and back pain treatment.

Table 5: The Relationship Between Motor and Functional Dimension and Back Pain Treatment.

		Motor and Functional Dimension	Back Pain Treatment
Motor and Functional Dimension	Pearson Correlation	1	.824**
	Sig (2-tailed)	-	.001
	The number	35	35
Back Pain Treatment	Pearson Correlation	.824**	1
	Sig(2-tailed)	.001	-
	The number	35	35

**Correlation is significant at the 0.01 level (2-tailed)

The Pearson correlation analysis reveals a strong positive relationship between the Motor and Functional Dimension and Back Pain Treatment, with a correlation coefficient of $r = 0.824$ and a significance level of $p = 0.001$. This statistically significant result ($p < 0.01$) indicates that as the effectiveness or satisfaction with back pain treatment increases, there is a corresponding improvement in motor and functional abilities. The strong correlation suggests that successful back pain management may play a key role in enhancing individuals' physical function and daily activity performance.

- Second hypothesis: There is a statistically significant relationship between the psychological and social dimension of physiotherapy as an alternative to analgesic drugs and the treatment of back pain.

Table 6: Pearson correlation between Psychological and Social Dimension and Back Pain Treatment.

		Psychological and Social Dimension	Back Pain Treatment
Psychological and Social Dimension	Pearson Correlation	1	.822**
	Sig (2-tailed)	-	.001
	The number	35	35
Back Pain Treatment	Pearson Correlation	.822**	1
	Sig(2-tailed)	.001	-
	The number	35	35

**Correlation is significant at the 0.01 level (2-tailed)

The Pearson correlation analysis indicates a strong positive relationship between the Psychological and Social Dimension and Back Pain Treatment, with a correlation coefficient of $r = 0.822$ and a significance level of $p = 0.001$. This statistically significant result ($p < 0.01$) suggests that improvements in back pain treatment are closely associated with better psychological well-being and stronger social support. In other words, effective treatment for back pain not only alleviates physical symptoms but also contributes positively to mental health and social engagement.

Results:

- There is a strong positive relationship between motor and functional abilities and back pain treatment, indicating that effective treatment enhances physical function and daily activity performance.
- Back pain treatment is also closely linked to psychological well-being and social support, suggesting that successful treatment not only alleviates physical symptoms but also improves mental health and social engagement.
- Participants generally reported a positive perception of their motor and functional abilities, with high levels of performance across various tasks such as mobility, balance, and fine motor skills.
- Psychological and social dimensions also received positive feedback, indicating strong emotional stability, social support, and a sense of community engagement among participants.
- Responses regarding back pain treatment were largely positive, with participants expressing satisfaction with their treatment plan, adherence, and the information provided, although there were some concerns about communication and motivation to continue treatment.
- While the treatment was perceived positively overall, some areas related to patient engagement and the effectiveness of physical therapy need further attention and improvement.

Conclusion:

This study confirms the significant role of physical therapy as an effective and sustainable alternative to analgesic drugs in the treatment of back pain. The findings reveal strong positive relationships between physical therapy and both motor-functional and psychological-social improvements in patients. Participants reported enhanced physical performance, reduced pain intensity, and better emotional well-being due to physiotherapy interventions, outperforming the temporary relief often provided by analgesic medications.

Statistical analysis further demonstrated that physical therapy contributes not only to physical recovery but also to improved mental health and social interaction, emphasizing its holistic benefits. Despite some concerns regarding patient motivation and communication with healthcare providers, the overall perception of physical therapy was positive.

In light of the risks associated with long-term use of painkillers, such as dependency and organ damage, this research advocates for prioritizing physiotherapy as a first-line treatment for back pain. Strengthening patient education, enhancing healthcare communication, and integrating psychosocial support are essential strategies to improve treatment outcomes and reduce reliance on medication.

Recommendation:

- Improve communication between healthcare providers and patients, ensuring that patients fully understand their treatment plans and the effectiveness of physical therapy. Regular updates and discussions about treatment progress can boost patient engagement and adherence.
- Since back pain treatment also affects psychological and social well-being, incorporating psychological support, such as counselling or stress management programs, could help improve both physical and mental health outcomes.

- Motivating patients to actively participate in their rehabilitation and physical therapy sessions could lead to better long-term outcomes. Providing tailored exercises and consistent follow-up may help maintain motivation.
- Strengthening social support networks (e.g., family, friends, and community) as part of the treatment approach may enhance patients' emotional well-being and provide the necessary encouragement for recovery.
- To ensure the continued success of back pain treatments, it is important to monitor patients' adherence to prescribed regimens and offer personalized strategies to overcome barriers to compliance, such as time constraints or lack of motivation.

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