Establishment and Assessment of an Emergency Department Primary Practitioner Physiotherapy Program for Individuals with Musculoskeletal Disorders

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ABSTRACT

Musculoskeletal disorders (MSDs) are a common reason for emergency department (ED) visits, often leading to overcrowding and increased wait times. Traditional models of ED care may not always provide timely and specialized interventions for patients with MSDs. In response, many healthcare systems have introduced emergency department primary practitioner physiotherapy (PPP) programs. These programs allow physiotherapists to act as primary practitioners in EDs, diagnosing, treating, and managing MSDs independently, enhancing patient care and reducing the burden on other healthcare professionals.

This review evaluates the establishment and effectiveness of PPP programs in EDs for individuals with MSDs. Drawing from various studies, it highlights the potential benefits of integrating physiotherapists into the ED, such as reduced length of stay, improved patient satisfaction, and enhanced clinical outcomes. The role of the physiotherapist extends to performing triage, ordering diagnostic imaging, and prescribing treatments, which optimizes ED operations and frees up medical staff to handle more acute cases.

Challenges such as resource allocation, training, and inter-professional collaboration must be addressed to ensure the program's success. Overall, the evidence supports the integration of PPP programs as a viable strategy to improve musculoskeletal care within the ED setting.

Keywords: Musculoskeletal Disorders, Emergency Department, Primary Practitioner Physiotherapy, Patient Outcomes, Healthcare Delivery

INTRODUCTION

Musculoskeletal disorders (MSDs) are a leading cause of disability and healthcare utilization worldwide, contributing significantly to the burden on emergency departments (EDs) (Woolf & Pfleger, 2003). These conditions often require timely and specialized intervention, which, in many cases, is beyond the scope of general emergency care. Consequently, EDs face challenges in providing adequate and prompt care for patients with MSDs, leading to overcrowding, increased wait times, and potential delays in receiving appropriate treatment (Holdgate et al., 2016).

In response, many healthcare systems have explored alternative models of care, such as incorporating physiotherapists as primary practitioners in the ED setting. Physiotherapy-led management has shown promise in improving patient outcomes, reducing ED length of stay, and enhancing the efficiency of healthcare delivery (Grimmer et al., 2014). These practitioners bring specialized expertise in assessing, diagnosing, and managing MSDs, which can expedite treatment and reduce the reliance on medical doctors for non-urgent conditions (Kilner, 2011).

The integration of primary practitioner physiotherapists (PPPs) into the ED allows for a more streamlined and targeted approach to musculoskeletal care, potentially improving both patient satisfaction and clinical outcomes. The role of the PPP extends beyond traditional physiotherapy interventions to include responsibilities such as triaging patients, requesting diagnostic imaging, and prescribing appropriate treatments (McClellan et al., 2020). This expanded role may help alleviate the pressure on EDs by allowing other healthcare professionals to focus on more acute medical emergencies.

This review aims to assess the establishment and outcomes of an emergency department primary practitioner physiotherapy program for individuals with musculoskeletal disorders. It will explore the program's impact on patient care, clinical outcomes, and overall ED operations, highlighting both the benefits and potential challenges of such an initiative.

METHODOLOGY

Program Evaluation

The review included case studies and evaluation reports of ED physiotherapy programs. To understand how these programs were established, data on the following factors were collected:

- Program design: Roles and responsibilities of physiotherapists, scope of practice, triaging protocols, and collaboration with medical staff.

- Training and certification: Specific training and credentialing required for physiotherapists to practice independently in an ED setting.

- Resource allocation: Information on staffing models, required resources, and budget allocation for initiating a PPP program.

Data Extraction and Analysis

Data were extracted on key outcomes reported in the literature, which included:

- Patient care outcomes: Time to diagnosis, treatment effectiveness, patient satisfaction scores, and follow-up care.

- Operational outcomes: ED length of stay, wait times for care, and the impact on ED overcrowding.

- Clinical outcomes: Reduction in unnecessary diagnostic tests or treatments, clinical accuracy in diagnosis, and appropriateness of care.

- Economic outcomes: Cost-effectiveness of physiotherapy-led care compared to traditional models, focusing on savings related to reduce diagnostic testing, decreased ED occupancy, and quicker patient discharge.

A narrative synthesis approach was used to summarize findings from different studies. Quantitative results (such as reductions in wait times or costs) were tabulated and compared across studies. Qualitative data (such as patient satisfaction or program challenges) were analyzed thematically to identify common themes and barriers to successful program implementation.

Study	Sample Size	Country	Key Findings	Outcomes Measured
McClellan et al. (2020)	200	UK	High diagnostic accuracy, faster care	Wait times, patient satisfaction
Holdgate et al. (2016)	150	Australia	Reduced ED congestion	ED length of stay, operational efficiency
Grimmer et al. (2014)	250	Australia	Reduced imaging requests	Cost-effectiveness, clinical accuracy
Kilner (2011)	100	UK	30-minute reduction in ED stay	Time to treatment, economic benefits

Table 1: Included Studies

RESULTS

The review of literature and program evaluations on the establishment of PPP programs revealed several key findings:

Patient Care Outcomes

PPP programs significantly improved patient care outcomes, especially in the management of MSDs. Patients treated by physiotherapist's experienced faster diagnosis and treatment initiation. For example, McClellan et al. (2020) demonstrated that patients managed by physiotherapists had reduced wait times, faster pain management, and early mobilization.

Operational Efficiency

PPP programs contributed to greater operational efficiency. Kilner (2011) reported a reduction in ED length of stay by an average of 30 minutes for patients managed by physiotherapists, compared to traditional care models. By managing nonurgent MSD cases, physiotherapists reduced pressure on medical staff, improving patient flow.

Clinical Accuracy

The diagnostic accuracy of physiotherapists in PPP roles was found to be comparable to that of physicians. McClellan et al. (2020) noted that physiotherapists were less likely to request unnecessary diagnostic tests, ensuring more focused care.

Economic Benefits

Grimmer et al. (2014) demonstrated that physiotherapy-led management resulted in a 25% reduction in imaging requests, leading to significant cost savings for the healthcare system. The faster throughput of patients also contributed to reduced ED occupancy costs.

DISCUSSION

The findings from the review demonstrate that PPP programs provide significant advantages in terms of both clinical outcomes and operational efficiency, but there are also challenges to overcome. Benefits of the PPP Program 1. Improved Operational Efficiency : One of the key findings of the review is that PPP programs substantially enhance operational efficiency within EDs. By assigning physiotherapists to assess, diagnose, and manage patients with MSDs, the burden on physicians and other healthcare professionals is reduced, allowing them to focus on more critical cases. This redistribution of responsibilities results in shorter wait times and reduced patient length of stay in the ED. The study by Kilner (2011) demonstrated a 30-minute reduction in ED stay, illustrating the potential for quicker throughput and improved overall patient flow. In large, overcrowded EDs, these improvements can significantly mitigate the issue of congestion, improving service delivery.Enhanced 2.Patient Outcomes and Satisfaction : Patient outcomes and satisfaction appear to improve with the integration of physiotherapists in EDs. Physiotherapists bring specialized expertise in the diagnosis and management of MSDs, which can lead to more accurate diagnoses and tailored treatment plans. For instance, McClellan et al. (2020) highlighted that patients managed by PPPs experienced faster pain relief and early mobilization, which in turn led to higher levels of patient satisfaction. Additionally, physiotherapists are trained to employ non-invasive management strategies, avoiding unnecessary diagnostic tests and treatments, which can contribute to better patient experiences and outcomes.3.Clinical Accuracy and Economic Benefits: The literature suggests that the diagnostic accuracy of physiotherapists in ED settings is on par with, if not superior to, that of medical professionals for musculoskeletal cases.

This is particularly important in reducing the overuse of diagnostic imaging and other unnecessary tests. The study by Grimmer et al. (2014) found that physiotherapy-led care resulted in a 25% reduction in imaging requests, translating to both clinical and economic benefits. Cost savings, attributed to decreased diagnostic testing, reduced hospital occupancy, and faster patient discharge, highlight the financial viability of PPP programs in EDs. The potential for cost savings makes this model particularly attractive for healthcare systems operating under financial constraints.

Challenges to Implementation 1.RESISTANCE FROM MEDICAL STAFF: While the evidence strongly supports the benefits of PPP programs, their implementation is not without challenges. One significant barrier is resistance from medical professionals who may perceive the inclusion of physiotherapists as encroaching on their scope of practice. Interprofessional dynamics can sometimes lead to conflicts over roles and responsibilities. Ensuring a collaborative environment is essential for the success of PPP programs. Educating medical staff on the competencies of physiotherapists and the benefits of shared care models could help mitigate resistance and foster a more team-oriented approach to patient care.2. TRAINING AND CREDENTIALING: another challenge is the need for extensive training and credentialing for physiotherapists to take on the role of primary practitioners in the ed. while physiotherapists are already skilled in musculoskeletal care, the expanded scope of practice in the ed setting may require additional training in areas such as triage, diagnostic imaging, and pharmacology. ensuring that physiotherapists are equipped with the necessary skills and certifications is crucial to the successful integration of ppp programs. furthermore, ongoing professional development and clinical support are necessary to maintain high standards of care. 3. RESOURCE ALLOCATION : The introduction of a PPP program also requires careful planning in terms of resource allocation. Healthcare systems must invest in the recruitment, training, and retention of physiotherapists with the requisite skills. Additionally, funding is needed to cover the costs of implementing the program, including infrastructure, staff salaries, and operational support. Although the program may generate long-term cost savings, initial investments may pose challenges for some healthcare systems, particularly those already under financial strain. **Future Considerations**

For PPP programs to be fully integrated and effective in ED settings, future considerations should include:

- Enhanced Collaboration and Communication: Healthcare teams must establish clear lines of communication and role delineation to avoid conflicts and promote efficient patient care. Multidisciplinary team meetings and inter-professional education initiatives may help foster better collaboration.

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- Further Research and Evaluation: Although the existing evidence supports the benefits of PPP programs, further research is needed to evaluate the long-term impacts of these programs on both patient outcomes and healthcare system sustainability. Future studies could explore the applicability of PPP programs across different healthcare settings and patient populations, as well as their effects on health system efficiency at scale.

- Policy Support: Government and institutional policies should support the integration of PPP programs by providing appropriate funding, legislative backing for physiotherapist practice expansion, and support for training programs that equip physiotherapists with the necessary skills.

CONCLUSION

The findings of this review suggest that the implementation of Primary Practitioner Physiotherapy (PPP) programs in emergency departments (EDs) for the management of musculoskeletal disorders (MSDs) presents substantial benefits in improving patient care, operational efficiency, and economic outcomes. The inclusion of physiotherapists as primary care providers in EDs allows for faster diagnosis and treatment, reduced patient wait times, and enhanced patient satisfaction. Their specialized expertise in musculoskeletal care enables more accurate assessments and effective treatment plans, reducing the need for unnecessary diagnostic tests and facilitating faster recovery.

In terms of operational impact, PPP programs help alleviate the pressure on EDs by managing non-urgent musculoskeletal cases, allowing physicians to focus on more critical patients. This not only improves patient flow but also addresses the issue of ED overcrowding, enhancing overall departmental efficiency.

Moreover, the economic advantages of PPP programs are evident through reduced healthcare costs, primarily from fewer imaging requests and faster patient discharge, contributing to significant cost savings for hospitals and healthcare systems.

However, challenges such as resistance from medical staff, the need for additional training and credentialing for physiotherapists, and the allocation of resources must be addressed to ensure the successful implementation of these programs. Inter-professional collaboration and a supportive policy framework are essential for overcoming these barriers.

In conclusion, the integration of physiotherapists as primary practitioners in EDs offers a promising model for improving the management of musculoskeletal conditions. With proper planning, investment, and collaboration, PPP programs have the potential to enhance patient outcomes, streamline ED operations, and provide long-term economic benefits to healthcare systems. The success of these programs will depend on the commitment to addressing the identified challenges and adapting the model to fit the specific needs of various healthcare settings.

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