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ACUTE PAIN MANAGEMENT IN PEDIATRICS: PHARMACOLOGICAL AND NON – PHARMACOLOGICAL PRESPECTIVES

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TO THE EDITOR,

Early recognition and appropriate management of pain in pediatric patients are essential elements of quality healthcare. Inadequate pain management may trigger physiological stress responses and contribute to behavioral disturbances, anxiety, and long-term alterations in pain perception in children. Pharmacological and non-pharmacological strategies play a vital role in pediatric pain management and should be selected based on the intensity of pain, the child's age, and the underlying clinical condition. An integrated multimodal strategy combining these interventions enhances analgesia, reduces adverse effects, and improves overall clinical outcomes.

Non-pharmacological interventions such as distraction, hypnosis, music, play therapy, massage therapy, and virtual reality have been shown to be effective in managing pain and distress in pediatric patients [1,2]. Distraction and hypnosis significantly reduce needle-related pain and anxiety, with hypnosis demonstrating greater effects, particularly in older children, and are considered safe and feasible adjuncts for procedural pain management.[1] Music and play therapy improve emotional well-being, reduce anxiety, and support coping mechanisms in hospitalized children, thereby contributing to more positive pain experiences during medical care [2]. Virtual reality provides immersive distraction and has been shown to significantly reduce pain and anxiety during acute and procedural interventions in pediatric patients.

Pharmacological agents such as paracetamol and ibuprofen, topical local anesthetics like EMLA cream, and other non-opioid analgesics are commonly used for the management of mild to moderate pain, fever, venipuncture-related pain, and musculoskeletal injuries in children [3-5].

Paracetamol and ibuprofen are safe and effective when used appropriately; however, cautious prescribing and monitoring are required because of potential gastrointestinal and renal complications associated with non-steroidal anti-inflammatory drugs [3,4]. Topical local anesthetics such as EMLA cream significantly reduce venipuncture-related pain and improve procedural comfort in pediatric patients [5].

A multidisciplinary, multimodal approach represents the most effective strategy for pediatric pain management [6]. Integrating pharmacological and non-pharmacological interventions, along with psychological support, behavioral techniques, and family involvement, results in better pain control, reduced distress, improved functional outcomes, and lower opioid utilization in children.

In conclusion, pain management in pediatric patients requires a balanced integration of pharmacological and non-pharmacological approaches. While pharmacological interventions effectively alleviate pain, their use may be limited by adverse effects and safety concerns. Non-pharmacological strategies are generally safe and beneficial but may be constrained by feasibility and resource availability. Therefore, a multidisciplinary, multimodal approach offers a child-centered framework for pain management, enhancing coping, reducing distress, and supporting sustained clinical and functional outcomes.

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