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Nuzhath Alam Piyare Jan
Vice Principal and Professor, Kingston Imperial Institute of Medical Sciences, Dehradun, Uttarakhand, India

Kanchan Negi
Nursing Tutor, Kingston Imperial Institute of Medical Sciences, Dehradun, Uttarakhand, India

Ramanpreet Kaur
Nursing Tutor, Kingston Imperial Institute of Medical Sciences, Dehradun, Uttarakhand, India

Corresponding Author:
Nuzhath Alam Piyare Jan
Vice Principal and Professor, Kingston Imperial Institute of Medical Sciences, Dehradun, Uttarakhand, India

Article review on managing pain in children with cancer

Nuzhath Alam Piyare Jan, Kanchan Negi and Ramanpreet Kaur

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Abstract
Objective: To review the most recent literature on managing pain in children with cancer.
Data Source: In Pubmed/MEDLINE and Google Scholar, a search was conducted. Cancer, Oncology, Pediatric Cancer, Pediatric cancer pain were the keywords employed. Studies published in English between 2010 and 2023 were the basis for the online search.
The task of controlling discomfort in children with cancer can be challenging. These individuals frequently have considerable pain, which is frequently neither treated nor evaluated correctly. Studies have shown that the urge among healthcare personnel and even patient carers to believe unfounded worries and beliefs is the cause of this gap. Due to this, despite the fact that there are both pharmacological and non-pharmacological ways to treat pain, many paediatric oncology patients endure needless suffering. The WHO analgesic ladder should be used, opioid doses should be appropriately increased, adjuvant analgesics should be used, and non-pharmacological pain relief techniques should also be used, according to the principles of pain management. All children with cancer should follow these guidelines for pain management, with the understanding that some children may have few options for treatment.

Keywords: Child cancer, pediatric cancer pain, cancer pain, pediatric pain, management of pain

Introduction

"The great art of life is sensation, to feel that we exist, even in pain."

- George Gordon Noel Byron

Every year, 400,000 or more kids are given cancer diagnoses. The Cure-All framework study has been launched by the WHO for kids with paediatric cancer who are thought to be receiving insufficient care. Pain treatment is one of this organization's most important initiatives [1], as only 40% of paediatric cancer pain cases are reportedly successfully handled [2]. 4 percent of the malignancies in the 0-14 age group were childhood cancers. According to recent research from India's National Cancer Registry Programme (NCRP) [3]. The higher age-adjusted incidence rate (AAR) was recorded by the Delhi Population-Based Cancer Registry, which was 203.10 per million for boys and 125.40 per million for girls [4, 5]. Paediatric oncology patients have unique issues when it comes to pain management. The patients in paediatric oncology are seriously ill, frequently young, and have a labile disease course. They also get vigorous medication that has crippling adverse effects. Frequent clinic visits and scheduled and unscheduled admissions severely disturb the daily lives of patients and their families [6].

Children with cancer may experience discomfort from the disease itself or its secondary effects. Tumours can cause discomfort in two separate ways: by exerting pressure on internal organs physically or by obstructing regular body processes. Significant discomfort for the patient might also result from treatments including surgery and injections [7]. Pain can impair the immune system, disrupt sleep and raise the risk of depression if left untreated. The patient's palliative care team, which consists of several different medical specialists who will treat the child's pain, includes oncologists, anesthesiologists, neurologists, surgeons, psychiatrists, and chemists. Acupuncture, massage therapy, biofeedback, and hypnosis are some of the therapies that hospitals may also recruit people [8].

Based on the child's age, treatment, and side effects, the child's cancer pain management is customized. The aim is to minimize any acute exacerbation of severe pain while achieving adequate background control of the pain. Pain management treatments like paracetamol,

non-steroidal anti- inflammatory drugs, or opiates are frequently utilized.

Non-pharmacological methods can also be used to treat children's discomfort. These methods include diverting the child's attention, massages, acupuncture, heat or cold therapy, exercise, and sound sleep [8, 9].

Recurrent pain may lead to substantial impact on all aspects of daily living, including sleep and interacts with family, and it can cause discomfort, worry, melancholy, irritation, sleeplessness, exhaustion, and unhealthy coping mechanisms in the child and members of the family. A holistic strategy is frequently required to address the issues and the pain it can create because chronic pain can be brought on by a variety of circumstances [10].

Children with cancer and pain management

M.S. Biji, *et al*. (2019). The descriptive study looked into the characteristics of pain and how it was treated in young cancer patients. It took place in a tertiary cancer centre. We looked at children aged 4 to 18 who had been the diagnosis of hematologic cancers between Jan 2013 and Dec 2017 admissions. The majority 83% of admission episodes for children between the ages of 4 and 9 years used a step 1 analgesic, whereas a for children in the older age group 10–18 years, step 2 analgesic (tramadol) was utilized in 29 (58%) occurrences, which was statistically significant (P.001). Only 9 (9.7%) cases involved the use of step 3 analgesia. Paediatric patients with hematologic malignancies frequently reported pain attacks, which were typically treated with mild opioids in older age groups [11].

Tutelman PR, *et al* (2018). The present study's goals were to assess the prevalence and pain characteristics as well as the medication, physical therapy, and managing psychological distress techniques used by parents to ease the agony associated with their child's cancer. 230 parents & carers (89% women) of child cancer who are now taking part in treatment or who have recently recovered from the disease (mean age = 8.93 years, standard deviation =4.50) responded to an online survey about the pain their child experienced in the previous month. According to the findings, clinically significant levels of discomfort were experienced by both cancer patients who were receiving active therapy and those who had concluded their course of treatment. In order to control their child's suffering, parents said they used more psychological and physical techniques than pharmacological ones [12].

Geeta, *et al*. (2010). All leukaemia patients referred during a 6-month period of a palliative and pain care clinic affiliated with the paediatric division of a medical instruction institution and who had treatment there were included in the study. 39 children, or 64% of those getting leukaemia treatment during the study period, required a referral to a pain and palliative care provider. Analgesia administered in steps one and two had positive effects on 12 (31%) and 21 (54%) of the youngsters, respectively. Just 6 children (15%) needed step-three analgesia. Children with bone pain and neuropathic pain needed step-three analgesia [13].

WHO Analgesics Ladder for Pain Management

The analgesic ladder was part of the WHO Cancer Pain & Palliative Care Programme, a key a health project that used public relations initiatives to enhance cancer pain management methods for education, the creation of a global network of support, and the creation of shared strategies. In order to successfully lessen pain in cancer clients, the World Health Organization proposed the WHO analgesic ladder in 1986 [14].

The original ladder mostly had three steps

- **Step 1:** Non-steroidal anti-inflammatory medications (NSAIDs), such as paracetamol with or without adjuvants, are non-opioid analgesics are the first line of treatment for mild pain.
- **Step 2:** To treat mild pain, weak opioids including hydrocodone, codeine, and tramadol are utilised in the second stage, coupled with or without adjuvants and non-opioid analgesics.
- **Step 3:** For severe and ongoing discomfort, the third phase involves the use of strong opioids, both with and without non-opioid analgesics & adjuvants (such as morphine, fentanyl, methadone, tapentadol, oxycodone, buprenorphine, oxymorphone, and hydromorphone).

The effectiveness of the technique is debatable, and it hasn't yet been shown through significant research [15]. However, in 70% to 80% of clients, it still offers a straightforward palliative strategy to lower pain-related morbidity [16].

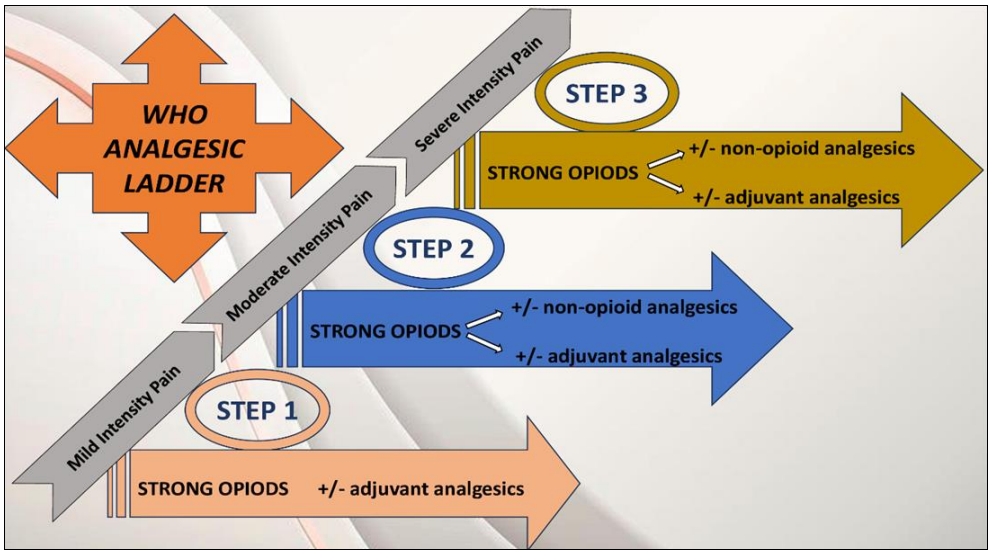

Fig 1: Shows the following steps by steps

Discussion

The majority of children with severe illnesses continue to feel pain and obtain ineffective pain control despite growing understanding of the causes and treatments of their pain. Managing children's cancer pain is a difficult undertaking due to the lack of safe painkillers, children's dependence on parents, their sensitivity to pain, and the difficulty of assessment. India still lacks research on children with cancer who feel agony.

The principles of pain management and palliative care for children with cancer should be applied globally, according to documents from the World Health Organization on these topics. The WHO analgesic ladder should be used, opioid doses should be appropriately increased, adjuvant analgesics should be used, and non-pharmacological pain relief techniques should also be used, according to the principles of pain management. All children with cancer should follow these guidelines for pain management, with recognition that some children may have restricted access to treatment alternatives.

Conclusion

- Children with cancer can receive appropriate treatment for their pain, according to the WHO analgesic ladder. The management of aggressive symptoms and the treatment of related side effects are also necessary for the WHO analgesic ladder to be successfully used.
- Paediatric cancer patients, their families, doctors, and nurses all stand to gain immeasurable advantages from the efficient management of pain in these children. Analgesic drug therapy continues to be the cornerstone of the therapy even though providing adequate medicine and extensive patient and family education may be necessary for children with cancer to experience pain relief.
- Additional clinical trials are required to assess the dose equivalency, clinical efficacy, safety, and variations in opioid responsiveness, as well as the dose strengths required for most children.

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