DEVELOPMENT OF PEDIATRIC PAIN MANAGEMENT PROGRAMS IN POST-ACUTE REHABILITATION SETTINGS

Introduction

Pain is a signal, developed through the evolutionary process, to protect the body from further stress or injury. If prolonged, particularly in the young, it can cause distress, anxiety, and suffering. It is surprising, therefore, that prior to the 1960's, few studies or articles addressed the nature of pain in children. In fact, recent studies in the 1990's revealed that children in pain are still often under treated. Reasons for this inadequacy may be due to current myths on pediatric pain and pain management. For example, some believe that young children do not experience pain because of neurologic immaturity. However, studies have shown that pain pathways as well as cortical and subcortical centers necessary for pain perception are developed by 30 weeks of gestation. Children not only experience pain, but also often have changes in behavior, eating and sleeping patterns, following painful medical procedures.

Misunderstandings in the use of narcotics affect the role of pediatric pain management. Although there are concerns regarding the respiratory depressant effects of narcotics due to slower metabolisms than adults, and the possibility of addiction, studies have indicated that children older than the age of 6 months demonstrate adult-like pharmocokinetics and, when weaned over a period of time, have rare occurrences of addiction.

Over the past three years, St. Mary's Healthcare System for Children has developed a pediatric pain management program to address the need for pain management in post acute rehabilitation settings. The facility has documented this ongoing process in the format of this handbook that we hope will be useful for other institutions interested in undertaking a similar endeavor.

Pediatric Pain Management

Most pediatric pain management programs are located in academic medical centers and often focus on acute pain, particularly in the inpatient setting. Outpatient clinic settings are often arranged to help children suffering from chronic pain. However, in post-acute rehabilitation settings, pediatric inpatients experience both chronic and acute pain. Pain management is particularly important in providing accurate pain assessment and consistent care for both communicative and non-communicative patients in post-acute settings.

Treating children with pain involves a balance of pharmacological and adjuvant therapies. When using drugs, it is important to clarify the difference between addiction and physical dependence. Addiction is drug-seeking behavior due to psychological dependence. Physical dependence, on the other hand, is exhibited by

the signs and symptoms of withdrawal and can be treated by gradually weaning the patient from the drug.

In addition to pharmacotherapy, adjuvant therapies are also recommended in pain management. They include psychotherapy and complementary (alternative) medicine treatments, such as acupuncture and acupressure. Pain management is a common reason for patients to pursue complementary medicine modalities.

Our Facility

St. Mary's Healthcare System for Children is a post-acute rehabilitation facility that provides care to children often with illness that are chronic in nature. The care if provided both on an inpatient as well as home care basis. Our inpatient capacity consists of a 97-bed facility in Bayside, New York, and a 44-bed facility in Ossining, New York. Our home care program includes over 1600 families in the greater New York area.

At St. Mary's, prior to the establishment of a pain management program, pain was treated on an as needed basis. Although treatment was instituted following a patient's complaint of pain, the treatment often varied from practitioner to practitioner. We also realized that assessment is often difficult in children, particularly in children who are unable to communicate. Due to these observations, we embarked on a pain management program to create an "ouchless" environment in both of our facilities by proactively assessing the presence of pain before patients complained of pain.

Goals For Our Programs

In 1997, our goal to establish a pain free facility in our institution was made possible through the generosity and support of The Mayday Fund. We began the development and implementation of a pain management program that would utilize the available resources of our post-acute setting and deliver treatment that would adequately relieve pain in children. In addition, we decided to record this process in the form of a handbook to act as a blueprint for any other organization that would be interested in implementing a pain management program at its facility.

In designing the pain management program at St. Mary's, we determined that the program would involve the following team members:

Patients and Family Members
Physiatrist with Training in Complementary Medicine
Pediatrician
Psychiatrist
Neuropsychologist
Nurse
Occupational Therapist
Physical Therapist
Recreational Therapist

Speech Therapist
Pharmacist

This pain management program utilized not only the traditional tools for pain management such as pharmacology, but also tools from complementary medicine. These would include imagery, biofeedback, hypnosis, massage therapy, music therapy, acupressure, and acupuncture. Specialists (such as an anesthesiologist) would also be available for consultation on an as needed basis.

Implementation of the pain management program involved two steps: the first was to develop a model appropriate for the inpatient setting, and the second was the adaptation of the model for the pediatric home care setting.

Development of an Inpatient Pain Management Program

In developing a model for the inpatient setting, we first established a Pain Management Committee to design the program's policy and procedures, and Pain Management Teams to carry out these procedures. Moreover, the Pain Management Committee was assigned to meet monthly to discuss emerging issues regarding the program. Following a comprehensive literature review, pain assessment tools were selected, and a pain assessment protocol was developed. We selected the CRIES Scale, FACES Scale, and Oucher Scale. Our protocol for pain assessment begins with an initial assessment of the patient's pain on admission using the pain assessment form. If the patient has no pain on this initial assessment, the nurses caring for the patient then continue to routinely assess the patient's pain using the appropriate pain scale (i.e. CRIES, FACES, Oucher) during their hospital stay. If the patient has pain either o the initial assessment or during their hospital stay, they are then referred to the Mental Health Specialist for a comprehensive pain evaluation using the Varney/Thompson Pediatric Pain Questionnaire. If the patient is evaluated as having physical pain, the Pain Management Team intervenes and provides continuous treatment assessment of the pain. If the pain resolves, the patient is again assessed routinely by the nurses using the appropriate pain scale (i.e. CRIES, FACES, Oucher).

In addition, contact with information exchanges such as the PainLink project and several pediatric pain management specialists were initiated. This increased focus on liaisons with other pain management programs was for the purpose of sharing information, discussion of pertinent issues, and exploring possibilities for collaborative efforts. These affiliations continue to increase as our program expands.

Policies and procedures developed by the Pain Management Committee also included adjuvant pain management modalities such as acupuncture, acupressure, hypnosis, imagery, and biofeedback. Additional policies were developed for the use of patient controlled analgesia and EMLA cream.

Other modalities were researched and implemented. EEG biofeedback training with a psychologist was employed for the reduction of pain-related anxiety and distress.

Controlled studies on magnets were collected to provide additional techniques to current practice.

Training was then provided to caregivers by the Pain Management Team in the administration of appropriate pain management treatments. These sessions included medical and nursing staff inservices on the use of patient controlled analgesia, the appropriate uses of the pain assessment tools, and on the overall protocols for pain management. To provide continuous pain management training, a process was developed based on participation learning.

Clinical bedside rounds were also developed to assist in the implementation of pain management techniques and for the continuing education of staff in appropriate uses of assessment tools and protocols. Overseen by the Pain Management Team, these rounds created a uniform pain management approach that was incorporated into regular patient care meetings. Staff members would report on a patient's pain at these regular patient care meetings and would receive feedback from the Pain Management Team. This collaboration created a supportive environment, in which patient care was enhanced while maintaining the relationship between the patient and the staff members involved in direct care.

External educational efforts were also made, such as providing inservicing in pain management procedures at a referring hospital. For the staff, parents, and visitors of St. Mary's community, a presentation pf specialized material was given during Pain Management Week at both St. Mary's Hospital for Children and St. Mary's Rehabilitation Center for Children. This presentation included an informational poster presentation and take-home materials.

To maximize treatment efficiency, we analyzed pain etiology in our patient population and discovered that major causes included post-surgery pain in orthopedic patients, chronic immune deficiency, low back pain, spasicity, cancer, and joint immobility. Occasionally, controversial treatment options were present with particular types of pain. For example, with severe abdominal pain, hot packs were found to be an effective means to soothe the patient but caused significant skin irritation. Opiates, on the other hand, while effective in relieving pain without causing skin irritation, further decreased gut motility. The Pain Management Team helped to address these and other similar issues.

The Quality Assurance component of the Pain Management Program included monitoring of compliance through chart reviews in the program as well as a random sample of patients not currently enrolled in the program. As with any program initiation, compliance with pain assessment was initially difficult. However this gradually improved with continuous education by the Pain Management Team during the clinical bedside rounds. Staff compliance with routine pain assessment was problematic not only in our institution but also in all of the other institutions we either visited or communicated with. We minimized this problem with compliance by simplifying the documentation of pain assessment. In additional, we found that continuous work in educating all staff regarding pain management and taking

measures (e.g. chart audits) to improve adherence to established standards was necessary to maintain a high level of compliance.

Development of a Home Care Pain Management Program

The second step in the implementation of the pain management program was to adapt the inpatient model for use in the pediatric home care setting. A home care team was formed, led by the Assistant Director of St. Mary's Home Care Program, to initiate and monitor the development of home care pain management protocols, policies and procedures. We determined that the home care phase of the program was not merely an extension of the inpatient program, but required a completely unique set of policies and protocols for development and implementation. This is due to the much larger number of caregivers involved who require training, the wide variety of patient needs, and the lack of twenty-four hours a day staff availability that is present in the inpatient setting. Therefore, initial input was solicited from home care providers to tailor the pain assessment tool to incorporate the needs of patients in the Home Care Program. The Home Care team then developed a strategy to assess pain in home care patients and work with physicians to provide appropriate interventions for pain management. Inpatient pain management policies were revised so they better conformed to the unique needs of the home care setting. The major challenges addressed included determining who should be notified when pain is identified in a home care patient, who should be responsible for developing the pain management plan, and how our home care nurses should provide evaluation and follow-up.

We then determined criteria for the use of the pain assessment tool in a variety of situations, such as post operatively, during use of patient controlled analgesics, and post-trauma. This initiated a redevelopment of the process flow sheet in order to indicate when pain assessment should take place as well as the protocols to follow after the analysis of the information obtained from the assessment. Given to home care nurses, this flow chart provided concrete assistance in learning the pain management program and implementing the assessment process. Overall, the goal was to make the home care system consistent but flexible enough to be adaptable to multiple home care needs. The Home Care program selected an assessment form and also used the RIES Scale, FACES Pain Rating Scale, and OUCHER Scale for the evaluation of pain. Following a two-month pilot period, the following procedures were adopted:

- Every patient in St. Mary's Home Care Program receives a baseline assessment of pain
- Only current pain is addressed, not resolved pain or pain associated with normal childhood development
- All children requiring pain management are assessed for adequacy of treatment modalities

If three interventions fail to relieve pain, the home care nurse confers with his/her supervisor and the patient's primary care physician for assistance.

Challenges

In developing a pediatric pain management program for children in post-acute inpatient rehabilitation and home care settings, there have been challenges. One was not being able to visit other post-acute rehabilitation settings with pain management programs due to the dearth of post-acute facilities with pain management. Most of the facilities with pain management programs we communicated with and visited were in acute pediatric care settings and therefore not directly comparable. Another difficulty was in the education of all staff members in the hospital community. An attempt was made to include all workers who may encounter patients complaining of pain. However, since the attendance in inservices was less than we had hoped, we feel that we need to make a more concerted effort to educate this population through alternative means (e.g. training videotapes). Additionally, although complementary medicine is widely used, we discovered that legal issues, such as an appropriate consent protocol, are not well established. Therefore, we had to address these legal issues prior to incorporating them in our pain management program. Lastly, our evaluation system was initially not as effective as it could have been. Since our evaluation process was incorporated during the implementation process, there was no baseline evaluations available, making progress difficult to determine. We are fortunate, however, that these areas of difficult are amendable, and we plan to resolve them in our plans for the future.

Steps in Implementing a System-Wide Pain Management Program

Overall, implementation of the Pain Management Program at St. Mary's Healthcare System for Children involved several necessary steps:

- Development of a blueprint to provide an overview of implementation.
- Development of a pain management committee to develop protocols of selected pain management modalities that include not only traditional tools, such as pharmacology, but also tools from complementary medicine, such as imagery, biofeedback, hypnosis, acupressure, and acupuncture.
- Development of a pain management team to implement the program and serve as a resource for the training and supervision of staff delivering care.
- Comprehensive literature search on effective pediatric pain assessment tools, development of a list of effective pediatric pain management tools, and selection of staff members who will be trained to use them.
- Development of an inservice training program for nurses, child care technicians, therapists, and other staff responsible for the direct care of inpatient children to assess acuity of pain on a regular basis using the selected age-appropriate assessment tools.
- Development of an inservice training program for inpatient caregivers in administering appropriate pain management treatments, in consultation with the appropriate members of the Pain Management Team.
- Implementing the pain management program at both St. Mary's Hospital for Children in Bayside and St. Mary's Rehabilitation Center for Children in Ossining.

- In the home care program, development of appropriate protocols for instituting the pain management program in the home and medical day care settings.
- Development of training programs for staff and caregivers of home care in pain assessment and implementation of pain management techniques in consultation with appropriate members of the pain management team.
- Continuous evaluation of the effectiveness of the entire pain management program, producing both objective and subjective analyses of the effects of pain management on patient comfort, parent satisfaction, and length of stay, and application of any appropriate modifications.

Today, we have successfully developed an effective pain management program for children in both post-acute inpatient rehabilitation and home care settings. We feel that the inpatient program is successfully addressing the pain management needs of children, and the home care pain management program is proving to be effective not only for directing pain management but for increasing awareness of children's pain and the various effective pain reducing modalities as well.

Plans for the Future

In the future, we plan to improve and expand our pain management program. These plans include the following:

- Actively search for other institutions to visit that also have pain management in their home care programs.
- Continue to develop the inpatient as well as the home care component of our pain management program.
- Produce a video about pain assessment to educate hospital staff.
- Continue Q & A evaluations to assess the effectiveness of the pain management program over time.
- Develop a pain research program focusing on specific issues affecting our patient population. For example, one area of research we would like to explore is the assessment of pain in severely neurologically impaired children.

Conclusion

We, at St. Mary's Healthcare System for Children, feel there is a need to focus on both acute and chronic pain in post-acute pediatric settings. More importantly, pediatric pain management programs can and should exist not only in academic medical centers but also in post-acute settings. To be successfully, pain management programs may need to use a combination of pharmacology and adjuvant therapies. These programs provide a more efficient way to help relieve pain in children.

References

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