

# Importance and Impact of Pain Management in Nursing

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**ABSTRACT:** *Inadequacy of pain knowledge is a common obstacle to successful pain control. Programmes for managing the pain is an important step towards increasing the knowledge about the pain. This paper discusses about importance of pain management wherein, a survey was conducted by to access the interest and attitude of medical caretakers towards pain management. Five groups were made each group comprising 20 nurses each. There were two experimental groups and 2 control groups. Pre and post tests were conducted and compared which provided best results towards pain management. One group was allowed to give pre-test before attending the training session and another group was allowed to give only post-test that was conducted only after completion of training session. Also training were provided wherein training sessions were divided according to modules and time duration was set for each module. The result showed that there was not much difference in knowledge of the nurses towards managing pain however, nurses with pre-test performed well than post-test nurses.*

**KEYWORDS:** *Modules, Nursing, Pain management, Training.*

## INTRODUCTION

The Joint Commission started another center ordering improvement in the treatment and assessment of torment for patients. Accordingly, doctors all things considered and medical clinics started to execute procedures to improve torment the board through an assortment of modalities. Key crossroads of the agony cycle were focused with a definitive objective to hinder or limit factors inside the torment pathway[1]. Many upheld preemptive sedation, with the objective of forestalling the agony message before it enters the focal anxious system. Despite various investigations, there is no agreement in regards to a solitary treatment convention for intense or ceaseless torment. This article gives a wide fundamental foundation to understanding choices with respect to intense agony the executives for doctors outside of anesthesiology. Pain starts when specific nerves, addressed as nociceptors, are actuated because of antagonistic compound, warm or mechanical stimuli.

Activation may arise immediate because of injury or backhanded through biochemical sources discharged from harmed tissues and dissemination. These conciliators can additionally enlarge pain procedure by up-directing torment receptors and enrolling extra encompassing nociceptors into action[2]. Conciliators incorporate, yet are not constrained to, prostaglandins, bradykinins, histamine, serotonin and alike. The seriousness of pain detected is subject to the quantity of receptors animated, the term of the improvement and the measure of conciliators discharged locally. Once the nociceptor is depolarized, a sign is sent from the fringe within string of spine having horn (dorsal), in which torment signals are incorporated to evoke spinal reflexes, for example, withdrawal of the influenced territory, muscle fits, and to discharge extra conciliator inside adjoining spinal fragments and transfer data to higher cortical zones[3].

Nociceptors are partitioned into two significant nerve groups dependent on nearness or nonappearance of myelination. Myelinated A-delta strands sends sign quickly and are liable for the underlying sharp pain changing later to consuming or irritation. Unmyelinated C strands are moderately leisurelier in speed and also related with profound hurting or pulsating kinds of torment that follows the underlying sharp pain. The two kinds of pain strands at that point cross the midline and animate the climbing pain filaments in the spinothalamic tract. Substance R is a neuro transmitter handing-off the agony signal from the outskirts and the spinothalamic tract. Strands in the spinothalamic tract end in the thalamus, limbic and cerebrum stem. Further data is transmitted to various cortical zones of the mind answerable for limitation and torment discernment. Sliding agony strands are thusly actuated from the cerebral cortex through efferent pathway to the spinal rope and periphery<sup>4</sup> and act to diminish the power of the torment signal by means of enkephalin, serotonin and gamma aminobutyric corrosive (GABA) synapses[4].

Several facts are introduced regarding moderate to severe pain, particularly among admitted trauma patients and normal practitioner inpatients. Less than 55% of admit patient feel severe pain[5]. Among cancer victims, the figure is likely to be 40.2% during medical therapy, 59% after cancer chemotherapy and 67.2% among progressive, metastasize or terminal diseases[6]. Nearly 39.5 per cent of patients confirmed pain and discomfort[7]. To produce quality healthcare, pain reduction and patient experiencing is crucial. Pain impacts the health, functioning physically, social connections and mental wellbeing. Pain is also related to increased symptoms, including tiredness, sleep disruption, lack of appetite and anxiety.

If left unchecked, pain can cause serious negative effects Involving greater use of hospitals, greater duration of retain on, and the costs rise. Inadequate pain control may be due to lack of awareness about pain evaluation among nurses and related medical practitioners, misconceptions associated with drug misuse, violence & diversification, along with misunderstandings about therapy extent of analgesia. Absence in tolerance of pain was indeed a familiar obstacle to successful control. The World Health Organization (WHO) suggests establishing & concept developed pain-relief policies and strategies.

Academic health-care discomfort reduction service. Experts can strengthen pain skills and attitudes. Changing technique, nevertheless, is more difficult, but it can be done. With much more focused educational initiatives in clinical environment. A multitude of cases have recorded the impact of technology on awareness and practices of pain in nursing around the globe, nevertheless, no studies previously shows the impact of treatment of pain pedagogy upon beliefs & practices of pain in medical professionals employed in India have published.

"The goal of National Pain Intervention is to offer patient-centered, interdisciplinary, compassionate, highly informed and individualized care to any patient who is experiencing torture," says Sean Johnston, Managing director, doctorate, Head of the pain medication Department at Columbia, who worked as co-sitting of the NPS Supervisory Committee as co-sitting of its Intervention and Care[8]. Dr Mackey, the past former member of the American Academy of Pain Medicine (AAPM), was also upon 18-part deal with these unpredictable conditions. At last it will lead toward giving individuals who are experiencing torment the wide scope of administrations that as of now exist yet that at present are not promptly accessible to everybody." Most of today 's open administrators can be located at the Sanford Pain Management Institute, which was recognized by the American Pain Society as a hub of excellence that became a standard for bio - psychosocial pain therapy[9]. Within center,

interdisciplinary communities in master 's preparation have tailor-made recovery arrangements for patients with extreme or chronic suffering to resolve various problems that add to misery and conflict with research.

The pain awareness included: i) pain treatment introductions addressing pain concepts, pathophysiology, and emerging pain control trends, ii) pain assessment, and iii) pharmacological and non-pharmacological pain treatments. The Pain management program (PMP) involve discussion of the party, and individual guidance. Some immersive training exercises, such as using pain evaluation and treatment as group activity and going through case-based situations were employed.

Major aim of present research is for analyzing which one from different pain management training courses Layouts improved knowledge of the nurses and their attitudes to discomfort over period. Secondary goals are to compare and differentiate the knowledge of nurses and their attitudes against pain pre and post intervention.

### **METHODOLOGY**

To provide pain management programs and to understand the understanding of nurses towards managing pain five groups were made and each group was assigned 20 nurses[8]. All this took place in a renowned hospital between November 2019- February 2020. A random selection of nurses was made and were allotted to each group. All the selected nurses holds a one year experience. Prior to collecting information, approval from health authority and medical research committee was received.

#### *Pain tackling program details and outline*

The mentor developed the program for a period of 5 hours. The pain/torture instruction included: (1) prologue to torment the board, which secured torment Interpretations, pathology, & existing developments of organizational torment; (2) evaluation of torment; and (3) management of pharmacological and non-pharmacological floods. The PMP provided discussion planning, and participant instruction. A few insightful instructive techniques were used when acting and going on case-based scenarios, such as rehearsing torture management and the executives. Encouraging resources included structured manuals and books for torture review, including WHO governs.

The PMP had been sent for approval to the advisory board and provided four hours of Continuing Medical Education (CME). Pain control program was performed in two modules in the Hospital in India department of education: one within pre - test and comment-group population and one for a comment-group analysis only. Teams weren't really mixed to prevent the contamination. Every session was attended by fifty nurses. Each sitting lasted for five hours in length, and five hours for nurses attending Certification by CME. Indian hospital offers 16 hours of instruction each year for nurses, nurses used five hours to each session. The Researcher and another colleague guided the Pain Treatment Plan. Some of the drugs used in pain management program are listed below[10].

<b>Table 1 : Selected Current Nonopioid Treatments for Chronic Pain*[10]</b>		
<b>Drug (Brand Name, Manufacturer)</b>	<b>FDA-Approved Indication(s)</b>	<b>Comments</b>
Carbamazepine (Tegretol, <i>Novartis</i> )	Trigeminal neuralgia, epilepsy	Often used off label for other chronic pain conditions
Duloxetine (Cymbalta, <i>Eli Lilly</i> )	Diabetic peripheral neuropathic pain, fibromyalgia, chronic musculoskeletal pain, major depression, generalized anxiety disorder	Often used off label for other chronic pain conditions
Gabapentin (Neurontin, <i>Pfizer</i> )	Post-herpetic neuralgia, epilepsy	
Lamotrigine (Lamictal, <i>GlaxoSmithKline</i> )	Epilepsy	May be used off label for trigeminal neuralgia and other neuropathic pain conditions
Pregabalin (Lyrica, <i>Pfizer</i> )	Post-herpetic neuralgia, neuropathic pain associated with diabetic peripheral neuropathy, spinal cord injury pain, fibromyalgia, epilepsy	Often used off label for other chronic pain conditions
Tizanidine (Zanaflex, <i>Acorda Therapeutics</i> )	Spasticity	Often used off label for neuropathic pain conditions, chronic headache, and other conditions
Tricyclic antidepressants (e.g., amitriptyline, nortriptyline, doxepin)	Depression, anxiety, and some other psychiatric conditions	Often used off label for multiple types of chronic pain conditions
Ziconotide (Prialt, <i>Jazz Pharmaceuticals</i> )	Management of severe chronic pain in patients for whom intrathecal therapy is warranted	Recommended reading: "Practical Considerations and Patient Selection for Intrathecal Drug Delivery in the Management of Chronic Pain" (Saulino et al., <i>J Pain Res</i> 2014;7:627–638).

### *Instruments*

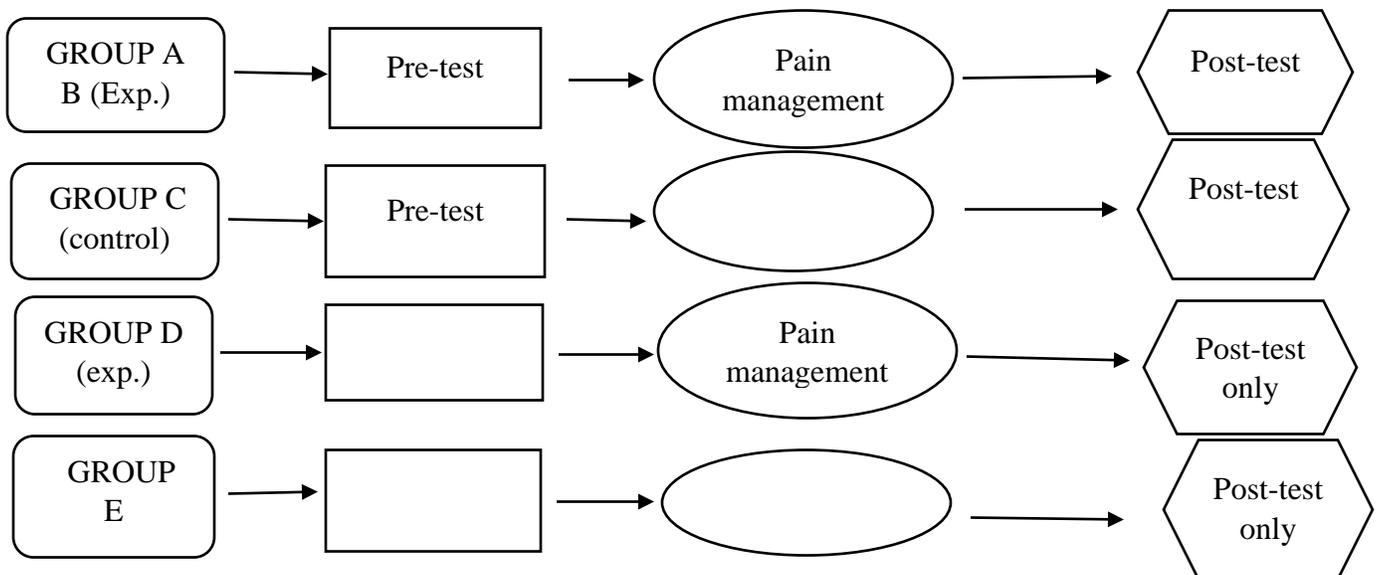
A study method was indeed implemented "awareness & Query of Attitudes About Pain "(KASRP). The method is composed of 42, Questions; 20 true/false questions, 22 multiple choices and three cases. Instrument is known as distinguishing among ability level. The reliability of test-retests ( $r > 0.80$ ) is formed by extensive experiments in the class for staff nurses in continuing education ( $N = 80$ ). Accuracy of logical consistency is formed ( $\alpha r > 0.80$ ),

with items that represent all domains of information & practice. A minimum performance passing is 85 per cent.

The nurses were allowed to access the tool via a link provided to them and complete the test. Duration of 60 minutes was assigned to them to complete the test. The nurses just had to open the link, register there by entering their personal details like name, group number, roll number, and test id. After registering they are able to conduct the test.

*Protocol*

A list of registered nurses in the hospital was acquired from the administrative nursing. Overall number of medical professionals serving in the hospital is found to be one thousand. Nurses agreeing to engage for the analysis were further divided into five groups and were randomly assigned: three experimental and two controls. Nurses of Group A and B were advised to take a pre-test before entering in pain management program and their final performance was accessed the test conducted after PMP through the same link that was provided to them for taking the test. A control i.e. group C was also made wherein the nurses were allowed to take posttests only. Another group i.e. group D wherein the nurses were allowed to participate in PMP program without giving the pretest and their performance evaluation was made by analyzing the posttest after completion of PMP program. A control group i.e. Group E was made wherein nurses performance was accessed by conducting the post test. Also participants of all the five groups were re-tested after a duration of every three weeks in order to evaluate their active participation and knowledge towards the program. Different strategies for participating the program was made just to know the difference between pre-tested and post-tested nurses towards understanding the management of pain. Fig.1 represents the design of the evaluating the performance of the nurses. post-test.



**Figure 1: Performance Evaluation Strategy**

*Data evaluation*

Whenever findings determined that there were differences between the effects, post-hoc experiments (different correlations) were used to assess the conditions differed. An ANOVA (RMANOVA) rehashed estimation, often referred to as an ANOVA within topic for associated experiments, was used to classify some general distinctions between similar approaches for specific time purposes. For the end objective of the present analysis, RMANOVA was used to determine to preserve the knowledge that the participants provided through the PMP and to assess if there is a difference in the approaches over a quarter of a year. After the PMP the participants were granted the analysis for three months consecutively. Sample size is calculated by bunch experiments using ANOVA. An average check of 134 was solved in view of an effect size of 0.26, 97 percent power, and hugeness  $p < 0.05$ . Data was broken down using the Social Sciences Statistical Package (SPSS) version 24. Table 2 presents the module of PMP

**Table 2: Module of Pain management program**

S.No.	Duration	Courses	speaker	Session period
1.	First-second month	Pre-test		
		Module 1: Part : 1. Pain introduction 2. Epidemiology related to pain 3. Torment Physiology	As assigned by the programmer	60 minutes
2.	Third- fourth month	Module 2: Part 2: 1. Types of pain 2. Causes of pain 3. Factors influencing pain 4. Terminology related to pain 5. Result of uncured pain 6. Adverse effects related to pain	As assigned by the programmer	60 minutes
3.	Fifth- sixth month	Module 3: Part 3: 1. Pain description and details 2. Advantage of pain management 3. Pain evaluation tools 4. Why pain should not be ignored	As assigned by the programmer	120 minutes

		5. Difficulties in pain management 6. How to overcome severe cases of pain or severe injury 7. Case studies		
4.	Sixth month (end)	Module 4: Part 4: Post -test		

## RESULTS & DISCUSSIONS

### Sample

There were total 100 nurses selected for survey. Most of them were married and few were unmarried. Out of them few nurses belong to other countries like China, Saudi Arabia. Major portion of them possess bachelor's degree in nursing (85%) and few were post graduated (15%). Also 50% of them had already taken PMP training in the past. The mean scores of all five groups are shown in table 3.

**TABLE 3: Survey scores of five groups**

GROUP B	PRE-TEST	POST -TEST	3 MONTHS	6 MONTHS
Group A & B (exp.)	57.21±9.1	72.78±8.1	75.40±12.45	75.32±7.23
Group D (exp.)		69.20±8.3	70±9.1	68.43±7.1
Group C (control)	60.1±14.23	59.87±5.30	65.23±12.34	6.13±6.34
Group E (control)		65.5±7.90	62.32±8.34	65.32±6.32

From the table 3 it was observed that, group A & B i.e. who took pre-test, scored (mean score) 75.40±12.45 after three months and 75.32±7.23 after 6 months and 57.21±9.1 was scored by them after taking pre-test and 72.78±8.1 was scored by them after taking posttest. The mean score of control group i.e. Group C was 60.1±14.23 for pre -test, 59.87±5.30 for post-test, 65.23±12.34 after 3 months and 6.13±6.34 after 6 months. The means difference between pretest is shown in table 4.

**Table 4: Mean difference between experimental (Group A & B) and control group (Group C)**

GROUP	PRE-TEST	POST -TEST	3 MONTHS	6 MONTHS
Group A & B (exp.)	57.21±9.1	72.78±8.1	75.40±12.45	75.32±7.23

Group C (control)	60.1±14.23	59.87±5.30	65.23±12.34	6.13±6.34
Mean difference	2.89±5.13	12.91±2.8	10.17±0.11	6.19±0.89

From table 4 it is concluded that, there in the pretest difference between group A and B and group C is 2.89±5.13. However, in the post test, test after three months and 6 months the mean score of group A & B is more as compared to control. Thus active participation of the nurses and their understanding towards pain management can be seen from the means score wherein they score better as compared to team under control.

From the table 3 it was observed that, group D i.e. who took only post-test, scored (mean score) 69.20±8.3 after three months scored 70±9.1 and after 6 months they scored 68.43±7. The mean score of control group i.e. Group E was 65.5±12.90 for post –test, 62.32±8.34 after 3 months and 65.32±6.32 after 6 months. The means difference between pretest is shown in table 5.

**Table 5: Mean difference between experimental (Group D) and control group (Group E)**

GROUP	PRE-TEST	POST -TEST	3 MONTHS	6 MONTHS
Group D (exp.)		69.20±8.3	70±9.1	68.43±7.1
Group E (control)		65.5±7.90	62.32±8.34	65.32±6.32
Mean difference	Nil	3.7±0.4	7.68±0.76	3.11±0.78

From table 4 it is concluded that, there in the post test difference between group D and group E is 3.7±0.4. However, in test after three months (7.68±0.76) and 6 months (3.11±0.78) the mean score of group D is more as compared to control. Thus, active participation of the nurses and their understanding towards pain management can be seen from the means score wherein they score better than the control group.

One-way ANOVA documented major variations in Group-by-Group post-test findings (Table 6). If outcomes are contrasted, i.e. experimental and control control groups, the scores were significantly higher for all experimental & control groups, Advantageous impact of PMP intervention is recorded. A randomized ANOVA study with a Greenhouse-Geisser adjustment found that median scores for 3 months among time periods weren't really significantly positive suggesting that the level of information improved over time within either of the groups.

**Table 6: post-Hoc test**

Group 1	Group 2	Mean difference	St. Error	Confidence level	
				Low bound	Upper bound
Group A & B	Group C	4.123764	1.545198	-1.6789	9.5642
	Group D	11.23456	1.545198	6.0985	14.4578
	Group E	10.10342	1.545198	4.3784	13.8743
Group D	Group A & B	-3.45236	1.545198	-8.78645	1.24576
	Group C	7.784521	1.545198	2.4786	1.6727
	Group E	6.115637	1.545198	0.9876	12.6593
Group C	Group A & B	-11.23678	1.545198	-15.436	12.0932
	Group D	-7.45378	1.545198	-12.7823	-6.4539
	Group E	-1.43763	1.545198	-7.5486	-2.4574 3.5643
Group E	Group A & B	-10.11583	1.545198	-14.5686	-4.4098
	Group D	-5.98667	1.545198	-11.748	-0.9865
	Group E	1.874769	1.545198	-3.5628	5.67398

The current examination expected to evaluate the impact of pain governance on nurses and their mentalities toward torment/pain. A past study led by similar creators uncovered helpless information mentalities among medical caretakers in the some parts of Delhi (M = 46.29%). The current examination uncovers medical attendants' information and perspectives toward torment improved in the wake of getting torment training. The various examinations conducted for five group led to precisely decide the effect of the instructive program itself, while controlling for puzzling components, for example, test-taking. This is additionally the principal study (as far as anyone is concerned) where an example of Indian hospital is given a PMP intercession and afterward tried for torment information accomplishment and maintenance.

The analysis finds that all experimental groups have scored well that control groups. . It meant that pain awareness has improved understanding of nurses, and experience has been maintained over an amount of time. In the process of pain education, the number of nurses in the treatments ranged from 40 to 277, but 100 nurses were selected. The greatest increase in pain knowledge was in nurses who attempted pre-test though benchmark levels are low, and hence biggest success for information development. Ultimately, pain awareness has the potential of enhancing nursing skills.

The use of a pre-test when planning an educational intervention is occasionally considered benchmark knowledge testing, and presumably disclose information to the participants early on and impact awareness performance. This analysis showed that the participants were being subjected to the pretest. A score may be affected posttest before the intervention. It refers to the treatment group but not to the monitoring group that did it do not fill in the PMP.

No huge gap in results between treatment group were mentioned; nevertheless, respondents Participation (team undergoing pre & post examination) demonstrated substantial changes in their awareness level after testing.

## CONCLUSION

This paper documented the results of the baseline and immediate after intervention awareness and behaviors of the nurses from a randomized controlled study of Pain control training Clinical support for qualified nurses in the hospital of India. Group division of the nurses was found to be effective in order to evaluate their knowledge and interest towards the program. Much more significant results have been relatively pre-test. Consciousness ratings for medical professionals, and major improvements in awareness in several research items subsequent to educational action. In addition, the level of awareness and attitudes was preserved over six months. From table 4 and 5 it can be concluded that, the performance of group A& B is more better than group D i.e. people who took pretest performed well in the test. The PMP has proven successful in deeper insights among nurse's awareness, behaviors, and experience of appraisal. The Test Nurses after PMP, significantly raised their pain levels. Since. PMP has proven successful for nurses employed in multiple hospital care tools, the introduction of PMPs in patient care is recommended. However, further research is needed to assess if this expertise equates into better outcomes for patients.

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