



# “HERE EVERY CREED AND RACE FIND AN EQUAL PLACE!” [1]: INCIDENCE OF POSTOPERATIVE PAIN AT A DISTRICT HOSPITAL IN A RACIALLY DIVERSE NON-WHITE DEVELOPING COUNTRY

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## INTRODUCTION

International data for the incidence of postoperative pain are derived from and reported for predominantly white populations.[2]

In addition, several studies from the United States of America, show African-American and other racial and ethnic groups have higher incidences of pain and experience more severe pain than their white counterparts. The main reasons generally given for this are the socioeconomic disparity between these groups which includes more difficult access to health care systems and prejudicial attitudes of healthcare providers and services.[3][4]

Our hospital is in a racially diverse community reflecting national racial and ethnic differences: East Indians 35.4%; Africans 34.2%; ‘Mixed Race’ 22.8%; All other ethnic groups including Caucasians 1.4% and ‘Unstated’ 6.2%.[5] Also, we are part of the government-run public health service which is free and universally accessible to all citizens.

So the questions arise:

- Whether internationally quoted data on the incidence of postoperative pain are representative of our patient population?
- If any differences do exist, are they racially based?

## OBJECTIVES

An audit on postoperative pain in our patient population was performed seeking to determine how the incidence of pain and its severity compared to international standards and if any racially based differences were present.

## METHODOLOGY

Approval was sought and obtained from the Ethics Committee of the Sangre Grande County Hospital to conduct a retrospective clinical audit of patients’ postoperative pain experience and satisfaction with its management at the hospital over the period 03 November 2014 – 03 March 2015.

The basis of the audit was a standardized telephonic survey of patients 14 years or older who had undergone major or minor surgery requiring general or spinal anesthesia from the Departments of Obstetrics & Gynaecology, General Surgery and Orthopaedics at the hospital during the audit period – a **sample population of n=600**. Patient information and operation details were obtained from the computerized surgical register maintained by Medical Records which logs such data on every surgical operation performed in the operating theatres at Sangre Grande County Hospital.

A **sample size of n=150 (25% of sample population)** was chosen (of which a minimum of 60/150 (40%) had to be male) which was almost double that suggested by Katz & Green i.e. Intensive Review is 15% of patient population in the review period or 90 (whichever is greater).[6][7]

Following training in doing so, data were collected between the 13th-21st March 2015 by the main author, a nurse and an administrative assistant acting individually and independently. Once confirmed that the respondent was the correct patient, a standardized introduction was used advising on the purpose of the call and the audit and a formal verbal request was made seeking the patient’s agreement to participate in the survey with the assurance of the strictest confidentiality being maintained throughout the entire process of the audit.

## METHODOLOGY continued...

On agreeing, the standardized audit questionnaire as illustrated in Figure 1 was filled out during that single telephonic call to the patient in which their age, sex, and six (6) questions were asked and answers recorded. Data were collected for the “**Recovery period**” (post-anaesthetic to operating theatre discharge) [Question 1]; the “**Ward period**” (post-op warding to hospital discharge) [Question 2]; and “**Home period**” (one [1] week post-hospital discharge) [Question 3].

Figure 1

**Clinical Audit Questionnaire**  
“Patient experience and satisfaction in the postoperative period”

Age: \_\_\_\_\_ years  
Sex: M F  
Specialty: Obstetrics  Gynaecology  General Surgery  Orthopaedics   
Operation: \_\_\_\_\_  
Site: Head/Neck  Chest/Breast  Abdomen/pelvis  Upper Limb  Lower Limb  Other   
Anaesthetic: GA  SA  RA

1) On waking from the anaesthetic after your operation did you have any pain? N Y PS /10  
2) During your stay on the ward after your operation did you have any pain? N Y PS /10  
3) The first week at home after your operation did you have any pain? N Y PS /10  
4) Do you believe everything possible was done by our staff to control your pain after your operation? N Y  
5) Was the pain you experienced after your operation less than (L), the same (S), or more than (M), you expected to feel before your operation? L S M  
6) Overall, how would you rate the way your pain from the operation was treated: Excellent (E), Good (G), Fair (F), Poor (P), or Very Poor (V)? E G F P V

Pain scores were assessed using the numerical rating scale (NRS): For questions 1-3 patients were requested to give pain scores from 0-10 with 0=no pain and 10=worst pain. For analytical purposes, these were interpreted as **0=no pain; 1-4=mild pain; 5-7=moderate pain** and **8-10=severe pain**. [8]

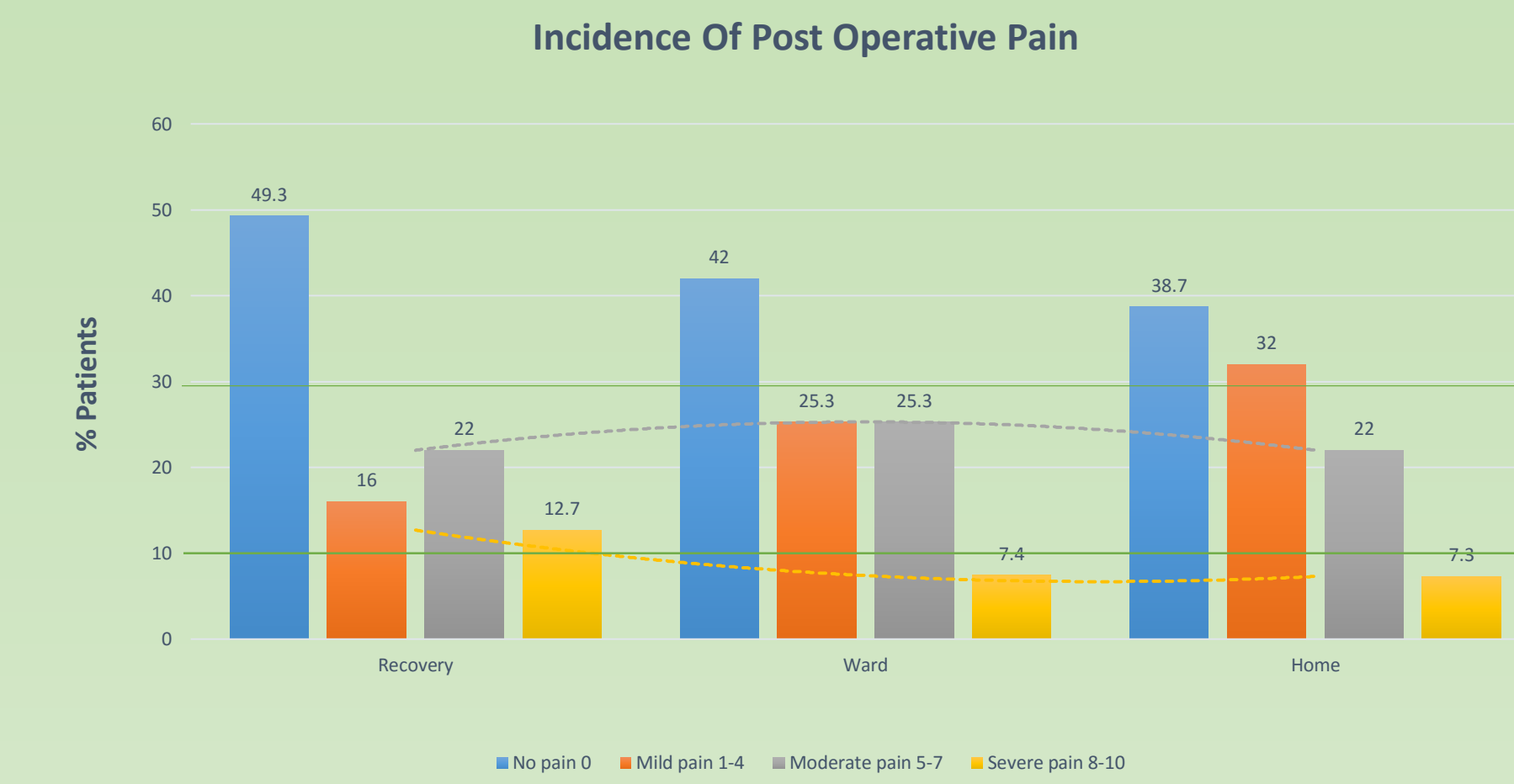
Specialty, type of operation, site and type of anaesthesia were filled in later by the author thereby blinding the data collectors. No identifying data like record number, name, date of birth etc. were placed on the questionnaire apart from a simple sequential numbering system, known only to the author and which was used for cross referencing against the computerized list, in order to further maintain confidentiality.

Once collected, sample data were processed and simple statistical analyses were then performed using the free online descriptive statistical calculators at Calculator Soup.com and Calculator.net. All tallying, processing, calculations and the audit itself, including graphs and tables, were done by the main author himself with assistance from the other data collectors and written up using a template from clinicalaudittools.com with Microsoft Word 2013 software during the 18th-25th March 2015. References were written in the American Psychological Association (APA) format.

## RESULTS

The audit sample of **150 patients** surveyed had **71 (47.3%) males** and **79 (52.7%) females** with an **age range of 14 to 84 years** with a **mean age of 46.0 (SD 17.0) years**. The racial distribution was similar to that of the national population. Graph 1 below illustrates the average pain scores of patients for each postoperative study period – Recovery, Ward and Home.

Graph 1



The prevalence of **moderate pain (pain score 5-7)** was fairly constant over the study periods: **Recovery 22.0%, Ward 25.3%** and **Home 22.0%**. The prevalence of **severe pain (pain score 8-10)** was highest in **Recovery 12.7%** but declined by about 50% to a constant on the **Ward 7.4%** and at **Home 7.3%**.

Table 1 below summarizes the overall prevalence of moderate and severe pain with *p*-values for each respective audit period compared to international standards.

Table 1

Clinical Audit of postoperative pain at Sangre Grande County Hospital	Period 03 Nov 2014 – 03 Mar 2015	Sample n=150 [Sample Population n=600]
<b>International Standards (Dolin et al 2002)</b>	<b>Moderate to severe pain 30% [26-33]</b>	<b>Severe pain 10% [8-13]</b>
<b>Recovery (p=0.066); (p=0.046)</b>	<b>Moderate to severe pain 34.7% [28.1-41.3]</b>	<b>Severe pain 12.7% [8.1-17.3]</b>
<b>Ward (p=0.065); (p=0.036)</b>	<b>Moderate to severe pain 32.7% [26.2-39.2]</b>	<b>Severe pain 7.4% [3.8-11.0]</b>
<b>Home (p=0.063); (p=0.036)</b>	<b>Moderate to severe pain 29.3% [23.0-35.6]</b>	<b>Severe pain 7.3% [3.7-10.9]</b>

Though not statistically significant due to the very small sample sizes, the trends amongst the main racial and ethnic groups of our patient audit sample generally appeared to follow that of the overall audit results.

Overall, some **96% of patients** audited rated their postoperative pain management as “**good**” to “**excellent**” despite about 1 in 3 suffering moderate to severe pain which may not have been adequately relieved by it.

## CONCLUSIONS

Based on our results we conclude that:

- ❖ Sangre Grande County Hospital patients’ postoperative pain levels in Recovery, on the Ward and at Home are comparable to international averages or standards.
- ❖ There are no obvious racial or ethnic based differences in the pain experiences and satisfaction with pain management of our racially and ethnically diverse non-white population and that of the predominantly white populations in international reports and in direct contrast to data in several American studies since 2000.
- ❖ Our free and universally accessible government run national public health service, with all its limitations, but which lacks the white versus non-white socioeconomic disparity existing in the American healthcare system, may account for our observations particularly in reference to the American data cited herein.

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