‘WO’MAN! GOT PLENTY POST-OP PAIN, DOC!’: AUDIT OF THE INCIDENCE OF POSTOPERATIVE PAIN FOLLOWING OBSTETRIC AND GYNAECOLOGY SURGERY AT A DISTRICT HOSPITAL IN A DEVELOPING COUNTRY.

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INTRODUCTION

That's the thing about pain.... It demands to be felt. **John Green,** ***The Fault in Our Stars***

A meta-analysis of published data revealed an overall incidence of moderate to severe pain of 30% (range: 26% to 33%) and severe pain of 10% (range: 8% to 13%) in postoperative patients.[1]

Poorly controlled postoperative pain is a significant cause of suffering and decreased quality of life for patients and increases morbidity, need for critical care support, mortality and economic costs of care.[2][3] Contrastingly, effective pain management is associated with reductions in pain[4]; improved bowel function, food intake, mobilization, exercise capacity[5] and sleep quality[4]; increased health-related quality of life[5], decreased hospital length of stay[6][7] and occurrences of unplanned hospital readmissions[8]. Consequently, adequate postoperative pain control is a fundamental part of modern perioperative management protocols.[9]-[13]

Sangre Grande County Hospital’s Departments of Anaesthesia and Obstetrics & Gynaecology have recently undergone major expansions in expert staffing and specialized equipment and facilities over the last five years and more. This has led to the increased use of multimodal analgesic protocols perioperatively along with less invasive surgical techniques and other newer procedures across both specialties.

Since being instituted, no data has been collected on the effect that such interventions may have had on patients’ postoperative pain experiences and their satisfaction, or lack thereof, with its management. Therefore this clinical audit was deemed necessary to address this inadequacy and assess how we compared to the incidence of postoperative pain relative to internationally accepted evidence-based standards and targets for its control.

OBJECTIVES

- To determine the incidence of moderate to severe postoperative pain at our hospital following obstetric and gynaecology procedures
- To compare the results obtained to international accepted standards
- To propose strategies to further enhance postoperative pain management based on this comparison

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 Department of Obstetrics & Gynaecology at the hospital during the audit period – a sample population of p=246. 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=46 (18.7% of sample population) was obtained which was deemed adequate using criteria by Katz & Green i.e. Intensive Review is 15% of patient population in the review period or 90 (whichever is greater) [14][15]

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-operative 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]

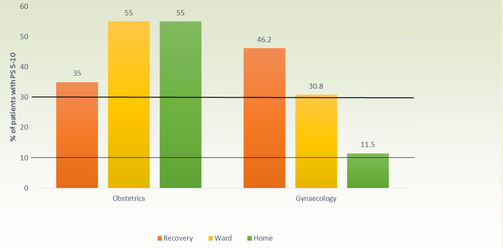
Specialty, type of operation, site and type of anaesthesia were filled in later by the main author thereby blinding the data collectors. No identifying data like record number, name, date of birth etc. were placed on the questionnaire apart from a simple sequential numbering system, known only to the main 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

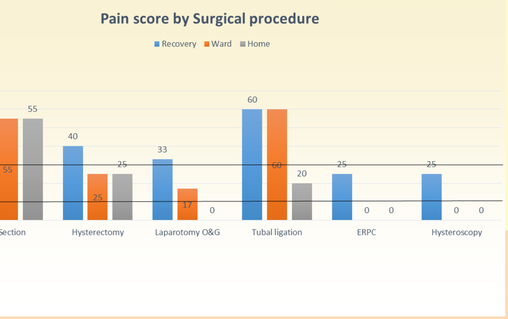
Of the **46 patients** sampled: **20** were **Obstetric cases** and **26** were **Gynaecology cases**. All Obstetric patients underwent Caesarean section under spinal anaesthesia and all Gynaecological patients had general anaesthesia for their procedures. The percentages of patients with moderate to severe pain scores (**PS 5-10**) for each postoperative period studied – Recovery, Ward and Home – are shown by specialty in Graph 1 and by procedure in Graph 2 below.

Graph 1



With reference to **Dolin *et al* 2002 [1]**, *in* the **Recovery** period, Gynaecological patients with **46.2% significantly exceeded** international standards while Obstetric patients with **35.0% were just within the limits.** Conversely, on the **Ward**, Obstetric patients with **55.0% significantly exceeded** international standards while Gynaecological patients with **35.0% were just within the limits**. At **Home**, again **Obstetric patients** with **55.0% significantly exceeded** international standards while Gynaecological patients with **11.5% were significantly below the limits**.

Graph 2



During **Recovery**, tubal ligation **60%**, C-section **55%** and hysterectomy **40% significantly exceeded international standards** while laparotomy O&G **33%**, ERPC **25%** and hysteroscopy **25% were within the limits**. On the **Ward**, tubal ligation **60%** and C-section **55% significantly exceeded international standards while** hysterectomy **25%** and laparotomy O&G **17% were within the limits and** ERPC and hysteroscopy with **0% were exceptional**. At **Home,** C-section **55% significantly exceeded international standards** while hysterectomy **25%** and tubal ligation **20% were within the limits** and ERPC, hysteroscopy and laparotomy O&G with **0% were exceptional**.

CONCLUSIONS

Our results **significantly exceeded the international standards** of **Dolin *et al* 2002** (moderate to severe pain of **30%** and severe pain of **10%**) and **The UK Audit Commission 2002** (severe pain **<5%)**[16] indicating a clear failure of newly instituted pain management protocols and surgical procedures to reduce and maintain patient postoperative pain levels within such limits at our hospital.

These significant pain scores prompted revisions in current postoperative pain management protocols. These included staff/patient education; pre-emptive analgesia; regular multimodal analgesia; patient-controlled analgesia/epidurals, nerve blocks, anaesthetic wound infiltration. In addition a formal Acute Pain Service is being created to address these issues.

We intend to audit the effects of these changes once they are fully implemented using a greater sample size to achieve greater reliability of any results so obtained in order to guide us forward from there.

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