

Patient morbidity following oral day surgery—use of a post-operative telephone questionnaire

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Abstract

100 patients attending for day stay surgical removal of impacted mandibular third molar teeth were telephoned at home 24 h post-operatively by their ambulatory care nurse. A structured questionnaire was completed in order to characterise patients' experiences following surgery. 92 questionnaires were analysed, confirming that over half the patients reported feeling 'not very well' after surgery, with pain and swelling the principal complaints. Prescribed analgesic medication was found to be effective, but one third of patients required additional analgesia. Sore throat, drowsiness and sleep disturbance were common post-operative complications. Nevertheless, the majority of patients described their day surgery experience as 'better than expected'. Nurse-led telephone follow up is appreciated by patients and is an effective means of determining patients' overall treatment experience and satisfaction levels following ambulatory surgery.

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1. Introduction

The Oral Surgery Day Case Unit is a purpose-built facility within the Newcastle Dental Hospital which provides a wide range of surgical and dental treatment under general anaesthesia for approximately 2500 patients each year [1]. One of the commonest procedures performed in young, adult patients is the surgical removal of impacted third molar teeth [2].

Morbidity following third molar surgery is variable, but patients may experience local problems such as severe post-operative pain, facial swelling, trismus and impaired oral function as well as more generalised discomfort. Often, these symptoms and signs have resolved by the time patients attend for clinic review. Indeed, in some units post-operative appointments are not routinely arranged for uncomplicated dento-alveolar surgery, and there is little published information

available on patients' experiences during the initial post-operative period.

Recent publications have emphasised the importance of patient surveys and patient satisfaction following operative intervention [3,4]. It was the aim of this study to investigate patients' experiences and post-operative morbidity in the immediate 24 h period following attendance for oral day case surgery.

2. Method

Following Local Ethical Committee approval, 100 consecutive patients attending the Day Case Unit for removal of bilateral impacted mandibular third molar teeth were asked to participate in the study. Standardised anaesthetic and surgical protocols were defined and applied by the same anaesthetist (I.R. Fletcher) and surgeon (P.J. Thomson) in each case (Table 1).

The study required the patients to be available to receive a telephone call on an agreed number at a designated time 24 h post-operatively. The call was made by the day unit nurse who had coordinated the

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Table 1
Standardised anaesthetic and surgical protocols

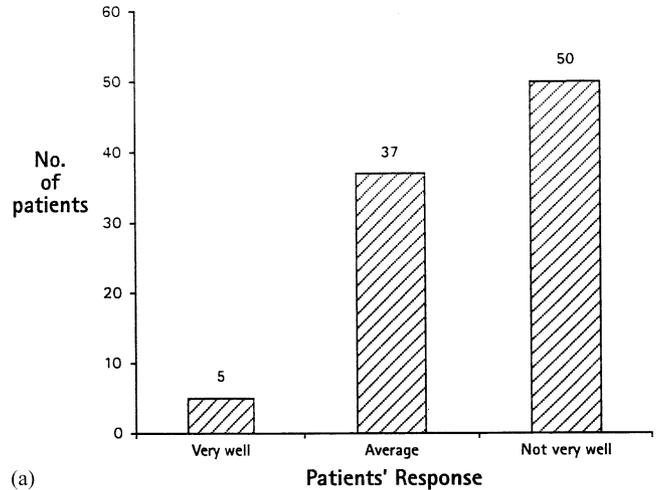
<i>Anaesthesia</i>	
•	Induction with fentanyl/propofol/mivacurium
•	Nasal intubation ('polar' tube size 6.0 mm female/6.5 male) plus saline-moistened throat pack
•	Spontaneous respiration with a CO ₂ absorber
•	Maintenance with N ₂ O; O ₂ plus Sevoflurane (1–4%)
<i>Surgery</i>	
•	Bilateral impacted mandibular third molar teeth
•	'Envelope' mucoperiosteal flap reflection
•	Bone removal with burs
•	Vertical tooth sectioning (if required)
•	Closure with resorbable sutures

patient's ambulatory care on the day of surgery, using a simple, structured questionnaire (Table 2). Ten specific questions were asked relating to the patients' general well-being, post-operative pain experience, effectiveness of discharge analgesic medication (two tablets of co-codamol six hourly; codeine phosphate 8 mg, paracetamol 500 mg per tablet) and the occurrence of any complications. Comments relating to their overall experience of day surgery were also recorded.

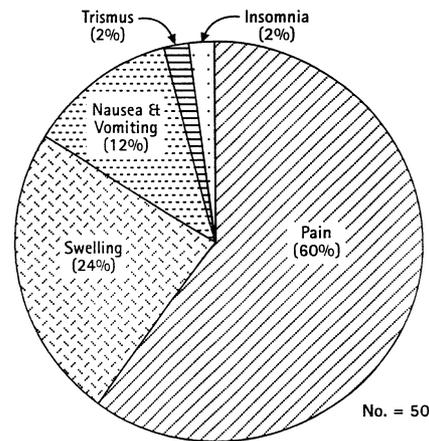
If there was no reply to the telephone call, the nurse would ring again later that day and once more the following day to try to ensure questionnaire completion. If it proved impossible to contact the patient, further calls were not carried out after 48 h had elapsed following surgery as it was felt that with the passage of time, patients' memories would be less reliable.

3. Results

Ninety-two satisfactorily completed questionnaires were available for analysis; five patients proved uncontactable by telephone and three questionnaires were excluded because of inadequate data. 65 female and 27



(a)



(b)

Fig. 1. (a) General health post-operatively. (b) Why are patients 'not very well' post-op?

male patients (mean age 26 years; range 17–36 years) were thus included in the study.

More than half of the patients reported feeling 'not very well' following their surgery (Fig. 1a), with pain and

Table 2
Post-operative questionnaire

1. How have you felt in the 24 h since your operation?	Very well/Average/Not very well
2. Have you experienced pain from the site of your operation?	Yes/No
3. How effective was the medicine you were prescribed in controlling your pain after the operation?	Very effective/Reasonably effective/Not very effective
4. Have you used any 'additional' pain killing medication?	Yes/No If Yes...WHAT?
5. Have you experienced any headache?	Yes/No
6. Have you experienced a sore throat?	Yes/No
7. Have you experienced drowsiness or tiredness?	Yes/No
8. How well did you sleep last night?	Very well/Average/Not very well If not very well...WHY?
9. Have you experienced any other problems since your operation?	Yes/No If yes...WHAT?
10. How would you describe your overall experience of oral day case surgery?	Better than expected/As expected/Worse than expected

swelling the principal causes (Fig. 1b). Almost all patients experienced pain at their site of operation (Fig. 2), but the majority found their prescribed analgesic medication effective in relieving symptoms (Fig. 3). One third of patients reported the use of analgesic medication additional to their discharge prescription (Fig. 4a). Most commonly this was ibuprofen, but alternative codeine/paracetamol formulations were also used (Fig. 4b).

Specific questions relating to other post-operative symptoms revealed that whilst headache was not a particular problem for patients (Fig. 5), sore throat (Fig. 6) and drowsiness and tiredness (Fig. 7) were extremely common.

Interference with sleep during the night following surgery was a common complaint, with over half the patients reporting they had not slept very well (Fig. 8a); pain and swelling were the principal reasons for the disturbed sleep pattern (Fig. 8b).

One third of patients reported that they had experienced ‘other problems’ following their day surgery (Fig. 9a). The majority of these related to swelling at the operation site, but altered sensation in the lip and tongue, bleeding and vomiting were also frequently described (Fig. 9b).

In spite of these findings the majority of patients reported their experience of day surgery as being ‘better than expected’, with only a small number describing things as ‘worse than expected’ (Fig. 10).

4. Discussion

Clinical audit and research in health service provision benefits substantially from consideration of patients’ views of treatment outcome. Indeed, some authors have suggested such research is inadequate without patient involvement [3]. Patient satisfaction surveys are not new, and many previous studies have been criticised because

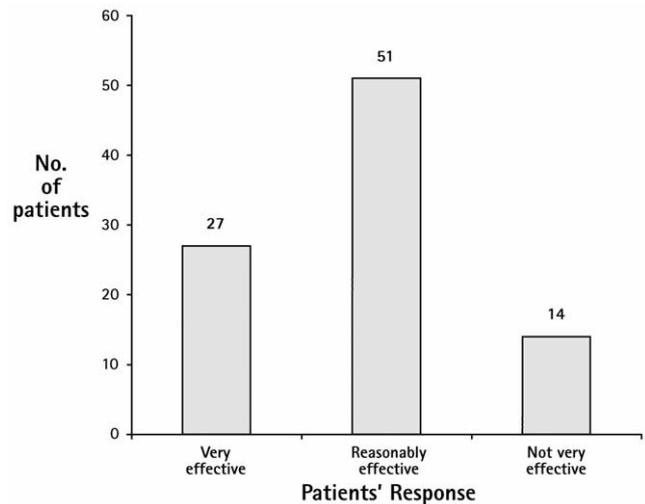
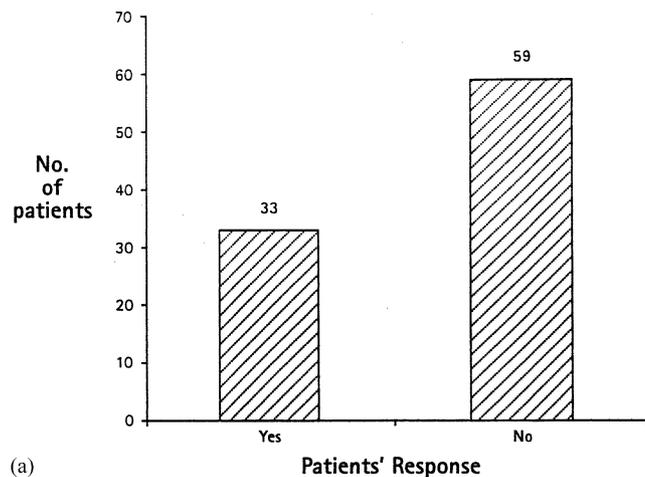


Fig. 3. Effectiveness of prescribed medication.

of both methodological flaws and the resultant lack in demonstrable quality improvement [4]. Nonetheless, there is a clear need for increased patient involvement in assessing the effectiveness and quality of ambulatory



(a)

Patients' Response

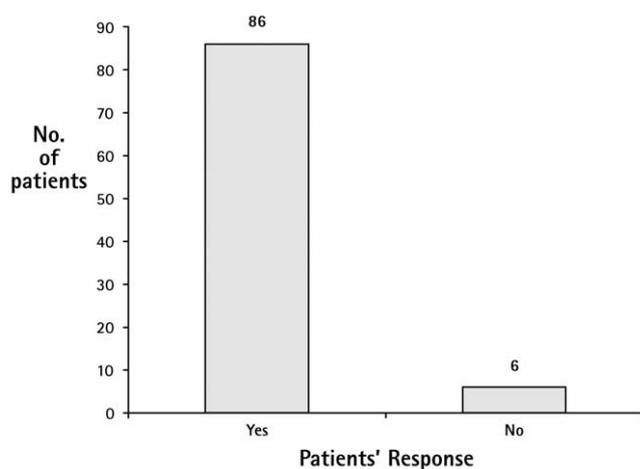
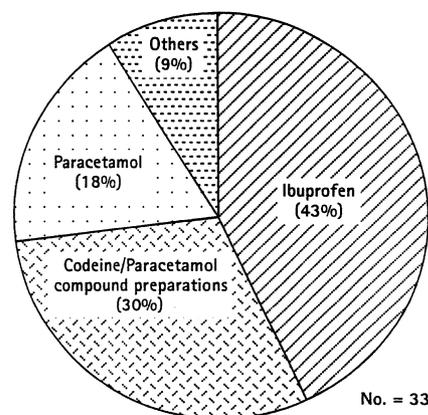


Fig. 2. Pain experienced at operation site.



(b)

Fig. 4. (a) Use of ‘additional’ medication. (b) Types of ‘additional’ medication used.

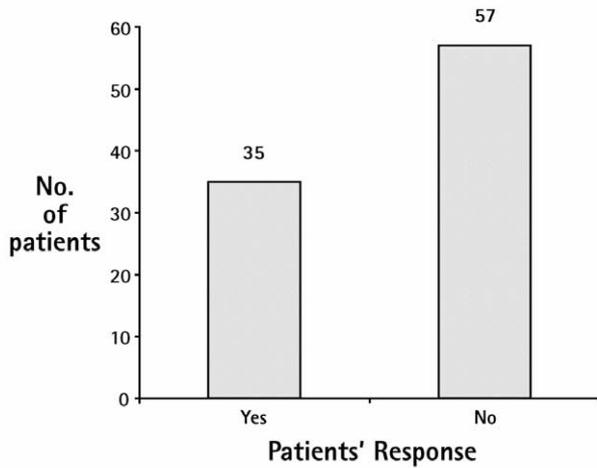


Fig. 5. Headache post-operatively.

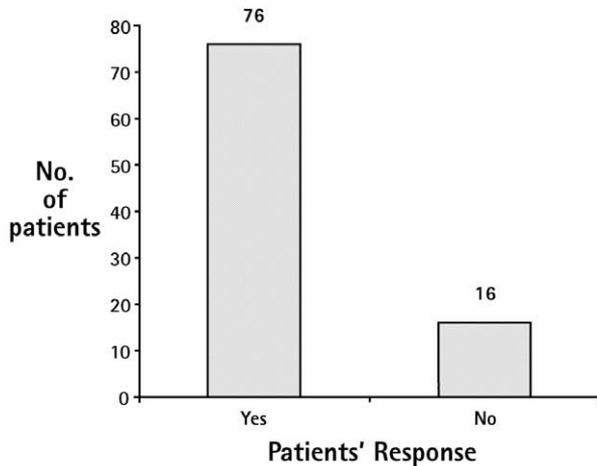


Fig. 6. Sore throat post-operatively.

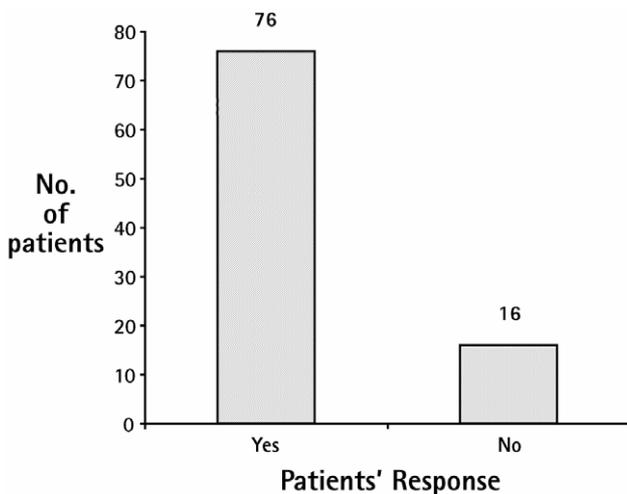
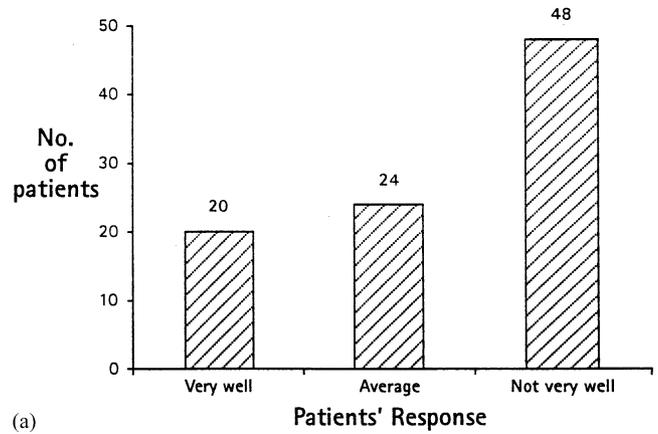
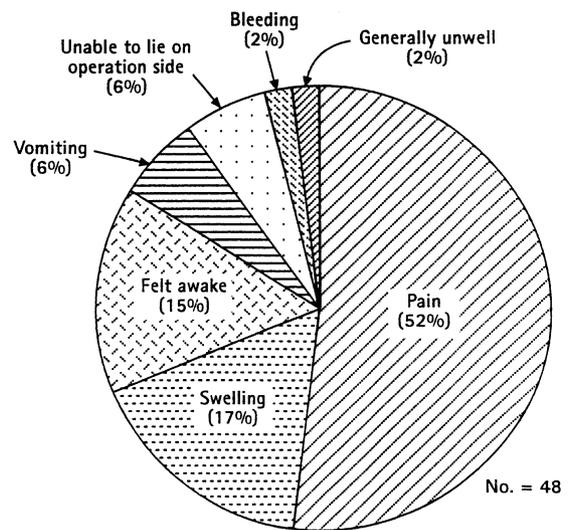


Fig. 7. Drowsiness/tiredness post-operatively.



(a)



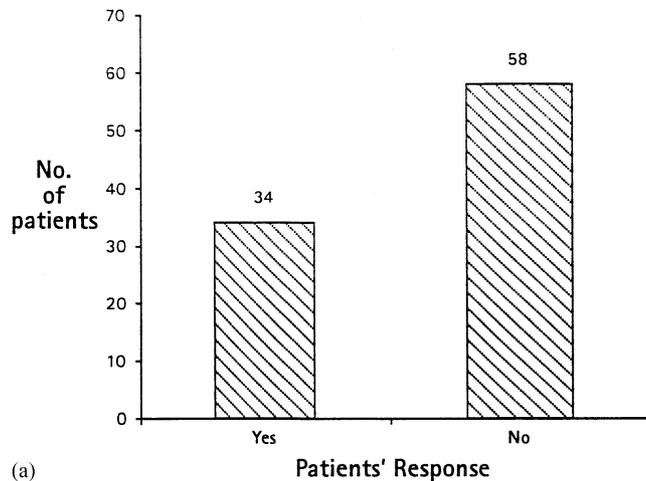
(b)

Fig. 8. How well do patients sleep (first post-operative night)? Why do patients not sleep very well?

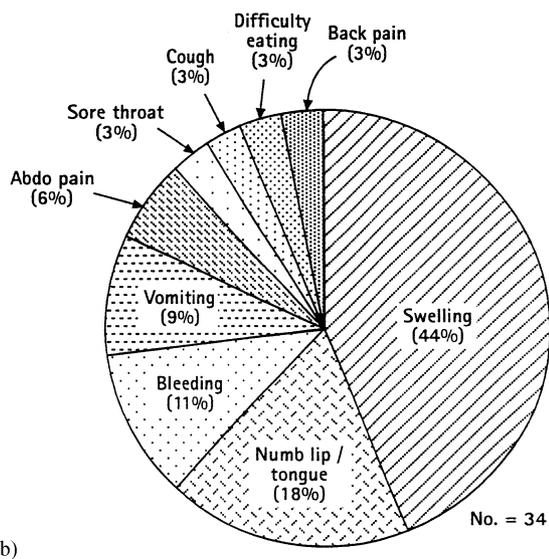
care provision. This study follows on from our previous investigation of patients' views following attendance at nurse-led pre-admission clinics prior to day unit attendance [1].

Nurse-led telephone consultations are becoming an increasingly accepted approach to patient care, both in the primary sector and also as an extension of specialist management in hospital [5–7]. We decided to use a standardised telephone questionnaire to document patients' experiences following day unit attendance for the surgical removal of impacted third molar teeth, a common procedure with recognised post-operative morbidity. All questioning was carried out by a nurse known to the patient 24 h following day surgery, and although not formally documented in this study, it was interesting to note how many patients reported their appreciation of such post-operative follow-up.

Previous studies using questionnaires have identified undesirable post-anaesthetic and post-operative sequelae affecting between 45 and 92% of oral day stay



(a)



(b)

Fig. 9. Any 'other problems' post-operatively? What 'other problems' did patients experience?

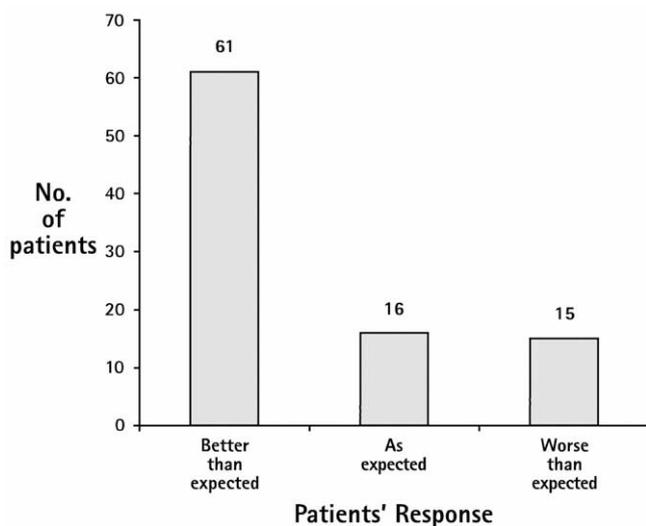


Fig. 10. Overall experience of oral day case surgery.

patients, with nausea, vomiting, headache, drowsiness and dizziness particularly prominent symptoms [8,9]. In our study 54% of patients reported feeling 'not very well' following surgery, which is similar to the figures quoted above, but the principal complaint was that of pain and swelling (Fig. 1) with 93% of patients experiencing pain at their operation site (Fig. 2). These latter complaints are, of course, common sequelae following mandibular third molar surgery.

It is encouraging that 85% of patients found their analgesic medication effective, (Fig. 3) although it is of concern that nearly one third of the 33 patients who found it necessary to use additional analgesics were consuming other codeine/paracetamol preparations; there is clearly a risk of exceeding recommended daily dosages. This is despite clear post-operative advice on the use of appropriate analgesia, and perhaps emphasises the need for further patient education.

The high incidence of sore throat observed in our patients (Fig. 6) probably resulted from the use of endotracheal intubation and saline-moistened pharyngeal pack insertion, both fundamental airway protection techniques, which inevitably lead to localised mucosal trauma. It seems unlikely that this specific aspect of post-operative discomfort could be reduced with the existing technique. The use of a laryngeal mask instead of an endotracheal tube might well reduce the incidence of sore throat, but could expose patients to a greater risk of aspiration of blood and dental debris and, by restricting oral access, may make surgery more difficult. Further possible means of reducing the incidence of sore throat would be to use proprietary shaped pharyngeal packs made of soft absorbent material, which may be less abrasive than traditional gauze packs.

It is interesting to note how many patients felt drowsy and tired post-surgery (Fig. 7) but how few (approximately 20%) actually reported sleeping well during their first post-operative night (Fig. 8). Whilst pain and swelling accounted for the majority of sleep disturbances, it is clear that day surgery significantly alters patients' sleep pattern in the 24 h following operation.

In relation to third molar surgery, it is not surprising that recorded 'other problems post-operatively' particularly emphasised oro-facial swelling, inferior dental and/or lingual nerve paraesthesia and bleeding (over 70% of the complications illustrated in Fig. 9).

It is gratifying that two-thirds of the patients participating in this study reported their overall experience of oral day surgery as 'better than expected'.

5. Conclusions

Nurse-led telephone follow-up and questionnaire completion provides an effective means of eliciting patients' views and experiences following ambulatory

surgery. The information obtained in this study provided a detailed, contemporaneous record of treatment outcome in the immediate post-operative period. These unique data have helped inform and develop our clinical and nursing practice to further improve the quality of patient care. The 24 h post-operative phone call proved not only acceptable to the majority of patients, but was also highly appreciated by many who found both practical help and reassurance. We are currently undertaking further research to examine patients' pain experience in the hours immediately following surgery and a more widespread use of nurse-led telephone consultation following day surgery.

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