



ELSEVIER

J. of Ambulatory Surgery 10 (2003) 114–121

Ambulatory
Surgery

www.elsevier.com/locate/ambsur

Recovery from gynaecological day surgery: are we underestimating the process

Helen Cox^{a,c,*}, Beverly O'Connell^{b,c}

^a Chair in Contemporary Nursing, Epworth Hospital, 89 Bridge Rd, Richmond 3121, Vic., Australia

^b Chair in Acute Nursing, Cabrini Hospital, 183 Wattleree Rd, Malvern 3144, Vic., Australia

^c School of Nursing, Deakin University, Melbourne, Australia

Received 23 April 2002; accepted 15 January 2003

Abstract

This paper reports a study investigating the post operative experiences of 80 women following gynaecological day surgery. Women kept a diary for the first 4 days following surgery. The diary included a recovery rating scale and a symptom management index focusing particularly on symptoms. A telephone interview conducted on post-operative day 10 further explored experiences. Results at day 4 indicated women experienced significant problems with pain, moving around and tiredness. By day 10, women were still experiencing tiredness, pain and other lingering problems. The study indicates that patients experience more problems than discharge education assumes.

© 2003 Elsevier Science B.V. All rights reserved.

Keywords: Day surgery; Laparoscopy; Symptom management

1. Introduction and literature review

The practice of conducting surgery as a day procedure is expanding at a rapid rate as it provides a practical approach to decreasing surgical waiting lists within the backdrop of cost containment. Its growth has been accelerated through advances in short acting anaesthetic drugs and the use of sophisticated technologies. Government policies and funding formulas will continue to encourage its development [1]. Day surgery relies on patients and their carers to manage patient recovery at home. Within this context, it is important to ensure sound monitoring of patient recovery at home and to evaluate the appropriateness of currently used patient education. This is particularly important because there is conflicting evidence about what constitutes appropriate discharge information in terms of addressing patients' needs [2–4].

A review of the literature on discharge information conducted by Bradshaw et al. [2] found that the

information given to patients often does not address the patient's concerns. Specifically, it seemed that the development of discharge information has been informed by what nurses think the patient's knowledge needs are rather than the patient's actual needs. If patients are required to manage their recovery at home, then further work is necessary to determine patients' perspectives on their information needs.

Bradshaw et al. [2] conducted a study to identify patients' key concerns post-discharge from six common general procedures. These researchers found that all patients, regardless of type of surgery, experienced similar concerns. Patients stated that they lacked information on pain management. They also complained that the written information lacked clarity and was constructed using medical jargon that was difficult to understand. These findings support those of other researchers who have stated that post-operative pain instruction was inadequate particularly when the instruction was verbal and not accompanied by written information, and when the analgesics provided, usually paracetamol, proved ineffective [5,6].

In a study by Cox [3], women who had undergone laparoscopy for endometriosis identified pain informa-

* Corresponding author. Tel.: +61-3-9426-6565; fax: +61-3-9429-5037.

E-mail address: helencox@deakin.edu.au (H. Cox).

tion as an issue, but the majority also reported insufficient information in a number of other areas. They were particularly concerned about managing their wounds and felt unprepared for the length of recovery time. The issue of adequate patient information should be approached from two positions. Firstly, whether information addresses patient needs and secondly, whether information assists with recovery. It would seem that addressing information from the perspective of what patients perceive they need to assist recovery is an important goal. However, a study conducted by Young et al. [4] revealed that the use of an enhanced discharge information package that was developed based on patient's needs had no effect on patient recovery. These findings indicate that there may be other factors that influence recovery. It is important for studies to be conducted that explore and identify issues that impact on recovery.

The literature indicates that gender is one factor known to affect recovery. According to Myles et al. [7], post-operative recovery is different for women than for men. This recent quality of recovery research suggests that women are slower to return to health and are more likely to have post-operative complications. These researchers [7] postulated that the underlying physiological differences between men and women account for these variations. They further state that post-operative nausea experienced by women is linked to changes in the menstrual cycle and that women tend to have a higher incidence of headaches following surgery. The researchers conclude that the difference between men's and women's recovery from surgery is significant and may be underestimated. Given these differences, it would seem that further work is necessary to evaluate women's recovery trajectories.

A problematic post-operative symptom experienced by patients is tiredness [5]. It is clear that rest and assistance at home are important elements in recovery and should be seriously considered by consultants before scheduling someone for day surgery. Another issue worth considering that has arisen from a number of studies [4,5] is the type of support patients require in their recovery phase and whether they are able to return to their current domestic and work roles within the medically prescribed recovery time.

2. Aim

The aim of this study was to investigate women's experiences of recovering at home following gynaecological day surgery procedures. The research objectives were:

- to determine the types and intensity of symptoms that women experience when recovering from gynaecological day surgery procedures at home;
- to determine whether women are able to manage their symptoms at home;
- to identify the extent to which carers are used to assist women recover from day surgery;
- to establish whether the educational instructions given to women are adequate to enable them to manage their symptoms; and
- to determine the extent to which women who have had gynaecological day surgery access medical, community and allied health services in their recovery phase at home.

3. Patients and methods

This study used an exploratory/descriptive design and was conducted over a 6-month period in the day surgery unit at a large, private, not-for-profit hospital in inner city Melbourne.

All English-speaking patients who were to have a general anaesthetic for a gynaecological procedure in a day surgery setting and who consented were included in the study. Those who wished to participate were given a reply paid envelope and a self-administered Post-operative Symptoms Diary to complete in the first 4 days post-surgery and asked to return the diary before 10 days post-surgery. Ten days post-surgery, those patients who had returned their diary were telephoned by the researchers and asked to answer specific questions related to their recovery from days 5 to 10.

A post-operative Symptoms Diary specifically designed for day surgery patients [4] was used in this study. The diary comprised three domains: a Symptom Recovery Scale, a Management Index and two sections on discharge information and demographics. The Symptom Recovery Scale is a numerical rating scale with numbers ranging from 1 to 10 for each symptom category. Patients were asked to rate the severity of the symptom experienced. The higher the rating, the higher the severity of symptom experienced. Reliability testing revealed alpha coefficients ranging from 0.73 to 0.78 [4].

The management index contained items on tiredness, wound care, mobility, pain, eating and drinking, nausea, vomiting and elimination. Patients were asked to complete this section by indicating how they managed each symptom. The five responses for each activity/condition include the following: "not difficult", "difficult but managed", "very difficult but managed", "could not manage" or "not relevant".

The type of discharge information given to patients was evaluated using 11 questions related to recovery items. Additionally, patients were asked if the information they received was sufficient. These questions were

asked on day 4 of the diary to take into account the first 4 days of post-operative recovery. The demographics section comprised eight categorical items covering: type of operation and anaesthetic used, age, occupation, ethnicity, gender, marital status and education.

The telephone survey, which included a combination of open- and closed-ended questions, was conducted approximately 10 days post-recovery. Patients were asked questions about the types of problems experienced and the level to which they and their carer were able to manage them. Questions also focused on patients' perceptions regarding post-operative information provided by the hospital and their subsequent ability to manage convalescence. Assistance received from carers and other health care professionals was recorded. As several patients were difficult to contact, some interviews were conducted up to 15 days post-discharge.

Quantitative data were analysed descriptively using SPSS® for Windows version 10 (SPSS Inc., Chicago, IL, USA). To assist the analysis, the results of the various instruments in the diary and telephone survey closed-ended question responses were numerically coded.

4. Results

The sample consisted of 80 female patients who had undergone gynaecological procedures under a general anaesthetic in the day surgery unit. The mean age of the patients was 36.6 years (range 22–63 years). The majority (91.1%) of patients had a carer for the first 24 h after surgery. Of the sample, 82.5% of the participants were in paid employment, 10% performed home duties, 5% were students and the remaining 2.5% were unemployed. The participants were predominantly Australian-born (85%).

4.1. Four day diary analysis

The Symptom Recovery Scale comprised the following variables: tiredness, moving around, eating, drinking, elimination, pain, nausea and wound care. Figs. 1 and 2 show a decreasing trend with regard to the severity of symptoms experienced during the first 4 days post-surgery.

The highest mean scores through days 1–4 were recorded for problems with moving around, tiredness, pain and eating. Eating levels had nearly returned to normal on day 4.

Patients showed minimal discomfort with regard to wound care, drinking and nausea. Going to the toilet was a problem experienced by some patients, but these patients quickly returned to their normal bowel habits.

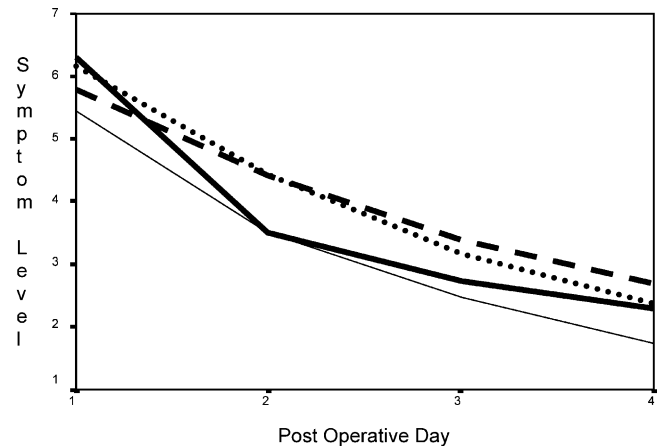


Fig. 1. Mean scores for tiredness [—], moving around [·····], eating [— · —] and pain [- · -] in the 4-day period following surgery.

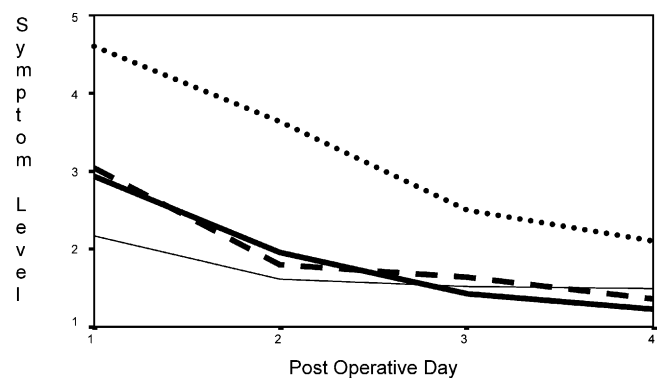


Fig. 2. Mean scores for drinking [—], elimination [·····], wound care [— · —] and nausea [- · -] in the 4-day period following surgery.

4.2. Managing symptoms

On both day 1 and 4 post-surgery, patients were asked to rate their ability to manage their symptoms. Tables 1 and 2 indicate that patients had difficulties in particular areas.

On day 1, the patients' rated moving around, tiredness, going to the toilet and pain as the most difficult factors to manage. Note that the total of 100.1% for the sum of the pain, tiredness and nausea rows is due to rounding off of these figures.

On day 4, the patients rated moving around, pain and tiredness as the most difficult factors to manage.

4.3. Discharge information

The majority (97.5%) of the patients stated that they had received discharge instructions in relation to symptom management. Most (68.8%) stated that they had received both written and verbal information. Most patients (91.3%) stated that the discharge information was sufficient for recovery and most (93.8%) also stated that they had had the opportunity to ask questions

Table 1
Problems managing symptoms day 1

Symptoms	Problems managing symptoms day 1		Not difficult (%)	Difficult but managed (%)	Very difficult but managed (%)	Could not manage (%)	Not relevant (%)
	Not difficult (%)	Difficult but managed/with carer (%)					
Moving around	26.6	73.4					
Going to the toilet	45.6	50.6					
Eating	67.1	31.7					
Wound care	67.9	12.9					
Drinking	91.2	8.8					
Pain			28.8	51.3	20.0	–	–
Tiredness			32.5	51.3	16.3	–	–
Nausea			60.0	23.8	2.5	–	13.8

Table 2
Problems managing symptoms day 4

Symptoms	Problems managing symptoms day 4		Not difficult (%)	Difficult but managed (%)	Very difficult but managed (%)	Could not manage (%)	Not relevant (%)
	Not difficult (%)	Difficult but managed/with carer (%)					
Moving around	35.4	64.6					
Going to the toilet	65.8	30.4					
Eating	86.1	13.9					
Wound care	74.4	12.8					
Drinking	93.7	6.3					
Pain			40.5	51.9	7.6	–	–
Tiredness			46.8	46.8	3.8	1.3	1.3
Nausea			77.2	19.0	–	–	3.8

Table 3
Percentage of patients stating “yes” to receiving discharge information

Type of information	Yes
Pain and how to manage it	96.1
Tiredness	92.2
Who to contact for further information	88.3
When you can take a bath/shower	81.8
Nausea and how to manage it	77.6
How to care for your wound	77.3
When to return to work	71.4
How to move around	69.3
Details of outpatients' appointments	56.0
What/when you could drink	53.9
What/when you could eat	49.4

before leaving the hospital. Patients expressed satisfaction with the discharge information from the day surgery staff in most areas of recovery. Table 3.

4.4. Day 10 telephone interview

At day 10, patients were interviewed and asked to indicate any problems they had experienced between days 5 and 10 post-recovery. A large number of patients experienced on-going problems with tiredness, pain and mobility. Table 4 lists the percentages of problems experienced. Problems with pain, mobility and tiredness were still being reported beyond day 10.

A total of 51.3% of patients reported problems with tiredness beyond day 10. Patients reported being “low on energy” and “unable to do much,” “need[ing] more rest than normal” and having “problems with concen-

Table 4
Percentages of patients experiencing problems with symptoms between days 5 and 10

Symptoms	Yes	
	N	%
Tiredness	41	51.3
Pain	31	38.8
Moving around	22	27.5
Wound care	17	21.3
Concentration	16	20.0
Driving	16	20.0
Going to toilet	16	20.0
Going back to work	15	18.8
House cleaning	15	18.8
Shopping	11	13.8
Looking after the children	7	8.8
Preparing meals	7	8.8
Eating	5	6.3
Nausea	3	3.8
Dressing	1	1.3
Vomiting	1	1.3
Drinking	0	0
Hygiene	0	0

tration” and “difficulties with work and exercise.” 75% of patients reported that tiredness had stopped at a mean of 7.97 days, whereas 25% stated that it was still a problem on day 10. Some patients indicated that they responded to tiredness by “taking time off work”, “resting”, doing “nothing” or “visit[ing] a GP”, while others indicated that the pain “went away by itself” or that they “just managed”.

Those patients (38.8%) experiencing problems with pain reported being “limited in mobility”, “need[ing] time off work” and being “uncomfortable”, and also that “pain interfered with social life and sleep”. A total of 40% of patients stated that the pain was no longer a problem at day 10, though it took a mean of 6.98 days until the pain disappeared for these patients, whereas 60% of patients stated that pain was still a problem on day 10. In terms of responding to pain, the participants reported that they “visited a GP”, “used pain killers”, “applied heat”, “rested”, did “nothing” or “let it gradually disappear by itself.”

Those patients (27.5%) who had problems moving around reported that they had “trouble standing at work”, “could not stretch”, had “limited movement”, “could not lift” or that it was “painful to move.” Seventy per cent of patients stated that moving around was no longer a problem at day 10 though it took a mean 7.71 days for moving to become comfortable, whereas 30% stated it was still a problem at day 10. Patients stated that to manage moving around, they “used pain killers/antibiotics”, “rested”, “saw a GP”, “applied heat” or “got family and friends to help”.

Approximately 45% of patients accessed a health professional during their recovery. Of these, 72% contacted their GP, 28% contacted their surgeon. Some contacted others in addition to the GP and/or surgeon and of these 30% contacted a nurse. Participants indicated that they accessed health professionals for the following reasons: suture removal, general medical problems, pain relief, emotional support, and a check-up (i.e. not sure if everything is going as it should—e.g. vaginal bleeding or discharge).

Of the participants who accessed medical help/advice, 93.8% stated that seeking assistance resolved their problem. Overall, only two patients (2.5%) were readmitted to hospital. The reasons for re-admittance were medical complications.

The majority (82.5%) of patients had a carer to help with their recovery beyond the first 24 h. The mean number of days a carer was needed was 3.09, and those who had a carer rated it as being very important for their recovery. Some of the reasons for requiring a carer during recovery from day surgery included: to provide assistance with activities of daily living, to help with child care, for reassurance, and to alleviate uncertainty after anaesthetic.

Overall, 63.8% of patients suggested that their performance level was affected by day surgery, with these patients reporting an average of 6.97 days before they were able to concentrate at their usual level. These patients also reported an average period of 4.91 days before they were able to resume driving. Table 5 lists the recovery perception percentages and indicates that 66.3% of women found their experience of day surgery to be about what they expected or that they recovered faster than they had expected.

The majority of patients (88%) reported that they were “glad to have had day surgery”, and 81.3% stated that they would be day surgery patients again. The patients who replied “no” when asked whether they would be a day surgery patient again (12.5%) said that they would have preferred to have had “professional monitoring”, that the operation was “too major” or that they were “nauseated after anaesthetic” and would have preferred to have stayed in hospital overnight.

4.5. Additional comments

Patients were asked to provide additional comments at the end of the questionnaire or at the telephone interviews. The main areas of concern for patients included: the length of time they were required to fast and the nervousness associated with waiting for surgery, unexpected post-operative chest and shoulder tip pain (shoulder tip from the abdominal gas inserted as part of the procedure), post-operative nausea and vomiting, and a lack of information about vaginal bleeding and “what would be normal”. Some patients were unable to assess their wounds to determine normal healing. Some women would have preferred an overnight stay as they found some post-operative side effects to be quite debilitating. Many voiced concern that not enough sick days were given on the medical certificate. Patients also complained about the discomfort they experienced travelling home and the pressure they felt from the car seat belt. This was further exacerbated for those patients who lived in rural settings. Patients frequently commented on the value of having a carer and the physical and emotional comfort carers provided. Assistance with physical care was particularly necessary for patients

who had undergone complex procedures as a day patient. Patients who were responsible for caring for their children felt it was very important to have another person present during the recovery period.

5. Discussion

Advancements in technology and anaesthetics have accelerated the number of complex procedures being conducted as day cases. With this increase, some attention should be given to patient recovery at home; specifically, to monitoring the side effects of anaesthetics and the surgery and to how patients manage these side effects at home.

The majority of women in this study had been admitted for a laparoscopy related to the diagnosis and treatment of endometriosis, which varied in severity. The findings revealed that all post-operative symptoms reported on day 1 decreased in severity over the following 3 days. The symptoms that were reported as being the most problematic on day 4 were tiredness, moving, elimination and pain related to “shoulder tip pain” caused by carbon dioxide gas being inserted into the abdomen, which causes diaphragmatic irritation. These findings concur with those of Cox [3] and those of Young and O'Connell [8], who also reported similar symptom levels in a population of patients who had undergone laparoscopic cholecystectomy as a day procedure.

Telephone interviews conducted on day 10 post-surgery revealed that the women were still experiencing problems in terms of tiredness, pain related to moving (abdominal pain and wound-related pain), wound care, concentration, driving, returning to work, house cleaning, shopping and, to a lesser extent, looking after the children and preparing meals.

In regard to managing their symptoms at home on day 1, most women stated that although it was difficult, they were able to manage with the help of a carer. The majority of women required a carer for approximately 3 days. This finding was similar to Young and O'Connell's findings [8], where the patients required a carer for 3.8 days. Women stated that they were unsure how safe it was to perform certain tasks and were reassured by the carer's presence. They also stated that their overall performance level including their ability to concentrate was affected. This highlights the importance of having a carer both to assist the woman to recover and to assist her with household chores. Some attention needs to be given to the important role that carers play in assisting with the recovery of patients. As more complex procedures are performed in day surgery, health care professionals must continue to be cognisant of the level of responsibility placed on carers and their level of confidence and ability to deal with post-operative

Table 5
Day surgery recovery perception percentages

Response	N	%
About what expected	33	41.3
Slower than expected	25	31.3
Faster than expected	20	25.0
Do not know	2	2.5

problems that arise. With an ageing population in which more carers could well have medical conditions themselves, some attention should be given to addressing carer needs and adequately preparing them to manage the level of care. It may be useful to think about whether carers should be asked by the consultant whether they are willing to take on this role and responsibility as part of the process of determining whether a day surgery procedure is appropriate for patients.

Of note were the levels of impairment experienced by women performing activities of daily living such as driving. Women reported difficulties driving until about day 5. This was related to incision pain, the location of the seat belts near the incision and impaired levels of concentration.

The issue of women experiencing impaired concentration leads one to question the safety of them returning to work prior to being able to fully concentrate and function normally. More importantly, the issue of whether women who have undergone gynaecological day surgery procedures are being given adequate time off work via a medical certificate requires review. In this study, it seemed that the assigned time off work on the medical certificate was often much less than the time needed for recovery. Consequently, women experienced difficulties with their own expectation of what was an adequate recovery time and they became concerned about why they were experiencing some symptoms longer than what was apparently expected by doctors. As more complex procedures are being performed in day surgery, some attention should be given to determining the recovery time needed for the various procedures so that individuals are not further compromised by being sent back to work prior to recovery or having to consult with their GPs while they are experiencing pain from being mobile and/or driving.

There are also implications for the workplace as employers may have an expectation that women return to work within a short period, which may not occur. When the length of time needed for recovery is greater than that reflected on the medical certificate, some employers may perceive the women to be malingerers [3].

The majority of patients were satisfied with the discharge information given to them. Some voiced concerns about not knowing the types of symptoms to expect and how to manage these symptoms. Over 50% of the women accessed other health care professionals for further advice. The reasons stated by women for doing so were uncertainty as to whether particular symptoms should still be experienced for longer than they had been told to expect. This finding concurs with Bradshaw et al. [2] finding that discharge information does not always meet the needs of patients.

An important issue for many women in this study was their uncertainty about knowing what constitutes “nor-

mal” in terms of the symptoms they were experiencing. They gave examples of not knowing what was normal vaginal discharge and whether what they were experiencing was too much or going on for too long. In regard to wound care, the women were unsure whether their incisions should look red or a bit weepy on day 10. The challenge for clinicians in the day procedure unit is to have a clear understanding of the range of symptoms patients may experience and to design patient information providing practical strategies for symptom management. In instances where the patient is required to make an informed judgement about whether something is normal, it is necessary to give clear information on what is normal (e.g. the amount, time and colour of normal discharge).

Most women were satisfied with having had their surgery performed as a day procedure and would choose this mode again. Many did state that they would have liked to have stayed overnight, a finding supported by Cox [3], who reported that the majority of women in focus groups stated that where complex laparoscopic surgery is performed, day stay is inappropriate. Given the difficulties that women experienced with pain, tiredness and mobility, it would seem that their requests are well founded. The difficulties arise when women do not have health insurance and are not given the choice to stay overnight because they are having their day surgery through the public health system where such choices are less available because of pressures on beds. Privately insured patients whose surgery is conducted in the private health sector do have this choice. Women who lived in rural locations and who were in pain, which was exacerbated by seat belts and the location of their wounds, stated that it would have been helpful to know that this might occur. If they had known they would have arranged overnight accommodation close to the hospital so they would not have had to be driven long distances home on the day of the surgery.

6. Conclusion

The emerging trend of performing complex surgery as a day procedure will continue to increase due to health policy reform. While day surgery offers many advantages to patients as well as to hospitals and, within the constraints of a busy life, is appealing to consumers, its growth requires monitoring and should be accompanied by a quality assurance process. From this study, it appears that a process that reviews patient recovery up to 10 days post-discharge and assesses the adequacy of the information given to patients and carers would result in better outcomes and a higher quality of service provision.

As more complex procedures are being performed as day cases, the recovery period and the need for patients

to be given adequate time off work should not be underestimated.

If the growth in day surgery is to proceed successfully and responsibly, the quality assurance processes of reviewing patient recovery and evaluating the adequacy of information need to occur as a matter of routine.

References

- [1] Callanan P. Australian (Commonwealth) government policy on day surgery (Ambulatory Surgery) with particular emphasis on the private sector. *Ambulatory Surgery* 2002;9:179–85.
- [2] Bradshaw C, Pritchett C, Bryce C, Coleman S, Nattress H. Information needs of general day stay surgery patients. *Ambulatory Surgery* 1999;7:39–44.
- [3] Cox H. Gynaecological procedures in day surgery: working with consumers to develop a targeted communication strategy for women with endometriosis. Report to the Commonwealth Department of Health and Ageing, Canberra, June 2002.
- [4] Young JB, O'Connell BO, McGregor S. Day surgery patients' convalescence at home: does it make a difference. *Nursing and Health Sciences* 2000;2:29–39.
- [5] Westman L, Legeby M, Ekblom A. A 3-day post-operative study related to pain, nausea, vomiting and tiredness in patients scheduled for day surgery. *Ambulatory Surgery* 1996;4:61–6.
- [6] Marshall SI, Chung F. Discharge following ambulatory surgery. *Ambulatory Surgery* 1997;5:3–8.
- [7] Myles PA, McLeod AD, Hunt JO, Fletcher H. Sex differences in speed of emergence and quality of recovery after anaesthesia: cohort study. *British Medical Journal* 2001;322:710–1.
- [8] Young JB, O'Connell BO. Recovery following laparoscopic cholecystectomy in either a 23 or an 8 h facility. *Journal of Quality in Clinical Practice* 2001;21:2–7.