

Attitudes towards day-case surgery in Hong Kong Chinese patients

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Objective To evaluate attitudes of Chinese patients towards day-case surgery.

Design Prospective cross-sectional questionnaire survey.

Setting District public hospital, Hong Kong.

Patients Two hundred patients attending a preanaesthetic assessment clinic between 1 January and 30 June 2004 were invited to participate.

Main outcome measures Demographic profiles, understanding and attitudes towards day-case surgery, preference for day-case surgery before and after the experience, postoperative adverse effects, and patient satisfaction.

Results The mean age of the patients was 28 (standard deviation, 19) years. In all 200 respondents completing the survey, 180 preferred day-case surgery. Important reasons for this view were: shorter duration of hospitalisation, dislike of hospital environments, belief that hospitals are highly infectious, need to look after their families, desire to return to work early, and doctors' advice. Small home environments and belief that day-case surgery was unsafe were not important. Respondents who did not prefer day-case surgery stressed the importance of better care available for hospital in-patients, concerns about surgical complications, postoperative nausea and vomiting, and doctors' advice. Only 11% patients complained of postoperative adverse effects. Demographic characteristics and previous day-case surgery experience did not have any effect on patient preferences. However, experiencing a postoperative adverse effect significantly affected the preference ($P=0.005$) and satisfaction ($P=0.001$) of respondents for day-case surgery.

Conclusion Local Chinese patients attending our institution have a high preference for day-case surgery. Postoperative adverse effects might influence the respondents' satisfaction and preference after their surgical experience.

Key words
Ambulatory surgical procedures; Patient satisfaction

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Introduction

Day-case surgery represents a large proportion of the surgical procedures undertaken overseas. In some institutions, over 50% of such procedures are performed, whereby patients are admitted and discharged on the same day as the surgery.^{1,2} With recent advances in anaesthetic drugs and techniques, the safety and advantages of day-case surgery such as lower cost, lower rates of hospital-acquired infection, less patient anxiety, and greater convenience have been well-established.³⁻⁸ However, unlike overseas, the popularity of day-case surgery has not caught on in Hong Kong, despite its well-recognised advantages. In Hong Kong, less than 15% of surgical procedures are performed as day cases.⁹ Surgical procedures which are suitable for day-case surgery are commonly undertaken as in-patient procedures, despite the availability of day-case surgery set-ups in both public and private hospitals.

The unpopularity of day-case surgery locally has been attributed to both surgical reasons and patient preference. Evidently, in some instances, surgeons are reluctant to make the necessary changes to their traditional practice, whereby most patients having surgery are admitted to hospital.¹⁰ Previously, this practice was thought to be related to

how health care services had been funded (according to hospital bed occupancy rather than casemix and caseload). However, recent changes in how such operations are financed should have created more incentives for day-case surgery.

Clinical practice also plays an important role in determining the safety and success of day-case surgery. Preferably, experienced surgeons should perform day-case surgery, so as to minimise the risk of complications and avoid hospital admission. In Hong Kong public hospitals, trainees or junior surgeons are often the main doctors undertaking procedures suitable for day-case operations, as these types of procedures tend to be less complex and therefore least attractive to specialist surgeons. It is therefore possible that such day-case surgery practices in Hong Kong gave rise to unfavourable complication rates and hospital admissions, which conceivably led to its unpopularity.

Another possible obstacle to its development was the patient population itself. In the setting of Hong Kong, where homes are usually rather small and crowded, patients may prefer to enjoy the comfort of the hospital setting soon after their surgery, and thus avoid disturbing their convalescence. It is also claimed that patients often do not have anyone to look after them at home after surgery, necessitating hospital care, especially during the first few days.

In the current economic climate of limited health care resources, day-case surgery may be an area for future development in local services. First however, it is necessary to overcome the existing barriers to this type of approach. As there are currently no local data on patient preference for day-case surgery, we conducted a survey to investigate the attitudes of local Chinese patients in this respect.

Methods

Our Clinical Research Ethics Committee approved this survey. Patients scheduled for day-case surgery, as well as those planned for operations that entailed staying in hospital, were assessed in our preanaesthetic assessment clinic (PAC). We invited all American Society of Anesthesiologists (ASA) class I and II patients attending our PAC who were scheduled for elective surgical procedures to participate in the survey, so long as they were suitable for day-case surgery under general or regional anaesthesia according to the ASA guidelines (www.asahq.org). Patients classed ASA class III or higher, as well as those who could not understand the purpose of the survey, were excluded as they were deemed unsuitable.

After giving informed consent, all patients completed a questionnaire preoperatively at the PAC. Those who were 16 years old or older completed the

香港華裔病人對門診手術的態度

目的 評估華裔病人對門診手術的態度。

設計 前瞻性橫斷面問卷調查。

安排 香港一所分區公立醫院。

患者 2004年1月1日至6月30日期間，200位曾接受麻醉前門診評估的病人獲邀參加研究。

主要結果測量 人口學資料、對門診手術的了解和態度、接受手術前後對門診手術的偏好、術後的不良效果，以及病人的滿足感。

結果 病人平均年齡28歲（標準差：19歲）。完成調查的200位病人中，180位會選擇門診手術，當中主要的原因包括：留院時間短、不喜歡醫院環境、認為在醫院裏很易受感染、須照顧家庭、希望能及早重返工作崗位，以及醫生的意見。至於家居環境狹小和門診手術不安全，都不是重要的原因。不會選擇門診手術的受訪者強調住院病人能得到更好照顧的重要性，以及擔心手術出現併發症、術後噁心和嘔吐。只有11%的病人投訴出現術後不良效果。與人口有關的特點和曾經接受門診手術的經驗，對病人會否選擇門診手術的決定並無影響。但術後會否出現不良效果（ $P=0.005$ ）以及對手術的滿意程度（ $P=0.001$ ）卻明顯影響到受訪者會否選擇門診手術。

結論 本院很多本地華裔病人願意選擇門診手術。術後的不良效果也許會影響到受訪者在手術後的滿意度和對手術的選擇。

questionnaire themselves, whilst younger patients were assisted by their guardians. After their surgical procedures, patients recruited into the study were followed up on day 3.

The questionnaire consisted of three parts. The first part collected demographic data, and information regarding understanding and preference for day-case surgery, and past experience of any such operation. The second evaluated attitudes towards day-case anaesthesia, and consisted of statements that were either favourable or unfavourable towards day-case surgery. The respondents were asked to rate the importance of each statement using a 5-point Likert scale; a score of 1 represented the least important, 2 represented moderately unimportant, 3 was neutral, 4 represented moderately important, and 5 was the most important. The final part was completed by telephone interview on postoperative day 3, during which information on patient satisfaction about his/her recent surgical experience was also obtained. For those not contacted on the first attempt, two further endeavours were made on different days and at different times before attempts to contact them were abandoned. Factors that might have affected patient preference for day-case procedures were also examined.

TABLE 1. Patient demographic profiles and types of operation (n=200)

Characteristic	Patients No. (%)
Gender	
Male	132 (66)
Female	68 (34)
Age-group (years)	
<16	79 (40)
16-60	111 (56)
>60	10 (5)
Education	
None	19 (10)
Primary	73 (37)
Secondary	86 (43)
College/Diploma	8 (4)
Tertiary	14 (7)
No. of dependents	
0	62 (31)
1-4	134 (67)
>4	4 (2)
Types of operation	
General surgery	70 (35)
Orthopaedic	23 (12)
Gynaecology	34 (17)
Ear, nose and throat/eye	62 (31)
Other	11 (6)

The first part of the questionnaire was essentially descriptive. The second part examined the views and attitude of the respondents, and mean scores were calculated for each statement. Responses to the statements in the group that preferred day-case surgery and the group that did not, were thus available for comparison. Considering a score of 3 as neutral, the non-parametric sign test was employed to determine the trend for respondents' attitudes towards each statement in each group. Univariate analysis using the Chi squared test was performed to evaluate whether there were any specific factors affecting the respondents' preference for day-case surgery. All P values less than 0.05 were considered significant.

Results

A total of 200 patients completed the survey during the period January to June 2004. Their demographic profiles and the types of operation they underwent are shown in Table 1. The mean age of the patients was 28 (standard deviation, 19) years. Seventy-nine (40%) of the patients were aged below 16 years, most (66%) were male, and about half lived with their

families and had a secondary school or higher level of education (54%).

Although only 19% of respondents had past experience of day-case surgery, 86% of them gave a correct definition of day surgery. Ninety percent preferred day-case surgery at the PAC. Attitudes towards day-case surgery are summarised in Table 2; statistical analysis was not performed between the two groups in view of the small numbers who did not prefer day-case surgery.

Among respondents who preferred day-case surgery, significant important reasons included: shorter duration of hospitalisation, dislike of hospital environment, belief of highly infectious environment in hospital, need to look after their family, desire to return to work earlier, and doctor's advice (Table 2). Unavailability of a carer at home, small home environment, and a belief that day-case surgery was unsafe were not considered important reasons. The respondents also had concerns about postoperative complications and side-effects, though these did not affect their preference.

Among respondents who did not prefer day-case surgery, important reasons included: belief that hospital care was better, unease about surgical complications, concern about postoperative nausea and vomiting, and doctor's advice. The remaining considerations were not significant. Respondents' past experience of day-case surgery had no important impact on attitudes in either group.

A total of 170 patients were contacted postoperatively by telephone interview to complete the last part of questionnaire. Although all the surgical procedures were suitable for day-case surgery, not all were conducted under this arrangement. In our study sample, 122 patients actually underwent day-case surgery, while 48 were scheduled as in-patients. Five types of operations were carried out, including: general surgery; ear, nose and throat (ENT); and ophthalmic procedures (Table 1). Only 11% of respondents to the postoperative telephone interview complained of postoperative adverse effects (Table 3). In the day-case group, 9% experienced adverse effects compared to 23% among those admitted to hospital for their procedure. The two most common problems were postoperative nausea and vomiting (4%) and wound complications (3%). There was no unplanned admission to hospital.

Approximately 98% of day-case respondents were satisfied with their surgical experience. However, only 71% of all respondents still preferred to have their surgical procedure as a day-case operation. Their reasons for day-case surgery preference are summarised in Table 4. Of those who actually had day-case surgery, 86% still preferred this option. Presence of postoperative adverse effects was associated with lower satisfaction (P=0.001) and

TABLE 2. Respondents' attitudes towards day-case surgery (n=200)

Statement*	Respondents who preferred day-case surgery, n=180			Respondents who did not prefer day-case surgery, n=20		
	Mean (SD) score†	P value	Attitude‡	Mean (SD) score†	P value	Attitude‡
1. My hospitalisation time will be reduced by day surgery (+)	3.6 (1.0)	<0.0001	Agree	3.2 (1.0)	NS§	Agree
2. I will have better care in hospital than at home (-)	3.7 (0.9)	<0.0001	Agree	4.2 (0.8)	<0.005	Agree
3. I do not like hospital environment (+)	3.5 (0.9)	<0.0001	Agree	2.8 (0.9)	NS	Disagree
4. I consider hospital as highly infectious (+)	3.5 (1.0)	<0.0001	Agree	3.0 (0.9)	NS	Neutral
5. There is no one at home to take care of me after operation (-)	2.8 (1.1)	0.008	Disagree	3.3 (1.1)	NS	Agree
6. My home environment is too small (-)	2.4 (0.9)	<0.0001	Disagree	2.5 (0.9)	NS	Disagree
7. I live too far away from hospital (-)	2.9 (1.2)	NS	Disagree	3.3 (1.0)	NS	Agree
8. I believe that day surgery is unsafe (-)	2.5 (1.0)	<0.0001	Disagree	2.9 (0.9)	NS	Disagree
9. I am concerned about complications post surgery (-)	3.6 (1.0)	<0.0001	Agree	4.0 (1.1)	0.02	Agree
10. I am concerned about nausea/vomiting post surgery (-)	3.4 (1.1)	<0.0001	Agree	3.9 (0.8)	0.0005	Agree
11. I am not worried about inadequate pain relief after discharge (+)	3.3 (1.1)	0.0004	Agree	3.4 (0.9)	NS	Agree
12. I need to look after my family (+)	3.2 (1.2)	0.026	Agree	3.0 (1.1)	NS	Neutral
13. I need to return to work as soon as possible (+)	3.4 (1.2)	<0.0001	Agree	3.2 (1.0)	NS	Agree
14. I was advised by my doctors (+)	3.9 (0.8)	<0.0001	Agree	3.8 (0.6)	0.0001	Agree
15. My previous experiences in day surgery (+)	3.0 (0.9)	NS	Neutral	2.6 (0.8)	NS	Disagree
16. It is recommended by my friends/relatives (+)	2.8 (0.9)	0.023	Disagree	2.7 (1.0)	NS	Disagree

* Statement that is favourable (+) or unfavourable (-) towards day-case surgery
 † Scores ranged from 1 (least important) to 5 (most important)
 ‡ Tendency to disagree with statement if score <3 and agree if >3, 3 being neutral
 § NS denotes not significant

TABLE 3. Postoperative adverse effects (n=170)

Complications	Patients No. (%)
Nausea and vomiting	7 (4)
Wound complications	5 (3)
Sore throat	3 (2)
Dizziness	3 (2)

less preference (P=0.005) for day-case surgery.

Discussion

This study recruited patients of both sexes, with a wide spectrum of ages and education levels, and undergoing a range of different types of surgery. A high proportion of respondents gave a correct definition of day-case surgery. Encouragingly, most were already aware of the concept, which reflects the availability of relevant information to the general public.

A high proportion (90%) of respondents preferred day-case surgery for appropriate procedures; their attitudes being clearly positive and inconsistent with several existing public misconceptions about such views. Arguments purporting that day-case

TABLE 4. Reasons for preferring or not preferring day-case surgery after the operation*

Respondents preferring day-case surgery	Respondents who did not prefer day-case surgery
1. Better environment at home	1. Fear of postoperative complications
2. More convenience at home	2. Better medical care in hospital
3. Better care at home by family members	
4. Belief operation was minor	
5. Bored in hospital	
6. Anxious and depressed in hospital	
7. Hospital was unsafe	

* Postoperatively, 10% of patients who underwent day surgery switched their preference to not preferring day surgery, whilst 20% of the non-day surgery group switched from not preferring day surgery to preferring day surgery

surgery was not favoured owing to: unavailability of a carer at home, small home environment, or a belief that such surgery was unsafe appeared unfounded. Those who preferred day-case surgery were nevertheless concerned about postoperative complications, though this did not affect their preference. In contrast, better care available in hospital, and concerns about postoperative complications and anaesthetic side-effects were significant reasons among respondents

not preferring such surgery. We also found that in both groups, the doctor's advice had a significant impact on patient preference. Thus, appropriate and effective promotion of these services by medical professionals is a valuable means of advocating day-case surgery.

The non-parametric sign test was used in our study to detect any significant attitude trend within each group. Two P values were presented in Table 2 as the test was performed in each of the two groups. The sign test was used in single groups to analyse data with subjective ratings. It provides a mechanism for testing relative differentiation such as more-less or larger-smaller, and was considered appropriate to assess the trend towards each of the attitude statements. No between-group comparison was performed because of the great discrepancy in patient numbers between the two groups.

Respondents had a high degree of satisfaction (98%) with their experience of day-case surgery, which was similar to results in previous studies.^{11,12} Although satisfaction is a purely subjective measure of patient care, it is important because it reflects an outcome of health care and the quality of services. Reasons for dissatisfaction with day-case surgery were the presence of postoperative adverse events, which was also concordant with previous findings.^{11,13} Adverse effects must be avoided as far as possible. Efforts must also be made to develop effective strategies to prevent postoperative complications, and to detect and treat them as early as possible. Such complications add an extra financial burden on the medical care system, quite apart from stressing patients and their families. In the Hong Kong system, junior surgeons instead of specialists undertake less challenging procedures, commonly performed as day-case surgery. This could be regarded as an obstacle to the successful implementation of such programmes. It is also important to identify other reasons and the risk factors for patient/public dissatisfaction. However, our study only dealt with overall satisfaction with the experience and did not evaluate such attitudes by objective means. Further research in this area is therefore necessary.

In our study, the incidence of adverse effects was only 11%. Interestingly, the incidence in the day-case group was lower than that among patients who stayed on in hospital overnight after their procedure. This reflects on the utility of the different techniques and anaesthetic drugs that are usually employed in the day-case surgery setting, which obviously facilitate rapid recovery and discharge from hospital. There was no major complication, which was also consistent with findings of a previous large review showing that they are extremely rare.¹⁴ As in other studies,¹⁵⁻¹⁷ our patients did encounter common complications including nausea, vomiting, dizziness,

and sore throat. Although not life-threatening, these postoperative symptoms were unpleasant, prolonged time to recovery, reduced patient satisfaction, and might even have increased medical costs.^{18,19}

In previously reported day-case surgery services, unplanned hospital admission rates varied from 1 to 11%.²⁰⁻²⁴ This rate has often been used as an objective index for the quality of clinical service on offer. Common reasons for unplanned admissions were surgical, anaesthetic-related or medical complications, as well as social factors. We did not encounter any unplanned hospital admission, which indicates that day-case surgery is a safe and feasible approach, for selected procedures in patients who are appropriately assessed and prepared.

In our study, the preference for day-case surgery remained high at 86% in the day-case surgery group, which was similar to previous reports of 85% and 97% preference rates.^{13,25} The lower preference rate (compared to the preoperative rate) may be related to unsatisfactory anaesthesia (Table 4) or other experience. Overall, our study indicated that procedures conducted in a day-case surgical setting were considered acceptable and preferred by those who underwent them at our institution.

Regarding the limitations of our study, first, the patient numbers surveyed was small and at a single institution only, and hence not necessarily representative of attitudes in the general population. Second, our postoperative follow-up using telephone interview by medical staff was incomplete, due to wrong telephone numbers or security issues; non-respondents may have skewed the data. Third, the follow-up was performed on postoperative day 3, which could have failed to capture earlier complications and side-effects. Fourth, data for 40% of the patients (those younger than 16 years) were collected indirectly from parents or guardians, and was therefore indirect and less objective. Finally, 48 patients having procedures suitable for day-case surgery were actually admitted overnight as in-patients, though they had been seen at our PAC, whereas others may have been admitted directly to the wards, and thus not been recruited.

In recent years there has been a dramatic shift away from in-patient surgery to day-case surgical care, which offers more rapid recovery, less patient anxiety, lower costs, and greater convenience. Advances in surgical and anaesthetic techniques, safer operative environments, and better appreciation of patient needs have facilitated the popularity of this approach. Escalating societal and financial pressures on health care services have also contributed to this global trend. In Hong Kong the number of day-case surgery procedures is also increasing, but has not attained the frequency achieved in other developed countries.

Conclusion

Local Chinese patients attending our institution have a high preference for day-case surgery. However, postoperative adverse effects may influence respondents' satisfaction and preferences for these

types of procedures. Postulates as to why such surgery would not be popular in our patients were not substantiated. We also clarified some of the important issues that appeared to influence patient attitudes towards day-case surgery.

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