

# Comparison of the Effectiveness of Different Preoperative Screening Methods: Telephone Interview versus Hospital Visit

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## Abstract

There are several commonly used approaches to screening patients for surgery. Each method has its advantages and disadvantages for the patients and physicians. The effectiveness of these various methods has not been objectively compared. The study is designed to compare the effectiveness to prevent last-minute cancellations by anesthesiologists between hospital visit and telephone interviews. We performed this prospective observational study to compare the effectiveness to prevent last-minute cancellations by anesthesiologists between hospital visit and telephone interviews.

All patients scheduled for various surgeries during one-month period in the two different facilities were included in the study. In the telephone interview group, there were total 334 cases during one-month period. In the hospital visit group, there were total 348 cases during one-month period. Last-minute cancellation by anesthesiologists did not differ significantly between telephone interview (2/334) and hospital visit groups (3/348) ( $p = 0.956$ ). In conclusions: telephone interview and hospital visit are effective preoperative screening methods to avoid last-minute cancellation.

## INTRODUCTION

Last-minute cancellations in the surgery schedule can be a significant source of frustrations for both the physician and patient. It is essential to develop a method of screening these patients preoperatively to avoid costly delays and last minute cancellations. There are several commonly used approaches to screening patients for surgery. They include: personal interviews during a hospital visit, office or clinic consultation, telephone interviews, mail-in questionnaires, and computer-assisted questionnaires.<sup>1</sup> Each method has its advantages and disadvantages for the patients and physicians. The effectiveness of these various methods has not been objectively compared. The study is designed to compare the effectiveness to prevent last-minute cancellations by anesthesiologists between hospital visit and telephone interviews.

## METHODS

All patients scheduled for various surgeries during one-month period in the two different facilities were included in the study. Different preoperative screening systems (telephone interview and hospital visit) were used in these

two facilities. However, all patients were anesthetized by a group of anesthesiologists. The anesthesiologists rotated in different facilities.

In the telephone interview group, preoperative screening is achieved by obtaining a detailed medical history by a directed phone call by a certified registered nurse 2-3 days before surgery.

In the hospital visit group, preoperative screening is accomplished by obtaining a detailed medical history by a person-to-person interview by a certified registered nurse 3-4 days before surgery. Physical examination was performed at the same time.

In either group, a printed questionnaire designed to elicit information on anesthesia-related risk factors is used. The information includes a complete medical history, medication, and previous and family history of anesthesia. If preexisting medical problems are discovered during telephone interviews or hospital visit, an anesthesiologist reviews the case. Further evaluations or lab tests are arranged according to anesthesiologist's recommendation.

On the day of surgery, the medical history is reviewed, and an anesthesiologist performs physical examination.

The numbers of last-minute cancellation by anesthesiologists were collected. Patient demographic data was analyzed by t-test. Cancellation rate and patient gender was compared by Chi-square. The statistic power was analyzed by post hoc power analysis. P value <0.05 was considered statistically significant.

## RESULTS

During one-month period, there were total 334 cases in the telephone interview group, and 348 cases in the hospital visit group. Last-minute cancellation by anesthesiologists, due to insufficient preoperative screening information, was two cases in the telephone interview group (one patient had new onset of CHF, one had severe COPD), and three cases in the hospital visit group (two patients had uncontrolled HTN, one had new onset of angina). Last-minute cancellation by anesthesiologists did not differ significantly between telephone interview (2/334) and hospital visit groups (3/348) ( $p = 0.956$ ). The statistic power was 75% by post hoc power analysis.

## DISCUSSION

Last-minute cancellation in the surgery schedule is a multifactorial problem. Cancellation can be caused by: acute patient medical problems, incomplete medical work-up, surgeon's discretion, patient no-shows, and administrative reasons.<sup>2</sup> The role of Anesthesiologists is to avoid insufficient preoperative screening, and to avoid medical cancellation. Therefore in this study, medical cancellation by anesthesiologist was addressed as the indicator of insufficient preoperative screening.

There are several commonly used approaches to screening patients for surgery. Each method has its advantages and disadvantages for the patients and physicians. The effectiveness of these various methods has not been compared. This study demonstrated the telephone screening and facility visit are effective preoperative screening

methods. The new onset of the medical problems was the main cause of last-minute cancellation in this study. Patient education is the key to reduce the last-minute cancellation by anesthesiologists. If the patients can contact the surgery center when they have new onset of the medical problems, the appropriate recommendations can be given. The patients can get medical evaluation and treatment immediately. The procedure can be cancelled or rescheduled days before surgery. The last-minute cancellation can be prevented.

It has been demonstrated that a nurse based model for screening represents an effective way of screening surgical outpatients in teaching hospital.<sup>3</sup> In this study, it is further demonstrated that a nurse based model for screening is an effective way of preoperative screening in private setting.

We must emphasize that this study was observational and patients were not randomized between the two groups. Although there were no statistic differences in age and gender, the types of surgical procedures were different between the two groups in this study. The statistic power was 75%. Therefore, further randomized study with larger patient population may be necessary.

In conclusion, telephone interview and hospital visit are effective preoperative screening methods to avoid last-minute cancellation.

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