Interruptions to the Physician-Patient Encounter: An Intervention Program

Roni Peleg MD[1,4], Meron Froimovici MD[3], Aya Peleg PhD[2], Vered Milrad BA[3], Georgette Ohana BA[4], Shimon Fitoussi[4], Eli Dryfuss MA[3], Michael Sharf MD MPH[3] and Pesach Shvartzman MD[1]

[1]Department of Family Medicine and [2]Unit for Health Promotion and Disease Prevention, Faculty of Health Sciences, Ben-Gurion University of the Negev, and [3]General Health Services Sick Fund, Southern District, Beer Sheva; and [4]Dimona "A" Clinic, General Health Services Sick Fund, Dimona, Israel

Key words: interrupted consultation, patient-physician encounters, family medicine, quality of care, patient education

Abstract

Background: Israeli physicians are very familiar with the problem of interruptions during encounters with patients. However, a thorough search of the medical literature revealed only one report of this problem from Israel, and none from other countries.

Objectives: To characterize the phenomenon of interruptions to the patient-physician encounter in a clinic in Dimona and to assess the effect of an intervention program designed to reduce the magnitude of this problem.

Methods: During an 8 day work period in March 1997 all patient-physician encounters were recorded and characterized. An intervention program was then designed and implemented to reduce the number of interruptions. Data were again collected a year after the initial data collection.

Results: During the 8 day study period prior to the intervention program there were 528 interruptions to 379 encounters (mean of 1.39 per encounter). The main causes of interruptions were entrance of uninvited patients to the examination room (31%) and telephone calls (27%). Most of the interruptions occurred during the morning hours between 8 and 10 a.m. (45%) and at the beginning of the week (Sunday 30%). After the intervention program there were 402 interruptions to 355 encounters (mean of 1.13 per appointment, $P=0.21$).

Conclusions: There was no statistically significant improvement in the number of interruptions following the intervention program. This finding is either the result of a local cultural phenomenon, or it indicates a national primary care health system problem that may require a long-term educational program to resolve it. Further research is needed on the magnitude, causes and consequences of interruptions in family practice and, if warranted, methods will have to devised to cope with this serious problem.

IMAJ 2000;2:520–522

Attaining optimal use of a physician's time is one of the challenges for the health care system. Since physician time is a valuable resource, improving the quality and duration of the patient-physician encounter will positively affect the relationship that develops between the patient and the physician as well as the patient's level of satisfaction with the health care system. Improvement of the consultation system will also benefit budget management.

The mean appointment time in general practice ranges from 6–10 minutes [1] to 16.3 minutes [2]. Thus interruptions that occur during such a short period can affect the quality of the encounter and the physician's ability to concentrate on the processes of communication, diagnosis, treatment and patient education. Israeli physicians are very familiar with the problem of interruptions during consultations with patients, yet a thorough search of the literature revealed only one report of this problem from Israel [3] and none from elsewhere. That study showed that the mean appointment time was 9.4 minutes, during which there was a mean of 1.36 interruptions. The authors concluded that this might be a cultural phenomenon.

It is possible that most health care providers believe that uninterrupted consultations are the norm. Although common, interruptions have not been appropriately characterized. The aim of the present study therefore was to characterize interruptions to patient-physician encounters and their causes, to propose means to deal with the problem, and to conduct and analyze the results of an intervention program designed to alleviate the problem.

Methods

Setting

The compulsory national health insurance system, implemented in Israel in 1995, provides health care to the entire population through non-profit health maintenance organizations (sick funds). The present study was conducted within the framework of a quality improvement program in the General Health Services Sick Fund (Kupat Holim Clalit) for the southern district. This is Israel's largest sick fund and serves about 60% of the population.

The study was conducted in the Dimona "A" clinic, an urban primary care clinic that provides health care services to 5,200 listed patients of all ages, mostly from lower socioeconomic levels. The clinic is open 6 days per week (closed on Saturday). The staff includes four doctors (two

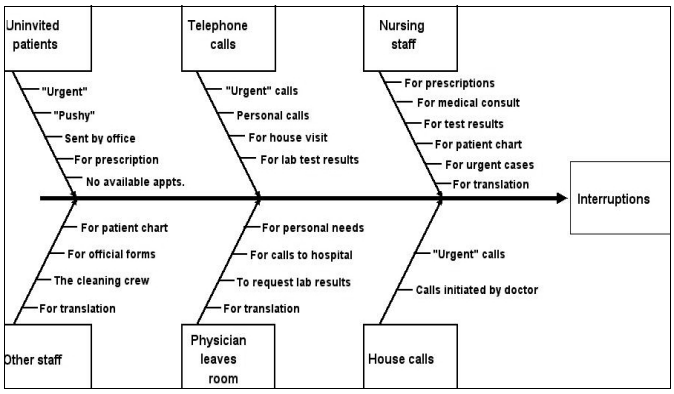

Figure 1. Fishbone methodology – a means to analyze the relation between the problem and its cause

family physicians and two pediatricians), two nurses, two pharmacists and a medical secretary. Patients make appointments with the physician in advance by means of a computerized appointment system that sets an appointment every 10 minutes. For patients with chronic medical disorders, follow-up appointments are scheduled with physicians or nurses.

Definition of the problem

A pilot study was conducted over the course of one week during February 1997. As a result of this pilot study we decided to conduct the program in the two units treating adults and serving 2,798 patients. The pediatric units were not included because of technical problems involving physician reporting.

The causes of interruptions

Interruptions were defined as telephone calls; entrance by the nursing team, other staff members or uninvited patients; or requests for urgent house calls during the course of a consultation.

An "interruption form" was designed to record daily interruptions during the course of the appointment and to sum up all patients seen and all interruptions that occurred each day. The forms were completed by each of the two doctors in the two adult units during an 8 day period in March 1997 (pre-intervention) and a similar time period in March 1998 (post-intervention).

Results

During the 8 day pre-intervention period there were 528 interruptions to 379 encounters in the two units (mean 1.39 per encounter). A total of 235 interruptions (45%) occurred between 8 and 10 a.m. Most interruptions were at the beginning of the week, 158 (30%) on Sunday and 133 (25%) on Monday. The most frequent causes of interruptions were uninvited patients entering the room (162, 31%), incoming phone calls (143, 27%), and nursing staff (77, 15%). The other causes were physicians leaving the room for any reason, and calls for urgent house visits.

The intervention program

The specific causes of interruptions, according to the initial phase of data collection, are described in the Fishbone design depicted in Figure 1. Over the subsequent 6 months the clinic staff, including the medical, administrative and nursing heads, discussed these problems and suggested solutions. Below are the solutions adopted and implemented by the clinic staff during the second 6 months – the intervention phase of the study:

Uninvited patients

- Time was set aside in the computerized appointment system to accommodate patients with urgent problems who had no appointment. Two 10 minute time slots were set aside each hour for these appointments, as determined by the physician.
- A door handle for opening the door only from the inside of the room was installed in the doors of the physicians' rooms.
- Signs were posted on the physician's doors and throughout the clinic explaining the new system and the importance of uninterrupted consultations.
- The reception staff was instructed as to how to explain these new procedures to the patients. Any patient who did not abide by them received additional personalized explanations from the clinic staff.
- Nurses were authorized to conduct routine follow-up appointments for patients with chronic disorders who did not make appointments, and to give them prescriptions for their regular medications.

Incoming telephone calls

- Incoming phone calls were channeled through the office.
- During peak hours (8–10 a.m.) the office staff noted the messages and transferred them to the physicians at set hours. Urgent phone calls were put through immediately.
- Some calls meant for doctors were handled by nurses (e.g., laboratory tests results).

Urgent house calls

- All clinic patients who requested a house call received an explanation as to the advantage of being examined in the clinic rather than at home, unless they were completely unable to come to the clinic.
- An exerted effort was made to avoid house visits during the peak hours.
- The clinic staff was apprised of the sick fund's instructions regulating house visits.
- Clinic physicians began conducting scheduled house calls at non-peak hours for patients who frequently requested house calls.

Interruptions by the nursing and other clinic staff

It was decided that the nurses and other clinic staff would enter the doctor's room between and not during patient appointments.

Doctor leaving the room

The physicians were made more aware of the effect of their leaving the room, even momentarily, during an appointment. They decided to try to restrict all such events to between appointments.

Interruptions one year after implementation

During the 8 day post-intervention study period there were 402 interruptions to 355 appointments in the two units (mean 1.13 per appointment), or a decrease of 19% in the number of interruptions (χ^2=7.14, df=5, P=0.21). The comparison of interruptions (per 100 appointments) is shown in Figure 2.

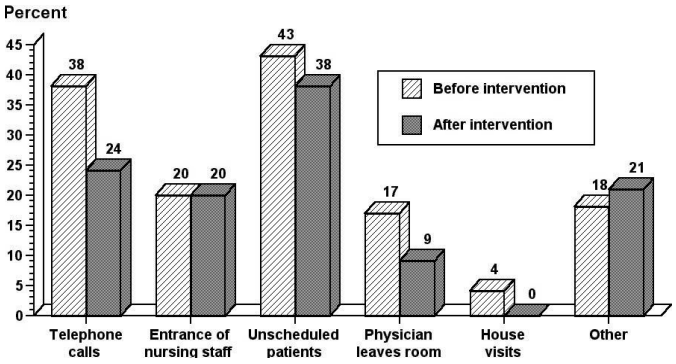

Figure 2. Interruptions by type, per 100 patient visits.

Discussion

The problem of interruptions to the patient-physician consultation was chosen unanimously in our clinic for the quality improvement program. It was considered to be a very significant problem by both the physicians and the entire clinic staff.

One year after the initial data were collected, following the development and implementation of the intervention, data were again collected. This year-long interval between the two data collections was to ensure full implementation of the intervention program and to negate seasonal factors that may independently affect the results of the data analyses. The final data revealed a mean of 1.19 interruptions per encounter, a non-significant reduction of 19%. Thus, the results indicate that there was no statistically significant improvement in the number of interruptions to the patient-physician encounter.

It is possible that the nature and needs of the local population are such that the patients feel they can interrupt no matter what the circumstances. This may be a cultural phenomenon or it may be characteristic of this socio-economic class. Cultural norms of the clinic staff itself may also have contributed to the phenomenon. A long-term educational program for the clinic staff and patients may be required to achieve more positive results.

The transfer of telephone calls to physicians could not be prevented entirely. The secretarial staff could not refuse to transfer calls that were defined as urgent by the caller. Since the door to the physician's room could not be opened from the outside, the number of interruptions by uninvited patients decreased. On the infrequent occasions when the door to the doctor's room was open for other reasons, more interruptions by uninvited patients were recorded. Many enterprising patients managed to enter the doctor's room through the nurse's room, which adjoined the doctor's room and had a regular doorknob.

The fact that there was no change in the number of interruptions by nurses and indeed an increased number of interruptions by other staff members is noteworthy. In some cases patients who could no longer enter the doctor's room themselves got nurses or other staff to do so on their behalf, thus gaining an indirect consultation from the physician while interrupting the scheduled appointment. We called this phenomenon "interruption by proxy."

Despite the relatively disappointing statistical result, the entire clinic staff reported an improvement in quality of their routine daily work. The physicians noted an improvement in the patient-physician consultation, and all the physicians (including the pediatricians who did not participate formally in the study) stated that their daily work load was significantly lighter compared to the situation before the intervention program. The intervention program yielded additional benefits. The clinic staff experienced the efficient functioning of a clinic, the relations between staff members were enhanced, and there was an improvement in the staff's ability to identify and tackle problems at the clinic level in an independent manner.

This report of the Dimona experience regarding interruptions to the patient appointment can serve as the basis for further research on this worrisome issue. The study design is somewhat limited by the fact that the physicians recorded the interruptions themselves, and that the results reflect the specific conditions of the clinic in Dimona.

There are differences throughout the world in terms of provision of health care services and culture-based attitudes to health care. Although we assume that our results are fairly representative of the situation in other areas in Israel, we cannot be sure of their generalizability to other countries and health care systems. Nonetheless, we hope that our experience will aid others in their attempts to improve the quality of the patient-physician consultation by reducing the number of interruptions.

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Correspondence: Dr. R. Peleg, Dept. of Family Medicine, Ben-Gurion University of the Negev, P.O.Box 653, Beer Sheva 84105, Israel. Tel: (972-7) 647 7436; Fax: (972-7) 647 7636;
email: ayapeleg@bgumail.bgu.ac.il