

How well do nurse-run telephone consultations and consultations in the surgery agree? Experience in Swedish primary health care

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SUMMARY. *The telephone consultation service is an important part of Swedish primary health care. However, few studies have compared telephone consultations managed by nurses with surgery consultations managed by both doctors and nurses in terms of information obtained from the patient regarding his or her symptoms, and the management decisions made. In this study, the information obtained from a patient during a telephone consultation with a health centre nurse and the management decisions made, were compared with those obtained at a subsequent surgery consultation with the same nurse, and then with a doctor. Of 200 telephone consultations at a health centre (50 in each of the following four categories as defined by the management decision of the nurse: acute case, semi-acute case, referral case and self-care case), 193 patients were included in the study. The information given to the nurse during the telephone consultation was recorded. The patient was then asked to come for a surgery consultation on the same day, first with the same nurse and then with a general practitioner. A comparison was made between the information obtained and the decisions taken in these three situations.*

In 185 of the 193 cases (96%) the information led to the same management decision by the nurse, in both the telephone consultation and later in the surgery consultation. In all cases the same history was recorded by the nurse during the telephone and surgery consultations as by the general practitioner. This indicates that in most cases little or no information is missed in a telephone consultation with a nurse as compared with a surgery consultation with a nurse or doctor. The telephone consultation, therefore, has an important role in primary health care, complementing rather than replacing the surgery consultation.

Introduction

THERE are variations between countries in the extent to which the telephone is used for medical consultation. There are also differences as to whom has the main responsibility for this service. In the United Kingdom the telephone advisory service is limited,¹ while in the United States of America it has been used to a greater extent but usually with a physician as

the telephone adviser.² In Sweden, the limited number of general practitioners has meant that registered nurses have been given the main responsibility for the telephone advisory service. This service has expanded during the last 15 years to become an important part of Swedish primary health care. It is estimated that approximately 20 million telephone calls are managed by reception nurses at Swedish health centres every year,³ and in addition to these, many calls are managed by district nurses and general practitioners. Many surgery consultations with the doctor are often first managed by a reception nurse or a district nurse. At many Swedish health centres special guidelines have been agreed for the telephone advisory service, with regionally accepted guidelines for how to judge and manage common medical problems.^{4,5} Educational programmes for telephone advisers in primary health care have also been undertaken.⁶

Despite their frequent use, little is known about telephone consultations compared with surgery consultations. A request for such a study has recently been put forward.⁷ The aim of this study was, therefore, to compare the information recorded by the nurse during a telephone consultation with a patient, with that recorded by the same nurse and then by a doctor during consultations with the patient at the surgery later the same day. The study also aimed to compare the management decisions made by the nurses at the telephone consultation and then at the surgery consultation; and also to compare the nurses' management decisions with those made by general practitioners. The nurses' clinical skills in the consultation were also evaluated by the general practitioners.

Method

The study was carried out at the Torpa health centre in Vanersborg, western Sweden. Torpa health centre is the largest in Vanersborg, serving approximately 17 000 inhabitants. The study was carried out in March 1990 over a four week period, with an interruption of one week for the Easter holiday. The telephone advisory service at the Torpa health centre is managed by five registered nurses, corresponding to 3.5 full-time positions, or one registered nurse per 4800 patients. The five nurses had been working as telephone advisers for a mean of nine years (range 2.5–14.0 years).

Two hundred telephone contacts made by patients concerning health problems were entered into the study. Patients were allocated to one of four groups, according to the management decision made by the nurse: acute case, with an appointment to see a general practitioner at the health centre on the same day as the telephone consultation; semi-acute case, with an appointment to see a general practitioner at the health centre within a week but not on the same day as the telephone consultation; referral case, with a referral for health care other than that delivered by the general practitioners in the health centre (those patients who were considered severely ill were recommended to go directly to hospital and were not included in the study); and self-care case, with advice about self-care, but no appointment nor referral made for other medical care. Fifty patients from each group were included in the study. To obtain a similar number of subjects in each of the different groups and a manageable number per day, every fourth patient presenting as

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an acute case, every third patient presenting as a semi-acute case, every other patient considered as needing referral, and all of the self-care patients were entered into the study.

During the telephone consultation, the nurse recorded on a specially designed form the age and sex of the patient and the patient's reason for consulting the nurse. Depending on the measures taken by the nurse, the patient was allocated to one of the four groups. Irrespective of which advice had been given, at the end of the telephone consultation the nurse invited the patient to attend a consultation at the health centre on the same day. During this visit the patient met the same nurse for a face to face consultation and was again asked about the reasons for the consultation. When relevant, a physical examination was undertaken by the nurse, for example, examination of the eyes, or for a skin condition. If new information was obtained, this was recorded on the same form as used in the telephone consultation. Having seen the nurse, the patient then had a consultation with a general practitioner at the same health centre (B M or P K). These two general practitioners had received no information from the nurse about the patient before this consultation. The patient again described his or her problem to the doctor and the information was recorded on a separate form. Afterwards, the general practitioner compared his information with that obtained by the nurse with special reference to diagnosis, conclusions and recommendations. The general practitioner also made a medical judgement, based on his knowledge and experience, concerning the nurse's overall handling of the case. A classification system for contacts in primary health care was used to categorize patients' signs and symptoms.⁸

Data were analysed using the chi square test, where appropriate.

Results

Of the 200 telephone contacts entered into the study (50 cases in each group according to the selection method described) 193 patients (96.5%) were willing to come to the health centre the same day for a face to face consultation. Those seven patients who chose not to come were all patients who had been recommended self-care, and who considered an additional visit to the health centre unnecessary. Analysis by chi square test revealed that the age and sex distributions were not significantly different in the four sub-groups.

As reasons for contact, upper respiratory tract problems and ear and throat problems predominated among the cases defined as acute; musculoskeletal system problems predominated among the cases defined as semi-acute; skin problems predominated among those patients referred to other care; and upper respiratory tract problems and musculoskeletal problems among patients recommended for self-care (Table 1).

In all cases, similar descriptions of the principal problems were

recorded by the nurses at both the telephone consultation and at the subsequent consultation in the surgery. The nurses changed their original decision concerning recommended measures in only eight of the 193 cases (4%) following the patient consultation in the surgery. In four cases the new decision resulted in the patient being given advice for self-care or a less acute appointment time with the doctor (cases 1-4, Table 2), and in the other four cases (cases 5-8, Table 2) a more acute consultation time with a doctor was recommended.

The other 10 cases included in Table 2 (cases 9-18) are those patients who at the initial telephone consultation were recommended to visit the district nurse. Having seen these patients the nurse found the original decisions to be correct. Nine of these patients were then referred to a general practitioner at the Torpa health centre, five patients being considered to be acute cases, and four being considered to be semi-acute cases.

In all cases, the information recorded by the doctor at the surgery consultation was similar to that recorded by the nurse at both the telephone and face to face consultation. The management decisions made by the nurses were judged by the doctors to be of high quality. In two cases, the general practitioner's management decision differed from that of the nurse. One case concerned a middle-aged woman with a haematoma on her finger, and the other a young woman who experienced altered circulation lasting for about one minute in one of her feet. The nurse recommended referral to the district nurse in both of these cases, while the doctor recommended self-care and a wait-and-see approach in both cases.

Discussion

In Sweden, a patient wanting advice concerning a specific problem may utilize the telephone consultation service. One reason for the increasing use of this service is the limited number of general practitioners within Swedish primary health care. As a consequence of this, many consultations by telephone are managed by registered nurses. The task for these nurses is to establish what the patient's problem is, and to prioritize management decisions so that patients who are most in need of a consultation with a doctor are given immediate appointment times while the other patients are advised or referred appropriately. The telephone consultation may lead to an appointment with a doctor, either on the same day or later that week, referral to a district nurse or to a hospital, or advice about self-care.⁹

One important question in this context is the extent to which relevant information is missed when a face to face consultation is replaced by a telephone consultation.⁷ In this study, there was close agreement between the information obtained at the telephone consultation and the information obtained by the same nurse at a subsequent consultation in the surgery. In four cases, having seen the patient in the surgery, the nurse considered the

Table 1. Management decision by nurse at the initial telephone consultation according to patient's recorded symptoms.

Symptoms affecting:	No. (%) of cases (n = 193)			
	Acute	Semi-acute	Referral	Self-care
Upper respiratory tract	12 (6.2)	4 (2.1)	1 (0.5)	16 (8.3)
Musculoskeletal system	6 (3.1)	16 (8.3)	5 (2.6)	12 (6.2)
Skin	2 (1.0)	4 (2.1)	36 (18.7)	7 (3.6)
Ears and throat	14 (7.3)	9 (4.7)	1 (0.5)	2 (1.0)
Gastrointestinal tract	8 (4.1)	5 (2.6)	1 (0.5)	0 (0.0)
Eyes	2 (1.0)	2 (1.0)	2 (1.0)	4 (2.1)
Genitourinary tract	2 (1.0)	3 (1.6)	2 (1.0)	0 (0.0)
Other	4 (2.1)	7 (3.6)	2 (1.0)	2 (1.0)

n = total number of cases.

Table 2. Comparison of patients' symptoms recorded by nurses, and nurses' management decisions made during the telephone consultation, with those in the subsequent face to face consultation with the nurse.

Case no.	Sex	Age (yrs)	Telephone consultation		Face to face consultation	
			Recorded symptoms	Management decision	Recorded signs and symptoms	Management decision
1	F	24	Contact lenses, purulent eyes	Acute visit	No sign of eye infection	Self-care
2	F	19	Problems with eyes after a cold	Semi-acute visit	No sign of eye infection	Self-care
3	F	6	Common cold, cough, fever	Acute visit	Unimpaired status	Semi-acute visit
4	M	26	Painful, red and swollen ankle	Acute visit	No signs of arthritis	Semi-acute visit
5	F	29	Itching rash for several months	Semi-acute visit	Lots of abscesses all over body	Acute visit
6	M	57	Common cold, cough, no fever	Self-care	Painful sinus	Semi-acute visit
7	F	54	Common cold, no fever	Self-care	Severe headache	Acute visit
8	F	21	Local infection in ear lobe	Self-care	Swollen and red beneath the ear also	Acute visit
9	F	9	Problems with warts on foot	To district nurse	Small warts, minor problems	Self-care
10	F	14	Abscesses in groin	To district nurse	Abscesses also on thighs	Semi-acute visit
11	M	2	Rash without other symptoms	To district nurse	Eczematous changes	Semi-acute visit
12	M	22	Abscesses on hands	To district nurse	Unclear diagnosis, scabies?	Semi-acute visit
13	M	4	Eczema, moderate problems	To district nurse	Rather widespread eczema	Semi-acute visit
14	F	20	Itching abscesses on hands	To district nurse	Unclear diagnosis, scabies?	Semi-acute visit
15	M	1	Common cold with a rash	To district nurse	Taking penicillin, allergic reaction?	Acute visit
16	M	4	Infection between two toes	To district nurse	Also has lymphangitis	Acute visit
17	M	23	Sprained ankle, moderate problems	To district nurse	Swollen ankle, walking difficulties	Acute visit
18	F	55	Problems with an ingrowing toe nail	To district nurse	Signs of infection	Acute visit

case to be more acute than thought originally. These four cases (cases 5–8 in Table 2) may be considered as possible risk cases. All of the patients were, however, informed that they should contact the health centre again if their symptoms worsened, and an individual judgement of these four cases by the general practitioner did not indicate that the patients were at risk.

Of the 10 patients initially recommended to visit the district nurse, nine patients were further referred to the general practitioner. Asking the patient to visit the surgery for a further consultation with the nurse so that she may decide whether the patient needs to see a doctor seems adequate and is not to be considered as a wrong decision. However, the tradition in Sweden of letting the patient see a district nurse for a complementary consultation does not seem optimal since the district nurse and the telephone adviser have similar skills, having had a similar medical education. It may be preferable, therefore, for the patient to visit the telephone adviser at the surgery since the nurse will have the advantage of having already had contact with the patient. We consider it important for the telephone adviser to have the opportunity of asking the patient to come for a consultation in the surgery with the same nurse when this seems appropriate.

Our study also showed close agreement between the information obtained by the nurse and the doctor, and the decisions taken by them. The reasons for the contact stated by the patients were the same when recorded by the nurse as when recorded by the doctor. It did not appear that the patient was withholding information from the nurse or exaggerating symptoms in order to receive an earlier appointment time. The reason for some cases being considered less acute after the nurse consultation in the surgery was that the telephone advisers were being cautious rather than patients exaggerating their symptoms on the telephone. The quality of the medical advice given by the nurses was considered to be high, which is in agreement with a previous evaluation of the quality of medical advice given by nurses running the telephone advisory service.¹⁰ It is also in agreement with a number of previous studies from different medical disciplines on the quality of nurses' face to face con-

sultations and telephone consultations.^{11–15} We believe, in agreement with others,¹⁶ that a high standard of telephone advisory work by nurses is possible through adequate education and training⁶ and by the nurses being able to seek advice from elsewhere when necessary.^{4,5}

On the whole, there was good agreement between information obtained from patients by nurses during a telephone consultation and at a face to face consultation, and between information recorded by the nurse and by the doctor. The telephone consultation service, managed by registered nurses, has been shown to be of high quality. Complementing, rather than replacing surgery consultations, the use of the telephone consultation may enhance the service offered to patients in primary health care.

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