

Comparison of GP and nurse practitioner consultations: an observational study

Clive Seale, Elizabeth Anderson and Paul Kinnersley

ABSTRACT

Background

Studies show that satisfaction with nurse practitioner care is high when compared with GPs. Clinical outcomes are similar. Nurse practitioners spend significantly longer on consultations.

Aim

We aimed to discover what nurse practitioners do with the extra time, and how their consultations differ from those of GPs.

Design of study

Comparative content analysis of audiotape transcriptions of 18 matched pairs of nurse practitioner and GP consultations.

Setting

Nine general practices in south Wales and south west England.

Method

Consultations were taped and clinicians' utterances coded into categories developed inductively from the data, and deductively from the literature review.

Results

Nurse practitioners spent twice as long with their patients and both patients and clinicians spoke more in nurse consultations. Nurses talked significantly more than GPs about treatments and, within this, talked significantly more about how to apply or carry out treatments. Weaker evidence was found for differences in the direction of nurses being more likely to: discuss social and emotional aspects of patients' lives; discuss the likely course of the patient's condition and side effects of treatments; and to use humour. Some of the extra time was also spent in getting doctors to approve treatment plans and sign prescriptions.

Conclusions

The provision of more information in the longer nurse consultations may explain differences in patient satisfaction found in other studies. Clinicians need to consider how much information it is appropriate to provide to particular patients.

Keywords

communication; consulting styles; nurse practitioners

INTRODUCTION

Recent government policy articulates an expanded role for nurses as patients' first point of contact^{1,2} and as more services are delivered in the community, such as NHS Direct and walk-in centres, the imperative has been for a concomitant development of the role of the nurse in primary care.³ The expansion of nurse practitioners working in general practice is a particular example of this. These are registered nurses who undertake a formal programme of study that equips them to make autonomous decisions and receive patients with undifferentiated and undiagnosed problems.⁴ They see patients in much the same way as their GP colleagues, although with less authority to prescribe and refer to other agencies or services.

Consistent with reviews from North America^{5,6} where nurse practitioners have been established for several decades, a more recent systematic review of 11 randomised controlled trials and 23 other studies in primary care in several countries⁷ concluded that there were no notable differences in health outcomes for care provided by nurse practitioners as compared to GPs. However, patients were more satisfied with nurse practitioner consultations, which generally lasted significantly longer. Nurse practitioners ordered more investigations but were similar in their use of

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prescriptions, referrals and return consultations. On other dimensions describing the content of consultations, comparable data across studies could not be found, but qualitative review suggested that nurse practitioners gave more information to patients⁸ and more advice on self care and management.^{8,9} However, these studies relied on reports by patient or clinician rather than direct observation (in which category we include analyses of audiotape transcripts). The only study employing such direct observation was from North America and found nurse practitioners showed significantly greater concern with psychosocial issues than physicians.¹⁰ Economic evaluation has found no significant cost differences.¹¹

Our observational study aims to establish what nurses do with the extra time they take, identifying in particular behaviours that may relate to patient satisfaction, or that concern the provision of information about disease processes and suggested treatments.

METHOD

Our randomised controlled trial⁹ recorded the details of 1368 consultations in primary care settings with nurse practitioners or GPs. The patients were seeking 'same day' consultations. In eight practices where clinicians had participated in the trial, GPs and nurse practitioners were asked to audio tape-record one consulting session and in total 55 consultations (22 doctors and 33 nurses) were recorded. In some of the practices, the GPs and

How this fits in

Care provided by nurse practitioners in primary care settings achieves similar health outcomes and has similar costs compared with care provided by GPs. Nurse practitioner consultations result in greater patient satisfaction levels, but take longer. Spending twice as long with their patients as GPs, nurse practitioners seeing same-day patients in primary care settings are more likely than GPs to talk about treatments and, within this, about how to apply or carry out treatments. Further consideration needs to be given to the way nurses and doctors communicate with patients to ensure that adequate information is provided, patient satisfaction is achieved and time is used effectively.

nurses had predefined slots for these 'same day' patients, while in others, the patients were seen at the end of the morning consulting sessions.

Pairs of consultation (GP and nurse practitioner) were matched, as far as possible, according to whether the patient was an adult or child, the sex of the patient, and the initial presenting complaint, to form 18 matched pairs (Table 1). The matched consultations involved 8 GPs (4 male, 4 female) and 9 nurses (all female).

Analysis

Audiotapes were transcribed and nurse or GP utterances were coded (using QSR NVIVO software) according to a category scheme derived in part from the concerns of the literature review, and in part inductively from the data. The categories are arranged into groups that identify significant generalised behaviours. These, apart

Table 1. Matched pairs.

GP	Nurse practitioner
Adults	
1. Woman with painful foot	1. Woman with painful foot
2. Woman with painful neck	2. Woman with pain in ear
3. Woman with anxiety and depression to discuss medication	3. Woman unhappy with Prozac
4. Woman with headache and sickness (side effects of contraceptive pill)	4. Woman with rash on arms
5. Woman with cold and sore throat	5. Woman with tonsillitis symptoms
6. Man with rash on hands	6. Man with sore, bleeding nose (due to fume inhalation)
7. Woman with rash on head and neck	7. Woman with rash on arms and legs
8. Man with painful sinuses	8. Woman with sinusitis and cold symptoms
9. Woman with cold symptoms and chest pain	9. Woman with chest pains and asthma
10. Man with sore, swollen finger	10. Man with lump on neck
Children	
11. Girl with sore eye	11. Girl with sore eye
12. Teenage boy with sore throat and cough	12. Teenage boy with sore throat
13. Boy with painful foot	13. Boy with sore eye
14. Girl with constipation	14. Girl with breathing difficulties and rash
15. Girl with nausea and headache	15. Girl with temperature and sore throat
16. Girl with thrush	16. Girl with sore throat and enlarged tonsils
17. Baby (male) with mouth ulcers	17. Baby (female) with coughing and temperature
18. Girl with temperature and vomiting	18. Girl with persistent cough

Table 2. Coding scheme for categorising utterances of nurse practitioners and GPs.

Code word	Definition	Examples
Gathering information		
GATHERSYM	Designed to generate information about current symptoms	<i>'Have you actually been sick or do you just feel sick?'</i>
GATHERHIST	Designed to generate information about past history of illness or treatment, family experience of illness and possible causative factors that might have a bearing on the current illness	<i>'You don't get asthma or anything do you?'</i>
Physical examination		
EXPLAINPHYS	Explanations of the purpose or reasoning behind the physical examination, or of the physical procedures this involves	<i>'But if I listen to your chest first - just to make sure your asthma is fine.'</i>
MANIPULATE	Getting the patient to move their body in a way that facilitates the physical examination	<i>'Can you stand up — put your foot on the floor for me. Stand up and move it.'</i>
APPEARANCE	Comments on the visual appearance of the patient	<i>'Oh dear, it's quite swollen, isn't it?'</i>
Naming and explaining disease		
DIAG	Naming of the condition or delivery of diagnostic evaluation	<i>'This is a contact dermatitis of some sort.'</i>
EXPLAINDIS	Explanations of cause of the problem	<i>'I'm pretty convinced it's your work boots that are doing it.'</i>
PROGRESSION	The likely course that the condition will take	<i>'I would expect that, you know, within 3 or 4 days for that to be gone completely.'</i>
Social/emotional/patient centred		
ANYQUESTIONS	Asking if there are any further issues the patient wants to raise	<i>'Is there anything you want to ask about?'</i>
CHITCHAT	General small talk about holidays etc.	<i>'Mind you, it's muggy out there, isn't it?'</i>
HUMOUR	Moments where jokes are told or laughter is recorded by the transcribers	<i>'My [weighing] scales are very friendly don't worry, they are very, very nice.'</i>
MOTHERESE	Designed to put children at their ease ¹³	<i>'Alright — I'll show you something — see? Teddy bear.'</i>
PRAISE	Praise or support for a patients apparently sensible approach to things	<i>'No, that's right, you were right to do that.'</i>
SYMPATHY	Expressions of sympathy	<i>'Poor little thing, aren't you? It can make you feel quite miserable and ill.'</i>
SOCIAL	Discussion of impact of the condition on patients ability to carry out work OR school role	<i>'Well there's no need to miss school really, is there?'</i>
Treatment		
TREATMENTPROP	Proposing a treatment and/or explaining how it works	<i>'I would, you know, just try symptomatic treatments, so drink plenty, take either paracetamol or gargle with soluble aspirin, sleep and rest as much as possible.'</i>
HOWTOTREAT	Explanations of how to apply/carry out a treatment	<i>'Put it in water and it dissolves and then what you can do is to try and gargle it and then that will take some of the pain out of that tonsil.'</i>
COSTOFTREAT	Discussions of financial cost of treatment	<i>'Well it doesn't cost much at the chemist.'</i>
SIDEFFECTS	Checking for the potential of treatment to cause side effects, or any other discussion of side effects of treatments	<i>'Just take them at night they can make you drowsy, so do be careful if you're driving or if you're out.'</i>
Other		
ARRANGE	Arranging for the signing of a prescription by another party, or their approval of a treatment plan	<i>'I'll run down and get these prescriptions signed.'</i>

from the 'social/emotional/patient-centred' generalised category, whose elements can occur at various stages, describe well-recognised phases of many primary care consultations. For example, our study of general practice consultations for children's upper respiratory tract infections

identified a routine pattern.¹² Information gathering exchanges are generally followed by a physical examination, at the end of which the condition is usually named and explained. Treatment recommendations then follow, with arrangements for these being made. Within each of these phases,

Table 3. Length of nurse practitioner and GP consultations.

	GP mean (SD)	Nurse mean (SD)	Mean difference (95% CI)	P-value
Time per consultation (seconds)	304 (37)	602 (253)	298 (160 to 435)	$P < 0.001$
Patients' speech (number of characters)	1251 (776)	2533 (1251)	1282 (576 to 1987)	$P = 0.001$
Clinicians' speech (number of characters)	2796 (1062)	4164 (1422)	1368 (518 to 2218)	$P = 0.002$

SD = standard deviation.

Table 4. Comparison of the frequency of the utterances grouped under generalised headings (number of text passages with mean per consultation in parenthesis).

	GP	Nurse	Mean difference (95% CI)	P-value
Gathering information	180 (10.0)	210 (11.7)	1.7 (-2.4 to 5.8)	$P = 0.416$
Physical examination	97 (5.4)	112 (6.2)	0.8 (-2.1 to 3.8)	$P = 0.568$
Naming and explaining disease	78 (4.3)	116 (6.4)	2.1 (-0.01 to 4.2)	$P = 0.051$
Treatment ^a	113 (6.3)	224 (12.4)	6.1 (1.8 to 10.6)	$P = 0.007$
Social/emotional/ patient centred ^b	40 (2.2)	96 (5.3)	3.1 (0.7 to 5.5)	$P = 0.013$

^at-test $P < 0.01$ (level required by Bonferroni correction). ^bt-test $P < 0.05$.

particular things occur that are described in the more detailed coding categories exemplified in Table 2.

The coding scheme was developed by all three authors. Initial coding was done by one investigator. Each coding decision was then separately inspected by a second investigator and any differences resolved. NVIVO allows highlighted text passages to be coded (like a word processor), unlike other programmes that require whole lines or sentences as coding units. This means character counts (as in Table 3) as well as counts of coded passages (as in Table 4) are good indicators of the amount of emphasis placed on particular topics. Additionally, the overall length of each consultation was recorded in seconds (see Table 3). *t*-tests were used to compare means of the two groups (measured in utterances, letter characters or seconds). Although somewhat controversial,¹³ the Bonferroni correction has been applied to multiple comparisons shown in Tables 4 and 5 to provide a more demanding level of significance and thereby correct for the phenomenon of accepting some differences as significant when they have only arisen by chance because of multiple testing.

RESULTS

The average length of nurse consultations is twice that of doctors (Table 3). Both patients and clinicians

speak significantly more in nurse consultations.

The content of the consultations were compared using the coding scheme described in Table 2. Table 4 shows that talk related to treatment is significantly more common in nurse consultations, with a difference in the same direction for 'social/emotional/patient centred' talk falling marginally outside the level of significance required by the Bonferroni correction.

Further comparisons of the two types of consultation for each of the separately coded types of utterance are shown in Table 5. Nurse practitioners are significantly more likely to produce talk concerned with arranging for the signing of a prescription by another party, or their approval of a treatment plan and to explain how to apply or carry out a recommended treatment.

DISCUSSION

Summary of main findings

We have found that the content of consultations by nurse practitioners was somewhat different from those of GPs when seeing similar 'same day' patients. Both patients and clinicians spoke more in nurse consultations. In consultations that were longer than those of doctors, nurses talked significantly more than doctors about treatments and, within this, talked significantly more about how to apply or carry out treatments. Weaker evidence

Table 5. Comparison of nurse practitioner and GP utterances (number of text passages with mean per consultation in parenthesis).

	GP	Nurse	Mean difference	95% CI	P-value
ANYQUESTIONS	1 (0.1)	4 (0.2)	0.1	-0.7 to 0.4	<i>P</i> = 0.157
APPEARANCE	35 (1.9)	58 (3.2)	1.3	-0.2 to 2.8	<i>P</i> = 0.092
ARRANGE ^a	1 (0.1)	20 (1.1)	1.0	0.4 to 1.7	<i>P</i> = 0.002
CHITCHAT	7 (0.4)	23 (1.3)	0.9	-0.4 to 2.1	<i>P</i> = 0.158
COSTOFTREAT	2 (0.1)	8 (0.4)	0.3	-0.2 to 0.9	<i>P</i> = 0.225
DIAG	23 (1.3)	26 (1.4)	0.1	-0.5 to 0.9	<i>P</i> = 0.64
EXPLAINDIS	40 (2.2)	55 (3.1)	0.9	-0.6 to 3.3	<i>P</i> = 0.257
EXPLAINPHYS	27 (1.5)	29 (1.6)	0.1	-1.0 to 1.2	<i>P</i> = 0.836
GATHERHIST	95 (5.3)	88 (4.9)	-0.4	3.1 to -2.3	<i>P</i> = 0.775
GATHERSYM	76 (4.2)	122 (6.8)	2.6	-0.8 to 4.9	<i>P</i> = 0.154
HOWTOTREAT ^a	16 (0.9)	63 (3.5)	2.6	1.2 to 4.0	<i>P</i> = 0.001
HUMOUR ^b	3 (0.2)	14 (0.8)	0.6	0.2 to 1.1	<i>P</i> = 0.011
MANIPULATE	35 (1.9)	25 (1.4)	-0.6	1.8 to -0.7	<i>P</i> = 0.359
MOTHERESE	10 (0.6)	17 (0.9)	0.3	-0.9 to 1.7	<i>P</i> = 0.538
PRAISE	1 (0.1)	3 (0.2)	0.1	-0.1 to 0.3	<i>P</i> = 0.302
PROGRESSION ^b	15 (0.8)	35 (1.9)	1.1	0.2 to 2.0	<i>P</i> = 0.013
SIDEEFFECTS ^b	7 (0.4)	27 (1.5)	1.1	0.2 to 2.0	<i>P</i> = 0.021
SOCIAL	7 (0.4)	18 (1.0)	0.6	-0.3 to 1.6	<i>P</i> = 0.204
SYMPATHY	11 (0.6)	17 (0.9)	0.3	-0.4 to 1.1	<i>P</i> = 0.381
TREATMENTPROP	88 (4.9)	126 (7.0)	2.1	-0.7 to 4.9	<i>P</i> = 0.134

^at-test *p* < 0.0025 (level required by Bonferroni correction). ^bt-test *p* < 0.05

was found for differences in the direction of nurses being more likely to: discuss social and emotional aspects of patients' lives; discuss the likely course of the patient's condition and side effects of treatments; and to use humour.

Predictably, given the limited autonomy of nurse practitioners,⁴ references to the arrangements for signing prescriptions and approvals of a treatment plan were almost exclusively the preserve of nurses. In several cases, nurse consultations 'ended' at that point as the nurses switched the tape recorder off and both parties left the room. If the time taken up by carrying out these arrangements were to be added to the overall times recorded in Table 4, the lengthier nurse practitioner consultations would be lengthier still.

Strengths and limitations of the study

The limitations of this study include its focus on 'same day' clinics in primary care and it is therefore likely to be skewed towards acute, self-limiting illness. Other primary care consultations where nurse practitioners are involved, or hospital settings, might reveal different patterns of interaction. Furthermore as nurse practitioners gain confidence and experience in their role they may adjust their behaviour in consultations. The small number of consultations and practices studied may limit

generalisability. Against this, the study provides precise, detailed descriptions of different patterns of interaction, enabling clinicians to recognise familiar behaviours and judge the relevance for their own practice.

Comparison with existing literature

This is the first observational study, as far as we are aware, to compare the content of consultations by nurse practitioners and GPs consulting with patients with urgent problems in the NHS. Our findings are consistent with the only other comparative observational study we have been able to find,¹⁰ concerning North American nurse practitioners who were found to spend more time discussing psychosocial issues than physicians. They are consistent with studies based on patients' reports of the content of consultations, which have suggested that nurse practitioners give more information to patients⁹ and more advice on self care and management.^{8,9} The differences that have been identified in these studies and the present study may explain differences in levels of satisfaction revealed in other research.⁷

Implications for clinical practice.

Implications depend on which of two potential explanations are preferred, and these are not

mutually exclusive.

Firstly, differential status between the two types of clinician and their patients may influence behaviour. The medical role is regarded as more prestigious in wider society and social distance between doctors and patients is likely to be greater than between nurses and patients, perhaps leading to nurse practitioners and their patients feeling more relaxed about raising and discussing a broader set of concerns.

Secondly, GPs may have a different perspective on the conduct of 'same day' clinics in primary care, where the priority is to deal efficiently with patients' presenting complaints. They may view such work as 'extra' to the usual clinical workload and treat it differently. The nurse practitioners' lengthier approach may reflect both differences in their initial training and in the relative novelty of the role, seeing these consultations as an interesting opportunity to demonstrate newly acquired clinical independence and thus deliver unusually high quality care. Unlike GPs, perhaps, they may not distinguish 'same day' clinic work from other clinical settings in which a more holistic approach might be considered more appropriate by GPs.

At present, economic and health outcome evaluations suggest no significant differences between nurse practitioners and GPs, suggesting that the extra things done by the nurses may not contribute to clinical effectiveness. To raise satisfaction, but possibly negatively affect the cost balance, GPs might consider adopting some of the behaviours of the nurse practitioners that this study describes. Nurse practitioners, on the other hand, may consider the cost savings that might be achieved were they to adopt the (more efficient but apparently less satisfying) GP approach. Alternatively, the money spent on the time taken by the nurses getting prescriptions signed by GPs might be saved in a system that afforded nurse practitioners greater clinical autonomy, although the potential risks of this to clinical outcomes and the allocation of legal responsibility for these risks would require careful assessment.

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Ethical approval

Ethical approval was granted by the Bro Taf Local Research Ethics Committee (97/2270) and the Iechyd Morgannwg Local Research Ethics Committee (97.141)

Competing interests

None

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