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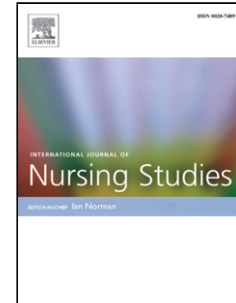
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A multi-centre study of interactional style in Nurse Specialist- and Physician-led Rheumatology Clinics in the UK.

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Abstract

Background

Nurse-led care is well established in Rheumatology in the UK and provides follow-up care to people with inflammatory arthritis including treatment, monitoring, patient education and psychosocial support.

Aim

The aim of this study is to compare and contrast interactional style with patients in physician-led and nurse-led Rheumatology clinics.

Design

A multi-centre mixed methods approach was adopted.

Settings

Nine UK Rheumatology out-patient clinics were observed and audio-recorded May 2009-April 2010

Participants

Eighteen practitioners agreed to participate in clinic audio-recordings, researcher observations, and note-taking. Of 9 nurse specialists, 8 were female and 5 of 9 physicians were female. Eight practitioners in each group took part in audio-recorded post-clinic interviews. All patients on the clinic list for those practitioners were invited to participate and 107 were consented and observed. In the nurse specialist cohort 46% were female; 71% had a diagnosis of Rheumatoid Arthritis (RA). The physician cohort comprised 31% female; 40% with RA and 16% unconfirmed diagnosis. Nineteen (18%) of the patients observed were approached for an audio-recorded telephone interview and 15 participated (4 male, 11 female).

Methods

Forty-four nurse specialist and 63 physician consultations with patients were recorded. Roter's Interactional Analysis System (RIAS) was used to code this data. Thirty one semi-structured interviews were conducted (16 practitioner, 15 patients) within 24 hours of observed consultations and were analysed using thematic analysis.

Results

RIAS results illuminated differences between practitioners that can be classified as 'socio-emotional' versus 'task-focussed'. Specifically, nurse specialists and their patients engaged significantly more in the socio-emotional activity of 'building a relationship'. Across practitioners, the greatest proportion of 'patient

initiations' were in 'giving medical information' and reflected what patients wanted the practitioner to know rather than giving insight into what patients wanted to know from practitioners. Interviews revealed that continuity of practitioner was highly valued by patients as offering the benefits of an established relationship and of emotional support beyond that of the clinical encounter. This fostered familiarity not only with their particular medical history, but also their individual personal circumstances, and this encouraged patient participation. In contrast, practitioners (mis)perceived waiting times to have a greater impact on patient satisfaction. However, practitioner interviews also revealed that clinic structure is often outside of the practitioner control and can undermine the possibility of maintaining patient-practitioner continuity.

Conclusions

This research enhances understanding of nurse specialist consultation styles in Rheumatology, specifically the value of their socio-emotional communication skills to enhance patient participation.

Keywords

Continuity of care; communication; consultation style; interview; mixed method; multicentre; nurse-led care;
patient activation; Roter's Interactional Analysis System; qualitative

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Nurse-led care has evolved against a background of a rising number of long-term conditions associated with an ageing population which increases patient expectations and need in relation to support for self-care. Workforce shortages and increased demands on health care utilization make specialist nursing an attractive model of health care provision. As a result, nurses have been trained for roles which either substitute, or complement, physician led care in the UK, Europe, and beyond (US, Canada, Australia, Russia, South Africa). A number of systematic reviews have addressed the impact of specialist nurse-led care focussing on outcomes.

Martinez-Gonzalez et al. (2015) [1] identified twelve randomized controlled trials (RCTs) comprising 22, 617 patients specifically focussing upon the impact of shifting care traditionally delivered by physicians to nurse practitioners in primary care. Three quarters of these studies were conducted in Europe and nurse-led care was provided for patients with heart or lung disease, diabetes mellitus, digestive or skin disease, or infectious diseases. Three trials evaluated nurse practitioners assessing and treating patients with a range of acute and minor complaints. The authors noted a wide range of outcome measures, risk of biases, and variable follow-up (maximum 1-2 years), which is not surprising given the diversity of the patient populations. Nonetheless, the available evidence, including three meta-analyses for the outcomes (blood pressure, total cholesterol, and glycosolated haemoglobin concentration), indicates equivalent outcomes and a significantly greater reduction in systolic blood pressure associated with nurse-led care.

Processes of care are less well understood. A Canadian report [2] classified RCTs according to whether the intervention constituted physician-nurse substitution (n=1) or nurses and physicians delivering shared care (substituting and supplementing care) versus usual care in primary-care-based chronic disease management (n=6). Variations in the way specialist nursing was implemented made comparisons difficult but there was consistent low-to-moderate-quality evidence to support equivalence of outcomes with physician-nurse substitution. Shared care showed an overall improvement in disease-specific measures and patient satisfaction. Process indicators suggested that nurse-led care was associated with greater adherence to evidence-based guidelines informing clinical examination and medicines management but otherwise consultation styles and interpersonal processes were not examined.

Physicians and nurse specialists in the UK offer a multidisciplinary approach to outpatient care, running clinics side-by-side and able to access each other's expertise. Despite wide-scale adoption, evidence of the effectiveness of nurse specialists and their clinics is limited. Recent work has addressed this gap with two recent multi-centre studies undertaken in the UK of effectiveness and economic value [3] and, in France, of co-

morbidity management [4]. Results provide robust evidence to support nurse-led clinics in the management of Rheumatoid Arthritis and co-morbidity detection with nurse-led clinics having higher 'general satisfaction' than physician-led clinics [5]. The findings of the UK multi-centre RCT were consistent with those from the only other large scale costs study - in the Netherlands - which demonstrated nurse-led clinics produced equivalent outcomes at lower unit cost [6, 7]. Recent work in Sweden also showed that patients undergoing biological therapy can be safely monitored more cost-effectively by a nurse-led Rheumatology clinic [8, 9].

Qualitative studies have added ballast to the value of the nurse specialist through positive patient accounts [5, 10, 11, 12, 13, 14, 15]. However, apart from effectiveness, nurse specialist practice is under-researched and tends to be questionnaire-based and, hence, given the current lack of knowledge, unlikely to capture all factors influencing patient outcome. Moreover, although nurse specialists are able to draw on this research to articulate the value of their work, it seems they have more difficulty unpacking and describing the complexity of the care they give [5]. There are few observational studies of the processes of care in nurse-led clinics with studies, instead, favouring to evaluate outcomes and the patients' experiences. Work has been undertaken to capture 'technical processes of care' as undertaken by nurse specialists in the UK. Leary et al. (2008) set up the Pandora database to record specialist nursing activity across many different specialities, including Rheumatology [15]. This broke down the work of 463 nurse specialists over 2,778 days, with 68% of working time spent on clinical intervention comprising 48% 'physical' events. Although recent advances in this area are encouraging, and may help safeguard specialist nursing roles, research is limited to addressing 'technical' processes of care. An area under-researched and still neglected in the nursing literature is 'interpersonal' processes of care.

Patients and practitioners often have different perspectives on a clinical encounter, with understanding and acknowledgement of their current difficulties central to patients' perception of practitioner skill [16]. Patient perceptions are an important facet of clinical outcome but may not reflect all significant features of the delivery of care. This article, therefore, presents a more comprehensive assessment of consultations through systematic analysis of clinic audio-recordings informed by clinic observations and practitioner and patient reflections. The aim of this study is to compare and contrast interactional style with patients in physician-led and nurse-led Rheumatology clinics. This allows us to address paucity in the literature that leaves us unable to understand the processes of care in nurse-led Rheumatology clinics with specific focus on interactional style, with the potential to test and compare these findings in nurse-led clinics supporting patients to manage other long-term conditions.

Research design

This study was conducted in parallel with the RCT of outcome and cost effectiveness for RA patients attending nurse-led Rheumatology clinics: a nationwide multi-centre study conducted in the UK [3]. Whilst the trial assessed whether there were any difference in outcomes of patients attending nurse-led clinics or physician-led clinics, the current study examined processes of care, focussing on the interactional style observed within consultations. A mixed methodological approach, using both quantitative and qualitative methods was adopted, highlighting processes and perceptions of care undertaken in Rheumatology clinics throughout the UK. Data was collected in two branches of observation: (a) observing patient-professional interactions in nurse specialist-led clinics and consultant-led clinics; (b) conducting semi-structured interviews with key informant nurse specialists, physicians, and patients. Three types of data were collected: audio-recordings and field notes of consultations, and audio-recordings of the interviews.

Stage 1: In order to highlight the ‘processes of care’ that take place within the Rheumatology out-patient consultation the audio-recordings of the consultations were analysed for patient-provider communication according to Roter’s Interaction Analysis System (RIAS) which describes and categorizes communication into quantifiable events according to patient or provider [17].

Stage 2: Post-hoc interviews were undertaken to explore key informants ‘perceptions of delivering and receiving care’ in Rheumatology outpatient clinics. Semi-structured interviews were undertaken with each practitioner taking part in the study and telephone interviews were undertaken with a patient from each clinic. Perceptions were identified through a thematic analysis of the transcripts of the interviews and utilizing NVivo software (copyright QSR International, 2012).

Stage 3: RIAS and perceptions of delivering and receiving care are dominated by assessment of the practitioner. For this reason a further qualitative analysis of the role of the patient in the interaction was carried out. This was achieved through the identification of ‘patient initiations’ in the audio-recordings of clinic consultations classified as patient speech which does not follow the dyadic question-answer format, i.e. it is unprompted by direct practitioner questioning. The speech identified was subject to qualitative analysis with use of the field notes to inform and add depth to the understanding of the phenomena. Patient initiations were explored further through the use of the interviews and a triangulation of the data.

Consultation model

Effectiveness and safety studies prevail within the literature reviewed addressing nurse-led outpatient care. The theoretical model which underpins this research design is Donabedian’s paradigm of structure-process-outcome,

which has been used in other studies as the theoretical basis for defining and measuring quality of patient care which encapsulates effectiveness and patient safety. Prescott and Driscoll (1979) [18], drawing on previous work of others [19, 20], describe three types of criteria used to compare physician and nurse practitioners commonly found in evaluation studies. (First, *structural* factors are organizational in nature and thought to influence how care is provided or delivered (e.g., size of organization, space available to providers, case mix, time for patient visits). Second, *process* variables are factors related to how health care is provided (e.g., completeness of history, physical examination, accuracy of diagnosis). Finally, *outcome* variables refer to the expected end result(s) of a series of actions (e.g., health status, satisfaction, mortality).

Offering a tool by which to increase ecological validity of such research, Pawson and Tilley (1997) describe evaluation research in terms of a causal mechanism [21]. This realist evaluation is concerned with conditions under which they are activated to produce specific outcomes, deploying a context-mechanism-outcome model to understand how interactions work, in what circumstances, to produce what outcomes. The tendency of researchers undertaking effectiveness studies is to look on aggregate. With the C-M-O model it is possible to devise and test what works, and in what circumstances. In light of previous research findings which highlight the role of communication and other contextual factors upon a patients' interpretation of the interaction, it is with caution that patient-reported outcomes are used as the sole methodology to assess 'outcomes of care'. According to Donabedian's (1982) framework, the important factors identified as impacting care and improving patient health are best addressed through the interplay of structure, process, and outcomes variables to provide a more complex interpretation of what is happening [22].

Under Donabedian's C-M-O model, the consultation itself represents the process variables. In examining the consultation/mechanism/process variable there is a clear distinction in the literature between what can be further classified into 'technical' and 'interpersonal' processes of care. Technical processes include tests, treatment, and competencies performing diagnostic and therapeutic procedures [23]. Interpersonal processes are the social-psychological aspects of the patient-practitioner interaction. Multiple distinctions can be found in the literature from verbal to non-verbal communication, patient-practitioner relationship, concepts and measures of quality-of-care, and satisfaction with interpersonal processes [24]. Communication within the consultation is the focus of this article.

Participants and Method

Ethics and recruitment

Ethical approval for this study was obtained from York Multicentre Research Ethics Committee UK and Research and Development approval was obtained at each site. Participant information sheets were sent to invite a participant nurse specialist and physician from each centre at least 14 days before planned clinic observations. Potential patient participants were similarly invited with a patient information sheet at least 14 days prior to their consultation. Inclusion criteria for patients were: aged 18 or older and attending a Rheumatology clinic run by one of the study practitioners on the observation day. Exclusion criteria were: suffering from dementia, severe mental illness, or learning difficulties (due to inability to give informed consent). Informed consent was obtained from all participants on the day of observation and again prior to interview. Purposive sampling was used for patient interviews on an on-going basis as patients were approached and recruited in an attempt to obtain a reasonably representative sample.

Participants and data collection

Twenty practitioners were invited to participate in the observational study. Of these, 18 practitioners across nine centres agreed to participate in clinic audio-recordings, researcher observations, and note-taking (9 physicians, 9 nurse specialists) between May 2009 and April 2010. Sixteen of the 18 consented to take part in audio-recorded, post-clinic interviews (8 physician, 8 nurse specialist). Four of the physicians were male and 5 female. Experience as a Consultant Rheumatologist ranged from <1 year (n=2), 1-5 years (n=4), and 5 years (n=3). Eight of the nurse specialists were female and the majority had been in post 1-5 years (n=4) or longer (n=4). Four of the physicians and one nurse specialist had a first language other than English but all had a very high level of English proficiency. All data were collected by the first author who was independent to the hospitals and unknown to patients prior to the research. 149/209 invited patients were seen by the participating practitioners and of these 107 were consented. Nineteen of the patients observed were approached for an audio-recorded telephone interview and 15 successfully completed later that day (4 male, 11 female). Patient interviews explored perceptions of care delivery and receipt, focusing on the consultation observed but also on experiences of Rheumatology outpatient departments and consultations in general. Interviews were transcribed verbatim.

Data analysis

Coding of the audio-recordings of all 107 consultations was undertaken using the RIAS. This system has been used widely to classify key elements of patient-centred interaction using 41 mutually-exclusive and exhaustive categories. Utterances of both practitioners and patients, as initially coded, were grouped to produce the following main categories: data gathering, patient education and counselling, building a relationship, and activating and partnering - according to RIAS guidelines outlined in Dale et al. [25]. Much has been written on interview techniques used by physicians and nurses, but little attention has been paid to identifying patients' verbal initiations within the consultation [26]. What the patient initiates is insightful into their understanding of the consultation and the interactional style of the nurse specialist or physician. Hence, patient initiations were identified as a topic of interest and a classification imposed on the RIAS software so that the researcher was able to encode data into this classification. Patient initiations were defined as patient speech unprompted by direct practitioner questioning.

Analysis of the role of the patient in the interaction was conducted in two ways. First, patient initiations unprompted by practitioner questioning were identified from transcripts of the audio-recorded consultations and RIAS coded. Second, interview transcripts were analysed using thematic analysis [27]. The researcher coded according to perceptions of delivering and of receiving care. Patient interviews were analysed separately from the practitioner interviews.

Results

Clinic observations

Practitioner interviews lasted between 7-50 minutes (median length=18 minutes). The mean difference in consultation length between physicians and nurse specialists was that the latter's average consultation was 4.2 minutes longer than the physician, which is statistically significant ($p=0.01$, 95% CI 7.4-0.9). A Mann-Whitney U test was undertaken to examine the differences in the RIAS categories according to participant type.

Table 1: Statistical analysis of difference between practitioners across 8 RIAS domains

	Practitioner				Patient			
	Data gathering	Patient education and counsels	Activate and partnership	Building a relationship	Data gathering	Education and counsels	Activation and engagement	Building a relationship
Mann-Whitney U	852.500	1097.500	1243.000	920.500	1140.000	983.000	1161.000	945.500
Wilcoxon W	2743.500	2988.500	2189.000	2811.500	3031.000	2874.000	2107.000	2836.500
Z	-3.034	-1.413	-.452	-2.582	-1.166	-2.169	-.996	-2.417
Asymp. Sig. (2-tailed)	.002*	.158	.651	.010*	.244	.030	.319	.016*

Grouping Variable: clinic type

$p \leq 0.025$ Bonferonni adjusted significance

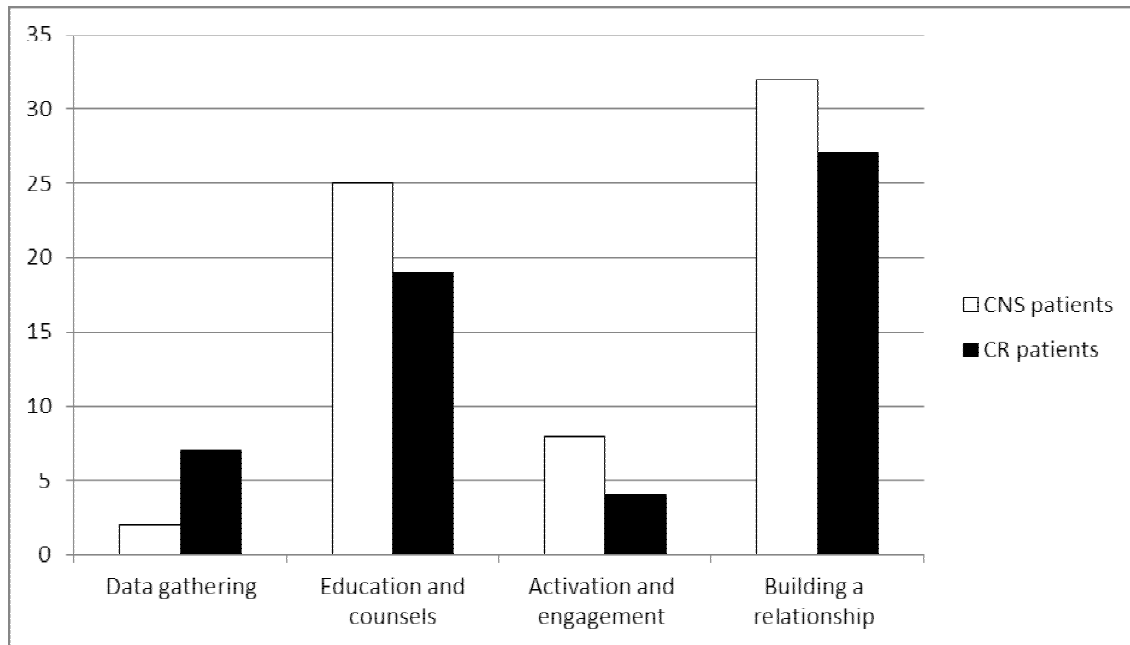
The numbers of utterances related to the following categories were not found to differ significantly between nurse specialists and physicians: ‘patient education and counselling’ and ‘activating and partnering’. However, analysis using Mann-Whitney U test was used to assess the difference between practitioners according to practitioner speech (significance $\leq p=0.025$ Bonferonni adjusted) and there were significant differences between consultations in ‘data gathering’ and ‘building a relationship’. Nurse specialists engaged in more ‘data gathering’ (chi-square $p=0.002$). The individual RIAS variables coded which make up the category ‘data gathering’ are: ‘question asking biomedical’ and ‘question asking lifestyle/psychosocial’. Nurse specialists also engaged in more ‘building a relationship’ (chi square $p=0.010$). The individual RIAS variables coded which make up the category ‘building a relationship are: ‘personal remarks’, ‘laughs’, ‘approval’, ‘compliment’, ‘agreement’, ‘disagreement/criticism’, ‘empathy statements’, ‘legitimation statements’, and ‘concern/worry’. Mann-Whitney U test was used to assess the difference between practitioner types according to patient speech. Significant differences were found between physician and nurse specialists in ‘building a relationship’ (significance $\leq p=0.025$ Bonferonni adjusted) and patients in the nurse specialist clinics engaged in more ‘building a relationship’ (chi square $p=0.016$).

RIAS outputs at the domain level illuminate differences that can be classified more socio-emotional or more task-focussed. Both nurse specialists and their patients engaged in more 'building a relationship' including: 'personal remarks', 'concern', and 'reassurance'. Nurse specialists also engaged in more 'data gathering'. Of particular interest here, the 'patient talk' variable of 'building a relationship' reached significance despite the strong role 'practitioner talk' has in the data. Hence, consultations with a nurse specialist demonstrated good interactional reciprocity. However, directionality of this relationship cannot be determined: that is, whether the nurse specialists' work on building a relationship is a precursor to, or result of, patients' work on building a relationship and their initiations in this category.

Patient initiations

Across practitioners, the greatest proportion of patient initiations at the first level of RIAS coding were in 'giving medical information' about themselves not prompted by the practitioner's questioning (12 nurse specialist:14 physician) and 'concern' (8 nurse specialist:14 physician). Patients consulting with a nurse specialist initiated more 'personal talk' (16 nurse specialist: 5 physician) and 'giving therapeutic information' unprompted more than in physician consultations (9 nurse specialist:4 physician) and 'giving information about lifestyle' more frequently (4 nurse specialist:1 physician). Patients displayed more 'question asking therapeutic regimen' in the physician consultations (n=6) than in consultations with nurse specialists (n=2) and also sought more 'reassurance' (3 physician: 2 nurse specialist).

Figure 1: Patient initiations across practitioner groups according to RIAS classifications



Although the data did not reach statistical significance, patients made more initiations in nurse specialist clinics than in physicians'. Irrespective of practitioner type, the most patients' initiations were seen in 'building a relationship' and in 'education and counsels'. Within these, patients initiated more personal remarks in consultation with a nurse specialist and physician patients showed more concern. In terms of what patients wanted to know, there were few questions asked. Patient initiations in data gathering concerned the therapeutic regimen and more were seen in physician clinics. However, the majority of patient initiations were in patients 'giving information'. Specifically, rather than patient initiations giving insight into what patients want to know, they reflect what patients wanted the practitioner to know and felt pertinent to inform discussions that the practitioner had not touched upon.

Patient and practitioner perceptions of nurse specialist and physician care

Patient interviews lasted between 7-33 minutes (median length=15 minutes). Patients spoke very positively of nurse specialist in terms of continuity of seeing the same practitioner in the outpatient clinic. Nurse specialists were viewed as establishing a relationship and providing emotional support over-and-above the clinical encounter itself. More generally, seeing the one practitioner who is familiar with both their medical history and personal circumstances was valued highly, articulated by one patient as providing a sense that "*someone is there keeping an eye*" (Callum, nurse specialist patient). This was of central importance to patients, and nurse

specialists were identified as supportive through their continuing relationship with individual patients and seeing them at each visit. However, practitioner interviews revealed that clinic structure differs across practice (i.e., whether nurse- or physician-led), is often outside practitioner control, and can undermine the possibility of maintaining continuity of care. Hence, the flexibility over appointments and bookings afforded to the nurse specialist provides a particularly positive opportunity to meet patient needs.

Whereas practitioners were particularly worried about the impact of late-running clinics on patient satisfaction, patients considered this more of a minor inconvenience. Instead, patients focused on wanting to feel valued and listened to in the consultation itself and have a sense that the practitioner had *‘time for them’*. Patients also reiterated that building familiarity with a specific nurse specialist gave them a sense of security that facilitated them in offering more - and more varied - information relevant to their condition. For example, Claire felt comfortable enough to mention her mouth ulcers unprompted by the practitioner, demonstrating engagement with prior advice and vigilance with regard to her own treatment regime.

Nurse specialists acknowledged the importance of continuity and *“investing time”* (Naomi, nurse specialist) gaining patient trust through spending time on ‘non-medical’ task. However, *“there was a little bit of suspicion there at first”* (Naomi) and they tended to downplay the therapeutic support provided to patients during consultations. Paradoxically, they considered these skills to be both too generic, and hence un-noteworthy, or too specialist, and hence unwilling to claim such psychological expertise: *“if I thought someone really was showing signs of depression. I don’t prescribe anti-depressants, it’s not my role to do so (...) so I don’t ever treat anybody, but I try and point them in the right directions for treatment”* (Nicola, nurse specialist). Interestingly, although patients valued the support provided by nurse specialists, they also downplayed nurses’ counselling expertise as merely ‘people skills’, just being *“friendly”* (Doris, physician patient), and an innate ‘personal characteristic’ of the practitioner.

Discussion

The aim of this study is to compare and contrast interactional style with patients in physician-led and nurse-led Rheumatology clinics. Our research enhances understanding of nurse specialists’ consultations in Rheumatology, specifically the value of their socio-emotional communication skills. Most notably, both patients and nurse specialists work together in consultations more than physicians to ‘build a relationship’. Interviews revealed that practitioner continuity, supporting familiarity with patients’ medical history and personal circumstances, are valued by patients as offering the benefits of an established relationship and of emotional support beyond that of the clinical encounter. However, practitioner interviews revealed that many aspects of clinic structure needed to support continuity are out of their control and differ according to whether the clinics

are nurse- or physician-led. Patient activation, defined as giving medical information not prompted by the practitioners' direct questioning, was facilitated by practitioners' use of partnership-building and other types of supportive communication.

Why is communication important?

These findings echo those of previous research in Rheumatology in which patients found it easier to discuss their condition with a nurse than with a physician [5]. In fact, our results mirror those in primary care in which both patients and nurses have been shown to speak more in nurse-led consultations as opposed to general practitioner-led consultations, with nurses' talk also more patient-centred [14]. More specifically, our study found the differentiation between 'socio-emotional' and 'task-focused' talk to be important, with both patients and nurse specialists working together more than patients and physicians to 'build a relationship'. Whilst no other RIAS studies have compared nurse specialist and physician consultations, similar dimensions have been identified in other research on communication in healthcare settings: for example, 'biopsychosocial' versus 'biomedical' communication [28] and 'affiliation' versus 'control'[29, 30].

Kleinman and Sung [31] suggest that "providers who effectively communicate with their patients and treat the psychological responses to illness will be more successful at healing than the providers who are mainly concerned with curing the disease" [p.344]. This has, more recently, been supported by Buller and Street [29] who show that physicians high on affiliation were seen by their patients as "establishing and maintaining a positive relationship with them" [p.235] and those exhibiting more 'control' as affecting the relationship negatively. Moreover, with regard to arthritis care, interviews with female patients revealed that they wanted "providers who had effective communication skills and functioned as educators" [32 , p.343]. These studies fit the classifications of 'biomedical/task-focussed' versus. 'biopsychosocial/socio-emotional' exchanges and support the value patients placed on relationship-building facilitated in nurse specialist consultations in our study.

What do patient initiations add?

Street et al. [33] report that "physicians could more effectively facilitate patient involvement by more frequently using partnership-building and supportive communication" [p.960]. Our analysis of patient initiations demonstrates that when practitioners use partnership-building and other types of supportive communication classified according to the RIAS, more patient activation and information giving is identified. Conversely, practitioner task-oriented exchange (transitions, issuing directives, gives orientation, instructions), tends to

discourage patient participation. The difference we demonstrate between nurse specialist and physicians is supported by conversation analytic research which found that “the openness in nurses’ turns provided places for patients to come in. In doctor consultations, opportunities for patients to offer input tended to come in response to doctors’ questions and statements once these were complete” [34, p.791]. However, we are cognisant of the fact that practitioners likely need to exert control in some encounters to accomplish tasks in the time allotted.

What do patient and practitioner interviews add?

There are structural factors that influence processes of care, with longer consultation length (a mean of 4.2 minutes) affording nurse specialist more time to engage in supportive, socio-emotional exchange promoting patient initiations. Whilst practitioners worried about long waiting times and delayed appointment schedules, with regard to time, most important to the patients studied here was not feeling rushed during consultations. This is supported by Donovan and Blake [16] who report that “it was the perception of having symptoms and problems acknowledged that seemed to matter, not time itself” [p. 544]. Previous qualitative research with Rheumatology outpatients [35] also confirm our interview findings that access to practitioners is important to patients (particularly between scheduled appointments as a way of gaining reassurance and coping with apprehension) and that they want to be “communicated to clearly and effectively and value positive relationships with practitioners” [p.216].

In keeping with previous research, “patients tended to characterize nurses as ‘easy to talk to’ and ‘approachable’, and doctors as people to whom they listen, rather than talk with [8]. Moreover Di Blasi et al (2001) identified how “physician’s warm, friendly and reassuring have more effective consultations” [p.760; 36]. This is a feature of our identification of, what we might consider, the *invisible* work of the nurse specialist that is not attributed – often even by nurse specialists themselves - to their skills, knowledge, and expertise but to ‘inherent’ personal characteristics. Specifically, themes identified by both practitioner and patients as ‘characteristics of practitioner’ (patient interview theme) and ‘skills needed’ (practitioner interview theme) show how what practitioners’ attribute to a skill as learnt or acquired, patients see as related to the practitioner themselves and their personality type. Such features should not be dismissed as mere perceptions of practitioner style and personality but skills that can be improved to benefit practice.

Recommendations for practice and practitioners

Developing the role of nurse specialist within Rheumatology has been an area of expansion in the UK, United States, and the Netherlands, and is being mirrored worldwide. However, with financial pressures on the National Health Service, nurse specialists are being viewed as an expensive resource [37], are increasingly under threat,

and, as a result, can feel undervalued [38]. Leary et al. [15] argue part of the problem is that nurse specialists have not been able to articulate fully the value of their work, and little research has been conducted on the role of the nurse specialist in Rheumatology. In terms of measurable outcomes, Charlton et al. [28] demonstrated that ‘bio-psycho-social’ communication style positively influences patient outcomes as evidenced by (a) improved patient satisfaction, (b) increased adherence to treatment plans, and (c) improved patient health. Similarly, Buller and Buller [30] found that patients who perceive their physicians’ style of communication to be ‘affiliative’ are more likely to be satisfied with their medical care. Hence, socio-emotional communication and relationship-building, at which nurse specialists excel, appears to have clinical relevance in relation to measurable outcomes of quality of care and our study begins to evidence important, but previously over-looked, nurse specialist skills. This has implications for the education and training of nurses moving into more specialist and extended-scope roles and for medical colleagues and service managers when planning for the delivery of high quality, cost-effective care which promotes patient activation and engagement.

What we know about context

According to Donabedian (1966) the attributes of setting include material resources (facilities, hospital environment), human resources (qualification of personnel, staffing levels), and organizational structure (hierarchies, staff management) [39]. In studies assessing quality of care, such information is sought, and easily obtainable, from hospital records and audit systems. However, the relationship between structure and process or outcome is not well established and is neglected in such work. With our emphasis on the process, contextual information adds greater understanding of the phenomenon under investigation and is less in keeping with the use of ‘structure’ in quality assessment.

Both practitioner and patient make clear reference to the setup of the clinics during interview and practitioners clarified how nurse specialists have more influence over booking patients for their next appointment. Patients stressed the importance of ‘continuity of care’, and we can now understand how this can be facilitated by flexibility of the nurse-led system ‘Vigilance’ is also important for patients, and considered a personal characteristics of the practitioner, however could be understood on a more contextual level as reflecting their relative control of clinic organisation.

Patients and practitioners alike acknowledge contextual factors that are identified in the literature as important to the quality of care given, e.g., running to time. However, patients’ descriptions differ from this

common understanding of time limitations and, instead, value practitioners' having time' for them.. This has a useful clinical application in that, despite long waiting times, it is important to patients not to feel rushed. Donovan and Blake (2000) concur that "it was the perception of having symptoms and problems acknowledged that seemed to matter, not time itself" [16; p. 544]. Nurse specialists have longer consultations and, longer consultations are characterized as more patient-centred with more patient initiations. However, practitioner talk alone (as measured through the RIAS) does not affect the consultation length which is accounted for predominantly by more activated and engaged patients contributing more to the consultation.

Turner (1994) has also highlighted the role of context in patient-practitioner interaction studies and found that this was more important than treatment on patient outcomes [40]. Examining the placebo effect, Di Blasi et al. (2001), identify the following non-specific or 'context' factors: healthcare setting, practitioner characteristics, patient characteristics, treatment characteristics and practitioner-patient relationship. Ong et al. (1995) also identified 'background variables' and includes physician-patient relationship along with patient practitioner and disease characteristics [41]. Our only measure of this would be 'new to practitioner' but perhaps this highlights the need to have a better measure of practitioner-patient relationship in the RIAS given that our practitioner and patient interviews stressed the importance of getting to know the patient, establishing rapport and being able to see the patient's perspective".

What we know about process/mechanism

Process denotes what is done in giving and receiving care and includes patient and practitioner activities. According to Donabedian (1966), for the purpose of estimating quality, measurements of outcome is more stable than measurement of process [39], but process variables are more relevant when the aim is to evaluate practice. Our RIAS analysis identified how practitioner speech, in particular 'data gathering', contributed most to the data and that nurse specialists 'data gather' and 'build a relationship' more than do physicians. Interestingly, Sandhu et al (2009) demonstrate that these categories of speech which typify nurse specialist consultations are linked to patient satisfaction and are therefore an important link between process and outcome [42].

Our findings with regard to patient initiations provide insight into patient contribution not directly related to practitioner speech. As our RIAS results demonstrate, patient speech is directly related to practitioner speech because the latter gives overarching direction to the consultation. However, patient initiations tell us more about what the patient wants. Specifically, activated and engaged patients initiate 'building a relationship' and 'education and counsels'. Our data also shows pauses in the consultation and disengagement – as when, for

example, the practitioner writes notes - create opportunities for these. Initiations in the RIAS data category, 'education and counselling' of the nurse specialist patients involve more information on lifestyle and therapeutic regimen than do initiation of the physicians' patients. However the reverse is true of 'giving medical information', indicating that patients want to talk more about their medical condition but that nurse specialist patients initiate more also on other topics affecting them. This is consistent with the findings of Ryan et al (2006), whose patients described their consultation with nurse specialists in positive terms regarding the holistic manner in which the consultation was conducted [12]. In terms of practice, this suggests that, due to increased patient activation in nurse specialist clinics, the education they deliver is more tailored to the information needs of the patients. These likely impacts outcomes in that Kaplan, Greenfield and Ware (1989) demonstrated improved health status to be related to information provision by health providers in response to effective patient information seeking [35].

Limitations of the study

Although we recruited across nine NHS sites and observed 107 consultations, the number of practitioners taking part was relatively small (i.e., 9 nurse specialists, 9 physicians) as was the number of post-consultation research interviews with patients (n=15). Moreover, all practitioners and patients were self-selecting to the extent that, having been invited; participation was on an 'opt-in' basis. Some of the interviews were also rather short (i.e., between 7-33 minutes; median=15 minutes). In terms of analysis, our study demonstrates some limitations to the RIAS categories in that we had to create additional codes to capture adequately features of patient initiations which we deemed to be an important dimension of consultation interaction.

Future research

Using a multi-centre, mixed methodology approach this research has made a significant contribution towards comparing physician-led and nurse-led Rheumatology clinics in the UK. The benefits of this robust multi-centre design are that differences between professional groups can be examined rather than between individual practitioners - and that findings from our research on processes of care can be integrated with the findings of the RCT outcomes study. The importance of context in determining processes of care became apparent during the course of data analysis and is clearly important in the design of future research. Studies into nurse-led care have assessed effectiveness by comparing nurse-physician outcomes as a way of evaluating nursing. However, international perspectives would be an important consideration in taking recommendations further. The extent to which nurse specialists are able to work autonomously alongside physicians varies across Europe and this may impact on the structure and processes of care. However, what is clear is the importance of preserving differences

that can be classed as 'socio-emotional' and a 'task-focussed' because of the benefits they confer in relation to patient experience and outcomes.

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Ethical standards

Ethical approval was obtained from York Multicentre Research Ethics Committee and has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. Informed consent was obtained from all participants on the day of observation and again prior to interview.

Conflict of interest

The authors declare no conflicts of interest. The authors have full control of all primary data and that they agree to allow the journal to review their data if requested.

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Figures and Tables

Clinic type	No. Patients observed	M:F	Age (yrs)	Patients with RA (n)	Disease duration (yrs)	Patient education beyond age 18yrs (n)	New patients	Patients new to practitioner	Average no. patients seen in that clinic (mean)	Consultation length (mins)
CR	63	20:43	63 (IQR 54-71)	25 (40%)	14 (range 0-60yrs)	19 (30%)	5 (8%)	19 (31%)	11 (range 4-15)	16 (range 4-53)
CNS	44	20:24	58 (IQR 49-71)	31 (71%)	9 (range 10mths-33yrs)	17 ()	0	8 (19%)	6 (range 3-8)	20 (range 6-43)

Patient Clinic characteristics

Interview Practitioner Demographics

Clinic Type	No. Observed in clinic	No. interviewed	Gender	English as 1 st language	Time in post (yrs)	Clinic size (total no. of patients seen)
CNS	9	8	1/9 male	8/9	Median 11 Range 6-12yrs	Mean 8
CR	9	8	4/9 male	7/9	Median 10 Range 3mths-	Mean 10

					18yrs	
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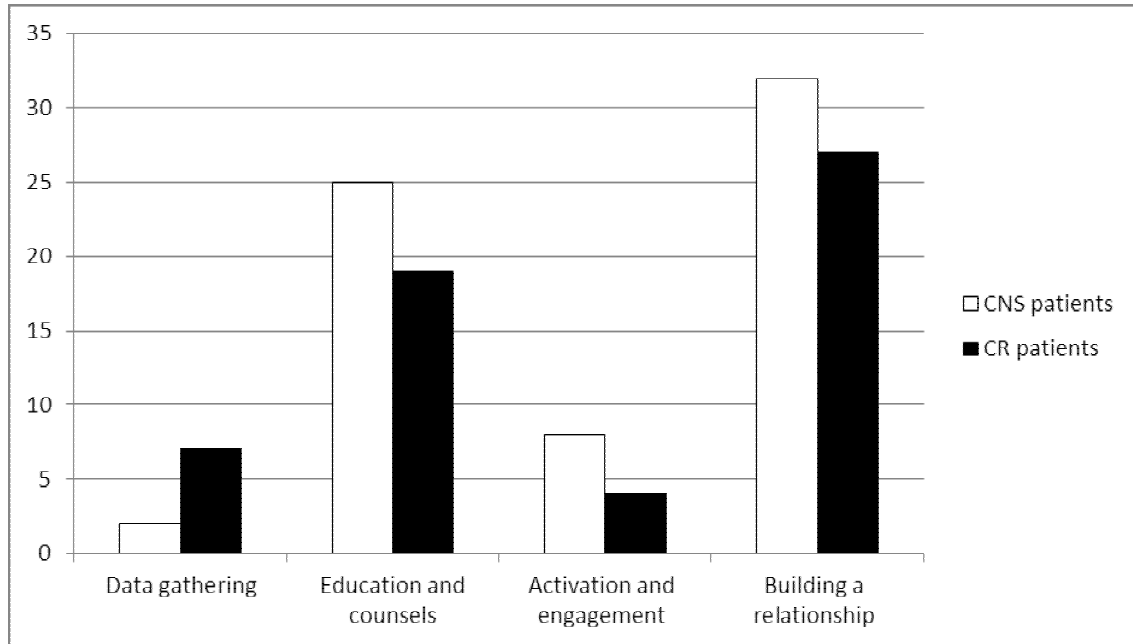
Table 1: Statistical analysis of difference between practitioners across 8 RIAS domains

	Practitioner				Patient			
	Data gathering	Patient education and counsels	Activate and partnership	Building a relationship	Data gathering	Education and counsels	Activation and engagement	Building a relationship
Mann-Whitney U	852.500	1097.500	1243.000	920.500	1140.000	983.000	1161.000	945.500
Wilcoxon W	2743.500	2988.500	2189.000	2811.500	3031.000	2874.000	2107.000	2836.500
Z	-3.034	-1.413	-.452	-2.582	-1.166	-2.169	-.996	-2.417
Asymp. Sig. (2-tailed)	.002*	.158	.651	.010*	.244	.030	.319	.016*

Grouping Variable: clinic type

p≤0.025 Bonferonni adjusted significance

Figure 1: Patient initiations across practitioner groups according to RIAS classifications



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Contribution of the paper

What is already known about the topic?

- Recent emerging research has provided limited but robust evidence to support nurse-led clinics (NLC) in the management of rheumatoid arthritis and co-morbidity detection with NLC having higher 'general satisfaction' than doctor-led clinics (DLC)
- Although CNSs are able to draw on this research to articulate the value of their work, it seems they have more difficulty unpacking and describing the complexity of the care they give

What this paper adds?

- This research presents a more comprehensive assessment of consultations through systematic analysis of clinic audio-recordings informed by clinic observations and practitioner and patient reflections.
- This paper demonstrates that socio-emotional communication and relationship building, at which CNS excel, has clinical relevance in relation to measurable outcomes of quality of care and our study can evidence important, but previously invisible, CNS skills in this area.

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