A nurse-led model of chronic disease management in general practice: Patients' perspectives

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Background

Evidence suggests that current models of chronic disease management within general practice are not effective in meeting the needs of the community.

Objective

The objective of this article is to examine patients' perceptions of a nurse-led collaborative model of care trialled in three general practices in Australia.

Method

This article reports on the second phase of a mixed-methods study in which semi-structured interviews with purposively selected patients were conducted to elicit information about their perceptions of nurse-led care.

Results

Three themes emerged from the data – time, ambiance and dimensions of the nurse role.

Discussion

The results suggest that general practice nurses had a positive impact on patients' ability to manage their chronic disease. This infers that there is scope for general practice nurses to expand their role in chronic disease management to assist patients to better self-manage their chronic diseases.

It is estimated that chronic diseases are responsible for 68% of all deaths globally.[1] This trend is also evident in Australia, where cardiovascular disease is the single largest cause of mortality, accounting for >34% of all deaths.[2] In addition, it is estimated that 280 Australians develop diabetes every day.[3] The majority of chronic disease management in Australia is carried out in general practice, with the general practitioner (GP) being the main caregiver.[4]

The landscape of Australian general practice has changed over the past decade. Nurses are now employed in 63.3% of general practices[5] and are given the title 'practice nurse' (PN).[6] However, it is argued that PNs in Australia are underused,[7] and that there is an overreliance on PNs performing simple clinical skills.

Chronic disease management has become a large and growing component of general practice, and changing models of care have evolved. International research suggests that extending the role of PNs and adopting nurse-led models of care have beneficial effects on patient satisfaction, clinical outcomes and quality of life.[8,9] It has been suggested that PNs may be better at routine maintenance and monitoring of patients with stable chronic diseases, and that they are better at using evidence-based guidelines such as clinical protocols.[10] Therefore, this may offer an opportunity for improving the care of patients with chronic disease, which has been assessed as being less than optimal.[11]

Methods

This study used a sequential explanatory mixed methods design. This article reports on the second stage of the study and attempted to answer the following research question 'What are patients' perceptions of PN-led care and does this care impact on their health?'.

Design

This study was nested within a larger (main) study that compared GP-led (usual care) with PN-led care of chronic disease in general practice. As reported elsewhere, this research took place in three general practices.[12–14]. Two of the practices were located in Queensland, one in a regional and the other in a metropolitan area. The other practice was located in a rural area of Victoria. One practice had a solo GP, while the other two practices had four GPs each. Each practice employed two to four PNs full time and/or part time.

The model of care trialled in the main study[12] involved the PN leading the management of the patients' care by following comprehensive clinical protocols, which were used in conjunction with an individually tailored general practice management plan (GPMP). The PNs were current registered nursing staff

of each practice and attended education sessions covering the delivery of care as defined by the protocols, and detailed information on ischaemic heart disease, hypertension and diabetes.

Sample

Recruitment for the main study is described elsewhere.[12] Participants from the PN-led group were purposively selected for this phase of the study on the basis of their gender, chronic disease and practice location. Initial contact with participants who had agreed to be interviewed was made by telephone. No incentive was given to participants. Semi-structured interviews lasting up to 45 minutes were undertaken in the participants' homes by the first author, who had no relationship with any of the participants. Interview questions covered experiences of the PN-led care and the impact of this care. The participants were dispersed across two states of Australia. All interviews were audiotaped with the participants' consent and professionally transcribed verbatim.

Data analysis

The framework approach/method developed by the National Centre for Social Research in the UK[15] was used in this study. This is a deductive form of analysis[16] and similar to thematic analysis, but is more informed by a priori reasoning. The first author (JY) and an academic mentor (Joanne Lim [JL]) analysed the qualitative data independently. A systematic approach based on the five stages of analysis described by Pope et al[17] was used:

- familiarisation – immersion in the data
- identifying a thematic framework
- indexing – applying thematic framework to the data
- charting – synthesising the data
- mapping and interpretation – providing explanations for the findings.

The themes were discussed, modified and finalised by JY and JL until data saturation was reached.[18] To ensure credibility and reflexivity,[19] prolonged engagement in the field and peer debriefing was used.

Ethical approval was obtained from the Behavioural and Social Science Ethical Review Committee of The University of Queensland (project number 2004000718).

Results

Participants

Ten participants (five males and five females) aged 56–85 years (mean 75 years) were interviewed. Each participant had one or a combination of the following stable chronic diseases: ischaemic heart disease, hypertension and type 2 diabetes.

Themes

Three themes (time, ambience and dimensions of PN role) and their sub-themes, which emerged from the data, are explored below and verbatim quotes from the participants are used to illustrate the findings. In order to maintain confidentiality, quotations reproduced have been labelled with pseudonyms.

Theme 1: Time

When discussing PN-led care, most of the participants spoke of 'time'. The two sub-themes that emerged were that GPs 'haven't got much time' and the PNs have 'more time'.

No time with GP

The participants felt that in the consultations with GPs, there was never enough time to discuss issues of concern, and this had an impact on their degree of comfort in the consultation.

> … *the doctor is always busy, he hasn't got time to talk to you … because he is always running late.* – Arthur

They spoke of GPs being very busy, always running late, and perceived that they were ushered in and out of the consultation in quick succession, thus limiting the time any one patient had with the GP.

> *Cause I think the doctors, they're run off their feet.* – Mary
>
> *... the doctors, I mean, they're putting them through like cattle going through a gate … they, well, haven't got much time ...* – Fred

This in turn produced feelings of uncertainty around what they should tell the GP to avoid prolonging the consultation.

More time with PN

The participants identified that PNs were concerned about their general wellbeing and would check with them if they thought the patient looked unwell. This sense of 'caring' on the part of the PNs was deemed as being related to their having more time to talk to the participants.

> *But [the GP], well, they never got much time to try to sit and talk too much. But the nurses, they, like if you don't look too good, they'll ask you how you're feeling, or anything wrong ...* – Fred
>
> *And I do enjoy it because I go in and [the PNs are] very friendly and they've got a little bit more time than what doctor has …* – Patricia

The participants also perceived that it was a lot quicker to see the PN, thereby improving access. They also recognised that by seeing the PN, the GP had more time to spend with patients who really needed to see 'him'.

Theme 2: Ambiance

As a result of 'more time' with the PNs, the ambience of the consultations changed. The participants felt more relaxed in the consultation and they felt that the PNs treated them differently. There was a sense of being treated as a person and having some value, and that the PNs were willing to listen to their concerns.

More relaxed

The participants commented on how relaxed they felt in the consultations. They reported that the consultations conducted by the PNs decreased their anxiety and feeling of being rushed.

> … *of course, when you are relaxed a bit, you tell them things which you don't*

think are important ... and it probably is ... some of the things you probably wouldn't tell the doctor … you can more or less relax with them … – Arthur

The participants often wavered on whether they thought some health issues were important, but they felt comfortable telling the PN anyway, something they would not do with the GP.

You feel more, yeah, you're relaxed and you can open up a bit more, I think. – Kate

Better atmosphere

The experience of the consultation with the PNs was more pleasant than with the GP, and the PNs enquired about the participants' health – they asked questions. This led the participants to feel that the consultation was more personal, and that the PNs were working alongside them.

I think it gives you a better feeling of the whole thing, you get to know people … it makes a better atmosphere … I think it makes a difference that way. – Fred

The participants enjoyed seeing the PN. They considered the PNs to be friendly, possibly a consequence of not being so rushed. It also seems that the PNs treated the participants differently (in a positive way).

You can talk to them. They're not standoffish or anything. – Paul

They're not pushy or anything like that ... they're very nice, I find them anyway ... I think it's the way you treat people ... that's the way they treat you. – Alice

Encouraging

In order to assist the participants with making lifestyle changes, the PNs identified those who needed close follow-up. The participants responded positively to this increased focus on the management of their lifestyle risk factors and found visiting the PNs to be encouraging.

[The PN] gave me a diet, a diet sheet. And it had on, you know, what I could do, and what was best, and so forth … but she probably just focused on it a bit more to make sure, you know, we were keeping well and truly inside that. – Peter

Patients reported that the motivational aspect of the PN-led care also had positive effects on their overall quality of life. Some participants noted that they 'had never felt better'.

That motivated me, I'm a motivation-led person, I like a goal, that was a wonderful goal for me … it motivated me very well. – Kathy

Theme 3: Dimensions of PN role

An important theme that emerged from the analysis was the dimensions of the PNs' role that facilitated enhanced care.

Therapeutic relationship

Communication between the PN and participants was different from that between the GP and participants.

Well knowing that someone is ... that I am being checked up on. Is good too, like it's sort of a security thing … if I had any problems I could talk about it – Peter

And ah I usually come out there with a big smile on my face … it's a pleasant experience you know what I mean, you feel that somebody, somebody, it's not like up here looking out, down on you … It's somebody alongside you looking after you. – Patricia

The therapeutic relationship that developed between the PNs and participants played a major role in facilitating a partnership that empowered the participants to take an active role in their healthcare. The participants felt that the PNs were working alongside them.

Educational role

The PNs spent considerable time explaining information to the participants about their condition and care by going 'through it all'.

… I found with going to the nurse, she went through it all with me. Which the doctor doesn't have time and that's understandable … – Mary

... the necessity to stay active, and you know, to keep your weight down … that it's sort of made me realise that you can't go on just eating what you like and not just being lazy. – Peter

Education regarding lifestyle risk factors was a major part of the consultations and the participants recognised the importance of this. Reinforcement of the information related to lifestyle risk factors and the empowering nature of the PN education assisted the participants to better self-manage their conditions.

Clinical knowledge

The participants perceived that the PN was virtually doing what the doctor did, and the care was much quicker. That is, the PN did everything that was required, such as blood pressure, weight and blood sugar level (BSL) check, and that the participants just needed to get a prescription from the doctor.

Well, she keeps track of where you go ... and she does all the necessary tests and whatever to keep you going. – Arthur

Some participants acknowledged that PNs could be limited in their ability to offer advice and that they still needed to discuss certain clinical conditions with the GP.

I know they're not qualified to give any answers. I'd say that, you know, my back's playing up again, do you think I should do this or do that? You know, it's not up to them to, they're not qualified to give me those answers. – Paul

It seems that the participants developed their own evaluation of the PN's scope of practice and determined when they needed to consult with the GP.

Discussion

Our findings show that the participants' perceptions of PN-led care are positive. There was a general consistency of the findings across the participants and evidence of saturation of the themes. The fit between the clinical work of the PN and their educational role assisted the PNs in this study to create an environment that

was therapeutic, encouraging and self-motivating. In this study, the time spent in consultations was a significant factor for all participants and one that caused substantial concern. The patients sensed that the GPs were always running late and, hence, did not want to bring up any issues in the consultation. Caldow et al[20] found similar responses when examining a wider role for PNs in the treatment of minor illnesses in primary care. The participants in our study thought there were negative aspects of consulting a GP in that they were always busy and therefore lacked time. By contrast, the participants believed that the PN-led care facilitated better access to healthcare and that there was more time dedicated to the consultation. Other researchers have found similar results, which have been associated with increased patient satisfaction;[21] however, they have also been associated with additional Medicare Benefits Schedule (MBS) costs.[22]

The ambience of the consultations with the PNs was considerably different from the ambience of a usual consultation with a GP. The patients felt that the PNs treated them differently and that they were listened to. These findings are not uncommon and even the earliest research conducted in Australian practice nursing[23] reports on the approachability of PNs as opposed to GPs. Similarly, Caldow et al[20] found that patients thought nurses were easier to see and that they were more approachable. In our study, the participants felt that the PNs were more attentive and would discuss issues of concern that they may have. Likewise, a study examining patients' perceptions of nurse-delivered cardiovascular prevention found that the patients 'felt listened to immediately' and that 'they understood each other'.[24]

Furthermore, the participants found visiting the PNs to be encouraging and they responded positively to the increased focus on the management of their lifestyle risk factors. Similar results were found in a study conducted in The Netherlands, where participants in a PN-led intervention group started to exercise more, compared with the control group.[25] In our study, the PNs set short-term goals with the patient for management of lifestyle risk behaviours. The PNs also made appointments with the patients on the basis of their needs and guidance from clinical protocols.

The dimensions of the PN's role emerged as an important characteristic of the PN-led care. The participants perceived that they were treated as individuals and that the PNs worked alongside them. The PNs provided health information in a timely manner that was easily understood and appropriate. They did this by incorporating education sessions into the consultation and using clinical protocols developed for the project. Similarly, Courtney and Carey[26] conducted a literature review of the impact of nurse-led care in the management of acute and chronic pain, which found that the use of clinical protocols and education improved patients' understanding and management of their condition.

As part of the consultation with the PNs, the smoking, nutrition, alcohol and physical activity (SNAP) health guide[27] was used to assess the participants' behavioural risk factors. In doing so, the participants gained a better understanding of their condition, which increased their motivation to use health information. Of note, using the SNAP guidelines has previously been found to be a difficult area to persuade GPs to implement, mainly because of already heavy workloads.[28]

This focus on increasing health literacy is crucial for patients to better manage their chronic diseases and improve their quality of life. Advancing health literacy through primary healthcare systems has been recognised as a way forward in encouraging health promotion and preventive activities, as much of the information required by patients is time-specific and condition-specific.[29]

In this study, participants perceived that the PNs' clinical role was similar to that of the GP, and that the only reason they needed to see the GP was to get a prescription. This is in contrast to other studies that found that patients believe that the main differences between GPs and PNs are their qualifications and academic ability,[20] and that GPs have greater skill, knowledge and authority.[30] However, in our study, the participants' conditions were stable, which may be why the participants thought the roles of the GP and PN were similar in that there was not much difference between the content of the consultations. Other studies have found that patients are able to decide whether they need to see a GP or PN on the basis of symptom severity, and that they are happy to see a PN when their health problem is deemed to be 'routine'.[20,31] Indeed, the seriousness of a condition has been found to be a limiting factor in preferring to see a GP or PN because of the patients' perception of the health professionals' abilities.[18]

Although there are limitations to our study, and the findings may not be generalisable to other practices, the results are encouraging and highlight that PN-led care can have a beneficial effect on the health of patients.

Conclusion

The advantages of nurse-led care are often discussed in regard to monitoring clinical parameters, continuing in the same vein as the medical model. However, nursing has much more to offer the patient than just basic clinical care.

PNs are increasingly becoming involved in the care of people with chronic diseases in their day-to-day work. The PN's role in promoting lifestyle change needs to be encouraged and supported by practice managers and GPs. Individuals and practice populations can be targeted by the PN in a prescribed way to enhance health outcomes. The PN could play a lead role in the coordination of chronic disease management by using practice data to target those population groups in most need.

Implications for general practice

In order to better manage chronic diseases in Australia, an enhanced primary

healthcare system is required. Some of the key elements of this system would be the provision of patient-centred care, which is supportive of health literacy and self-management. Much of the published Australian PN literature is descriptive, with little research focusing on new models of care and associated patient health outcomes. Further research evaluating the impact of PN-led care or a collaborative model of care in the primary healthcare context on health literacy is required. This research would need to evaluate the impact of PN-led care on health literacy, assessing outcomes such as changes in knowledge, behaviours, disease complications and use of health services.

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References

1. World Health Organization. Global status report on noncommunicable diseases 2014. Geneva: WHO, 2014. Available at http://apps.who.int/iris/bitstream/10665/148114/1/9789241564854_eng.pdf [Accessed 3 November 2016].
2. Australian Institute of Health and Welfare. Cardiovascular disease: Australian facts 2011. Canberra: AIHW, 2011. Available at www.aihw.gov.au/publication-detail/?id=10737418510 [Accessed 3 November 2016].
3. Diabetes Australia. Diabetes in Australia. Canberra: Diabetes Australia, 2015. Available at www.diabetesaustralia.com.au/diabetes-in-australia [Accessed 3 November 2016].
4. Martin CM, Peterson C. Improving chronic illness care – Revisiting the role of care planning. Aust Fam Physician 2008;37(3)161–64.
5. Australian Medicare Local Alliance. 2012 General Practice Nurse National Survey Report. Forrest, ACT: AML Alliance, 2012.
6. Patterson E, Muenchberger H, Kendall E. The role of practice nurses in coordinated care of people with chronic and complex conditions. Australian Health Rev 2007;31(2):231–38.
7. Phillips C, Dwan K, Pearce C, et al. Time to talk, time to see: Changing microeconomies of professional practice among nurses and doctors in Australian general practice. Contemp Nurse 2007;26(1):136–44.
8. Taylor SJC, Candy B, Bryar RM, et al. Effectiveness of innovations in nurse led chronic disease management for patients with chronic obstructive pulmonary disease: Systematic review of evidence. BMJ 2005;331(7515):485.
9. Woodward A, Wallymahmed M, Wilding J, Gill G. Improved glycaemic control an unintended benefit of a nurse-led cardiovascular risk reduction clinic. Diab Med 2005;22(9):1272–74.
10. Clark CE, Smith LF, Taylor RS, Campbell JL. Nurse led interventions to improve control of blood pressure in people with hypertension: Systematic review and meta-analysis. BMJ 2010;341:c3995.
11. Harris M, Zwar NA. Care of patients with chronic disease: The challenge for general practice. Med J Aust 2007;187(2)104–07.
12. Eley D, Patterson E, Young J, et al. Outcomes and opportunities: A nurse-led model of chronic disease management in Australian general practice. Aust J Prim Health 2013;19(2):150–58.
13. Eley Ds, Del Mar Cb, Patterson E, Synnott Rl, Baker PG, Hegney D. A nurse led model of chronic disease care. Aust Fam Physician 2008;37(12):1030–32.
14. Young J, Eley D, Fahey P, Patterson E, Hegney D. Enabling research in general practice – Increasing functionality of electronic medical records. Aust Fam Physician 2010;39(7):506–09.
15. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Med Res Methodol 2013;13:117.
16. Smith J, Firth J. Qualitative data analysis: the framework approach. Nurse Res 2011;18(2):52–62.
17. Pope C, Ziebland S, Mays N. Qualitative research in health care: Analysing qualitative data – Second in a series of three articles. BMJ 2000;320(7227):114–16.
18. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. Field Methods 2006;18(1):59–82.
19. Roberts P, Priest H. Reliability and validity in research. Nurs Stand 2006;20(44):41–45.
20. Caldow J, Bond C, Ryan M, et al. Treatment of minor illness in primary care: A national survey of patient satisfaction, attitudes and preferences regarding a wider nursing role. Health Expect 2007;10(1):30–45.
21. Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. Cochrane Database Syst Rev 2005;(2):CD001271.
22. Iles RA, Eley DS, Hegney DG, et al. Revenue effects of practice nurse-led care for chronic diseases. Aust Health Rev 2014;38(4):363–69.
23. Willis E, Condon J, Litt J. Working relationships between practice nurses and general practitioners in Australia: A critical analysis. Nurs Inq 2000;7(4):239–47.
24. Voogdt-Pruis HR, Voogdt-Pruis HR, Gorgels AP, van Ree JW, van Hoef EF, Beusmans GH. Patient perceptions of nurse-delivered cardiovascular prevention: Cross-sectional survey within a randomised trial. Int J Nurs Stud 2010;47(10):1237–44.
25. Meulepas MA, Braspenning JCC, de Grauw WJ, Lucas AEM, Wijkel D, Grol R. Patient-oriented intervention in addition to centrally organised checkups improves diabetic patient outcome in primary care. Qual Saf Health Care 2008;17(5):324–28.
26. Courtenay M, Carey N. The impact and effectiveness of nurse-led care in the management of acute and chronic pain: A review of the literature. J Clin Nurs 2008;17(15):2001–13.
27. The Royal Australian College of General Practitioners. Smoking, nutrition, alcohol, physical activity (SNAP): A population health guide to behavioural risk factors in general practice. South Melbourne, Vic: RACGP, 2004; p. 1–54. Available at www.racgp.org.au/download/documents/Guidelines/snapguide2004.pdf [Accessed 3 November 2016].
28. Harris MF, Hobbs C, Powell Davies G, Simpson S, Bernard D, Stubbs A. Implementation of a SNAP intervention in two divisions of general practice: A feasibility study. Med J Aust 2005;183(10 Suppl):S54–58.
29. Bush R, Boyle F, Ostini R, et al. Advancing health literacy through primary health care systems. Brisbane: The University of Queensland 2010; p. 1–52. Available at http://aphcri.anu.edu.au/projects/network/advancing-health-literacy-through-primary-health-care-systems [Accesed
30. Rashid C. Benefits and limitations of nurses taking on aspects of the clinical role of doctors in primary care: Integrative literature review. J Adv Nurs 2010;66(8):1658–70.
31. Mahomed R, St John W, Patterson E. Understanding the process of patient satisfaction with nurse-led chronic disease management in general practice. J Adv Nurs 2012;68(11):2538–49.

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