ORIGINAL ARTICLE

Parent satisfaction in a nurse led clinic compared with a paediatric gastroenterology clinic for the management of intractable, functional constipation

P B Sullivan, C A Burnett, E Juszczak

Arch Dis Child 2006;**91**:499–501. doi: 10.1136/adc.2005.087486

See end of article for authors' affiliations

Correspondence to:
Dr P B Sullivan, University of Oxford, Department of Paediatrics, John Radcliffe Hospital, Oxford OX3 9DU, UK; peter.sullivan@paediatrics.ox.ac.uk

Accepted 24 January 2006
Published Online First
10 March 2006

Aims: To assess parent satisfaction with a nurse led clinic for children with intractable, functional constipation compared with a paediatric gastroenterology outpatient clinic.

Methods: A validated questionnaire covering six separate domains in 48 statements (provision of information, empathy with the patient, technical quality and competence, attitude towards the patient, access to and continuity with the caregiver, and overall satisfaction) was employed. For all outcomes, the data were analysed on an intention-to-treat basis.

Results: 90/107 (84%) questionnaires were returned: 40/51 (78%) from the paediatric gastroenterology clinic and 50/56 (89%) from the nurse led clinic. Results indicated a high "total" satisfaction with the clinical care, but these were statistically significantly higher in the nurse led clinic compared with the paediatric gastroenterology clinic (median score 8.7 and 7.3 respectively, out of a maximum score of 10). This difference was consistent across all domains when the scores from those attending the nurse led clinic were compared with those attending the paediatric gastroenterology clinic (information median score 8.7 v 7.5; empathy 9.0 v 7.3; competence 9.1 v 8.0; attitude 8.7 v 7.3; access 8.2 v 6.7). All comparisons were highly statistically significant.

Conclusion: These results provide firm evidence that parents of children with intractable constipation are satisfied with the care they receive in both the paediatric and nursing clinic setting. Parent satisfaction, however, was significantly higher in those attending the nurse led clinic. This study adds further support to the development of a nurse led service to manage intractable, functional constipation in children.

Nurse led services provide an ideal opportunity for nurses to advance their practice and take on greater responsibilities while educating others.¹ At the same time there is evidence that nurse led care can have a significant impact on improving outcomes and quality of patient care.² Most of the research into outcomes of nurse led care, however, has taken place in adults.^{2–5} Less evidence has emerged from paediatric practice.^{1, 6} A report from a joint working party convened by the Royal College of Paediatrics and Child Health and the Joint Advisory Committee on Children's Nursing concluded that there is an urgent need for more detailed, quantitative research into the health outcomes and continuity of care provided by nurses.⁷

Intractable functional constipation is common in children and often responds poorly to treatment, with symptoms persisting in about a third of patients up to seven years after onset of treatment.^{8, 9} One of the reasons associated with failed treatment is poor follow up. We have contributed to the demonstration of the feasibility and clinical effectiveness of nurse led clinics by showing that they can improve follow up and the outcome of management of children with intractable constipation.¹⁰

We now report the findings of a survey of parent satisfaction with this clinic compared with a consultant led paediatric gastroenterology clinic.

METHODS

Precise details of the main study design have been reported elsewhere.¹⁰ In brief this was a parallel group, randomised controlled non-inferiority trial for which all children between the ages of 1 and 15 years presenting to the paediatric gastroenterology service at the John Radcliffe Hospital, Oxford, UK with constipation were potentially eligible.

After initial assessment in the paediatric gastroenterology clinic, and after obtaining informed consent from parents, children were randomly assigned to follow up in either the nurse led clinic (NLC) or in the paediatric gastroenterology clinic (PGC).

The nurse led clinic was designed to be a follow up clinic for children who had undergone a full and detailed medical assessment in the paediatric gastroenterology clinic leading to a diagnosis of idiopathic functional constipation. An evidence based treatment algorithm for the management of childhood constipation was employed in both follow up clinics. Permission was given by the hospital's Drug and Therapeutics Committee, on the basis of the detailed algorithm, which also included recommended dosing regimes, for nurse prescribing of common laxative medications.

Parent satisfaction was measured using a validated instrument based on the Leeds Satisfaction Questionnaire (LSQ), which has been shown to be easy and quick to complete, sensitive to change, reliable, and reproducible.¹¹ The questions in the LSQ were pertinent to a rheumatology clinic and were thus adapted for the purposes of this constipation clinic. This questionnaire covered six separate domains in 48 statements: provision of information, empathy with the patient, technical quality and competence, attitude towards the patient, access to and continuity with the caregiver, and overall satisfaction. The "overall satisfaction" component was added for purposes of validation. Likert scales are the conventional tool for attitude measurement; five point Likert scales were used for responses ranging from

Abbreviations: NLC, nurse led clinic; PGC, paediatric gastroenterology clinic

“strongly agree” to “strongly disagree”. The stability of the instrument was tested using the test–retest method

The questionnaire was sent to the parents of children with constipation who had been previously randomised to either the nurse led clinic or the paediatric gastroenterology clinic either after 12 months’ follow up or before this if the child had been “cured”. In this study a child was defined as having been “cured” of their constipation when, for a period of at least one month, they had been opening their bowels, producing a normal formed stool without difficulty at least three times per week and without any laxative therapy. Satisfaction with care is defined as “the degree to which parents perceive the needs of their children are met”. An attempt was made to record all “inter-visit” contacts (by telephone or day ward attendances) made by parents outside of their scheduled outpatient appointments.

Statistical analysis

For all outcomes, the data were analysed comparing all those children allocated to NLC versus all those allocated to PGC—that is, on an intention-to-treat basis. Statistical analysis was conducted using SPSS. Due to the skewed nature of the data, statistical comparisons between the two types of clinic were performed using the non-parametric Mann-Whitney U test.

Ethical approval

The Central Oxford Research Ethics Committee granted ethical approval for the study protocol.

RESULTS

Outcome assessment showed that 34 (65.4%) children in the NLC and 25 (50.0%) children in the PGC were confirmed cured at their last visit or later confirmed by telephone. The median time to cure was 18.0 months (95% CI 8.5 to 27.5) in the NLC and 23.2 months (95% CI 17.3 to 29.2) in the PGC. The risk of being cured was estimated as 33% higher in the NLC compared to PGC (hazard ratio 1.33, one sided 95% CI 0.86 to ∞ , $p = 0.3$). Attending the NLC hastened time to cure by a factor of 0.816 (one sided 95% CI 0 to 1.032); that is, compared to the PGC, the NLC hastened time to cure by an estimated 18.4%.¹⁰

A total of 90 questionnaires were returned from 107 families canvassed (84%); 40/51 (78%) from the paediatric gastroenterology clinic and 50/56 (89%) from the nurse led clinic. The robustness and high reliability of the questionnaire was demonstrated by calculating the internal consistency for each domain; the lowest Cronbach’s alpha was 0.81.

The number (mean (SD)) of inter-visit contacts was not significantly ($p = 0.455$) different between the two clinics: 1.70 ± 4.79 for the PGC and 2.37 ± 4.17 for the NLC.

Figure 1 shows that the satisfaction scores in both groups indicated a high “total” satisfaction with the clinical care, but these were significantly ($p < 0.001$) higher in the nurse led clinic compared with the paediatric gastroenterology clinic (median score 8.7 and 7.3 respectively, out of a maximum score of 10).

As shown in fig 2, this difference was consistent across all domains when the scores from those attending the nurse led clinic were compared with those attending the paediatric gastroenterology clinic (information median score 8.7 v 7.5; empathy 9.0 v 7.3; competence 9.1 v 8.0; attitude 8.7 v 7.3; access 8.2 v 6.7). All comparisons were highly significant ($p < 0.001$).

DISCUSSION

We have previously shown that children who attend a nurse led constipation (NLC) clinic are equally as, if not more likely to be cured of intractable constipation, than those attending a clinic led by a paediatric gastroenterologist (PGC). We have

also shown in this present study that parents of children in both clinics are satisfied with the care that their children receive. The degree to which the parents perceive the needs of their children are met was significantly greater across all domains in the NLC than in the PGC. It is important to appreciate that the scores for “empathy” and “attitude” were satisfactory for both clinics. The important point is that parents’ perception of these attributes of the nurses led to a higher score for them in these domains than for the doctors. This may relate to the perceived approachability of the nurses and certainly, as shown by the data, to their perceived accessibility. Analysis of the inter-visit contact data, however, did not provide evidence for significantly more episodes of contact made with the nurses outside of the scheduled outpatient appointments.

There are limitations in this study which need to be taken into account. Firstly, there was a larger proportion of responses to the questionnaire in the NLC ($n = 50$ versus $n = 40$ in the PGC) which introduces the potential for non-response bias. Secondly, the questionnaire was quite long with 48 items and there was, therefore, some potential for fatigue. Despite the length of the questionnaire, however, there was very little missing data and this therefore actually strengthens the data.

As noted above, one of the answers to the question as to why parents may have experienced greater satisfaction in the NLC is shown in fig 2 where the most obvious separation between the scores in the two groups is clearly in the perception of “access” domain. The nurses in their clinic provided phone numbers to parents who were encouraged to contact them with problems relating to the management of their child’s constipation. Even though doctors’ contact numbers were available to parents in the PGC it is quite likely that parents had a lower threshold for contacting nurses in between clinic visits than they had for doctors. Nevertheless, the number of inter-visit contact episodes, although larger for the NLC, was not significantly greater than that documented for the PGC. Other important areas where the NLC stood out were in the provision of information and empathy. Parent education is an indispensable component of the successful management of intractable constipation in children, and empathy is particularly important for parents who have been struggling to deal with a soiling child for many months.

The importance of “patient centred” health care and consumer satisfaction with health care has received much emphasis recently. Thus, measuring “satisfaction” is a valid

Figure 1 Overall satisfaction scores for both nurse led clinic (NLC) and the paediatric gastroenterology clinic (PGC).

Figure 2 Individual satisfaction scores for each domain in both clinics.

exercise. Furthermore, there is evidence that satisfaction relates to improved health status and compliance.^{12, 13} Finally, information on patient satisfaction provides valuable evidence for designing the configuration of healthcare provision.

Conclusion

These results provide firm evidence that parents of children with intractable constipation are satisfied with the care they receive in both the paediatric gastroenterology and nursing clinic setting. Parent satisfaction, however, was significantly higher in those attending the nurse led clinic. Thus, this study adds further support to the development of a nurse led service to manage intractable, functional constipation in children.

What is already known on this topic

- It has been shown that nurse led services can have a significant impact on improving care in adult services
- Intractable constipation in children responds poorly to treatment, often because of poor follow up

What this study adds

- A nurse led clinic can significantly improve the management of patients with intractable constipation
- Parents of children with intractable constipation are very satisfied with management provided by specialist nurses

ACKNOWLEDGEMENTS

We would like to acknowledge all the children and their parents and/or carers, for participating in this study.

Authors' affiliations

P B Sullivan, C A Burnett, University of Oxford, Department of Paediatrics, John Radcliffe Hospital, Oxford, UK

E Juszcak, Centre for Statistics in Medicine, Institute of Health Sciences, Oxford, UK

Funding: this study was funded by a research grant from WellChild

Competing interests: none declared

REFERENCES

- 1 Ferraro-McDuffie AR. The role of the pediatric clinical nurse specialist in gastroenterology. *Gastroenterol Nurs* 1992;**14**:204-7.
- 2 Mackintosh C, Bowles S. Evaluation of a nurse led acute pain service. Can clinical nurse specialists make a difference? *J Adv Nurs* 1997;**25**:30-7.
- 3 Van de Peite J. Managing the increased workload in anticoagulant clinics. Clinics led by nurse practitioners can work well. *BMJ* 1996;**312**:1226-7.
- 4 McHugh F, Lindsay GM, Hanlon P, et al. Nurse led shared care for patients on the waiting list for coronary artery bypass surgery: a randomised controlled trial. *Heart* 2001;**86**:317-23.
- 5 Moore S, Corner J, Haviland J, et al. Nurse led follow up and conventional medical follow up in management of patients with lung cancer: randomised trial. *BMJ* 2002;**325**:1145.
- 6 Cruikshank BM, Clow TJ, Seals B. Pediatric nurse practitioner functions in the outpatient clinics of a tertiary care center. *Med Care* 1986;**24**:4-9.
- 7 Royal College of Paediatrics and Child Health and the Joint Advisory Committee on Children's Nursing. *Developing roles of nurses in clinical child health*. London: Royal College of Paediatrics and Child Health, 1996.
- 8 Loening-Baucke V. Constipation in early childhood: patient characteristics, treatment, and long term follow up. *Gut* 1993;**34**:1400-4.
- 9 van Ginkel R, Reitsma JB, Buller HA, et al. Childhood constipation: longitudinal follow-up beyond puberty. *Gastroenterology* 2003;**125**:357-63.
- 10 Burnett CA, Juszcak E, Sullivan PB. Nurse management of intractable functional constipation: a randomised controlled trial. *Arch Dis Child* 2004;**89**:717-22.
- 11 Hill J, Bird HA, Hopkins R, et al. Survey of satisfaction with care in a rheumatology outpatient clinic. *Ann Rheum Dis* 1992;**51**:2-7.
- 12 Kinney J, Bradshaw P, Ley P. Patients' satisfaction and reported acceptance of advice in general practice. *J R Coll Gen Pract* 1975;**25**:558-66.
- 13 Fitzpatrick RM, Bury M, Frank AO, et al. Problems in the assessment of outcome in a back pain clinic. *Int Disabil Stud* 1987;**9**:161-5.