Focusing on those in need: a symptom based outcom questionnaire for postal invitation and audit in a primary car asthma clinic

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Abstrac

Aim
To focus asthma care on those patients most in need whilst providin annual audit data

Method
An observational questionnaire study. Patients on the asthm register received a postal invitation to the asthma clinic plus questionnaire which enquired about both symptoms and the proces of care. Medical records were searched for data on non-responders

Result
Of the 1241 people sent the invitation and questionnaire 682 (57%) returned it and 99 attended the clinic. Follow-up of responders with high morbidity resulted in a further 32 people attending. The 9 attenders had a higher morbidity than non-attenders on the criteria o a course of oral steroids in the last six months(15% v 29%)and mean symptom score of 3 or more (12% v 31%).

Conclusion
Whilst the process did focus care on those in need, and resulted in manageable number of people attending the asthma clinic, man individuals with high morbidity or risk factors did not attend.

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Prim Care Resp
2002;11( ):34-3

Introductio

Studies suggest that up to a third of people wit asthma in the community have a high morbidity fro their asthma [1,2]. Many practices and researchers ar attempting to reduce this morbidity by better qualit primary care services, but the sheer numbers o people with asthma make this difficult to achieve wit finite resources. The provision of asthma care in U general practice, as required by the 1993 chroni disease management contract, has shifted practic away from individualised care towards a standardise package of care which is audited by Healt Authorities using process criteria. The curren organisation of asthma clinics, with its emphasis o regular routine visits, followed the pattern set b diabetic clinics in primary care, but evidence tha nurse-run asthma clinics result in a greater reductio in morbidity than traditional care is conflicting [3-6].

In non-research settings the measurement of outcom in terms of morbidity, rather than process criteria, i unusual. However, there is some work whic suggests that the use of appropriate questionnaires i primary care may be helpful in reducing morbidity. morbidity and attitudes questionnaire has bee developed by Sibbald [7] and used by Charlton *et a* to demonstrate the ability of a nurse run asthma clinic t reduce patients morbidity and their feelings o stigma [3] Jones *et a* have recently demonstrated tha their morbidity index can identify patients with hig morbidity [8] and there is evidence that the scores o such symptom based tools reflect peak flo measurements and can predict outcome [9,10]. A symptom based outcome measure for use in genera practice had previously been developed by Steen an colleagues [11].

This study used a previously piloted asthma invitatio questionnaire which consists of the set of fiv symptom-based questions from Steen and colleague previous work, with the addition of some question which are of clinical importance in implementin chronic asthma management guidelines [12]. Thes symptom based questions were chosen because the had been validated in previous work, had good fac validity, and had five response options which is likel to make them responsive to change. This stud investigated to what extent use of this ne questionnaire can enable a nurse-run asthma clinic t target those patients most in need whilst providin annual audit data on both process and outcome i terms of morbidity.

Method

Setting and study populatio

The study was carried out in two practices in Taunton Somerset. Practice 1 has a list size of 11,000 an Practice 2 has a list size of 6,500, and both practice have asthma trained practice nurses who run asthm clinics. The asthma registers of these two practice comprise all patients who have attended for asthma o received a prescription for asthma in the last tw years and these patients are the study population. Th study was approved by the West Somerset Ethica Committee

Invitation questionnair

During 1998/1999 each practice posted the invitatio letter, questionnaire and freepost envelope, in monthl batches over a twelve month period, to everyone o the asthma register

Depending on their response to the questionnaire an invitation letter patients fell into three groups:

1. Those who returned the questionnaire and accepted the invitation to attend the clinic or their doctor about their asthma: responder- attenders
2. Those who returned the questionnaire but did not attend the clinic: responder-nonattender
3. Those who neither returned the questionnaire no attended: non-responder- non-attenders

Other data collectio

a) Responder-non attenders who had a mean symptom score of 3 or over (i.e. moderately severe or severe symptoms) were sent a second letter or telephoned by the asthma nurse to encourage them to attend for care
b) The practice computer records of the non responders were searched for information on medication, hospital admission and practice consultations for asthma over the last six months

Result

Patient characteristics and response rates
A total of 1241 questionnaires were posted, consen was withheld by 46 patients, so the total stud population was 1195. The age range was 1-96 year with a mean of 33yrs and 53% were female. Th questionnaire was returned by 682 people (57%)

Questionnaire responses are given in Table 1

Non-responders were younger than responders (mea age 28yr v 37yr, p = <0.001) and less likely to hav been admitted to hospital with their asthma 6 (1%) 39 (6%), p = <0.001. Comparing medicatio information from the questionnaires of responder with that obtained from the clinical notes of non responders there is little difference in the proportio using a reliever inhaler more than once a day and no regular preventer inhaler 8% of responders and 11 of non-responders.

Responders: comparison of attenders and non attenders

Of the 682 responders, 99 (15%) took up the firs invitation to attend the asthma clinic, and th questionnaire responses for these attenders compare to the non-attenders are shown in Table 2. The secon letter or phone call to the 67 (12%) non-attenders wit a mean symptom score of 3 or more resulted in 32 o them attending. These 32 late attenders included 5 o the 31 non-attenders with a previous hospita admission and 9 of the 50 non-attenders who wer using a reliever inhaler more than once a day and no using a preventer inhaler

Discussion and conclusion

The invitation questionnaire was returned by 57% o patients and responders had higher morbidity and ris than non-responders and subsequent attenders ha higher morbidity and risk than non-attenders Responders with high morbidity who did not atten were followed up with a second invitation and half o them subsequently attended. The process resulted i 131 people attending the clinics out of a tota population of 1241 people with asthma. In all thes respects the process did to some extent focus care o those in need. However there were individuals wh appear to be in need of more care who did not take u the invitation to attend the clinic or doctor: fo example 32 out of the total of 45 people who had bee in hospital with their asthma over the last six months and 95 out of the total of 109 people who were usin

Table 1. Questionnaire response

	All patient n=682	Practice 1 n=41	Practice 2 n=26
Q1-4 In the past month, on how many days have you..." (modal score			
1. ...been short of breath	2	2	2
2. ...wheezed or had a tight chest during the day	2	2	2
3 ...coughed during the day	3	3	3
4 ...felt frightened because of your asthm	1	1	1
5 in the past month how many nights have you had trouble sleeping because of coug or chest problems	2	2	2
Q1-5 mean (SD) symptom scor	**2.076 (0.78**	**2.048 (0.78)**	**2.128 (0.79**
number (%) with mean symptom ≥3	**98 (14**	**56 (13**	**42 (16**
Q6-14 In the last six months (% responding yes)			
6. asthma interfered with sports an activities that I wanted to do	203 (35	125 (37	78 (30
7. colds last longer than other people	233 (50	140 (50	82 (50
8. taken a course of prednisolone or steroid for asthma	111 (17	68 (20	43 (13
9. admitted to hospital with asthm	99 (6	82 (7	11 (4
10. have a peak flow meter at hom	340 (60	226 (64	183 (53
11. Have checked my peak flo	181 (48	120 (51	111 (43
12. Smoke cigars or cigarette	86 (12	44 (10	99 (15
13. Use a blue (quick reliever) inhale once a day or mor	361 (54	241 (59	120 (48
14. Use a preventer inhaler regularl	368 (60	245 (64.6	123 (54
Number (%) using reliever inhaler once a day or more and not using a preventer inhale	55 (8	27 (6	28 (10

Responses to Q1-5 on a 5 point scale, as modal score
1=never, 2=on one or a few days, 3=on several days, 4=on most days, 5=every da
Responses to Q6-14 are Yes/No as % responding ye

Table 2. Questionnaire data from all responders, comparing attenders an non-attender

	Attender n=99	Non-attender n=58	p values
Q1-5 mean (SD) symptom score	**3.4 (0.84**	**2.0 (0.75**	**<0.000**
: number (%) mean symptom score ≥3	31 (31	67 (12	
Q6-14 In the last six months... (number, % responding yes			
6. Asthma interefered with sports an activities that I wanted to do	54 (47	138 (32	0.005
7. Colds last longer than other peoples	63 (55	227 (49	0.322
8. Taken a course of prednisolone or steroid for asthma	28 (29	87 (15	0.002
9. Admitted to hospital with asthm	8 (8	33 (5	0.307
10. Have a peak flow meter at hom	68 (64	293 (59	0.380
11. Have checked my peak flo	66 (62	225 (45	0.002
12. Smoke cigars or cigarette	10 (10	89 (12	0.580
13. Use a blue (quick reliever) inhale once a day or mor	53 (53	284 (43	0.072
14. Use a preventer inhaler regularl	97 (81	335 (62	0.000
Using a reliver more than once a da and not using a preventer inhale	5 (5	60 (9	

Number of non-attenders with a mean symptom score 3 or more attending for car after being contacted : 32 (+2 attending hospital clinics), out of 67

*p value calculated with paired t test for Q1-5 mean score, and *ch* square for Q6-1

a reliever inhaler once a day or more and not using a preventer inhaler regularly

The study design was carried out as planned, bu nevertheless imposes some limitations on th conclusions that can be drawn. Firstly, th observational design makes it impossible to compar these results with other methods of organising asthm care. The attempt to draw some comparison betwee responders and non-responders through comparin questionnaire responses of one group with data fro record searching of the other can only lead to a broa comparison due to the different data collected bu record searching for both groups would have bee very time consuming. The qualitative data collectio might have been more useful if it had been delaye until a preliminary analysis of the quantitative dat had been performed, for example in trying t understand more about the low uptake of th invitation to attend the clini

The detailed data collected on the responders wa used to set and monitor continuing audit criteria, t feed back to Health Authorities, and to offer furthe follow-up to individual patients. Comparison of thes results with other published work is difficult becaus of different study populations as well as differen measures of morbidity and risk. A recent study usin the Jones morbidity inde [9] showed similar results fo hospital admissions and oral steroid use (annual rate of 9% and 34% respectively compared to this study 3 month rates of 4% and 17% respectively). A 'hig morbidity' rating on that index probably represents slightly worse morbidity than the level of 3 or mor on the 5 point symptom score chosen in this study and they found 44% of patients in this categor compared to 14% found by us. One advantage o using five questions each with a choice of fiv responses is that it allows more flexibility in settin realistic morbidity targets, thus choosing a score of or more resulted in only 98 patients to follow-up, bu as results improved year on year the target could b reduced

The response or otherwise to the invitatio questionnaire can only be understood in the context o lay views and beliefs about asthma an medication [3,1] This literature reminds us tha patients view their asthma in a wider framework tha do their medical attendants, their decision to seek hel is made in the context of all of life's other priorities and the clinic format is valued by some patients som of the time, but that practices need to provide an publicise a wide range of services. Our result indicated that often the questionnaire and lette combined were ineffective as a way of linking patien scored morbidity with a decision to seek help t improve this. Reflecting on this, the research tea (lay, nursing and medical members) suggest tha more information about the meaning of the scores i needed by patients, such as assigning score band categories such as 'Average score of 3 or more : change in treatment is likely to help. Please make a appointment at the clinic'. Our results also highligh that non-responders to invitations and questionnaire include people with high morbidity, and tha inspection of practice records of non-responders wil uncover high risk individuals who require differen approaches

In conclusion the use of the invitation questionnair and letter as a routine postal invitation to attend fo care, plus follow-up of those responders with hig morbidity, resulted in detailed outcome and proces data on 57% of patients and the attendance of manageable 131patients, 11% of those on the asthm register. Whilst the process did focus care on those i need, many individuals with high morbidity or ris factors were not seen in the clinic and a patient centred opportunistic approach will still be required. ■

Acknowledgments and Fundin

We are grateful to all the patients who participated i the study; to Julie Kirby, Tina Pfiefer, and Jan Morri at College Way Surgery; to Robin Ellwood, Hele Deane, Nicola Roberts and Emma Wain at Warwic House Medical Centre, and to Nicky Britten a Department of General Practice and Primary Care Guy's, King's and St Thomas' School of Medicine.

This work was funded by the NHS National Researc and Development Programme on Asthm Management. The views expressed are those of th authors and not necessarily those of the Department o Health. Warwick House is funded as a Researc General Practice

An oral presentation “Focusing on those in need” wa made to the research meeting -Research in the rea world, organised by SANDNet (Somerset and Nort Devon Primary Care Research Network) on 17.10.00 Exeter

Reference

1. Barritt PW. and Staples EB. Measuring success i asthma care: a repeat audit. *Family Practic* 1991 **4** :232-6.
2. Keeley D. How to obtain a better outcome in th treatment of asthma in general practice. *BM* 1993 **30** :1261-3.
3. Charlton I, Charlton G, Broomfield J, and Campbel M. An evaluation of a nurse run asthma clinic usin an attitudes and morbidity questionnaire. *Famil Practice* 1992; **9**:154-60.
4. Martys CR. Asthma care in Darley Dale: genera practitioner audit. *BM* 1992 **30** :758-60.
5. Jones KP, Mullee MA. Proactive nurse run asthm care in general practice reduces asthma morbidity scientific fact or medical assumption? *British Journa of General Practice* 1995 **4** :497-9.
6. Dickinson K., Hutton S, Atkin A, Jones K Reducing asthma morbidity in the community: th effect of a targeted nurse run asthma clinic in a Nort Lincolnshire general practice. *Respiratory Medicin* 1997 **9** :634-40.
7. Sibbald B, Collier J, D'Souza M. Questionnair assessment of patients attitudes and beliefs abou asthma. *Family Practice* 1986 **3**:37-41
8. Jones KP, Charlton IH, Middleton M, Preece WJ Hill AP. Targeting asthma care in general practic

using a morbidity index *BMJ* 1992 **304** :1353-6
9. Jones K, Cleary R, Hyland M. Predictive value of simple asthma morbidity index in a general practic population. *British Journal of General Practic* 1999 **49** :23-6.
10. Ng TP. Validity of symptom and clinical measure of asthma severity for primary outpatient assessment o adult asthma. *British Journal of General Practic* 2000 **50** :7-12
11. Steen N, Hutchinson A, McColl E, Eccles MP Hewison J, Meadows KA *et al* Development of symptom based outcome measure for asthma. *BM* 1994 **309** :1065-8
12. British Thoracic Society. The British Guidelines o Asthma Management, 1995 Review and Positio Statement. *Thorax* 1997 **52** :S1-S20
13. Paterson C, Britten N. Organising primary healt care for people with asthma: the patient's perspective *British Journal of General Practic* ; 2000 **50** :299-303
14. Adams S, Pill R, Jones A. Medication, Chroni Illness and Identity: the perspective of people wit asthma. *Social Science and Medicin* 1997 **5** :189 201.