

## **Exacerbations of severe asthma; Psychosocial predictors and the impact of a nurse-led clinic.**

### **Background**

There is considerable evidence to support the notion that medical conditions do not exist in a vacuum, but are influenced by psychological and social factors (Partridge & Johnstone, 1989). These factors are related to both the cause and progress of the disease. There are a limited number of drugs that patients with severe asthma can take, and the resultant side effects are both physiological and psychological due to the high dosages required. Alternate management approaches need to be identified for this group of people with severe asthma and this research project identifies a different approach to asthma management and encourages further research into the social and psychological aspects of asthma management. This abstract encapsulates a five year PhD study conducted in North Staffordshire and completed in 2009

### **Aims of the study**

The primary research question for the study was;

Can psychosocial variables (psychological and personality profiles, locus of control, coping style and social background influences) predict levels of lung function and the number of exacerbations in severe asthma?

The secondary research question was;

Does attendance at a specialist clinic for people with severe asthma mediate between these personal predictors of numbers of exacerbations?

The predictor variables being studied were;

- personality with the scores for the psychoticism, extroversion and neuroticism scales of the Eysenck Personality Questionnaire (EPQ)
- psychological profiles as measured by levels of anxiety and depression
- locus of control, classified as internal or external
- coping styles, classified as positive or maladaptive

- social deprivation, as measured by an individualised social deprivation score

Additional information about social background was also retrieved regarding social support mechanisms in relation to the participants' severe asthma.

The criterion variables were the number of exacerbations of severe asthma experienced by the participants and their level of lung function. The data on the number of exacerbations was collected retrospectively over an eight-year period for all 102 patients involved in the study. The first four years of data was from prior to the start of a severe asthma specialist clinic/service and the second four years post attendance at the clinic/service. The participants' lung function was measured when they attended the study interview at the start of the study.

In this study various methods of data analysis were used; both quantitative and qualitative. These included standard multiple regression analysis, paired sample t tests and content analysis of transcribed interview material.

The participants in the study were all adults who had severe asthma, which was classified owing to them being managed at steps 4 or 5 of the BTS/SIGN British Asthma Guidelines (BTS/SIGN, 2003). They were all patients of a severe asthma clinic which was run at the local Trust.

## **Results**

The analysis of the quantitative data showed that higher levels of depression and deprivation, maladaptive coping styles, external locus of control and low levels of psychoticism in particular have a significant relationship to the number of exacerbations people with severe asthma suffer. It also showed that following the intervention of the severe asthma clinic service that the number of exacerbations fell significantly, especially for those with lower levels of anxiety, higher levels of deprivation and an external locus of control. No relationships were found between the predictor variables and the level of lung function.

It was apparent from the analysis of social support in relation to coping with asthma, that medical professionals who are competent and trustworthy and supportive family members are important in

both everyday management of this condition and also during the acute exacerbation. Availability and accessibility featured highly and also the level of trust and confidence between the patient and the health professional and their families. From the results generated, various recommendations have been made, classified into three categories; recommendations for clinical practice, for education and for future research.

*Recommendations for clinical practice;*

1. The use of screening tools such as the Hospital Anxiety and Depression Scale (HADS) and the Ways of Coping Checklist (WCC) as part of the initial and ongoing assessment of patients with severe asthma, to highlight any of these significant factors associated with increased exacerbation numbers
2. In terms of depression, integrated treatment approaches outlined in the Depression Guidelines (NICE, 2004), should be a model used for the management of the co-morbidity of severe depression with severe asthma. Effective treatment of depression would have an effect on how the patient perceives their condition and also how they coped, all having a more positive outcome
3. Effective referral routes and closer working alliances between health care professionals in primary and secondary care in both general medicine and mental health services are required. There should also be stronger links formed with social services to provide a complete integrated approach to care.
4. Structured asthma clinics and telephone consultation services should be readily available in both primary and secondary care. These should be run by appropriately trained staff and have a designated time allocated to them not run ad hoc. There should also be accommodation for out-of-hours services.

*Recommendations for education;*

1. Inter-professional education of health and social care professionals into the detrimental effects of severe depression and moderate levels of deprivation on severe asthma. This is an area where knowledge of physical and psychological illness needs to be considered holistically to maximise care.

2. Group education sessions for patients and their carers with severe asthma, to make them aware of these factors which have a relationship to the number of exacerbations suffered. This could be practice based, PCT based or linked to expert patient groups.
3. Special consideration needs to be given to individuals who have a lack of social support, which may also cause a decrease in the motivation to take on responsibilities and undertake educational activities.

Recommendations for future research;

1. Research that focuses on the effects of these identified predictor variables on the morbidity of severe asthma. This would build on the minimal amount of evidence that is already present, to enable a substantial growth of evidence base on which policy makers can recognise the need for alternate service provision for these people with severe asthma
2. Research also needs to examine the effects and causes of social deprivation to the disease process of severe asthma to enhance understanding of the consequences of such a factor on the stability of severe asthma.
3. Development of a combined screening tool to incorporate all the highlighted significant variables, which could be used within the clinical setting to highlight susceptible patients, so that appropriate care packages can be devised and implemented to avoid unnecessary exacerbations and a deterioration in the overall condition and quality of the person life

## **Conclusion**

The time has come to break away from the traditional, medical and pharmacological approaches to the management of people with severe asthma. Such a multi-faceted condition needs a more holistic approach for long-term management. This timely study has provided evidence that there are significant predictor factors which are significantly related to the morbidity of severe asthma, and which cannot be treated or managed with conventional asthma management strategies. Health care professionals, along with social services, need to cross boundaries, work collaboratively and closely together within and across services, with a patient-centred approach.

## References

British Thoracic Society/Scottish Intercollegiate Guidelines Network (BTS/SIGN) (2003). British Guideline on the Management of Asthma; a national guideline. *Thorax*. 58 (suppl 1).

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