

The Relationship between Patient Adherence and Written Asthma Action Plan Ownership

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SYNOPSIS

Adherence to the medical regimen is an important factor to the effectiveness of medical treatment. Adherence to an asthma-management program involves a number of areas: medication, appointment-keeping, prevention, and applying an emergency plan of action (1). In addition, poor adherence to an asthma management regimen, especially in pediatric asthma patients is due to the lack of parents and children's knowledge about the disease, the benefits of medication, and avoidance of trigger factors. One suggested solution to this problem is through providing a Written Asthma Action Plan (WAAP). WAAP is a clear, succinct, written summary of the child's asthma management that is provided to parents (2).

The aim of this study is to investigate the relationship between patient adherence and the ownership of WAAP. The study is nested cross sectional study within a larger Randomized Controlled Trial (RCT) of the utility and effectiveness of locally adapted pediatric care guidelines for General Practitioners (GPs). A total of 103 parents with children aged 2-14 years who were being seen by a GP in the RCT for management of asthma participated in the study.

RESEARCH QUESTION

Are parents who own a Written Asthma Action Plan (WAAP) more adherent to the child's prescribed frequency and dosage of medication?

OUTCOMES

The primary outcome is self-reported adherence to the medication regimen. Potential confounding factors that will be considered include the severity of asthma based on attendance to Emergency Department (ED), and self-report about the severity and the clinical symptoms. The impact of other social and demographic factors on self-reported adherence will also be determined, including income, parental smoking, education, employment, dosage, number of medication, age, and affordability of medication.

HYPOTHESIS

It is hypothesized that children whose parents have a WAAP have a higher degree of adherence to the child's prescribed frequency and dosage of medication regimen.

BACKGROUND AND RATIONALE

The phenomenon of adherence is the vital link that allows effective medications to have the desired clinical effect when self-administered (3). Adherence to an asthma-management program involves appropriate use of medication, appointment-keeping, prevention, and applying an emergency plan of action (1). Adherence is more likely when doctors and patients communicate and agree on treatment goals and patients are given the opportunity to assess the risks and benefits of using a particular treatment (4). It is often assumed that patients are generally adherent, but more than 50% of people with chronic illness do not take their medication as prescribed (2).

Non-adherence in pediatric patients with asthma becomes the most common problem especially in management of asthma (2). Children may resist medication because they may feel that they are different from their family or in their peer group due to the special attention towards them and they also have a lack of understanding about asthma and the need or benefits of preventive therapy (3). Adherence is made more difficult if

there are associated behavioral problems and if the child is intolerant of the delivery devices (2)

An Asthma Action Plan is a clear, succinct, written summary of child's asthma management that is provided to parents (3). This will provide a source of reference to reinforce the advice given during the consultation (3). An Asthma Action Plan also provides an opportunity to reinforce the different reliever and preventer medications, a concept that is often poorly understood in the community (3).

The successful adherence in children with parents' contribution with a WAAP ownership becomes one of the important things in management of asthma. It is not known whether ownership of a WAAP improves adherence. Subsequently, the aim of this study is to investigate the relationship between ownership WAAP and adherence to the asthma medication regimen by parents and caring for children with asthma.

RESEARCH DESIGN

My study design will be nested cross-sectional study within a Randomized Controlled Trial.

Population

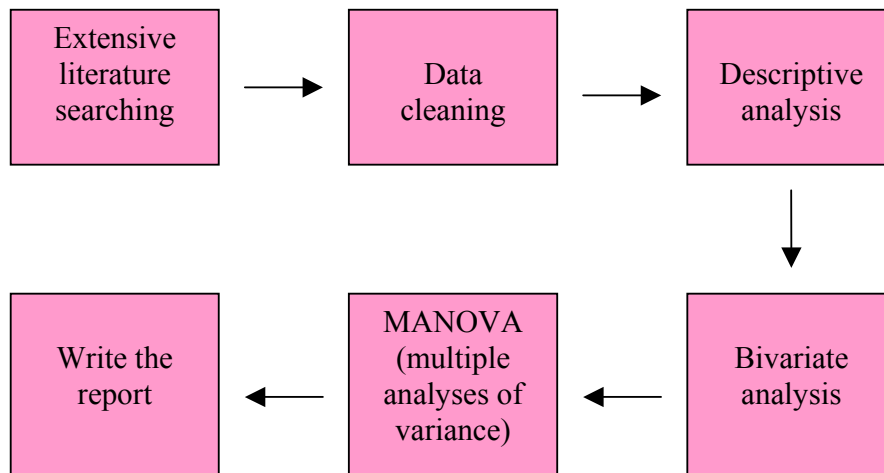
My project will involve 103 parents caring for children (age 2-14 years old) with asthma and being treated in General Practice (GP).

Comparison Group

I will compare two groups of children whose parents have a WAAP as a control and those who do not have a WAAP as a case.

Consenting parents were invited to fill in reliable and validated questionnaires. Patient data collected included the Newcastle Asthma Knowledge Questionnaire (6), parental demographic and socioeconomic data and parents self-report of their child's asthma symptoms.

Flow chart for the AMS course:



Extensive literature searching

The literature searching will be done continuously from Medline and Cochrane library in order to keep up to date the newest information.

Data Analysis

- STATA (version 7.0) will be used for data analysis.
- Data will be entered and the accuracy of data entry selected by doing frequencies.
- Test to see the difference in participants in RCT and participants in the nested study.
- Categorical data will be analyzed using contingency tables and Chi Square.
- Predictors of adherence will be determined using logistic regression.
- Results adjusted potential clustering by GP practices.
- A p-value of less than 0.05 will be considered statistically significant.

SCOPE AND LIMITATIONS

- Selection bias
- Patient self-reported can lead to measurement bias

REFERENCES:

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2. National Asthma Council (NAC). *Asthma Management Handbook Revised and Updated*; 2002. Melbourne, Australia.
3. Sawyer SM, Aroni RA. Sticky issue of adherence. *Journal of Paediatrics & Child Health* 2003;39(1):2-5.
4. DiMatteo MR. Enhancing patient adherence to medical recommendations. *Journal of American Medical Association* 1994;277(1):79-83.
5. Sherman JM BS, Hendeles L. Intervention strategies for children poorly adherent with asthma medication. *Clinical Pediatrics* 2001;40(5):253-8.
6. Fitzclarence CA, Henry RL. Validation of an asthma knowledge questionnaire. *Journal of Paediatric Child Health* 26:200-204.

APPENDIX 1

These are the questionnaire's questions that are related to a *WAAP*:

- Do you have an Asthma Action Plan?
- Is the Asthma Action Plan written down?
- Where did you get it (your child's GP, Hospital/Paediatrician, other)?
- Did your GP or clinic nurse discuss the Asthma Action Plan the last time you attended the clinic for asthma?
- Do you use the Asthma Action Plan for your child's everyday asthma care?
- Has your child had an asthma attack in the last three months? If yes, did you use your Action Plan?
- How useful did you find the Asthma Action Plan?

These are the questionnaire's questions that are related to the *patient's adherence*:

- Is your child taking as much medication as you think he/she needs to take?
- Is your child taking as much medication as you think he/she has been advised to take by your GP or respiratory specialist?
- Has your child either forgotten to take or decided not to take his/her asthma medication in the last 6 months?

APPENDIX 2

ASTHMA/ ENT TRIAL

Asthma is a major health problem with about 2,000,000 Australian being affected. Fortunately, most people with asthma lead normal lives if they are receiving optimal treatment. Recent research has shown that standardized asthma education for general practitioners can improve asthma management and reduce variability in patient care.

The main aim of this study is to examine the effects of asthma Best Practice Guidelines (BPG), administered alone or with an educational package, on the management of asthma in children in the general practice setting.

The study is a randomized controlled trial where general practices are randomly allocated to one of three groups:

- Group A will receive asthma guidelines and an education package.
- Group B will receive asthma guidelines only.
- Group C will receive ENT guidelines and an education package. This group will not receive any asthma materials and act as a control group for Groups A and B.

Each group will include 10 general practices, each of which will recruit 17 children, aged 2-14 years, giving a total of 170 children per group.

For GPs, impact of education and guidelines will be assessed by self-administered questionnaire before the education intervention and at three and six months following intervention, to assess asthma knowledge and practice.

For children, a questionnaire will be posted to their guardians before GP-education intervention and at three and six months following the intervention to monitor changes in asthma status and care over time. The questionnaire will include items on asthma knowledge, symptoms, quality of life and management.

Anticipated outcomes are:

GPs who participate in the asthma and ENT interventions will have better knowledge diagnosis and management skills, resulting in improved patient care.

Improved management of children with asthma in general practices, leading to reduced acute attacks and hospital admissions.