Research Theme
Family Medicine and Primary Care

Research Project Title
Exploring the Parental Challenges & Facilitators of Adherence to Common Therapies used for Atopic Conditions in their Young Children

Principal Investigator
Professor Helen Smith, LKCMedicine

Co-supervisor (if any)
To be advised.

Project Description
Background
Early in the history of medicine Hippocrates cautioned against relying on patients self-reports of their compliance with medical regimens, suggesting that patients try to avoid recrimination, embarrassment, rejection by the practitioner by responding in a socially desirable manner (On Decorum, 1923 translation). In the early 1970s David Sackett, better known for his work in evidence based medicine, conducted one of the first studies on compliance, after realising that the unpredictable and disappointing results of therapies for hypertension were possibly due to non-compliance. Since then the scientific literature on adherence has grown exponentially, now there are in excess of 15000 PubMed citations each year which have adherence, concordance or compliance as key words.

The issue of non-adherence among adult patients is very well documented (4% - 92%), but there remains a paucity of data on adherence rates in children (estimated 50%). In caring for the health of children one deals not only the concerns and beliefs of the parents, but also the behaviour of the young patient. In some preliminary work we have found that in response to a child refusing to take/or use their medication parents may develop alternative and novel approaches (eg restraining, distracting, bribing, role play, disguising medication (which may affect its bioavailability or pharmacokinetics) et cetera, or they may prefer not to battle with their child and discontinue therapy.
The impact on the family of repeated administration of therapies has not fully been investigated but, anecdotally, the burden is thought to be underestimated by health care professionals.

**Aim of Study**

The aims of this study is to a) explore the challenges experienced by parents with respect to the administration of long term treatments required by their young children, b) understand the impact of long term therapy on the family as a whole, and the coping strategies they develop, c) understand how parental beliefs about medicine influence their behaviours with respect to their child’s medication.

Children with atopic conditions (eczema, rhinorrhea, allergic conjunctivitis, asthma, food allergy and anaphylaxis) are to be used as our exemplar group. Atopic conditions are relatively common (in Singapore it is estimated that 40% children have rhinitis, 20% asthma and 20% atopic eczema). As well as being frequent disorders, it is not unusual for children to experience more than one atopic condition requiring the use of frequent and prolonged use of a range of dose forms and devices, such as inhalers (with or without a spacer), eye drops, nasal sprays, topical preparations, medication (may be in tablets or liquid form). Non-adherence, or modified adherence, in this group of patients has a major impact on the quality of children’s lives and the costs to the health service.

It is anticipated that this work will generate immediate impact for parents and health care professionals, through the production of a range of educational materials (online and printed) to disseminate best-practice for administering medicine to children. A longer-term objective is to inform the development of better pediatric devices and packaging.

**Research skills the student will gain:**

This doctorate program of work will enable the successful candidate to develop skills in health services research relevant to Family Medicine, (formulation of research question, critique of literature, study design, qualitative and quantitative data collection, data analysis and interpretation). In addition the candidate will learn about research governance and ethics. The initial data collection will be qualitative interviews with families and health professionals (pharmacists, nurses, family doctors and specialists).
together with an analysis of problems presented on-line to forums used by mothers. These data will inform the development of two questionnaires (one for parents, one for health professionals) that will be validated before administration to a population representative of each group. Analytical skills will be developed qualitative (NVivo) and quantitative (SPSS) data. Writing skills will be developed in conventional academic writing (abstracts ad peer reviewed manuscripts), in the preparation of information for the lay reader (printed and on-line) and educational materials for health professionals. There will opportunities for the development of generic skills in communication, team working, leadership and time management.

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<td>To discuss this project further, please email the Principal Investigator.</td>
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