

A Study Compliance to Two Alternative Drug Regimens and the Effect of Health Education on Drug Compliance in School Age Children with Bronchial Asthma

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Introduction

Chronic diseases have a tremendous effect on the growth and development of children. Bronchial Asthma is the most common chronic lung disease of childhood (Murphy & Kelly 1993) and is the major cause of hospitalization for chronic conditions and it ranks third among cause of hospitalization for children under the age of 15 and is responsible for 20% to 30% of school absences (American lung Association 1994). In India, the mortality rate due to asthma has increased to 40% from 1982 to 1991. Nearly 90% of health care needs fall under health education but Cambridge Research Institute noticed that health education is the weakest link in the health care delivery (Mahler 1989).

World Asthma Day is being celebrated every year on 3rd May. In India there are estimated 20 million asthmatics out of which there are 10-15% of it are five to eleven year old children. Asthmatic children are brought to the emergency department of paediatric hospital with acute exacerbation due to non-compliance with drug regimen. Asthmatic children are treated with two drug regimens: oral drug therapy (drug regimen I or group I) and inhalation therapy (drug regimen II or group II). Non-compliance is a problem encountered by all health professionals in patient care. So there is a need for structured health education strategy for enhancing compliance. Compliance depends on one's understanding of the disease as well as

the required treatments (Betz, Mabel & Wright 1994)

Objectives of the study were to :

- * Find out the reasons for compliance and non-compliance in drug regimen I (oral drug therapy) and II (inhalation therapy).
- * Identify the knowledge of mother of Asthmatic children before and after a structured health education strategy.
- * Find out the belief of mothers of Asthmatic children on asthma, before and after the health education strategy.
- * Determine the drug attitude of mothers of Asthmatic children before and after the intervention.
- * Identify the compliance of school going children with bronchial asthma on drug regimen I and II before and after a structured health education strategy as determined by regularity in drug intake and is supported by frequency of asthmatic attack and PEFR: (peak expiratory flow rate).
- * Compare the compliance of two groups before and after the health education strategy.
- * Find the relationship between compliance and selected variables.

Methodology

The research approach was an evaluative comparative approach. The study design selected was pre-experimental two group pre-test post-test design. The conceptual framework used for the study was based on Rosenstock's health belief model. The study population

comprised of all the diagnosed bronchial asthma children with their mothers attending the asthma clinic and outpatient department of Institute of Child Health, Kottayam, Kerala. Samples of 30 each for oral (group I) and inhalation (group II) drug therapy were selected for the study. The reliability of the data collection tools were established by test-retest method and content validity was established by experts.

The data collection period extended for three months. Pre-test was done in both groups on first day of visit by administering the questionnaire on drug compliance, knowledge, belief, drug attitude to mothers of asthmatic children. PEFR of asthmatic children were measured by providing a diary record. On 2nd visit, training was given on "Asthma: Compliance to Drug Regimen" to mothers and advised to maintain the diary of child's drug intake and frequency of asthmatic attack and PEFR of children were recorded. On 3rd visit, PEFR was recorded and reinforced training with an information leaflet was given with an advice to continue diary maintenance. On 4th visit, PEFR was recorded, the diary was collected back and post-test was administered. The data obtained were analysed in terms of both descriptive and inferential statistics. SPSS package was used for data analysis.

Findings

The significant findings of the study were:

- * The reasons for non compliance to drug regimen by group I and II were lack of knowledge of the correct technique of administering anti-asthmatic →

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forgetting medications to their child in time (93.3% and 96.7%) and lack of knowledge on the importance of regular drug intake (80% and 76.7%), respectively.

- * A 't' test computed for group I and II showed a significant gain in knowledge $t(29) = 14.42$, $p < 0.05$ and 19.21 , $p < 0.05$, change in belief $t(29) = 10.31$, $p < 0.05$, 14.46 , $p < 0.05$ and drug attitude $t(29) = 14.76$, $p < 0.05$, 14.34 , $p < 0.05$ after the structured health education strategy.
- * The drug compliance of asthmatic children in terms of regularity of drug intake showed a steady increase after the health education strategy.
- * Structured health education strategy was effective in enhancing compliance of group I and II in terms of reducing frequency of asthmatic attack and increasing PEFV values $t(29) = 12.6$, $p < 0.05$, 13 , $p < 0.05$ at 0.05 level of significance.
- * Independent 't' test showed that there was no significant difference between the regularity of drug intake of asthmatic children in group I & II before and after the structured health edu-

cation strategy $t(58) = 0.24$, $p < 0.05$. There was a significant difference in the frequency of asthmatic attack of group I and II before the structured health education strategy $t(58) = 3.02$, $p < 0.05$.

- * There was no significant difference in mean PEFV of group I and II before and after the structured health education strategy $t(58) = 1.49$, $p < 0.05$, 1.04 , $p < 0.05$, respectively. That shows both groups were similar in PEFV values before and after the intervention.
- * ANOVA was done to find the significant difference between drug compliance and selected variables. No significant relationship was found between regularity of drug intake and frequency of asthmatic attack with age $F(1,58) = 1.56$, $p < 0.05$, 84 , $p < 0.05$. No significant relationship was found between drug compliance with sex of child, education of mother, economic status of the family and duration of child's illness.

Conclusion

The findings clearly show that

there was a significant rise in the knowledge, belief, drug attitude of mother and drug compliance of asthmatic children in both oral drug regimen and inhalation drug therapy group following the structured health education strategy. Findings revealed that the compliance to the prescribed drug regimen is more important than the type of regimen followed by the client.

References

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