

# A Study to Evaluate the Structured Teaching Programme on Knowledge of Mothers regarding Prevention of Eczema among under Five Children in Selected Hospital, Bangalore

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**Abstract:** Eczema is one of the main problems of child development especially in developing countries. Ninety percent of humans will have a problem with parasites in their lifetime. In rural areas of India condition is worse because of lack of portable water and sanitary facilities. Educating mothers will help to reduce the worm infestation among their children, in a way the future citizens. A modified conceptual framework based on General System Model by LUDWIGVON BERTALAFFY (1968) theory was used for the present study. The research design adopted for this study is quasi- experimental one group pretest- posttest design. An evaluative approach with Sample size: 60 mothers of under five children (0-5) were selected as sample using cluster sampling technique. The tools used to collect the data were socio-demographic variables and structured knowledge questionnaire. The method used to collect data was self-administered knowledge questionnaire. Study was conducted at Joshi hospital varna, BGS hospital Bangalore.

**Keywords:** eczema, prevention, structured teaching program, mothers of under-five children

## 1. Introduction

Children of today are the citizens of tomorrow the prosperity of the nation depends upon the health of its future citizens. Children with sound mind in sound body are essential for the future development of the country. Children constitute the most important and vulnerable segment of our population. They are truly the foundation of the nation. While the baby is in the mother's womb is protected and remains unaffected by changes in the environment, once the baby is born gradually starts adapting to the outside world, body temperature and functioning of various organs get equipped to the surroundings.

Health education is the most effective weapon to prevent and control illness. It promotes health, prevents and reduces suffering, prolongs life with quality with less cost[1].

New born infants are delicate and vulnerable to seasonal changes. Proper care is necessary to protect them from climatic adversities. The skin is the largest organ of the body consisting about 16% of the body weight. In adults the surface area of the skin is 1.5m<sup>2</sup> not only is the skin associated with several diseases on its surface lesions may also be the external marker of a systemic disease [2].

The skin is the outer covering of the human body. It is made up of multiple layers. It guards the underlying muscles,

bones, ligaments, and internal organs etc. The skin perform many function it includes protection, sensation, heat regulation, control of evaporation, storage and synthesis and absorption etc [3].

Atopic eczema in childhood is a common disease with prevalence rates as high as 20%. Its early onset in infancy and its chronic relapsing course puts a special burden on families. Atopic eczema is not contagious, so there is no need to worry about catching it or giving it to someone. This skin condition tends to run in families. People who get atopic eczema usually have family members who have eczema, asthma etc. Atopic dermatitis is also known as infantile or childhood eczema. It is usually related with allergic reaction and characterized by erythema, edema, intense pruritus, exudation, latensification, crusting and scaling. It may associated with allergic rhinitis, asthma and immunodeficiency [4].

Atopic eczema is a chronically relapsing skin disorder with an immunologic basis. The clinical presentation varies from mild to severe. In the worst cases, atopic eczema may interfere with normal growth and development. Treatment consists of adequate skin hydration, avoidance of allergenic precipitants, topical anti-inflammatory medications, systemic antihistamines, and antibiotic coverage of secondary infections [5].

There is an association of food allergy with atopic dermatitis. Many common food allergens can trigger an allergic reaction: such as milk, nuts, cheese, tomatoes, wheat, yeast, soy, and corn. Many of these allergens are common ingredients in grocery store products. Dust is a very common allergen and irritant. The dander from the fur of dogs and cats may also trigger an inflammatory response. The primary treatment involves prevention, includes avoiding or minimizing contact with known allergens. Once that has been established, topical treatments can be used. Topical treatments focus on reducing both the dryness and inflammation of the skin [6].

Prevention of eczema for children, the main causes for eczema in children are to be avoided to prevent the disease like dust, pollen, dry winter, cosmetics, sweating, excessive heat and certain fabric cloths like coarse wool and woven material. Give daily bath to child by using mild soap and lukewarm water. This helps to avoid dry skin. Apply moisturizer at least 2-3 times a day. Management of eczema in children should follow a stepped approach, with treatment steps tailored to the severity of the eczema. Mild eczema should be managed with emollients and mild-potency topical corticosteroids, moderately-severity eczema should be managed with emollients, moderate-potency topical corticosteroids, topical calcineurin inhibitors and bandages in a stepwise approach [7].

Atopic dermatitis is very common occurrence during childhood. It is estimated that 65% of patients develop symptoms in the first years of life, and 90% develop symptoms before the age of 5. It accounts for 10-20% of all visits to dermatologists. Although it is difficult to identify exactly how many children are affected by atopic dermatitis, an estimated 20% of infants and young children experience symptoms of the disease [8]

Research suggests that prevalence is increasing and various environment factors have been implicated in the etiology. While often seen to be a minor problem research suggest that it can cause considerable disruption to the lives of children and their parents and involves significant cost for the family and health care system. globally eczema affect approximately 230million people as of 2010 (3.5% population) . The life time clinician recorded prevalence of eczema has been seen to peak informing, with female pre – dominant of eczema presentation occurring during the reproductive period of 15- 49 years. In the UK about 20% of children have the condition while in the united states about 10% are affected .to the 2nd world war (1939-45) , the rates of eczema has been found to increased substantially in the latter half of the 20<sup>TH</sup> century, with eczema in school – aged children being found to increase between the late1940s and 2000. In the developed world there has been rise in the rate of eczema over time. The incidence and life time prevalence of eczema in England has been seen to increase in recent time [9].

Little information is available about the prevalence of the skin conditions among children in general population of India. Low socio economic status, malnutrition, over crowdedness and poor hygiene are associated with the occurrence of atopic dermatitis. In India, the overall point

prevalence of the identifiable skin conditions is 38.8%. Out of that, 5.2% had dermatitis and eczema. Prevalence of atopic dermatitis has increased over the past 30 years. A similar trend has been observed in India for the past 30 years. As the time passes there is a change in life style needs and development of every individual. In the present situation the country is over polluted, populated and urbanized. The environment filled with pollution and children are more susceptible to disease. keeping in view of the review of literature studies, experts opinion on eczema that need more education to mothers on prevention of skin disorder in under-five children.

Knowledge of mothers: Results also suggest that interventions are needed to improve quality of life and prevention of eczema among under -five children with eczema [10].

## **2. Literature Review**

Literature review refers to an extensive, exhaustive and systematic examination of publication relevant to the research study.

Review of literature is essential to locate similar or related studies that have already been completed which help the investigator to develop deeper insight into the problem and gain information on earlier studies. The review provides a basis for future investigation, justify the need for data collection and relates the findings from one study to another with the hope to establish a comprehensive body of scientific knowledge in a professional discipline from which valid and pertinent theories may be developed for the present study ,the researcher had made an extensive review of literature topic, the researcher has made use of various journals, texts, med-line search and internet to avail information pertaining to related study.

### **2.1 Literature related to incidence and prevalence of eczema among under- five children.**

A study was conducted in The National Skin Centre, Singapore regarding the prevalence and descriptive epidemiology of atopic dermatitis in Singapore school children. This was a questionnaire study of 12 323 students done over a 1-year period, comprising 7 year olds (4605), 12 year olds (3940) and 16 year olds (3778) from 19 primary and 17 secondary schools randomly selected in Singapore. All children had a complete cutaneous examination. The result of the study showed that the 1-year period prevalence of atopic dermatitis was 20.8%. Atopic dermatitis was present in 22.7% of 7 year olds, 17.9% of 12 year olds and 21.5% of 16 year olds.. The study concluded that the high prevalence of atopic dermatitis in Singapore is similar to that observed in developed countries, suggesting that environmental factors may be important in determining the expression of the disease[11].

The global burden of disease conducted study on analysis of the prevalence and impact of skin condition in 2010, the study estimated 15 categories of skin disease from 1990-2010 for 187 countries. The study performed systematic literature reviews and analyzed resulting data for each

diseases like eczema, psoriasis, acne vulgaris, pruritis, alopecia areata, decubitus ulcer, urticarial, fungal skin disease, impetigo. And other bacterial skin diseases like cellulitis, viral warts, molluscum contagiosum, and non-melanoma skin cancer. The study revealed most top 10 prevalent diseases worldwide in 2010 by using disability estimates to determine nonfatal burden. Overall the skin conditions ranged from the 2nd to 11th leading causes of nonfatal disease is enormous in both high- and low income countries. The study of the result showed that there is a need of strong and immediate treatment is necessary to prevent skin disease in future global health strategies [12].

## 2.2 Literature related to cause of eczema among under-five children

The study was conducted in elementary school located in Incheon city South Korea regarding exposure to ambient ultrafine particle and urinary 8-hydroxyl-2-deoxyguanosine in children with and without eczema. The study included 779 school children were aged 8 to 12 years to collect their urine two times a week for 61 Days from April to June 2009. 18 samples were collected all samples were centrifuged at 2500 r/min for 10 minute to eliminate suspended debris. For this enzyme linked Immunosorbent assay kit was used. The study of the results showed that short term exposure to ambient ultrafine particle place a critical role in particular matter included oxidative stress in children with eczema. The study concluded that 8-OHdG is positively associated with short term exposure to UFPS and may rapidly enhance oxidative stress in children with pre-existing eczema living in urban areas [13].

Case controlled study was conducted in the international study of asthma and allergies in childhood (ISAAC) to investigate the relationship between single nucleotide polymorphisms (SNPs) in the IL13 gene and eczema. The study conducted case controlled study of the relationship between the polymorphisms of rs1800925 and rs20541 and the risk of eczema in Japanese children aged 3 years among 451 children without eczema based on ISAAC the study identified 209 cases based on criteria of ISAAC. The study of the result showed that minor TT genotype of the rs1800925 SNP and the minor AA genotype of the rs250541 SNP were significantly related to an increased risk of eczema. Odd ratio for TT geno type was 2.78% (95% confidence interval 1.22-6.30) and for the AA genotype was 2.38 (95% confidence interval 1.35-4.18). Haplotype analyses showed a protective combination between the CG haplotype and eczema, whereas the TA haplotype was positively related to the risk of eczema. Perinatal smoking exposure did not interact with genotype of the IL13 gene in the etiology of eczema. The significant association of the rs800541 SNP with eczema essentially disappeared after additional adjustment for the rs1800925 SNP, where as a relationship with the rs1800925 SNP remained significant. The study concluded that a common genetic variation in the IL13 gene at the level of both single SNPs and haplotype was associated with eczema [14].

## 3. Methodology

### 3.1 Research Approach

The research approach is an overall plan or blueprint chosen to carry out the study, the selection of research approach is the basic procedure for the conduction of research inquiry. Research approach used in this study is evaluating research approach. This type of research is beneficial when the researcher's primary interest to understand the human behavior in naturalistic contexts. Therefore, the evaluative research approach was found to be suitable for the present study.

### 3.2 Research Design

Research design is an overall plan for addressing research questions including specification for enhancing the study integrity.

In the present study the quasi-experimental, one group pre-test and post-test design was adapted to evaluate the effectiveness structured teaching programme on knowledge of mothers regarding prevention of eczema among under five children in selected hospital Bangalore.

### 3.3 Setting

Research setting is the physical location and conditions in which data collection takes place. The present study was undertaken in Joshi, Varna and BGS hospital Bangalore. This setting was selected because of the geographical proximity, availability of the samples and permission to conduct the study.

### 3.4 Research Variables

Variables are qualities, properties or characteristics of persons, things or situations that change or vary. Variables of the present study were the following.

#### 3.4.1 Independent variable:

Structured Teaching Programme on prevention of eczema.

#### 3.4.2 Dependent variable:

Knowledge of mothers of under-five children regarding prevention of eczema.

#### 3.4.3 Extraneous variable

Socio-demographic variables are age, number of children, education, religion, type of family, family income, history of atopic dermatitis and preventive methods to avoid eczema among their children.

#### 3.4.4 Population

The population of the present study comprises of mothers of toddlers at Joshi Varna BGS hospital Bangalore.

## 4. Results

The analysis of the data was a process by which quantitative information is reduced, organized, summarized, evaluated, interpreted and communicated in a meaningful way.

The analysis and interpretation of the data of this study were based on data collected by structured knowledge questionnaire on eczema and its prevention (N=60). The results were computed by using both the descriptive and inferential statistics based on the objectives of the study. The analysis of data was organized and finalized according to the plan for data analysis and presented in the form of tables and figures.

Number of children among mothers of under-five children reveals that (57%) were with more than three children followed by (30%) were with two children and (13%) with only one children.

The frequency and percentage distribution of mothers with their educational qualification reveals majority of them 27 (45%) having education up to secondary school followed by primary school 18 (30%) then 10 (17%) having high school education and only 5 (8%) studied PUC and above.

Food habits of mothers reveal (70%) were non-vegetarians and (30%) were vegetarians.

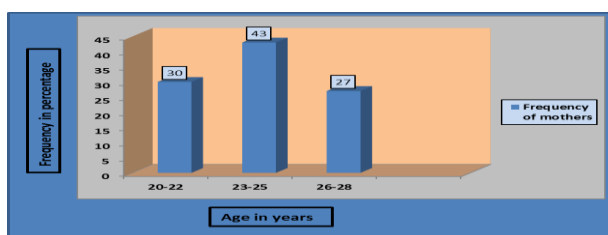
The frequency and percentage distribution of mothers of under-five children according to religion, 31 (52%) of them are Hindu, 18 (30%) of them are Muslims and 11 (18%) of them are Christians.

The frequency and percentage distribution of mothers according to type of families shows that 37 (62%) are from nuclear families and 23 (38%) are from joint families.

Family income depicted that 13 (22%) possessed income of Rs. <5000/- followed by 27 (45%) had income range of Rs. 5001/- – Rs. 10,000/-, followed by 11 (18%) had income range of Rs. 10,001/- – Rs. 15,000/- and 9 (15%) had income of Rs. >15,001/- among the mothers of under-five children.

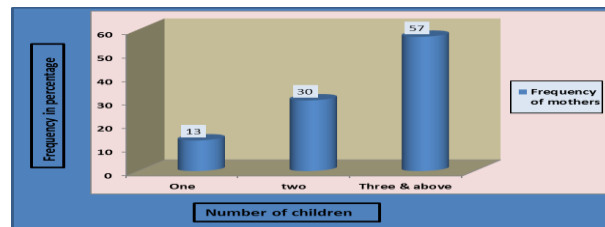
Majority of the mothers, 37 (62%) had history of eczema and 23 (38%) had no history of eczema among their children.

Majority of mothers, 34 (57%) not tried any method and 26 (43%) had tried some methods to prevent eczema among their children.



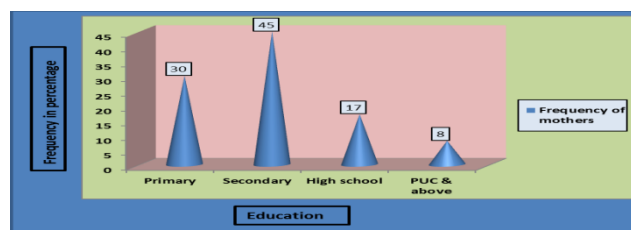
**Figure 3:** Bar diagram indicates that out of 60 mothers, majority (43%) were found in the age group of 23 – 25 years followed by (30%) in the age group of 20 – 22 years followed by (27%) in the age group of 26 – 28 years of age.

**Figure 4:** Cylindrical diagram showing the frequency percentage distribution of mothers knowledge regarding prevention of eczema according to number of children.



**Figure 4:** Cylindrical bar diagram showing the number of children among mothers of under-five children reveals that (57%) were with more than three children followed by (30%) were with two children and (13%) with only one children.

Figure 5: Cone diagram showing the frequency percentage distribution of mothers of under-five -children according to education.



**Figure 5:** The frequency percentage distribution of mothers with their educational qualification reveals majority of them (45%) having education up to secondary school followed by primary school (30%) then (17%) having high school education and only (8%) studied PUC and above.

## 5. Conclusions

This study presents the conclusions drawn, implications, limitations, and delimitations and recommendations of the present study. The focus of this study was to evaluate the structured teaching programme on knowledge of mothers regarding prevention of eczema among under-five children in selected hospital Bangalore. The study involved one group pre-test and post-test using pre experimental design; with cluster sampling technique was used to draw the samples. The size of sample was 60 mothers of under-five children and selection of the sample was done according to inclusion and exclusion criteria. The mothers completed the self-structured questionnaire in the pre-test followed by implementation of structured teaching program on the same day. Post-test was conducted 7 days after the video assisted teaching program using the same self-structured knowledge questionnaire to find out the effectiveness. The results were analyzed by using both descriptive and inferential statistics.

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