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## **A study to assess the effect of coconut oil application in promoting the healing of scabies in children's of selected orphanages**

**Anu PS and Dr. Shweta Joshi**

### **Abstract**

**Introduction:** Scabies is a condition of very itchy skin caused by tiny mites that burrow into skin. Scabies can affect people of all ages and from all incomes and social levels. Scabies causes severe itching leads to prolonged and often intense scratching of the skin. When the skin is broken or injured due to scratching, secondary bacterial infections of the skin. Coconut oil is very good at hydrating skin. It has antibacterial properties and is the all-in-one natural solution to all skin problems. It soothes bug bites, speeds healing, helps with rashes, acts as an antioxidant to prevent cellular aging, and so much more. Problem statement is A quasi experimental study to assess the effect of coconut oil application in promoting the healing of scabies in children.

**Material and methods:** Research approach: Evaluative approach, Research design: quasi experimental pre-test- post-test control group design. The setting for the study was selected orphanages in PCMC area. Non probability purposive sampling technique is used to select 60 samples. Tool for the data collection will consist of two sections, Section I- demographic /clinical profile and Section II- Observation check list for assessing the healing of scabies. Tool validity was done and tool was found reliable. Study found feasible after pilot study.

**Result:** In the total children's Majority of the children affected were in the age group of 6-10 years, and were male children. Most of them were having independent self-care activities and satisfactory cleanliness. All the samples were having more than 2 recent contacts with scabies patient. Majority of samples were having less than 1 week duration of present scabies infection. All the samples had scabies for the first time. There is no significant association found between demographic variable and degree of scabies. Paired t-test done to compare the healing of scabies in control and experimental group. t was found to be 2.68 at 58 degrees of freedom and 5% level of significance. P-value was 0.01, which is less (smaller than 0.05). The level of healing of scabies in experimental and control group are significantly different. Average healing of scabies in the experimental group is more than that in control group. Coconut oil application is found to be significantly effective in promoting the healing of scabies.

**Conclusion:** The average improvement in the experimental group is significantly higher than the control group. So the null hypothesis was rejected. The research was concluded at 5% level of significance and 58 degree of freedom that coconut oil application significantly promotes the healing of scabies.

**Keywords:** Effect, scabies, coconut oil, healing

### **Introduction**

Scabies is common skin infection among children's, especially in poor socioeconomic classes and in overcrowded situations. Scabies infection spread rapidly and is difficult to treat. Many of the medicine used to treat scabies are not safe for pregnant ladies and children's, some symptoms like itching continues for 4-6 months after the treatment, so along with the treatment home remedies are also advisable. Coconut oil is a good source of vitamin E which is considered to be good for skin and is effectively used as home remedy for most of the skin problems and is economical in the Indian situations, Hence the researcher felt the need to study the effect of coconut oil application in promoting the healing of scabies

### **Methodology**

#### **Research approach**

Evaluative research approach

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### **Research design**

Quasi experimental pre-test post-test control group design.

### **Research setting**

The present study is conducted in selected orphanages in PCMC, Pune.

### **Variables**

#### **Dependent variable**

Dependent variable is healing of scabies

#### **Independent variable**

The independent variable in this study is coconut oil application.

### **Population**

The populations of the present study consist of children's below 15 years of age who has scabies.

### **Sampling criteria**

#### **Inclusion criteria**

Children who having scabies.

Who are willing to participate in the Study

#### **Exclusion criteria**

Patient who got allergy towards coconut oil.

Patient who got secondary infections

### **Sample**

In this study sample are children below 15 years of age residing in the selected orphanages.

### **Sample size**

sample size is 60 children's below 15 years of age, 30 children's for the control group and 30 children's for the experimental group.

### **Sampling technique**

Non probability purposive sampling technique.

### **Development of tool**

The following steps were adopted in the development of the tool

- Review of literature
- Personal consultation and discussion with the nursing experts, Paediatricians, and dermatologist
- Content validity of the tool
- Reliability testing of the tool by using the inter rater method

### **Data collection technique and tool**

In this study the tool for the data collection consist of three sections

Section I- demographic/clinical profile

Section II- Observation check list for assessing the healing of scabies.

Technique for the data collection used was observation technique.

### **Validity**

The tool was validated by 20 experts. Their valuable suggestions and corrections were taken into consideration and later were discussed with the respective guide and finalized the tool.

### **Reliability**

The reliability was done by inter rater method, calculation was done by kappa correlation formula and the reliability coefficient was found to be 0.74, the tool is considered to be significant if the reliability coefficient is more than 0.7. Hence the tool is reliable.

### **Pilot study**

The investigator conducted the pilot study on 10 children under 15 years of age with scabies to test the practicability of the tool and to decide on a plan for statistical analysis. After the pilot study tool was found to be feasible.

### **Procedure for data collection**

The formal written permission was obtained from the concerned authority of the orphanages, and the research ethical committee to conduct the study. The purpose of the study and the procedure of data collection was explained to the authority and informed consent was obtained. The children who met the inclusion criteria was selected using non probability purposive sampling technique. Then the samples were divided into two groups, group I –control group and group II experimental group. Demographic variable and clinical profile were collected from both group. In the experimental condition, the degree of scabies was assessed by using the observation checklist for the healing of scabies. Coconut oil applied on the lesion using a clean gauze and it kept on the lesion for 15 minutes and after that provided bath to the children using mild soap and water. Then the symptoms reassessed using the same observation checklist. In the control condition symptoms of scabies were assessed using the observation checklist for the healing of scabies after that the children received the routine care throughout the procedure. The same procedure carried out for continuous 15 days and the healing of scabies both in control and experimental group was assessed on every day by using the observation check list for the healing of scabies. About 30-45 minutes taken to collect data from 1 patient.

### **Plan for data analysis**

Data analysis will be done by using descriptive and inferential statistics.

- Item related to the demographic/clinical variable would be analysed in term of frequency and percentage
- Graphical representation will be plotted to compare the scores of experimental and control group
- Mean, median, standard deviation and mean percentage will be computed and t test would be applied

### **Result**

The data collected which is analysed by using descriptive and inferential statistics which are necessary to provide substantive summary of results.

### **Section 1: Description of samples according to demographic characteristics.**

- Majority sample 60% in the control group and experimental group (66.67%) are in the age group of 6-10 years.
- Majority sample in the experimental (66.67) and control group (56.67) are male children.

- 76.67% of children in the control group and 73.37% in the experimental group are having independent self-care activities.
- 60% in the control group and 73.37% in the experimental group are having satisfactory skin hygiene. 66.67% children in the control group and experimental group having satisfactory cleanliness of the clothes. majority sample in the control group (50%) are having long and clean nails, majority sample in the experimental group (63.33%) are having short and clean nails.
- All the samples (100%) in the control and experimental group are having more than 2 recent contact with the scabies patients.
- 53.33% in the control group and 66% in the experimental group are having less than 1 week duration of scabies infection.
- All the sample (100%) in the control group and experimental group did not had any previous occurrence of the disease.
- 73.33% in the control group and 70% in the experimental group is using permethin for the treatment of scabies. all the sample (100%) apply the medication once daily.

**Section II: Analysis of data related to the effect of coconut oil application on scabies in the experimental group.**

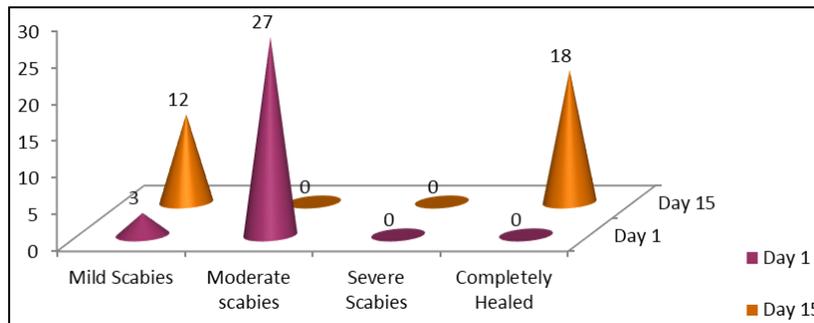


Fig 1: column diagram showing experimental group improvement from day1- day15

**Section III: Analysis of data related to comparison of healing of scabies in the experimental and control group.**

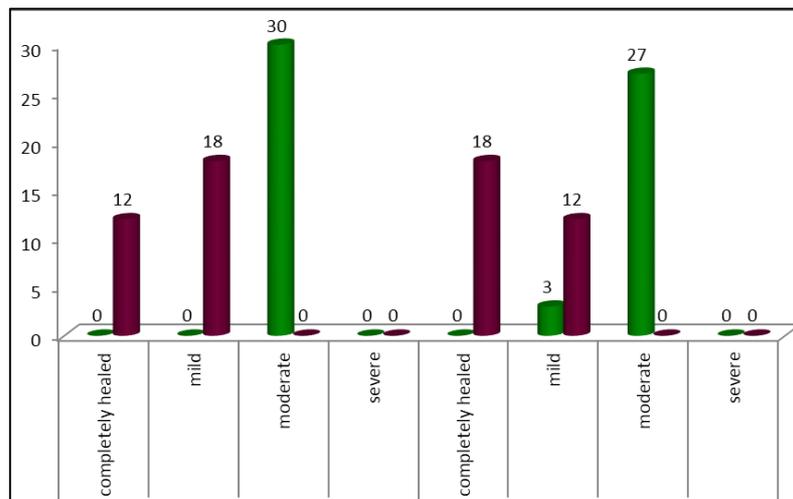


Fig 2: bar diagram showing degree of scabies in experimental and control group on day 1 and day 15.

	Mean	Variance	Frequency	Standard Deviation	df	T	P Value
Control Group	5.27	19.51	30	4.42	58	2.68	0.01
Experimental Group	2.55	10.90	30	3.28			

P-value was 0.01, which is less (smaller than 0.05). The null hypothesis is rejected. The level of healing of scabies in experimental and control group are significantly different. Average healing of scabies in the experimental group is more than that in control group. Coconut oil application is significantly effective in promoting the healing of scabies.

**Section IV: An Analysis of data to find relationship between the healing of scabies in experimental and control group and selected demographic variables.**

Sr. no	Demographic variable	p- value
1	Gender	0.096
2	Age	0.177
3	Self-care abilities	0.111
4	skin hygiene	0.285
5	cleanliness of clothes	0.192
6	condition of the nail	0.66
7	duration of present scabies infection	0.089

p-value corresponding to all demographic variables in the provided data sets is more than 0.05; hence there is no

significant association between demographic variable and degree of scabies.

### Discussion

Majority of the children affected were in the age group of 6-10 years, and were male children. Most of them were having independent self-care activities and satisfactory cleanliness. All the samples were having more than 2 recent contacts with scabies patient. Majority of samples were having less than 1 week duration of present scabies infection. All the samples had scabies for the first time. The improvement was assessed compared in control group and experimental group. Control group improvement on the first day was at the rate of 1% and on the 15<sup>th</sup> day by 58% on an average of 17% per day. The experimental group improvement on the day 1 was at the rate of 1% and on the day 15 at the rate of 80% on an average healing of 27% per day. The average day taken for the complete healing in the control group was 10.8 days and in the experimental group was 8.4 days.

P value used to find out association of demographic variables like age, gender, self-care abilities and personal hygiene with degree of scabies. The p- value corresponding to all the demographic variables were found to be more than 0.05, so the study concluded that there is no association of selected demographic variable with degree of scabies. Present study findings show that many of the skin diseases can be effectively treated with coconut oil which is very economical in Indian conditions.

### Conclusion

The focus of the study was to assess the effectiveness of coconut oil application in promoting the healing of scabies in children's. The study involved quasi experimental pre-test post-test control group design. The samples were divided into two groups, group I –control group and group II experimental group and routine care was provided to the control group and coconut oil application was provided to the experimental group for 15 minutes before bath along with routine care. The level of healing of scabies was assessed by using observation check list for the healing of scabies. On the day 1, control group having 30 children with moderate degree of scabies and experimental group with 27 children with moderate degree of scabies and 3 children with mild degree of scabies. On day 15, control group having 12 children who got completely healed and 18 with mild degree of scabies and experimental group having 18 children who got completely healed and 12 child with mild degree of scabies. The average day taken for healing in control group was 10 days and average days taken for healing in the experimental group was 8 days. So there is significant effect of coconut oil application in promoting the healing of scabies in children

### Limitations

- This study is restricted to children's residing in the selected orphanages.
- Limited samples were taken for the study.
- Data collected only through the baseline data and observation check list for the healing of scabies.
- Data collection period was limited.

### Recommendations

Keeping in view the findings of the study, the following recommendations are made:

- A similar study may be replicated on large samples; there by findings can be generalized.
- The study can be undertaken in different settings (such as home and creches) and different target population.
- A comparative study can be done in rural and urban settings.
- A comparative study can be done using coconut oil and Neem oil in promoting the healing of scabies.

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