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## ABSTRACT:

Ayurveda is one the oldest healing system in the world originated from the India and also native to Bangladesh, and more than 300 compound formulations are available commercially in Bangladesh. Panchatikta Ghrita Guggulu (PTK-G) is one of the leading products in Bangladesh used for skin disease as well as many other ailments though the efficacy data are lacking due to a few studies on it especially in Bangladesh. The aim of the study was to find out the effectiveness through symptomatic evaluation. Quantitative pre-test post-test study was designed and 20 eczema patients of both sexes were selected quasi-randomly from Kaliakoire, Gazipur, Bangladesh in 2014 and administered 500 mg capsule 3 times a day for 6 weeks. Demographic pattern, itching, vesicle formation, oozing, fissure, swelling of lesion and size of lesion were measured and pictorial evaluation was done before and after the study. The prevalence is higher in female patients than male i.e 70 % of female patients suffer from eczema. Lesion size was improved 69.47% which was statistically significant ( $p=0.002$ ). There were 90.23%, 55.75%, 86.40%, 81.34% and 76.84% decreases was noted in itching, vesicle formation, oozing, fissure and swelling respectively which were statistically significant. Throughout the experiment it may be assumed that PTK-G is effective drug for eczema, though the effects are not clearly visible and required further study in large scale.

*Key words: Ayurveda, PTK-G, VAS, Symptomatic evaluation.*

## INTRODUCTION

Ayurveda is one the oldest healing system in the world originated from the India and also native to Bangladesh. Ayurveda is the combination of two words i.e Ayu and Veda, where Ayu means life and Veda means knowledge. So Ayurveda is "the science of life" that imparts complete knowledge of physical, chemical, biological and spiritual dimension of life, which embracing not only medicine, but also covering all the aspects of philosophy, science, psychology, lifestyle and health etc. The goal of treatment of disease consists avoiding causative factors responsible for dosha imbalance. Principle of treatments comprises shamshodana and shamshamana where shamshamana means curative treatment using medicine. Normally treatment measures involve use of medicines, specific diet and prescribed routine activities.<sup>[1]</sup> Ayurveda has been being practiced in Bangladesh for many years and more than 300 compound formulations are available commercially in Bangladesh. Panchatikta Ghrita Guggulu (PTK-G) is one of the leading products in Bangladesh used for skin disease as well as many other ailments like bone and joint diseases and inflammatory disorders that help fight infection, calms the tridoshas, and purifies the blood.

Panchatikta Ghrita Guggulu (PTK-G) is an ancient Ayurvedic medication prepared from 5 bitter herbs like Neem (*Azadirachta indica*), Guduchi (*Tinospora cordifolia*), Vasaka (*Adhatoda Vasaka*), Patola (*Trichosanthes dioica*), and Kantakari (*Solanum xanthocarpum*) with Guggulu (*Commiphora wightii*) and consisting of 24 more herbs as per Bangladesh National Ayurvedic Formulary<sup>[2]</sup> blended in ghee. Though clinical data on PTK-G are lacking, the Ayurvedic Physician prescribes this drug empirically in skin disease for long time.

Taking into consideration, the widespread use of Ayurveda as the popular form of traditional medicine in Bangladesh, one cannot emphasize enough the need for establishing without clinical evidence. Keeping in mind, the study on Ayurvedic formulation, **Panchatikta Ghrita Guggulu** (PTK-G) was explored a spectrum of its clinical evidence based one symptomatic evaluation. The aim was to have a better understanding of the possible efficacy of PTK-G.

## **MATERIAL AND METHODS**

Quantitative experimental Pre-test and post-test study was designed and carried out among 20 patients aged between 12 years to 60 years selected by quasi-random sampling method. Detail history was taken from each subject who included age, sex, occupation, educational status, marital status, family history and drug history, bowel habit and duration of the disease. Patients were selected after getting written consent. Patients suffering from acute illness, known serious chronic disease and chronic renal failure, severely ill persons, malignancy and drugs taken by the patients which might be influenced the study result were excluded from the study.

For the experiment, the drug PTK-G was manufactured at pharmacology laboratory of Jahangir Nagar University and the capsules were filled using automatic capsule filling machine to ensure the uniformity of the dosage. Before production the raw material was procured and collected from the local market and nursery, and identified based on the Ayurvedic parameters varna (color), gandha (odour), rasa (taste), aakruti (shape) and parimana (size). The authenticity of the species of the raw materials was checked and confirmed according to macroscopic and microscopic characteristics. The plant material including guggulu was cleaned physically by using sterilized cloth duster to remove dust and by air blowing to remove minute sand particles. The raw materials were washed and dried accordingly. Some toxic herbs like aubish and Vallatak were purified as Ayurvedic purifying method. The capsule filling machine was totally automated and 500 mg was filled in a capsule. The dose was one capsule three times a day for a patient for six weeks. Data were collected with prepared questionnaire form from a health camp at Kaliagore, Gazipur. Itching, Vesicle, Oozing, Fissure, Swelling and size of Lesion were considered as symptom to assess the patients. The visual analogue scale (VAS) was used to measure the symptom and measuring tape was used to measure the lesion size and data were collected before and after the treatment. A Visual Analogue Scale (VAS) is a measurement instrument that tries to measure a characteristic or attitude that is believed to range across a continuum of values and cannot easily be directly measured. [3]

### **Photographs of Medical camp for clinical trial**



Patients gathering

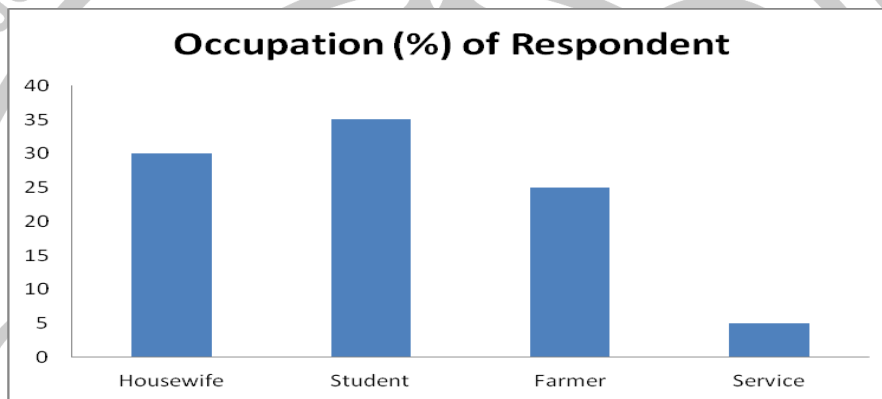


Patients were waiting for checkup

According to VAS the symptoms were described as none, mild, moderate, or severe, the following cut points on the VAS have been recommended: None (0– 10 points), mild (10 - 44 points), moderate (45–74 points), and severe (75–100 points). Finally statistical analysis was done using Microsoft Excel and SPSS.

## RESULTS AND DISCUSSION

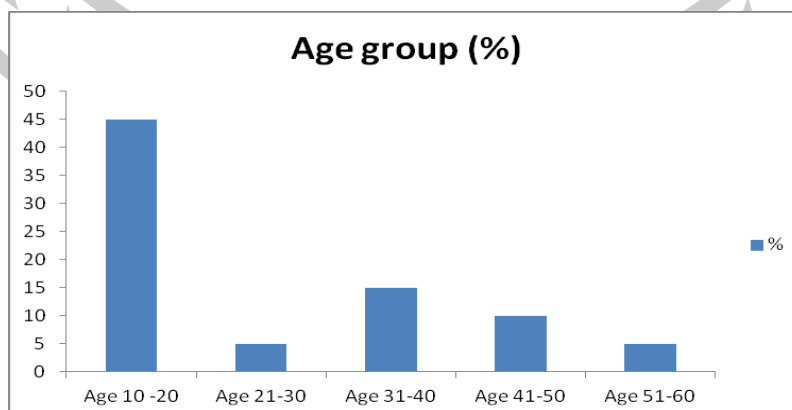
A clinical trial has been conducted in an attempt to find out the symptomatic response of PTK-G on Eczema. Experiment was carried out in both male and female human subjects to observe the symptomatic effect after administration of PTK-G with a dose of 500 mg three times a day. Among 20 subjects, male were 06 (six) and female were 14 (fourteen) i.e 70 % of female and 30 % of male respondents were participated in the study. Though the proportion was not equal, the study outcome may express the prevalence is higher in female patients than male or it may say that almost 70 % of female suffer from skin disease especially eczema at Kaliakoir, Gazipur among participated female patients. Diverse occupational people were participated in the study and common scenario is given in below figure 1:



**Figure 1. Occupational variation of respondent participated in PTK-G study in Kaliakoir, Gazipur, Bangladesh in 2014.**

From the figure 1, it is found that the disease that means eczema prevalence is more in student (35%) and housewife (30%). Though 20 % prevalence is found in farmer, it is noticeable yet. Lowest occurrence is found in service. It is not clear why this is happened. It may be the influence of any confounding factors like hygiene and educational awareness might be studied in future.

There was also age variation among the participated people where minimum age was 12 years and maximum was 60 years and mean value was 32.21 years. Age frequencies are shown in figure 2:

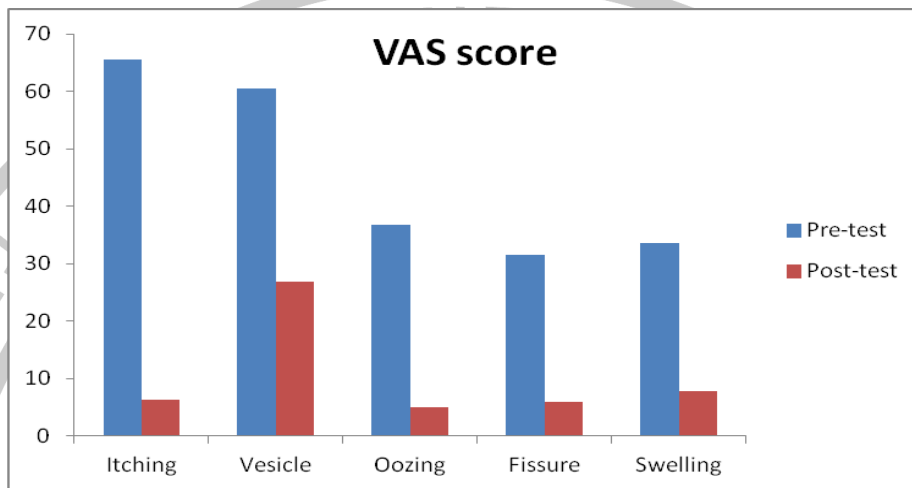


**Figure 2. Age frequency percentage of participated respondent in PTK-G study in Kaliakoir, Gazipur, Bangladesh in 2014.**

From the figure 2, it is found that maximum respondents were belong the 10 to 20 age group that might be assumed that the eczema frequency or prevalence were more among the young age group followed the second highest prevalence were in middle age that was 31 to 40 years age group. Noticeable respondents were found in 41 to 50 years age group also.

### Symptomatic evaluation

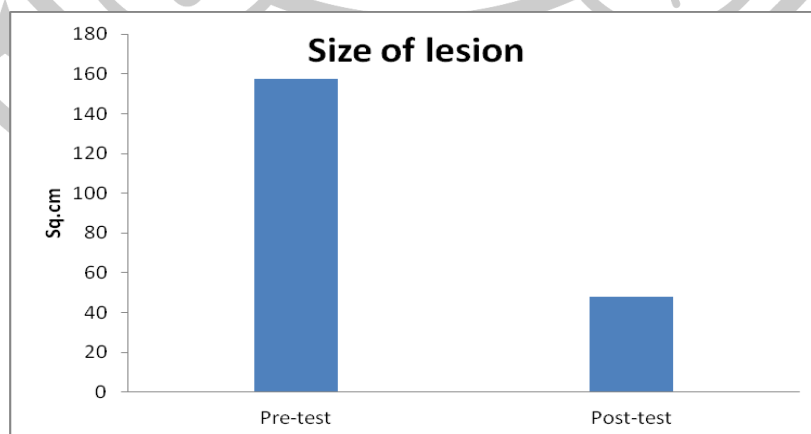
#### Itching, Vesicle, Oozing, Fissure and Swelling



**Fig 3. Symptomatic VAS score in eczema patients before and after the treatment with PTK-G in Kaliakoir, Gazipur in 2014.**

From the figure 3, it is found that there was remarkable improvement noted in post-test study. There were 90.23%, 55.75%, 86.40%, 81.34% and 76.84% decreases noted in itching, vesicle formation, oozing, fissure and swelling respectively which were statistically significant. VAS score reveals that there was none of itching, oozing, fissure and swelling after the treatment and vesicle formation was mild. From the figure 3 we may assume that PTK-G is beneficial to lessen the symptoms of eczema.

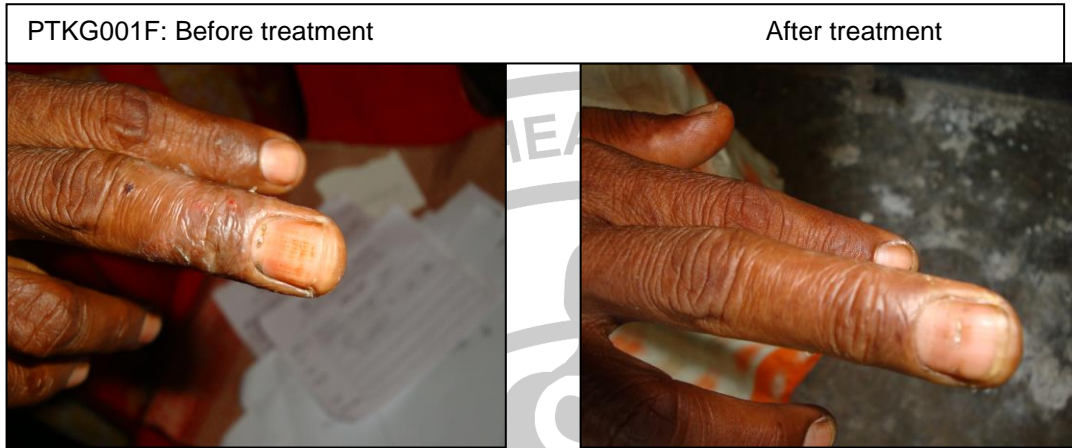
#### Lesion size



**Figure 4. Size of lesion in eczema patients before and after the treatment with PTK-G in Kaliakoir, Gazipur in 2014.**

The lesion was calculated using measuring tape and expressed in square centimeter. The mean lesion size was 157.6 sq.cm before the treatment. There was significant changed found after the treatment. The improvement was 69.47% which was statistically significant ( $p=0.002$ ).

**Pictorial presentation (before and after the treatment)**





Almost every patient mentioned that the symptom especially itching and oozing were increased in first week after administration of medication. From the second week, all symptoms including itching, oozing start to come down and it never increase afterwards. After six week of drug administration maximum symptoms were decreased significantly. So, it is assumed that itching may be increased initially and caution should be taken in acute severe condition.

## CONCLUSION

PTK-G is well tolerated effective drug in Ayurveda, have been using more than fifty years in Bangladesh empirically. To find out the scenario of clinical effectiveness, a symptomatic evaluation was done among 20 eczematized patients at Kaliakoire, Gazipur, Bangladesh in 2014 using 500 mg PTK-G drug in a capsule form three times a day for 6 weeks. All throughout the experiment remarkable improvement was noted in itching, vesicle formation, oozing, fissure and swelling the lesion. The sizes of lesions were reduced statistically. The demographic scenario reveals that eczema is more prevalent among female and young aged patients.

All the effects of PTK-G were not clearly visible, because of the unavailability of the necessary facilities to run such a large number of experiments. The actual causes of the above mentioned effects were not clear at present, which need further extensive studies to draw a better conclusion in future. But all throughout the

experiment it may be assumed that PTK-G is effective drug for eczema, though the symptoms were aggravated during first week and reduced afterwards. So, precaution should be taken in severe acute condition.

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### **COMPETING INTERESTS**

There is no competing interest.

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