

## **A Quasi Experimental Study to Evaluate the Effect of Warm Compress on Dry Eye Among Elderly Adults at Selected Old Age Homes in Coimbatore**

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### **ABSTRACT**

Dry eye in the elderly population is a condition with a multitude of contributing factor and a wide spectrum of severity. A Quasi experimental study to evaluate the effect of warm compress on dry eye among elderly adults. The main aim of the study was to assess the effect of warm compress on dry eye among elderly adults at selected old age home, Coimbatore. Non randomized quasi experimental pretest – posttest with control group design was adopted in the study. By using, Non probability purposive sampling technique 60 study participants were selected based on inclusion and exclusion criteria, 30 were assigned to the experimental and control group respectively. The demographic variables, clinical variables and dry eye among elderly adults was assessed by shirmer's test scale for both experimental and control group. In experimental group, warm compress was applied on both eyes intermittently for 10 minutes morning and evening for 7 days. In control group routine treatment was given. The calculated mean level of dry eye in the right eye was 7.12 with the standard deviation of 1.42 in pretest.where as in post test ,it was 8.80 and 0.75 in experimental group with the mean difference of 1.68. In control group, the mean value was 6.46 with the SD of 1.42 in pretest. Where as in posttest, the mean value was 6.63 with SD of 1.48.The mean difference of 0.17.the calculated value 5.97 was greater than the table value at 0.001 level of significance. Hence it was concluded that warm compress is an effective method in reducing the dry eye among elderly adults.

## INTRODUCTION

Eye health is an important part of overall health. It's crucial to childhood development and independent aging in adults. Most people depend on clear vision. It enables individuals to engage in their profession, hobbies, and even the majority of daily activities. Vision suffers if any component of the visual system is dysfunctional or fails to send the brain the proper signals. Our eyes give us the ability to enjoy the world's beauty, take part in exciting new experiences, and learn new skills. The best strategies to maintain your eyes healthy and your eyesight intact are to be aware of the anatomy of your eyes and to get frequent tests or examinations (**Advanced Eye Care**).

Millions of individuals throughout the world suffer with dry eye, a serious tear film-related condition. It is a distressing issue that is frequently misdiagnosed and disregarded. The lack of specificity in the symptoms and the multi factorial etiopathogenesis of dry eye explain why the clinical diagnosis of the condition is still difficult. According to a recent study from North India, dry eye disease affects 32% of people, and 81% of those were given a severe DED diagnosis based on their symptoms. He predicted that by the end of next decade large number of urban and rural populations would suffer from DED. Besides, one billion people were known to have meibomian gland dysfunction globally (**Chatterjee, 2020**).

There are two major etiological categories of DED: aqueous-deficient dry eye (ADDE) and evaporative dry eye (EDE). EDE is characterised by greater evaporation from the ocular surface, and ADDE is characterised by decreased aqueous tear production from the lacrimal gland. Despite being predominantly linked to EDE, MGD is also common in people with Sjögren's syndrome, a significant factor in ADDE. Reduced meibum quality and quantity, as well as interference with the meibum's capacity to stop ocular evaporation and stabilise the tear film, are symptoms of meibomian gland dysfunction (MGD) (**Arita,**

**Morishige et al. 2017**).

## STATEMENT OF THE PROBLEM

A quasi experimental study to evaluate the effect of warm compress on dry eye among elderly adults at selected old age homes in Coimbatore:

## OBJECTIVES

- 1.To assess dry eye among elderly adults.
2. To find out the effect of warm compress on dry eye among elderly adults using experimental study method
- 3.To find out the association between dry eye and selected variables among elderly adults

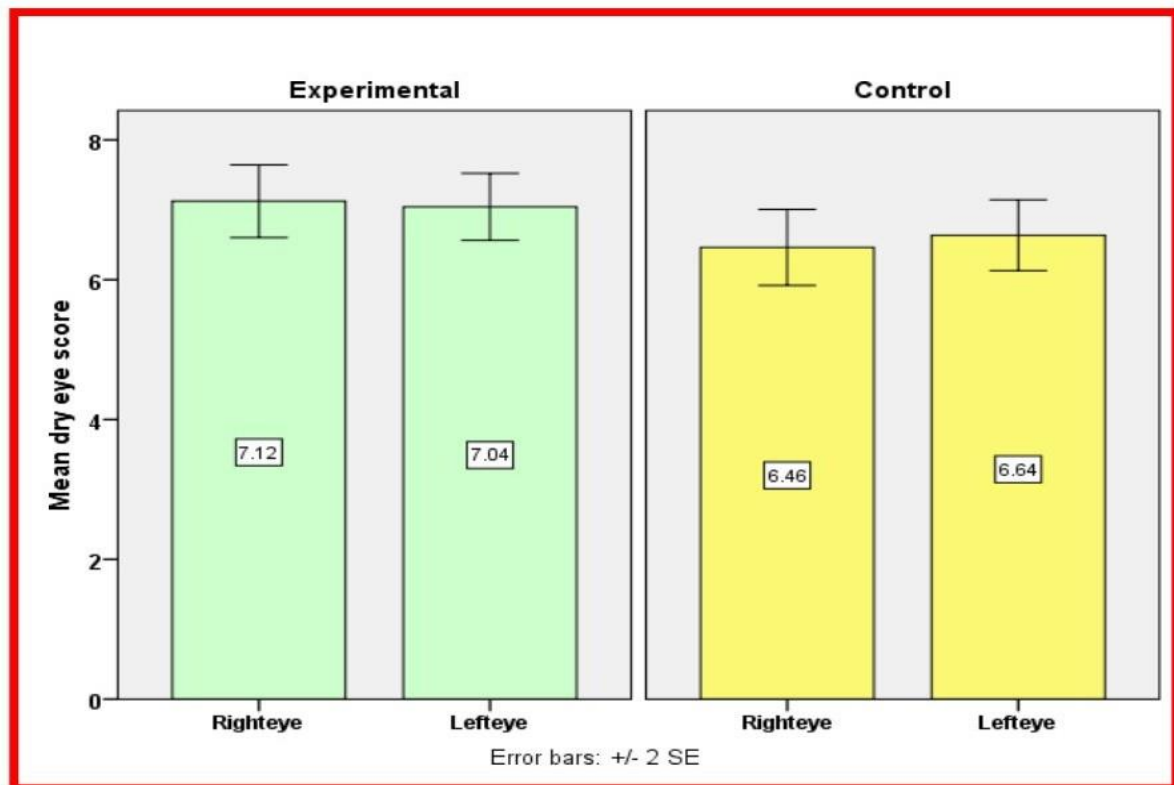
## MATERIALS AND METHODS

Quasi experimental pretest – posttest with control group design was adopted in the study. By using, Non probability purposive sampling technique 60 study participants were selected based on inclusion and exclusion criteria, 30 were assigned to the experimental and control group respectively. The demographic variables, clinical variables and dry eye among elderly adults was assessed by shirmer's test scale for both experimental and control group. In experimental group, warm compress was applied on both eyes intermittently for 10 minutes morning and evening for 7 days. In control group routine treatment was given.

### Comparison of pretest mean dry eye score in the experimental and control group.

	N	Experimental Mean $\pm$ SD	Control Mean $\pm$ SD	Mean Difference	Student's Independent t-test
Right eye	30	7.12 $\pm$ 1.42	6.46 $\pm$ 1.49	0.66	t=1.75p=0.09 DF =58 (NS)
Left eye	30	7.04 $\pm$ 1.31	6.64 $\pm$ 1.39	0.41	t=1.16p=0.25 DF = 58, (NS)

p>0.05 not significant NS=not significant In right side , there is no significant a difference in mean dry score of Right eye between experimental and control group dry score among elderly adults In left side , there is no significant a difference between experimental and control group dry score among elderly adults Statistical significance was analysed using Student' independent-test.



Simple group dry eye score in pretest bar with 2 standard error diagram compares the experimental and control

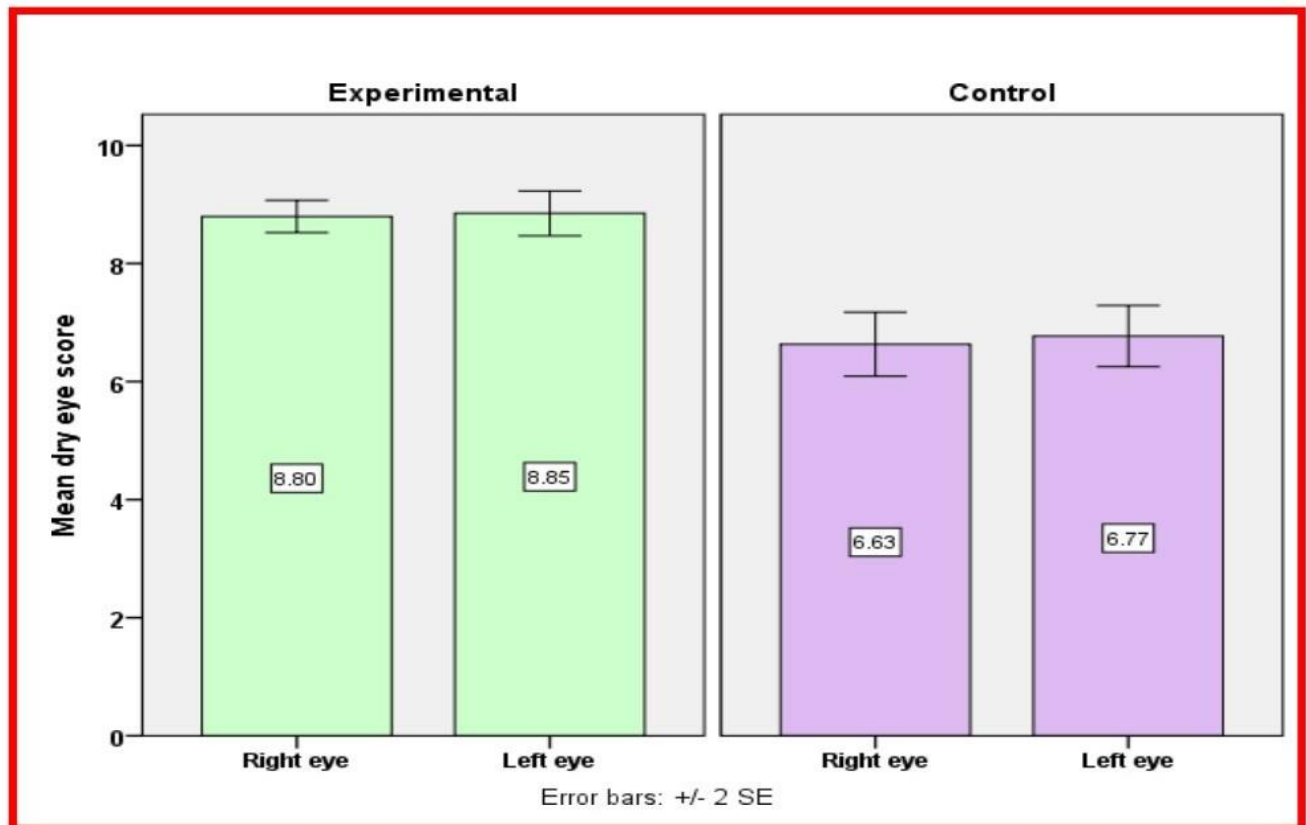
#### Comparison of posttest mean dry eye score in the experimental and control group.

	N	Experimental Mean±SD	Control Mean±SD	Mean Difference Mean	Student's Independent t-test
Righteye	30	8.80 ± 0.75	6.63 ± 1.48	2.17	<b>t=7.13 p=0.001(S)</b> <b>DF =58</b>
Left eye	30	8.85 ± 1.04	6.77 ± 1.42	2.08	<b>t=6.48 p=0.001(S)</b> <b>DF = 58</b>

P<0.05 S= significant

In right side , there is a significant a difference between experimental and control group dry score among elderly adults In left side , there is a significant a difference between experimental and control group dry score among elderly adults. Statistical significance was calculated using Student's independent-test





Simple bar with 2 standard error diagram compares the experimental and control group dry eye score in posttest

#### Comparison of mean pre and post test dry eye score in the experimental and control group in right eye

	N	Pretest Mean±S D	Posttest Mean±S D	Mean Differenc e Mean	Student's paired t- test
Experimental	30	7.12 ± 1.42	8.80 ± 0.75	1.68	<b>t=5.97 P=0.001(S)</b> <b>DF =29</b>
Control	30	6.46 ± 1.49	6.63 ± 1.48	0.17	t=1.81 P=0.07 DF = 29, (NS)

S=significant NS= not significant

In experimental group, there is a significant difference in mean score of dry eye at 5% between pretest and posttest. In control, there is no significant difference between pretest and posttest dryness score group. Statistical significance was analysed using Student's paired t-test.

### Comparison of mean pre and post test dry eye score in the experimental and controlgroup in left eye

	N	Pretest Mean±SD	Posttest Mean±SD	Mean Difference Mean	Student's paired t-test
Experimental	30	7.04 ± 1.31	8.85 ± 1.04	1.81	<b>t=5.78 P=0.001(S)</b> <b>DF =29</b>
Control	30	6.64 ± 1.39	6.77 ± 1.42	0.13	t=1.55 P=0.13 DF = 29, (NS)

S=significant NS= not significant

In experimental group , there is a significant a difference between pretest and posttest group In control, there is no significant difference between pretest andposttest group Statistical significance was calculated using Student's paired t-test

### RESULT AND DISCUSSION

The demographic variables, clinical variables and dry eye among elderly adults was assessed by shirmer's test scale for both experimental and control group. In experimental group, warm compress was applied on both eyes intermittently for 10 minutes morning and evening for 7 days. In control group routine treatment was given. The calculated mean level of dry eye in the right eye was 7.12 with the standard deviation of 1.42 in pretest.where as in post test ,it was 8.80 and 0.75 in experimental group with the mean difference of1.68. In control group, the mean value was 6.46 with the SD of 1.42 in pretest. Where as in posttest, the mean value was 6.63 with SD of 1.48.The mean difference of 0.17.the calculated value5.97 was greater than the table value at 0.001 level of significance. Hence it was concluded that warm compress is an effective method in reducing the dry eye among elderly adults.

### INTERPRETATION AND CONCLUSION:

The finding of the study emphasizes the need for introducing warm compression on level of dry eye among elderly adults. Warm compress therapy is an effective nursing procedure to reduce the level of drynessof among elderly adultS. It has to be incorporated into the routine nursing care to reduce the level of dry of eye in reducing further complications. Nurses should acquire adequate knowledge, skills and critical thinking in practicing warm compress therapy.

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