



Effectiveness of Warm Compress on Dry Eye among Elderly in selected Old age homes at Malappuram district, Kerala.

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Abstract

The study was conducted to assess the effectiveness of warm compress on dry eye among elderly in selected old age homes at Malappuram district. The objective of the study was to find out whether warm compress is effective in reducing the level of dry eye among elderly in selected old age homes. The investigator adopted the quantitative approach and study design was quasi experimental pre-post- test control group design. Investigator had chosen the sample size of 66 with 34 senior citizens from SALVA care home in the experimental group and 32 senior citizens from Karunalayam old age home in the control group. The pre-test and post-test level of dry eye in the Experimental group with Wilcoxon Signed-Rank Value of R eye was 5.02, $p < 0.001$ and L eye was 4.83, $p < 0.001$. The mean post- test of tear level was higher in the group receiving warm compress than in control group with Mann-Whitney U value of 310.5 ($p = 0.003^{**}$) on R eye and 352.5 ($p = 0.014^{**}$) on L eye. The study opined that warm compress is effective in reducing the level of dry eye among elderly. A warm compress is an easy, safe and economical methods that can be used to treat dryness of eyes among older adults.

Keywords: Warm Compress, Dry Eye, Elderly

INTRODUCTION

Background of the problem

Dry eye syndrome also called dry eye or keratoconjunctivitis sicca, is a common disorder of the tear film that affects a significant percentage of the population, especially those older than 40 years of age.¹ Dry eye is caused by decreased tear production, excessive tear evaporation, and an abnormality in the production of mucus or lipids normally found in the tear layer, or a combination of these. Poor production of tears by the lacrimal gland may be a result of age, hormonal changes, or various autoimmune diseases, such as primary Sjogren's syndrome, rheumatoid arthritis.¹

Warm compresses is very effective for home treatment of different ailments; it is an old traditional method that has been used for therapeutic purposes by health professionals for certain medical conditions. Warm compresses are a simple process that may involve a clean cloth soaked in warm water and used to gently compress the affected area, or it may mean using a warm compress eye mask. The heat from the compress may help reduce inflammation or melt accumulated oil that refuses to drain, in the case of style and meibomian gland dysfunction. Warm compresses can be very effective in some common eye conditions such as dry eyes, blepharitis, MGD, and styles.²⁵

Need and significance of the study

The prevalence rate of dry eye in India is 8%, in 2017 the prevalence of DED in North India is 32%, with the age group of 21–40 years affected most commonly.³⁵ The study conducted in Puducherry from 2015 to 2016, with 200 samples, the prevalence of dry eye in welders was observed to be 42.5%. While 32.94% of welders with bilateral dry eye showed similar grades of severity in both eyes, 27.06% displayed varying levels of severity. Dry eye was noted only in the right eye in 23.53% welders and only in the left eye in 16.47%.³⁶

Many patients with chronic dry eyes have coexisting inflammatory conditions such as meibomian gland disease and allergic conjunctivitis that may be a source of their eye symptoms. The warm compress is also helpful for relieving the dry eye and it is recommended that treated with early-stage (mild form) and literature has revealed that warm compress is equally effective and economical and it is easy to administer in the community.

Statement of the problem

“A study to assess the effect of warm compress on dry eye among elderly in selected old age homes at Malappuram district.”

Objectives

1. Assess the level of dry eye among the elderly in selected old age homes.
2. Evaluate the effect of warm compress on the level of dry eye among the elderly in selected old age homes
3. Find out the association between pre-test level of dry eye among elderly in selected old age home with their selected socio demographic variables

Materials and methods:-

Research approach: quantitative approach

Research design: Quasi-experimental non-randomized pre- test post-test control group design.

Variables**Dependent variable:**

In this study, the dependent variable is the level of dry eyes among the elderly in selected old age homes.

Independent variable:

In this study, the independent variable is warm compress.

Demographic variable

Demographic variables selected for this study were age in years, gender, systemic disease, any unhealthy habits present, previous history of dry eye, and previous history of treatment taken for dry eye.

Setting of the study:

In this study, the target population of this study was elderly residing in SALVA care home, Pandikkad and Karunalayam Old age home, Wandoor in Malappuram district

Population:

The sample comprised 66 elderly in selected old age homes at Malappuram district and who met the sampling criteria. Out of 66 elderly selected for the study, 34 samples were selected from SALVA home care as the experimental group and 32 samples from Karunalayam Old age home as the control group

Tools and techniques:

Tool I: Semi-Structured Questionnaire.

Tool II: Schirmer's 1 test (Tear Touch) used to assess the level of dry eye among the elderly.

Findings of the study were presented in four sections

Section A: Distribution of socio demographic variables of elderly in selected old age homes.

Section B: Assessment of level of dry eye among the elderly in selected old age homes.

Section C: Assessment of the effect of warm compress on dry eye among the elderly in selected old age homes.

Section D: Association between the pre-test level of dry eye and selected socio demographic variables

Section A: Distribution of socio demographic variables of elderly in selected old age homes.

3.1 Population and Sample

The sample comprised 66 elderly in selected old age homes at Malappuram district and who met the sampling criteria. Out of 66 elderly selected for the study, 34 samples were selected from SALVA home care as the experimental group and 32 samples from Karunalayam Old age home as the control group

3.2 Data and Sources of Data

In this study, the target population of this study was elderly residing in SALVA care home, Pandikkad and Karunalayam Old age home, Wandoor in Malappuram district

3.3 Theoretical framework

Variables of the study contains dependent and independent variable. The study used pre-specified method for the selection of variables. The study used the Stock returns as dependent variable. From the share price of the firm the Stock returns are calculated. Rate of a stock salable at stock market is known as stock price.

The investigator adopted Wiedenbach's Helping Art of Clinical Nursing Theory (1970) as a base for developing the conceptual framework. The study is based on the concept of the application of selected intervention to the elderly with dry eyes in selected old age homes. Ernestine Wiedenbach's proposes "Helping art of clinical nursing theory" for nursing, which describes the desired situation and the way to attain it. It directs action towards an explicit goal.

RESEARCH METHODOLOGY

The methodology section outline the plan and method that how the study is conducted. This includes Universe of the study, sample of the study, Data and Sources of Data, study's variables and analytical framework. The detail are as follows;

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3.4 Statistical tools and econometric models

Tool I: Semi-Structured Questionnaire.

Tool II: Schirmer's 1 test (Tear Touch) used to assess the level of dry eye among the elderly.

The scoring consists of ≥ 15 mm, 14-9 mm, 8-4 mm,

3.4.1 Descriptive Statistics

Frequency and percentage distribution were used to study the socio demographic variables. Mean and Standard Deviation was used to determine pre-test and post-test levels of dry eye.

3.4.2 Inferential statistics

The effect of warm compress on dry eye among elderly in experimental and control was found out using Wilcoxon rank sum. The Mann Whitney U test was used to test the post-test mean difference between the experimental and control groups. A Chi-square test was used to find out the association between pre-test levels of dry eye with selected socio demographic variables

IV. RESULTS AND DISCUSSION

4.1 Results of Descriptive Statics of Study Variables

Table 3: Percentage distribution of elderly based on previous dry eye history.

Socio Demographic	Experimental group		Control group Variables	
	Frequency f (n=34)	Percentage %	Frequency f (n=32)	Percentage %
Dry eye history				
Yes	0	0 %	0	0%
No	34	100%	32	100%

Table 3 illustrate that, both in the experimental group 34(100%), and in the control group 32(100%), none of them had previous history of dry eye

Figure 5: Percentage distribution of level of dry eye based on Schirmer's 1 test score

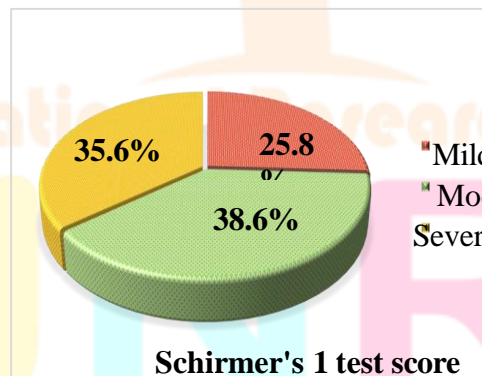


Figure 5 illustrates that, 66 samples (132 eyes) both in the experimental and control group, 34(25.8 %) had mild, 51(38.6%) had moderate and 47(35.6 %) had severe dry eye identified by the use of Schirmer's 1 test.

Table 4: Distribution of samples in Experimental and Control group based on pre- test levels of dry eye.

Level of dry eye (Schirmer's score)	Experimental group (n=34)				Control group (n=32)			
	Frequency f		Percentage %		Frequency f		Percentage %	
	R eye	L eye	R eye	L eye	R eye	L eye	R eye	L eye
Mild	7	11	20.6%	32.4%	5	11	15.6%	34.4%
Moderate	13	13	38.23%	38.2%	17	8	53.1%	25%
Severe	14	10	41.17%	29.4%	10	13	31.3%	40.6%

Table 4 depicts that 20.6 % of the subjects had mild dry eye on the right eye and 32.4% on the left eye, 38.2% of moderate dry eye on both right and left eye, 41.17% had severe dry eye on the right eye and 29.4 % on the left eye in the experimental group. And in the control group, 15.6 % of them had mild dry eye on the right eye and 34.4% on the left eye, 53.1% had moderate dry eye on the right eye and 25% on the left eye, and 31.3 % had severe dry eye on the right eye and 40.6 % on the left eye.

Table 5: Mean, Standard Deviation, Wilcoxon Signed Rank Value and p value of pre-test and post-test level of dry eye in the Experimental and Control group.

Group	Eyes	Test	Mean	SD	Median	Wilcoxon Signed Rank Value	p value
Experimental	Right	pre-test	6.17	3.87	5	5.02	<0.001***
		post- test	9.79	4.84	9		
	Left	pre-test	6.47	4.12	6	4.83	<0.001***
		post- test	9.43	4.41	9		
Control	Right	pre-test	5.94	3.57	5.75	1.34	0.181
		post- test	6.26	3.99	6		
	Left	pre-test	6.09	4.29	5.5	1.45	0.148
		post- test	6.53	4.42	6		

***Significant at 0.05 level

Table 5 depicts the effect of warm compress on dry eye among the elderly. In the experimental group, the pre-test mean score of R Eye was 6.17 with a SD of 3.87, and the mean post-test score was 9.79 with a SD of 4.84. The Wilcoxon Signed- Rank Value of the R eye was 5.02 with $p < 0.001$. The mean pre-test score on L eye was 6.47 with a SD of 4.12, and mean post-test value on L eye was 9.43 with a SD of 4.41. The Wilcoxon Signed-Rank Value on L eye was 4.83 with $p < 0.001$. It indicates that the warm compress is highly effective in dry eye among the elderly. Hence the research hypotheses H₁ is accepted, so there is a significant difference between the mean pre- test and post-test level of dryness among the elderly in experimental group.

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