Effect of Warm Compress on Dry Eyes among Elderly

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ABSTRACT

The present study aimed to evaluate the effectiveness of warm compress on dry eyes among elderly people residing in selected old-age homes in Kanpur, Uttar Pradesh. A quasi-experimental pre-test post-test control group design was used in a quantitative manner. Purposive sampling was used to choose 60 senior people. A sociodemographic questionnaire and Schirmer's test were used to gather information and gauge the degree of dry eye. The results showed that most participants in both groups were female, between the ages of 66 and 70, and did not have any allergies, poor habits, or systemic diseases. The experimental group showed a marked improvement following the warm compress intervention. Their mean dry eye score decreased substantially from 18.6 in the pre-test to 10.2 in the post-test, with a mean difference of 8.4. This change was statistically significant ($t = 13.12$, $p < 0.001$), indicating a strong effect of the intervention. The control group, on the other hand, did not significantly change, with a pre-test mean of 17.9 and a post-test mean of 16.7 ($t = 1.48$, $p > 0.05$). Additionally, pre-test dry eye levels did not significantly correlate with a number of demographic factors, including age, gender, systemic disease, allergies, and poor habits, in either group. The study concludes that warm compress is a simple, safe, and effective non-pharmacological intervention for reducing dry eye symptoms among the elderly, and can be incorporated into routine nursing care to improve ocular health and quality of life.

Key words: *Warm compress, old-age homes, Schirmer's test, non-pharmacological intervention.*

INTRODUCTION

The term "old age" describes a stage of life when individuals approach or exceed the later years of the human lifespan and average life expectancy. It is commonly considered to begin around 60 or 65 years of age, which often coincides with the typical retirement age in many developed countries.

The number of older people on the planet is still increasing at a rate never seen before. Currently, 617 million people, or 8.5% of the global population, are 65 years of age or older. This percentage is expected to increase to about 17% of the world's population by 2050 (1.6 billion), according to a recent analysis titled "An Aging World: 2015." The study looks at the socioeconomic, health, and demographic developments that go hand in hand with the aging population.

Nearly 104 million people in India are 60 years of age or older, with 51 million men and 53 million women, according to the 2011 Population Census. According to a survey published by Help Age India and the United Nations Population Fund, the number of aged people is predicted to reach 173 million by 2026. It was slightly lower for men (8.2%) than for women (9.0%). Of the senior population, 71% live in rural areas and 29% in urban ones.

NEED FOR THE STUDY

There are numerous health issues among the elderly. Hearing loss, cataracts, refractive errors, and dry eyes are a few common diseases associated with aging.Osteoarthritis, back and neck discomfort, diabetes, depression, dementia, and chronic obstructive pulmonary disease. Additionally, people are more likely to have multiple conditions at once as they get older. One typical issue affecting menopausal women over 40 is dry eye condition.

In 2007, the International Dry Eye Workshop (DEWS) proposed an updated definition of dry eye disease, taking into account its causes, underlying mechanisms, and severity. According to DEWS, dry eye is a multifactorial condition affecting the tears and ocular surface, leading to symptoms such as discomfort, visual disturbances, and instability of the tear film, with possible damage to the ocular surface. This condition is also associated with increased tear film osmolarity and irritation of the eye surface. Overall, dry eye refers to a group of tear film disorders caused by either decreased tear production or excessive evaporation, often accompanied by ocular discomfort or pain.

Dry eye syndrome is a very common illness that has become more widespread in recent years. The population is living longer, more people are using computers, more people are undergoing LASIK surgery, and more people are using medications that have side effects that negatively impact the generation of high-quality tears, all of which seem to contribute to the rising number of patients with dry eye. Burning, itchy, hurting, heavy, tired, sore, red, photophobic, and fuzzy vision are all signs of dry eyes. In addition to these symptoms, dry eyes can result in inflammation and surface damage that is often irreversible.

STATEMENT OF THE PROBLEM

“The effectiveness of warm compress on dry eyes among elderly residents at selected old-age homes Kanpur, UP”

OBJECTIVES

- To determine the pre-test and post-test levels of dry eye among elderly residents in selected old age homes in both the experimental and control groups.
- To assess the effectiveness of a warm compress in reducing the level of dry eye among elderly residents in selected old age homes within the experimental group.
- To examine the association between the pre-test level of dry eye among elderly residents in selected old age homes and their selected demographic variables in both the experimental and control groups.

HYPOTHESIS

- **H1:** There is a statistically significant difference between the pre-test and post-test levels of dryness among elderly individuals in both the experimental and control groups.
- **H2:** There is a significant association between the pre-intervention level of dryness and the selected demographic variables.

MATERIALS AND METHODS

Research Approach: Quantitative approach was used for this study

Research Design: Quasi experimental pretest Posttest with control group design

Variable

Demographic Variables: The variables used for the present study are following; age, gender, systemic disease, systemic allergy, any bad habits present.

Independent Variable – In the present study the independent variable is warm compress

Dependent Variable- Dry eyes

Setting: Swaraj Old age home and Rameshwaram Oldage home.

Population: elderly with dry eyes

Inclusion Criteria:

This study includes elderly adults:

- Elderly who are experiencing mild to severe level of dry eye as elicited by those who scored 15mm in 5 min by Schirmer's test
- Those who all are willing to participate in the study.

Exclusion Criteria

elderly adults who:

- are using other treatments for meibomian gland dysfunction or dry eye.
- have undergone ocular surgery, trauma, herpes infection, punctual plug insertion or punctual occlusion for three months.
- have had active eye infection or eyelid inflammation for three months.
- have single dry eye problem.
- elderly people those who were not present at the time of data collection.

Sample: Elderly individuals experiencing eye dryness.

Sample Size: The study included a total of 60 participants, with 30 assigned to the experimental group and 30 to the control group.

Sampling Technique: A purposive sampling method was used to select the participants.

Tools

Section B

Section A- Socio-demographic questionnaire

Section B- Schirmer's test

RESULTS & FINDINGS

Section A:

The major findings of the present study are;

- Most people in the experimental group (10) and control group (11) are between the ages of 66 and 70.
- Women make up the majority of both the experimental (16) and control (17) groups.
- Most of the elderly participants did not have any systemic diseases in both the experimental group (18) and the control group (17).
- The majority of the elderly individuals reported no systemic allergies in both the experimental group (25) and the control group (26).
- Most of the elderly residents did not exhibit any harmful habits in either the experimental group (22) or the control group (21).

Evaluate the effect of warm compress on level of dry eye among elderly residents in selected old age homes in the experimental group.

Eye Dry assessment	Mean	Mean difference	Standard deviation	df	Paired 't' value	'p' value
Pre-test	18.6	8.4	3.8	29	13.12	<0.001 S*
Post-test	10.2		2.9			

Dry eye assessment in control group

Eye Dry assessment	Mean	Mean difference	Standard deviation	df	Paired 't' value	'p' value
Pre-test	17.9	1.2	3.6	29	1.48	>0.005 NS
Post-test	16.7		3.4			

S- Significant, NS- Not SIgnificant

The results of the study showed that the warm compress intervention was very successful in lowering the degree of dry eye among the older members of the experimental group. A higher level of symptoms was indicated by the pre-test mean dry eye score of 18.6, which dramatically dropped to 10.2 in the post-test following the application of a warm compress. The dry eye condition has significantly improved, as indicated by the mean difference of 8.4. A highly significant result ($t = 13.12$, $p < 0.001$) from statistical analysis using the paired t-test confirmed that the intervention was responsible for the symptom reduction rather than chance. These results unequivocally show that using a warm compress is an easy, non-invasive, and successful way to treat dry eye complaints in older people. Hence the research Hypothesis H1 was accepted.

Section D:

Association between pre-test score and selected demographic variables of experimental group

Sl. No	Demographic variables	Chi-square value	Degree of Freedom	Tabulated value	Level of significance

1	Age	3.98	6	12.592	NS
2	Gender	0.85	2	5.991	NS
3	Systemic disease	2.41	2	5.991	NS
4	Systemic allergy	0.76	2	5.991	NS
5	Bad habits	1.52	2	5.991	NS

Note: - S^* - Significant NS – Not Significant

Association between pre-test score and selected demographic variables of control group

Sl. No	Demographic variables	Chi-square value	Degree of Freedom	Tabulated value	Level of significance
1	Age	4.12	6	12.592	NS
2	Gender	1.10	2	5.991	NS
3	Systemic disease	2.67	2	5.991	NS
4	Systemic allergy	1.02	2	5.991	NS
5	Bad habits	1.80	2	5.991	NS

Note: - S^* - Significant NS – Not Significant

The results showed that, at the 0.05% level of significance, the chi-square value was not significant. As a result, study hypothesis H_2 was rejected. It showed that, in both the experimental and control groups, there was no correlation between the pre-test knowledge score and specific demographic characteristics of the old age group.

NURSING IMPLICATIONS

Nursing Education

The results of this study emphasize how crucial it is for nursing education to provide information on non-pharmacological treatments like warm compresses. The causes, signs, and treatment of dry eye, particularly in the elderly, should be taught to nursing students. In order to empower students to deliver comprehensive and preventive care, emphasis might be placed on hands-on training in basic, economical methods such as applying warm compresses. Their ability to recognize patient requirements and carry out suitable actions to improve eye health will improve as a result.

Nursing Research

The study emphasizes the need for more nurse research on non-invasive treatments for dry eye disorders. To validate and generalize the results, larger samples, other settings, and alternative intervention periods can be used in future research. Additionally, studies might examine the long-term efficacy of warm compresses and contrast them with alternative therapeutic approaches. This will support the development of standardized care guidelines for the management of dry eye in older people and advance evidence-based nursing practice.

Nursing Administration

The results of this study can be used by nurse administrators to create policies and procedures for the treatment of dry eye in senior care facilities including hospitals and assisted living facilities. They can set up workshops and training courses for nursing staff to successfully apply warm compress techniques. In order to improve the standard of healthcare services, administrators can also guarantee the availability of essential resources and encourage the incorporation of such straightforward interventions into regular patient care.

Nursing Practice

In clinical practice, nurses play a critical role in diagnosing and treating dry eye in elderly patients. The results of the study validate the application of warm compresses as a non-invasive, safe, and successful remedy. In order to lessen symptoms, nurses can instruct patients and caregivers on appropriate methods and promote consistent use. Nurses can improve patient comfort, avoid problems, and encourage better eye health by implementing warm compresses into normal care. This will ultimately improve the quality of life for senior citizens.

CONCLUSION

The present study concluded that warm compress is an effective, safe, and non-invasive intervention for reducing dry eye symptoms among elderly individuals residing in selected old age homes. The findings revealed that the experimental group showed a significant reduction in dry eye levels after the application of warm compress, whereas the control group showed no significant improvement. Statistical analysis confirmed the effectiveness of the intervention, revealing a highly significant difference between the pre-test and post-test scores in the experimental group. Additionally, pre-test dry eye levels were not significantly correlate with certain demographic factors, indicating that the intervention is helpful regardless of age, gender, systemic disease, allergy, or unhealthy habits. Overall, the study highlights the importance of simple, cost-effective nursing interventions like warm compress in improving ocular health and quality of life among the elderly population.

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