

An Experimental Study to Assess the Effectiveness of Application Onion Juice on Physiologic Alopecia among 25-35 Year Women's at Selected Area Maharani Ward Jagdalpur (C.G.)

Bharti Singh¹, Achamma Varghese²

1 Research Scholar, Department of Nursing, Shri JYT University, Jhunjhunu, Rajasthan, India

2 Research Guide, Department of Nursing, Shri JYT University, Jhunjhunu, Rajasthan, India

Abstract:

In this study True experimental pre-test, post-test control group research design is used. The study has fulfilled the criteria of manipulation, control group and randomization. The accessible populations include 25-35 year women's, those who are living in Maharani Ward, Jagdalpur (C.G.) the sample consist of 60 women's between the age group of 25-35 year. The sampling technique used in this study was Probability-Simple Random sampling technique. Sociodemographic variables such as Age, education, occupation, monthly income of family, marital status, sleeping pattern, pattern of menstruation, type of diet. This study was designed to test the effectiveness of topical crude onion juice in the treatment of patchy alopecia areata in comparison with tap water. The patients were divided into two groups. The first group [onion juice treated] consisted of 23 patients, 16 males (69.5%) and 7 females (30.5%). Their ages ranged between 5-42 years with a mean of 22.7 years. The second group [control; tap-water-treated] consisted of 15 patients, 8 males (53.3%) and 7 females (46.6%). Their ages ranged between 3-35 years with a mean of 18.3 years. The two groups were advised to apply the treatment twice daily for two months. Re-growth of terminal coarse hairs started after two weeks of treatment with crude onion juice. At four weeks, hair re-growth was seen in 17 patients (73.9%), and, at six weeks, the hair re-growth was observed in 20 patients (86.9%) and was significantly higher among males (93.7%) compared to females (71.4%) $P < 0.0001$. In the tap-water treated-control group, hair re-growth was apparent in only 2 patients (13%) at 8 weeks of treatment with no sex difference. The present study showed that the use of crude onion juice gave significantly higher results with regard to hair re-growth than did tap water ($P < 0.0001$), and that it can be an effective topical therapy for patchy alopecia areata.

Keywords: True Experimental Study, Probability-Simple Random Sampling, Alopecia Areata, Control Group, Onion Juice

Introduction and Background of the Study

Hair is a component of the body that emerges from the skin and scalp and serves as a basic protection, sensory organ, thermoregulator, and social status symbol.

Although it has a straightforward structure, hair serves important social purposes. Keratin is a strong protein that makes up hair. Each hair's entry point into the skin is a hair follicle. The root of the hair follicle is formed by the hair bulb. Living cells divide and grow to form the hair shaft in the hair bulb. Blood vessels feed the hair bulb and supply hormones that alter hair structure and growth over the course of a lifetime.

The rate at which new hair cells are produced by follicles causes the skin's surface to grow roughly six inches every year. A strand of defunct keratin cells make up the hair. Finding a few stray hairs on your hairbrush is not necessarily a reason for concern because the average adult head has between 1 lakh and 1.5 lakh hairs and loses up to 100 to 150 of them per day.

A common type of hair loss is physiological hair loss. This particular type of alopecia (hair loss) is typically transient. These include a baby's sudden balding in the first few days of life or a pregnant woman's scattered balding shortly after giving birth. Physiologic alopecia also refers to balding that causes the straight hairline to relapse during puberty, however in most cases, this balding will be permanent.

Approximately 80 million people, according to studies, are negatively affected by baldness. Onion juice is a home remedy that has been used for ten years and has a long list of benefits. Onions are a sulfate-filled ball that can be used to treat alopecia, dandruff, balding, thinning hair, dry hair, and premature graying.

The following is a complete list of the assured benefits of using onion juice for hair care:

Treatment for alopecia, a dry or itchy scalp, balding, dandruff, thinning hair, weak or dry hair, abruptly turning grey hair, and scalp disease.

Increasing hair growth and accelerating hair renewal can both be accomplished by using onion juice. Online customer surveys on onion juice for hair growth are amazing and show observable effects. Here are several hypotheses as to why this repair is so successful:

- The antioxidant enzyme catalase, which breaks down hydrogen peroxide, is increased in onion juice. As a result, baldness is prevented and the hair development cycle is accelerated.
- Onion juice is high in dietary sulfur. Sulfur-containing amino acids are a significant piece of keratin of the hair. The sulphur in onions may also aid in the production of collagen, which in turn promotes the growth of healthy skin cells and hair.
- The rich sulfur content also helps minimize hair thinning and breakage by the restoration of hair follicles, boosts hair protein and works to restore nutrients to the scalp.
- Onion juice contains antioxidants, such as flavonoids. The antioxidants fights free radicals and helps reverse premature graying and delay graying making the hair thick and black.
- Onion's rich with antibacterial and anti-fungal properties help keeps the scalp free of infection, promoting hair growth. These all properties also help control dandruff and itchiness of the scalp.
- Onion juice stimulates scalp also improves the circulation of blood, resulting in well-nourished hair follicles. This add on volume to the hair and promotes hair growth.
- Onion juice is rich in nutrients, minerals, folic acid and phytochemicals, which increase volume, shine and hair strength and also fight premature graying of hair.
- Onion is a protected, common, and reasonable home cure that can be incredible for hair. Numerous individuals have revealed that it improves thickness, animates development, and even recovers new development when managing going bald.

Need of Study

Alopecia affects people everywhere. The estimated pervasiveness is approximately 1 per 1000 people, with a lifetime risk of about 2%. Both children and adults have the potential to develop alopecia, and both men and women experience it at roughly the same rates. An analysis of clinical data acquired from the population of Olmsted County, Minnesota, between the years of 1990 and 2009 revealed a mean age of 32 for men and 36 for women for the diagnosis of alopecia areata.

According to Orphanet's Report Series from 2017 on the prevalence and frequency of unusual diseases, the assessment of alopecia universalis' pervasiveness, According to data from Europe, there are 25 per 100,000 people, or around 1 in every 4000 people. About 80 million Americans, according to the American Academy of Dermatology, are experiencing some degree of baldness. Focus has been placed on onion juice's ability to prevent hair loss, but not on its other benefits. The theory of onion juice making men bald was recently attempted to be applied in practice. The group who used onion juice to wash their hair saw higher hair growth than the group that used regular tap water. Men also appear to have a more significant edge than women.

However, the study is older than ten years, and not all of the participants completed the test. The way onion juice works and whether or not its benefits are substantial both need further investigation. In any case, the examination is cited as substantial support for the effectiveness of onion juice in numerous continuing research and audits of physiological alopecia treatments.

All these experience and premium of the specialist propelled her to test these zones unbiasedly and logically to see the impact of onion juice on physiologic alopecia in chose ladies.

Objective

1. To assess the level of physiological alopecia among 25-35 year women's in experimental and control group.
2. To assess the effect after application of onion juice to reduce alopecia level among 25-35 year women's in experimental group
3. To compare the post test score on level of alopecia between experimental group and control group.
4. To find out the association between the demographic variable and level of alopecia among 25-35 year women's.

Hypothesis

H₁: There will be significant difference between level of physiological alopecia before and after application of onion juice.

H₂: There will be significant association between pre-experimental level of physiological alopecia with their selected socio-demographic variables.

Methodology

In this study Quantitative Experimental approach is used. It is a method in which the study variables are pre selected and defined by the investigator and the data are collected and quantified, then statically analyzed, often with a view to establishing the cause and effect of relationship among the variables. In this study True experimental pre-test, post-test control group research design is used. The study has fulfilled the criteria of manipulation, control group and randomization. Target populations of the study include all women's of 25-35 years. In this present study the accessible populations include 25-35 year women's, those who are living in Maharani Ward, Jagdalpur (C.G.) the sample consist of 60 women's between the age group of 25-35 year. The sampling technique used in this study was Probability-Simple Random sampling technique. Sociodemographic variables such as Age, education, occupation, monthly income of family, marital status, sleeping pattern, pattern of menstruation, type of diet.

Analysis: Pre-test level of alopecia of 25-35 year's women in Experimental group mean 5.7, mean % 63.33%, SD 1.64, CV 28.77%. In control group mean 6.03, mean% 67%, SD 1.74 and CV 28.85.

Table 1.1: Frequency and percentage distribution of the Pre-test level of physiological alopecia of 25-35 year women's in experimental and control group (n₁=30, n₂=30)

PRETEST	ALOPECIA SCORE			
	Mean	Mean %	SD	CV
Experimental group	5.7	63.33	1.64	28.77
Control group	6.03	67	1.74	28.85

Pre-test level of alopecia of 25-35 year's women in Experimental group 10(33.33%) of them are in normal alopecia, 20(66.67%) of them are in excessive alopecia. In control group 8(26.67%) of them in normal alopecia, 22(73.33%) of them are in excessive alopecia.

Table 1.2: Frequency percentage distribution of the Pre-test level of physiological alopecia of 25-35 year women's in experimental and control group.

Pretest	ALOPECIA LEVEL		Total
	Normal	Excessive	
Experimental group	10(33.33%)	20(66.67%)	30(100%)
Control group	8(26.67%)	22(73.33%)	30(100%)

Table: 1.3: evaluate the effectiveness of application onion juice on 25-35 year women's in experimental group.

n=30

Experimental group	ALOPECIA SCORE						
	Mean	Mean %	SD	Paired 't' test	Df	Critical value	P value
Pre test	5.7	63.33	1.64	7.49	29	2.05	.005S
Posttest	4.33	48.11	1.50				

Paired "t" test was calculated to analyze the effectiveness of application onion juice on 25-35 year's women in experimental group, shows that the average pre-test mean scores on the alopecia level 25-35 year's women in experimental group is 5.7 (SD 1.64) and the post- test mean score is 4.33 (SD 1.50). The paired "t" value was 7.49 when compared to the table value (2.05) it was high. This shows that there is significant (at P<0.05 level) relationship between pre-test and post-test scores on physiological alopecia level among 25-35 year's women in experimental group. It shows that

application of onion juice reduce the alopecia level in 25-35 year Women in the experimental group were effective. **So H_1 hypothesis is accepted.**

Table 1.4: Association between pre-test level of physiological alopecia of experimental group and control group with their selected demographic variables ($n_2=60$)

S. N.	SOCIO DEMOGRAPHIC VARIABLE			FREQUENCY			VALUE	DF	TABLE VALUE P=0.05	INFERENCE
				NORMAL	EXCESSIVE	TOTAL				
1	AGE									
ab	25-30 year			8	21	29	0.15	1	3.84	NOT SIGNIFICANT
	31-35 year			10	21	31				
2	EDUCATION									
a b c de	Uneducated			5	2	7	7.13	4	9.49	NOT SIGNIFICANT
	Primary school			2	5	7				
	High school			4	9	13				
	Higher secondary			2	10	12				
	Graduate and above			5	16	21				
3	OCCUPATION									
abc de	Profession			3	8	11	2.21	4	9.49	NOT SIGNIFICANT
	Semi profession			0	0	0				
	Clerical shop/form			2	5	7				
	Skilled worker									
	Unemployed			1	8	9				
				12	21	33				
4	MONTHLY INCOME									
abc d	<10,000						6.62	3	7.82	NOT SIGNIFICANT
	10,000-20,000			7	22	29				
	20,001-30,000			7	7	14				
	Above 30,000			4	6	10				
				0	7	7				

5	MARRITAL STATUS Married Unmarried a b c Divorced Widowed d Separated e							
		10	20	30				
		5	16	21				
		2	1	3	3.13	4	9.49	
		1	4	5				
		0	1	1				
6	SLEEPING PATTERN 5-6 hours abc d 7-8 hours 9-10 hours 11-12 hours							
		6	11	17				
		6	24	30	7.22	3	7.82	
		6	4	10				
		0	3	3				
7	DIET abc Vegetarian Non vegetarian Mixed vegetarian	2	13	15				
		5	13	18				
		11	16	27	3.51	2	5.99	

Chi- square values were calculated to find out the association between pre test scores on the levels of physiological alopecia in experimental group and control group among 25-35 year's women with their demographic variables. It reveals that there was no association between pre-test level of physiological alopecia of Experimental group and control group when associated with demographic variables of Age, education, occupation, monthly family income , marital status, sleeping pattern, , type of diet and there was association between pre test level of physiological alopecia of experimental group and control group on($P < 0.05$).

Recommendations

Based on the findings of the study the following recommendations have been made for the study

- The study can be conducted with large samples to generalize the findings
- . A study can be conducted to study the effectiveness of teaching in reducing the alopecia by application of onion juice.
- A similar study can be conducted in different settings (hospital settings).
- A pre-experimental study can be conducted in different setting.
- Family members, specially the women in age 20-40 year should be included in the study.

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