



## Cause of Hair Fall in Girls of Patna Women's College campus and Other Girl Hostels of Patna

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**Abstract :** Hair is considered as essential part of overall identity, especially for women. Hair should be nourished properly so that hair fall does not occur. There are several causes of hair fall like diet, medication, illness, stress etc. Hair fall can be experienced by any age group. The study was aimed at estimating the cause of hair fall in girls of 18-22 years of age group in Patna Women's College and other Girl hostels of Boring Road Area of Patna. It was found that many factors affect hair fall but as observed, stress is the main cause of hair fall in girls. In addition, food habits also cause poor hair growth.

**Key words:** Hair fall, stress, shampoo, dandruff, food habits.

### Introduction :

Hair fall is sudden or gradual loss of hair from the head or scalp experienced by many people. There are several causes of hair fall like diet, medication, illness and some fungal infection. Hair fall can be experienced by any age group. A human head contains about 120,000-150,000 hairs. According to American Academy of Dermatology most people normally shed 50-100 hairs a day (Rogers, 2008). This usually does not cause noticeable thinning of scalp hair because new hair is growing in at the same time which shows regeneration of hair (Myung, 2012). Some hair treatment and use of hard chemicals on hair can also cause dry hair or complete hair loss. Not taking enough protein in our diet may cause poor hair growth, our body may ration protein by shutting down hair growth. Pregnancy hormone change can cause hair loss. Overdose of Vitamin-A containing supplement or medication can trigger hair loss. Hair growth is mainly affected by many hormones. It is also affected by molecular genetics and endocrine mechanism (Alonso and Rosenfield, 2003). Hair grows in three different cycles that is anagen, catagen and telogen. About 90% of the hair on the

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head is in the anagen. The catagen or transition phase typically last for 2-3 weeks during which the hair follicle shrinks. During the telogen cycle, which lasts around two to four months, the hair rests. A strand of hair is composed of protein. At any given time about 90% of our hair is in the growing phase. For each individual, this growing phase lasts for 2-3 years. At the end of that time, hair enters a resting phase that lasts about 3 months before they are shed and replaced by new hair. If we do not get enough protein in our diet, a disproportionate numbers of hair may go into the resting phase. A key aspect of hair loss with age is the aging of the hair follicle (Lei and Chuong, 2016). Ordinarily hair follicle renewal is maintained by the stem cells associated with each follicle. Ageing of the hair follicle appears to be primed by a sustained cellular response to the DNA damage that accumulates in renewing stem cells during ageing (Matsumara et.al., 2016). Hair loss takes place when the cycle of hair growth and shedding is disrupted or when the hair follicle is destroyed and replaced with scar tissue (Schweizer et.al., 2007). At overwhelming majority of time, the hair on the scalp is growing. Hair grows about 6 inches a year for most people. Alopecia is sudden or gradual loss of hair from the head. Androgenetic alopecia, one of the most common form of hair loss, usually has a specific pattern of temporal-frontal loss in men, and central thinning in women. There are several control methods to manage the common cause of hair loss (Bergfield and Mulinari, 2001). Medication can prevent further hair loss. There are medical treatments for male and female hair loss (Avram, 2008 ; Shapiro (2013). Hair is considered as essential part of overall identity, especially for women. Survey was conducted to find out the prevalence, common reasons and consequences of hair fall in girls of Patna Women's College campus and other Girls hostels of Boring Road area of Patna.

## Materials and Methods :

Survey, for cause of hair fall, was conducted on 150 girl students of age group 18-22 years of Patna Women's College campus and other Girl hostels of Boring Road Area of Patna to find out different factors which cause hair fall. A questionnaire was prepared including information like food habits including proteinous food, stress, electrical gadgets used, shampoos used and their frequency in a week, suffering from diseases and dandruff. The study also included different control methods taken by the girls, like any natural remediation used, number of times of oiling in a week and consulting dermatologist to control hair fall.

## Results and Discussion:

The results of the investigation indicate that various factors are responsible for hair loss. The details of results are as follows:

**Table 1. Showing Percentage Of Hair fall In Girls (N=150)**

Hair Fall	In Girls of Patna Women's College Campus (%)	In Girls of Other Hostels of Patna (%)
Less Hair Fall	48	32
Medium Hair Fall	39	48
Excess Hair Fall	13	20

Table 1 shows that 48% girls were suffering from less hair fall, 39% medium hair fall and 13% excess hair fall in college campus, and 32% were suffering from less hair fall, 48% medium hair fall and 20% excess hair fall in other girls' hostels.

**Table 2. Different Percentage of Different Factors Causing Hair Fall**

Different Factors	Girls of College Campus (%)	Girls of Other Hostels of Patna (%)
Stress	71	60
Dandruff	47	34
Electrical Gadgets	11	28
Diseases	10	8

Table 2 suggests that stress is by far the biggest cause of hair fall in girls of Patna Women's College Campus and other girls' hostels of Boring Road area of Patna.

What the survey does show, is that stress plays a significant role in the lives of modern girls. In college campus 71% of the respondents stated that stress was an unavoidable part of their lives, with only 29% of those who said they had stress less life. In other hostels of Patna 60% of the girls had stress full life, whereas only 40% had normal life. Sometimes, hormonal balance can suffer after stress and this may lead to really serious problem with hair (Passchier et.al.,2006). Another hair loss problem which is caused by stress is Telogen Effluvium. The condition can be caused by sudden traumatic or stressful events (Whiting, 1996). The number of girls with stressful life is more than those with normal life, and it is the biggest cause of hair fall according to the survey.

Table 2 also shows that 47% girls in college campus and 34% in other girls' hostels having dandruff had the problem of hair loss. 11% girl in college campus and 28% girls in other girls' hostels using electrical gadgets had hair fall problem. 10% in college campus and 8% in girls' hostels suffering from disease, especially thyroid hormone problem, had hair fall problem. Hair fall can also result from certain medications, thyroid disease and nutritional deficiency such as vitamin D or too much vitamin A. The thyroid hormone plays an important part in cell division at the hair follicles level. This division of cells that prompt and influences hair growth, so any disruption will result in hair loss. Both an overactive thyroid (Hyperthyroidism) and underactive thyroid (Hypothyroidism) can cause hair fall (John,1997;Gaitonde et.al.,2012).

**Table 3. Different Shampoos used by Girls of Patna Women's College and Hostels of Patna**

Name of Shampoos	Girls of College Campus (%)	Girls of Hostels of Patna (%)
Sunsilk	18	22
Dove	14	22
L'oreal	13	20
Patanjali	10	16
Tresseme	9	10
Head & Shoulder	9	8
Clinic Plus	9	4
Kesh King	4	10
Pantene	3	8
Garnier	2	0
Others	8	2

Table 3 shows that use of different chemicals based shampoos lead to hair fall. Shampoos contains different chemical some of them are mineral oil, Lanolin, Dimethicone, formaldehyde, Ammonium lauryl sulfate, Sodium laureth sulfate etc. whose over use can cause hair fall and are considered harsh chemicals (Sinclair et. al.,2011).Using of hard chemical rich shampoos make our hair difficult to grow, shiny and strong. Hair becomes fizzy. The most preferred shampoo was Sunsilk followed by Dove, L'oreal etc. and the least preferred shampoo was Garnier.

**Table 4. Food Habits In The Girls of Patna Women's College and Other Girls' Hostels of Patna**

	Vegetarian (%)		Non Vegetarian (%)	
Hairfall	College Girls	Hostels Girls	College Girls	Hostels Girls
Less	3	4	10	16
Medium	13	20	26	28
Excess	21	12	27	20
Total	37	36	63	64

Table 4 clearly shows that according to food habits, 37% of girls in college campus and 36% of girls in girls' hostels were vegetarian and 63% girls in college campus and 64% in other girls' hostels were non-vegetarian. Vegetarian habit showed a higher percentage of hair falls as they have higher protein deficit as compared to non vegetarian. Non vegetarian can get their dose of protein from meat especially red meat, fish and eggs. These are great source of ferritin, a kind of stored iron that helps the body to produce hair cells. Vegetarians need to supplement their diet with other complete source of protein. A balanced diet can give our hair all the nutrients it needs to satisfy the definitions for healthy hair. A strand of hair is composed mostly of protein which means our hairs need protein to grow. A diet that is too low in protein may cause hair loss. Iron carries oxygen to the hair, and an inadequate intake of iron may cause the hair follicles to starve of oxygen

**Table 5. Percentage of Different Control Methods used by Girls**

Different Control Methods	Girls of College Campus (%)	Girls of Other Hostels of Patna (%)
Natural Ingredients	44	34
Consulting Dermatologists	3	14
Oil Therapy	93	94

Table 5 shows many girls were using natural ingredients such as mehendi, aloe vera, egg albumen, fenugreek seeds, lemon, yogurts etc to get rid of hair fall. It was observed that 44% girls were using natural ingredients in college campus and 34% in girls' hostels. 3% were consulting dermatologists in college girls and 14% in girls' hostels of Patna. 93% were using oil therapy in college campus and 94% in girls' hostels.

## Conclusion:

The survey indicates that there are several reasons causing the hair fall but the main cause is the stress which leads to hair fall in today's generations. In this world of competition, stress becomes the natural part in everyone's life. Girls have stress as they have started out in their career and experiencing unexplained, noticeable hair fall. When the stress becomes constant or it reaches at extreme level it can trigger hair fall condition. Use of chemical based shampoos, dandruff, use of electrical gadgets, diet, thyroid problems etc are also responsible for hair fall to a considerable extent.

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