

# The Study of Skin Cancer and its Causes Due to Current Scenarios in India

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**Abstract** - Skin cancer constitutes a small but significant proportion of patients with cancer. Although the presence of eumelanin in dark skin is protective against the development of skin cancer, it is increasingly being diagnosed in the Indian population. Skin cancer is melanoma and non-melanoma skin cancer is an uncontrolled growth and spread of cells or lesions in the epidermis (the outer layer of skin). Excessive exposure to ultraviolet radiation from the sun or other sources, like tanning beds, is the greatest risk factor for developing skin cancer. Overall, skin cancers affect more people than lung, breast, colon, and prostate cancers combined. The two most common forms of non-melanoma skin cancers are basal cell and squamous cell carcinoma. Melanoma accounts for less than two percent of skin cancer cases, but causes the most skin cancer deaths. The number of non-melanoma skin cancer (i.e., basal cell and squamous cell carcinoma) is difficult to estimate because these cases are not required to be reported to the Indian State Cancer Registry.

**Key Words:** Skin cancer, Preventing, melanoma, non-melanoma, radiation, patients

## 1. INTRODUCTION

The best way to detect skin cancer early is to recognize changes in skin growths or the appearance of new growths. Adults should thoroughly examine their skin regularly, preferably once a month. New or unusual lesions or a progressive change in a lesion's appearance (size, shape, or color, for example) should be evaluated promptly by a health care provider [1]. Melanomas often start as small, mole-like growths that increase in size and might change color.

People of all ages, races, and ethnicities are subject to developing skin cancer. Some risk factors include:

- Age. During 2008-2012, more than 74 percent of melanoma cases occurred among India residents ages 50 and older. However, nationally, melanoma is on the rise among younger people [2].
- Sex. Overall, during 2008-2012, the incidence rate for melanoma among Indiana males was 30 percent higher than among females. However, before the age of 50, the incidence rate among females was 64 percent higher than among males. Then, among people ages 55 and older, males had more than twice the risk that females did [3].
- Race. During 2008-2012, the risk of melanoma was 15 times higher for Indiana whites than for African Americans; however, anyone can develop the disease [4].

- Fair to light skinned complexion. Freckles are an indicator of sun sensitivity and sun damage.
- Hair and eye color. People with natural blonde or red hair or blue or green eyes are more susceptible to a higher risk of developing melanoma.
- Multiple or atypical nevi (moles). People who have a large number of moles (more than 50) often have a higher risk of developing melanoma [5].
- Family history. The risk for developing melanoma is greater for someone who has had one or more close relatives diagnosed with the disease.
- Excessive exposure to UV radiation from the sun and tanning beds. The US Department of Health and Human Services and the International Agency of Research on Cancer panel has found that exposure to sunlamps or sun beds is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans [6].
- History of sunburn. Sunburn at an early age can increase a person's risk for developing melanoma and other skin cancers [7].
- Diseases that suppress the immune system. People who have a weakened immune system or who are being treated with immune-suppressing medicines, have an increased risk for melanoma [8].
- Past history of basal cell or squamous cell skin cancers.
- Occupational exposure to coal tar, pitch, creosote, arsenic compounds, radium, or some pesticides.

Basal cell carcinoma might appear as growths that are flat or as small raised pink or red, translucent, shiny areas that might bleed following minor injury. Squamous cell carcinoma might appear as growing lumps, often with a rough surface, or as flat, reddish patches that grow slowly [9].

## 2. RELATED WORK

Figure 1 represents year wise incident cases of cancer from year 2004 to till now and then predicated cases of cancer till now. It is clear from figure that cancer disease increasing rapidly in India in male and female both categories.

This report provide a quick review of some useful techniques of data mining and gives a most appropriate novel approach to identify hidden patterns of cancer disease. This report also provides techniques to identifying most relevant attributes for cancer disease patents [10]. It is estimated that 240,000 men will be diagnosed with prostate cancer in 2013 making it the most commonly diagnosed non coetaneous

neoplasm in men between 2006 and 2010, the median age at diagnosis of prostate cancer was 66 years [11]. The age-adjusted incidence rate is 152.0 per 100,000 men per year men have the highest incidence of disease at 228.5 per 100,000 men per year. Approximately 16% of men born today will be diagnosed with this disease in their lifetime and approximately 30,000 men will die from prostate cancer this year making it the second leading cause of cancer mortality [12]. The importance of treating this disease and monitoring the success of these treatments cannot be overstated with regard to the impact it has on the healthcare system.

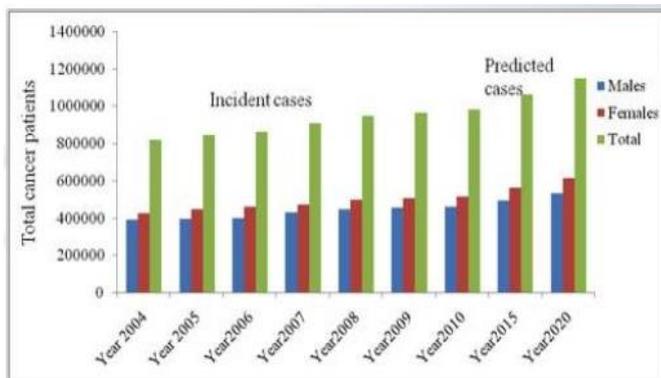


Figure 1: Year wise Incident cases and predicted cases of cancer [ICMR,2006; ICMR,2009]

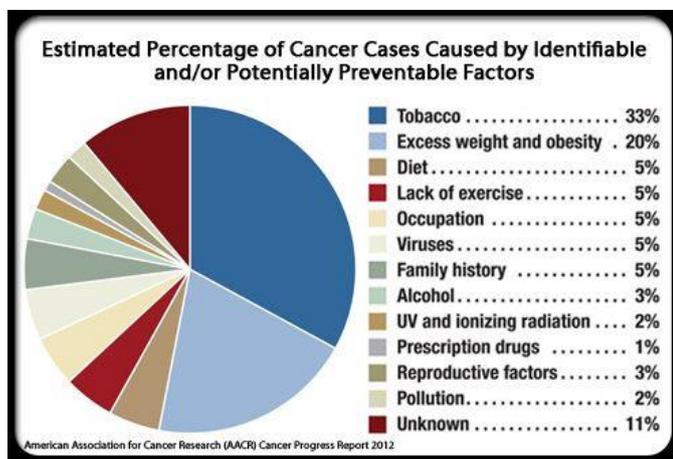


Figure 2: Percentage of Cancer Cases Caused Factor.

**Measures to prevent skin cancer.**

Avoid direct exposure to the sun between the hours of 10 a.m. and 4 p.m., when ultraviolet rays are the most intense. Wear hats with a brim wide enough to shade face, ears, and neck, as well as clothing that adequately covers the arms, legs, and torso [13]. Apply adequate amounts of broad-spectrum sunscreen lotion with a sun protection factor of 30 or higher to exposed skin. Avoid indoor tanning booths and sunlamps. Later in life. A meta-analysis of 57 studies

indicated a two-fold increased risk for melanoma among persons with a history of sunburn, compared to those without sunburn history. The susceptibility of the skin to UVR damage, including sunburns, is higher among individuals with fair skin, a family history of skin cancer, the presence of moles and freckles, or a history of severe sunburns [14]. The visible evidence of susceptibility to skin cancer and of sun-induced skin damage (sunburn and solar keratosis) and the ability of an individual to modify sun exposure provide the basis for implementation of programs for the primary prevention of skin cancer. Individual modifiable strategies to help reduce UVR exposure include using protective clothing, seeking shade, and using broad-spectrum sunscreens as an adjunct form of sun protection. While sunscreen products used properly can provide protection from sunburns, skin can still be damaged by prolonged stays in the sun [15]. Moreover, on occasions or in settings of intentional UVR exposure, sun seekers should not deliberately prolong their time in the sun.

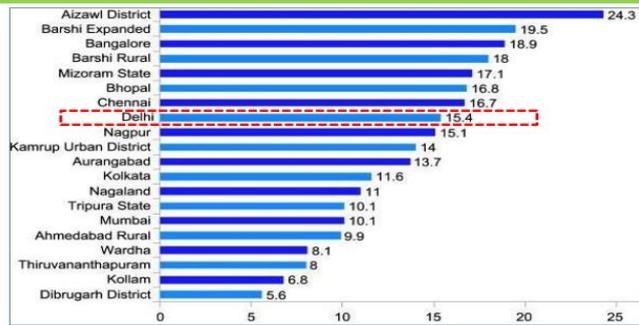
**3. OBJECTIVES**

- a study was conducted to identify techniques Changing Trends of Skin Cancer: A Tertiary Care Hospital Study in Scenarios in India.
- The study of skin cancer is detected in its early stages scenario in the society of India.

**4. IMPLEMENTATION**

The Cancer Society estimates that more than million new cases of basal cell and squamous cell carcinomas and approximately 55,100 new cases of melanoma will be diagnosed in the India each year [16]. If the cancer is detected in its early stages, it has a 95% cure rate, but current detection methods cannot adequately detect the presence of cancer. These methods are painful and costly to the patient and are not guaranteed effective. Data analysis involved lengthy statistical procedures to extract image features. Overall classification accuracies ranged from 84.21-100% for pigmented lesions and 84.62-93.33% for non-pigmented lesions [17]. The pigmented algorithm was able to identify all of the high risk lesions. Six lesions were incorrectly put into this category, but this is preferable over the problem of classifying high risk lesions as benign. The non-pigmented algorithm classified the high risk lesions (BCC, SCC) in the testing set with over 85% accuracy. It is likely that the rate is lower due to an increased number of lesions [18].

### Burden of CaCx: Latest Publication, 2015



Age adjusted incidence rates of CaCx in female (rate per 100,000)

Sreedevi A et al. Int J Womens Health 2015;7:405-14

Figure 3: Age adjusted incidence rates of female skin cancers.

The next step for this technology is to establish a statistically significant database for different types of skin lesions as well as normal skin. Furthermore, physiological parameters responsible for diagnostic optical features need to be identified [19].

## 5. CONCLUSION

Medical Health Care Improvement Services processing medical low cost and improve quality government and private health management services growing. Basal cell carcinoma is recorded as the commonest histological type and may be attributed to climate changes, exposure to UVB and high levels of arsenic in drinking water. Females are affected more than males [20]. As the incidence rate of skin cancers is dramatically increasing, a clear understanding of the multiple causative factors is an essential step in their prevention. A multipronged strategy to provide safe water supply and discouraging the indiscriminate use is recommended. Implementation of comprehensive cancer registry, which includes exposure to environmental agents, is essential in pinpointing the actual causes [21].

## 6. FUTURE WORK

Future work is suitable for determining relative color skin lesion image enhancement and An Implementation of Standard Multi-scale retinex processing works quite well as a method of compressing an image's dynamic range so that the image contrast looks better for reduce skin cancer type of problem.

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## BIOGRAPHIES



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