Project On

Survey on the causes and management of Psoriasis patients in Mirpur, Dhaka

Submitted To

The Department of Pharmacy,

Faculty of Allied Health Sciences,

Daffodil International University

In the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy

Submitted By

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Batch: 20th

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APPROVAL

This project Survey on the causes & management of Psoriasis patients in Mirpur, Dhaka, submitted to the Department of Pharmacy, Faculty of Allied Health Sciences, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy and approved as to its style and contents.

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ABSTRACT

A chronic condition caused by an overactive immune system is psoriasis. However, there is no recognized cause of plaque psoriasis. This research used a physical survey with 13 specific questions at Mirpur, Bangladesh. The results of this survey show that just 10% of respondents were aware of psoriasis, and 90% of respondents had no clue what it was. Additionally, 69% of males in this research had psoriasis, and 61.5% of respondents claimed they take medication for it. 43% of persons use tablet medication, compared to 38.5% who do not use any treatment. For psoriasis illnesses, 30% of patients use oral syrup, and 12% take oral tablets. 15% of people use injections for medicine. This study will be necessary for further research on people with psoriasis.

Keywords: Psoriasis, Pharmacological, Corticosteroids, HIV.

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DECLARATION

I, at this moment, announce that I am carrying out this project study under the supervision of "Dr. Md. Sarowar Hossain," Associate Professor, Department of Pharmacy, Faculty of Allied Health Sciences, Daffodil International University, Impartial Compliance with the Bachelor of Pharmacy Degree Requirement (B. Pharm). This project, I declare, is my original work. I also state that neither this project nor any part thereof has been submitted for the Bachelor's award or any degree elsewhere.

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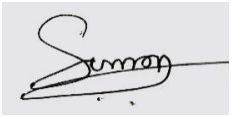

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I am grateful to God for the excellent health and well-being necessary to complete this work. I wish to express my sincere thanks to **Professor Dr. Muniruddin Ahamed,** Department Head of the Department of Pharmacy of Daffodil International University, for providing me with all the necessary facilities for the research.

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I take this opportunity to thank all Department faculty members for their help and support. I also thank my parents for their unceasing encouragement, support, and attention.

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Author

Md.Sumon Kabir

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DEDICATION

I dedicate this work to my parents and my teachers and my friends.

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Chapter One: Introduction

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1.1. Introduction

Psoriasis is an autoimmune illness that lasts for a long time and is not contagious [1]. It is characterized by elevated regions of abnormal skin. [2] These patches are red, even purple on some individuals who have darker skin, dry, itchy, and scaly. [3-4] Psoriasis may range in intensity from being limited to tiny patches in one area to affecting the whole body. The Koebner phenomenon describes the process by which an injury to the skin might result in psoriatic skin alterations at the site of the injury. Plaque psoriasis, guttate psoriasis, inverse psoriasis, pustular psoriasis, and erythrodermic psoriasis are the five primary kinds of p Psoriasis vulgaris, more often known as plaque psoriasis, accounts for around 90 percent of all cases. It manifests itself most often as red areas that have white scales on top of them. The back of the forearms, the shins, the region around the navel, and the scalp are the parts of the body that are afflicted the most often. Drop-like lesions are characteristic with guttate psoriasis. Pustular psoriasis manifests itself clinically as non-infectious blisters that are filled with pus.Psoriasis inversa causes red spots to appear in the creases of the skin. Erythrodermic psoriasis may arise from any of the other kinds of psoriasis if the rash spreads over a very large area. Nails of the fingers and toes are often impacted by psoriasis at some point over the course of the disease in the majority of patients. This condition might manifest as pits in the nails or a shift in the color of the nails.

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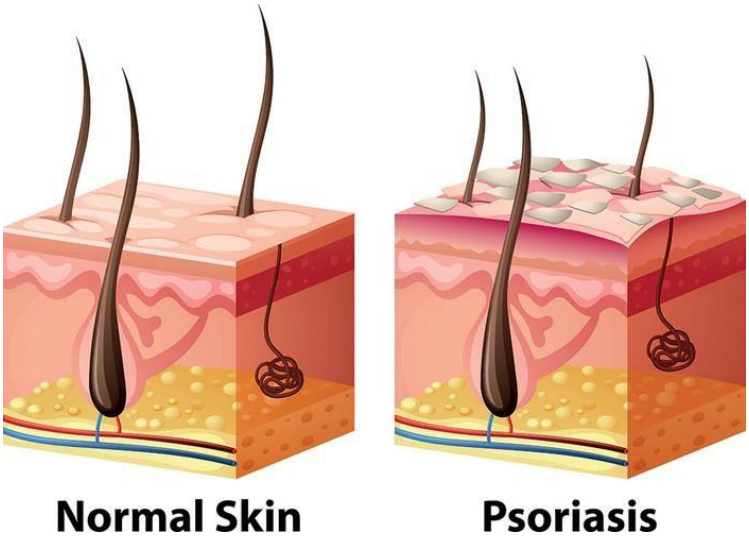

Fig 01: Psoriasis [42]

Psoriasis is a skin condition that is believed to be caused by a combination of genetic predisposition and environmental aggravators. If one twin has psoriasis, there is a three times greater chance that the second twin will also have the condition if the twins are identical to one another than if the twins are not identical to one another. This hints to the possibility that psoriasis is caused by hereditary predispositions. The symptoms often become more severe during the winter and when taking specific medicines, such as beta blockers or nonsteroidal anti-inflammatory drugs (NSAIDs). Infections and the mental stress that comes with them may also play a role. The immune system's response to the cells of the skin lies at the heart of the underlying process. The indications and symptoms are often used as the foundation for making a diagnosis. Psoriasis is a chronic skin condition that currently has no known cure; however, there are a number of therapies available that may help reduce the symptoms. These treatments include immunosuppressant medications like methotrexate as well as biologic therapies that target particular immunologic pathways, such as steroid creams, vitamin D3 creams, UV light, and ultraviolet light therapy. The use of creams alone is effective in treating around 75% of cases with skin involvement. Two to four percent of the whole population is afflicted with the condition. There is no difference in the incidence of the condition between males and women. Although the illness may manifest itself at any age, it usually

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manifests itself in maturity. Psoriasis is linked to an increased likelihood of developing psoriatic arthritis, lymphomas, cardiovascular disease, Crohn's disease, and clinical depression. [5] Up to thirty percent of those who have psoriasis also suffer from psoriatic arthritis. [6] The term "psoriasis" originates from the Greek word psora, which means "itch," and -iasis, which means "activity, condition." Together, these two words represent "itching condition" or "being itchy."

1.2. History

Psoriasis is thought by some scholars to have been one of the many skin diseases that were collectively referred to as tzaraath (which is translated as leprosy) in the Hebrew Bible. This was a sickness that was inflicted as a penalty for defamation. The individual was considered "impure" (for further information, see tumah and taharah) throughout their afflicted period, and the kohen is ultimately responsible for their treatment. On the other hand, the fact that the same Greek word was used to describe both of these illnesses is the most probable cause of this mistake. The ailment characterized by scaly skin was known to the ancient Greeks as lepra (). They referred to skin problems that caused itching as psora during the time.[7] After English doctors Robert Willan and Thomas Bateman distinguished it from other skin illnesses in the late 18th century, the condition became known as Willan's lepra. According to what they claimed, leprosy may be identified by the round and regular appearance of its patches, but psoriasis always has an uneven appearance. Willan identified two categories: leprosa graecorum and psora leprosa. [8] Cornelius Celsus, a physician in ancient Rome, is credited as being the first person to describe psoriasis. Thomas Bateman, a British dermatologist, was the first to report a probable connection between psoriasis and the symptoms of arthritis in the year 1813. [9] Psoriasis has a long history of therapies that have been questioned for their efficacy and have been associated with severe toxicity. Psoriasis was treated using Fowler's solution, which was toxic and caused cancer, by dermatologists in the

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18th and 19th centuries. Fowler's solution includes a compound of arsenic that is both deadly and carcinogenic. During this time period, another therapy for psoriasis that was often utilized was mercury. In this age, when it was wrongly thought that psoriasis was an infectious condition, sulfur, iodine, and phenol were also extensively used therapies for psoriasis. In the early 1900s, a topical therapy technique that included the use of coal tars and UV light irradiation was very common. During the same time period, patients suffering from psoriatic arthritis were treated with gold preparations that were given intravenously in the same way as rheumatoid arthritis patients were. [10]

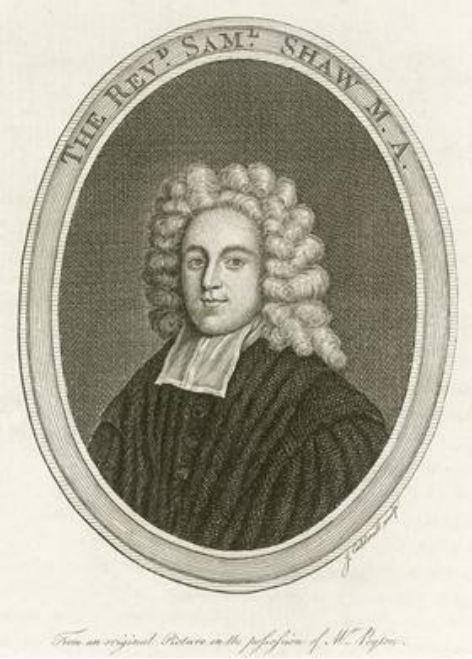

Fig 02: Thomas Bateman [43]

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1.3. Types of Psoriasis

Psoriasis comes in many forms, some of which are:

- ✓ **Psoriasis plaques.** The most common form of psoriasis manifests as elevated, crimson areas of skin that are coated with white scales. The patches form symmetrically throughout the body, most often on the head, trunk, and extremities (particularly the elbows and knees).
- ✓ **Guttate psoriasis.** Small red spots, commonly seen on the chest or the extremities, characterize this form, which is more common in children and young people. An infection in the nose or throat may spread quickly and cause an outbreak.
- ✓ **Psoriasis pustulosa.** Pustules, which are red lumps packed with pus, characterize this variety. The hands and feet are the most common sites of manifestation, however there is a widespread variant as well. Medications, diseases, stresses, and toxins may all set off symptoms.
- ✓ **Inverse psoriasis.** This kind often manifests as red, smooth patches in creases of skin, such as the groin, armpits, and the space under the breasts. Sweating and rubbing may aggravate the condition.
- ✓ **Erythrodermic psoriasis.** This kind of psoriasis is very uncommon yet causes red, scaly skin to cover much of the body. Bad sunburns and drugs like corticosteroids may also bring on this condition. People with poorly managed plaque psoriasis are more likely to develop erythrodermic psoriasis, which may be quite debilitating if left untreated.

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1.4. Signs and symptoms

Psoriasis symptoms may range from mild to severe, depending on the individual.

- Itchy or painful patches of thick red skin covered with silvery white scales, most often seen on the elbows, knees, scalp, trunk, palms, and soles.
- Skin that is dry and cracked may itch or bleed.
- Nails are thick, ridged, and pitted. [11-12]

Some people also suffer from psoriatic arthritis, a similar illness marked by painful, swollen joints. Psoriatic arthritis is one of the most devastating types of arthritis, therefore if you have any of the symptoms associated with it, you should consult a doctor as soon as possible. Psoriasis symptoms are quite variable. Flares are periods of increased symptom severity that may be followed by periods of improvement.[13]

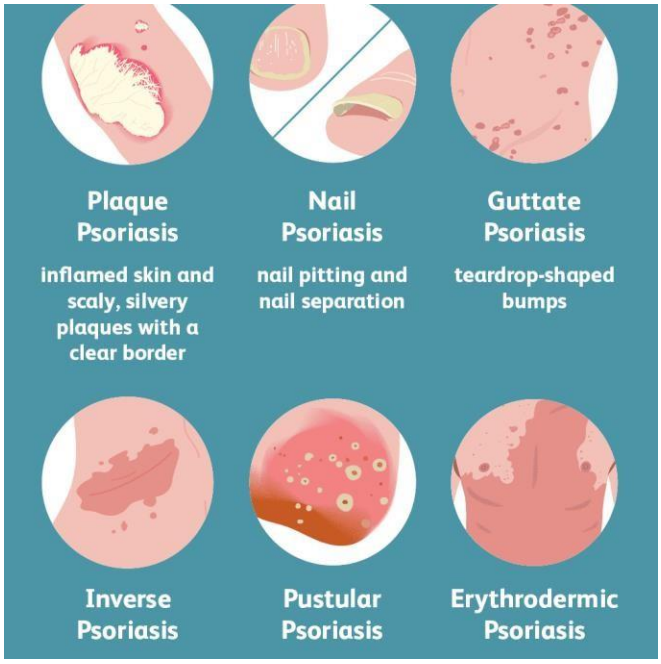

Fig 03: Symptoms of Psoriasis[44]

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1.5. Causes

There are numerous hypotheses on what causes psoriasis, but no one knows for sure.

Genetics

Researchers have pinpointed genetic loci related with psoriasis, and around one-third of persons with the illness have a family history of the disease. Research on identical twins has shown a strong correlation between having a sibling with psoriasis and having a higher risk of acquiring the condition oneself (by as much as 70%). Non-identical twins have a chance of around 20%. These results point to a genetic predisposition as well as an environmental reaction in the onset of psoriasis. [14] Even though psoriasis is strongly inherited and numerous genes have been linked to it, the interplay between these genes remains poorly understood. The major histocompatibility complex (MHC) and T cells make up a large portion of the genes discovered. Genetic research is useful since it can pinpoint specific biological processes and pathways that might be used to develop new treatments. Nine loci on various chromosomes have been linked to psoriasis using traditional genome-wide linkage analysis. Psoriasis susceptibility types 1-9 have been identified (PSORS1 through PSORS9). The genes involved in the inflammatory pathways that are included within those loci. Psoriasis is often associated with certain mutations (changes) in various genes. Additional genes that are changed to signature variations in psoriasis have been found by genome-wide association studies. Psoriasis genes have been linked to the expression of inflammatory signaling proteins, which influence immune system cells. This isn't the only autoimmune disorder that shares genes with this one. [15] PSORS1 is the main determinant, and it's estimated that it's responsible for 35-50% of the heredity of psoriasis. [16] When psoriasis is present, it regulates genes that normally produce immune system proteins or skin proteins in excess. The major

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histocompatibility complex (MHC) on chromosome 6 contains the PSORS1 gene, which regulates crucial immunological processes. The PSORS1 locus contains three genes that are strongly linked to psoriasis vulgaris. Overexpression of the coiled coil protein CCHCR1 (variant WWC) and the corneodesmosin (variant allele 5) protein (expressed in the granular and cornified layers of the epidermis and increased in psoriasis) are both associated with the disease.Interleukin-12 subunit beta (IL12B) on chromosome 5q, which produces interleukin-12B, and interleukin-23 receptor (IL23R) on chromosome 1p, which expresses the interleukin-23 receptor and is important in T cell development, are two significant immune system genes being studied. Psoriasis has been connected to interleukin-23 receptor and IL12B. [18] Psoriasis is caused by an inflammatory response that includes T lymphocytes. These genes are part of a pathway that also upregulates nuclear factor kappa B and tumor necrosis factor alpha, two inflammatory genes. Psoriasis was originally genetically linked to the CARD14 gene in the PSORS2 locus. Combined with an environmental trigger, an uncommon mutation in the gene encoding for the CARD14-regulated protein was adequate to generate plaque psoriasis (the most common form of psoriasis). [19-20]

Lifestyle

Chronic infections, stress, and seasonal and climatic shifts have all been cited as aggravating factors. Hot water, scratching psoriasis lesions, skin dryness, heavy alcohol use, cigarette smoking, and obesity may all exacerbate the disease. As of the year 2019, there has been no research on the benefits of giving up tobacco or alcohol. [21]

HIV

Human immunodeficiency virus (HIV)-positive patients have a psoriasis rate that is similar to that of the general population, although their psoriasis is often more severe. People who are HIV

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positive and have psoriasis are at a substantially greater risk of developing psoriatic arthritis than those who do not have psoriasis and HIV. [22] Psoriasis vulgaris is defined by a pattern of cellular signals characteristic of the Th1 subset of CD4+ helper T cells and the Th17 helper T cells, whereas the immune response in HIV infection is characterized by cellular signals from the Th2 subset of CD4+ helper T cells. [23] Overactivation of CD8+-T cells, which are responsible for the worsening of psoriasis in HIV-positive persons, is believed to be triggered by the decreased CD4+-T cell presence. HIV/AIDS patients typically suffer from severe cases of psoriasis that may be resistant to standard treatments. Psoriasis and psoriatic arthritis, even when well-controlled over the long term, might have a dramatic flare-up in the event of a new HIV infection.

Microbes

Staphylococcus aureus, Malassezia spp., and Candida albicans colonization of the skin or gut has been linked to the development of psoriasis following strep throat. A recent group A streptococcal infection is a common precipitating factor for guttate psoriasis in children and teenagers (tonsillitis or pharyngitis). [24]

Medications

Antimalarial drugs, nonsteroidal anti-inflammatory drugs, terbinafine, calcium channel blockers, captopril, glyburide, granulocyte colony-stimulating factor, interleukins, interferons, lipid-lowering medications, 197 and paradoxically TNF inhibitors like infliximab or adalimumab have all been linked to drug-induced psoriasis. Psoriasis might worsen after stopping treatment with corticosteroids (topical steroid cream). [25]

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1.6. How is psoriasis diagnosed?

Psoriasis may generally be identified only by looking at the affected area of skin. Psoriasis manifests itself on the skin as red, scaly plaques, papules, or patches that may be uncomfortable and irritating. Normal blood tests and other routine diagnostic procedures are sufficient to establish the diagnosis. Psoriasis is sometimes misdiagnosed as discoid eczema, seborrheic eczema, pityriasis rosea, nail fungus, or cutaneous T cell lymphoma (a kind of cancer in which 50% of patients are first misdiagnosed). Psoriasis may be mistaken for other skin conditions, such as the rash of secondary syphilis. A skin biopsy or scrape may be conducted to rule out other illnesses and confirm the diagnosis if the clinical diagnosis is questionable. Under the microscope, biopsy skin has epidermal projections that are clubbed and interdigitate with the dermis. Psoriasis lesions often show epidermal thickening as a histologic feature. Psoriatic lesions often have a deficient or absent stratum granulosum layer of epidermis, and the superficial epidermal cells are aberrant because they never completely mature. These superficial cells retain nuclei even after maturation. Microscopically studying psoriatic skin or joint tissue reveals inflammatory infiltrates. Psoriatic inflammation is characterized by an increase in CD8+ T cells in the epidermis, but a decrease in CD4+ T cells in the dermis and the joints. [26]

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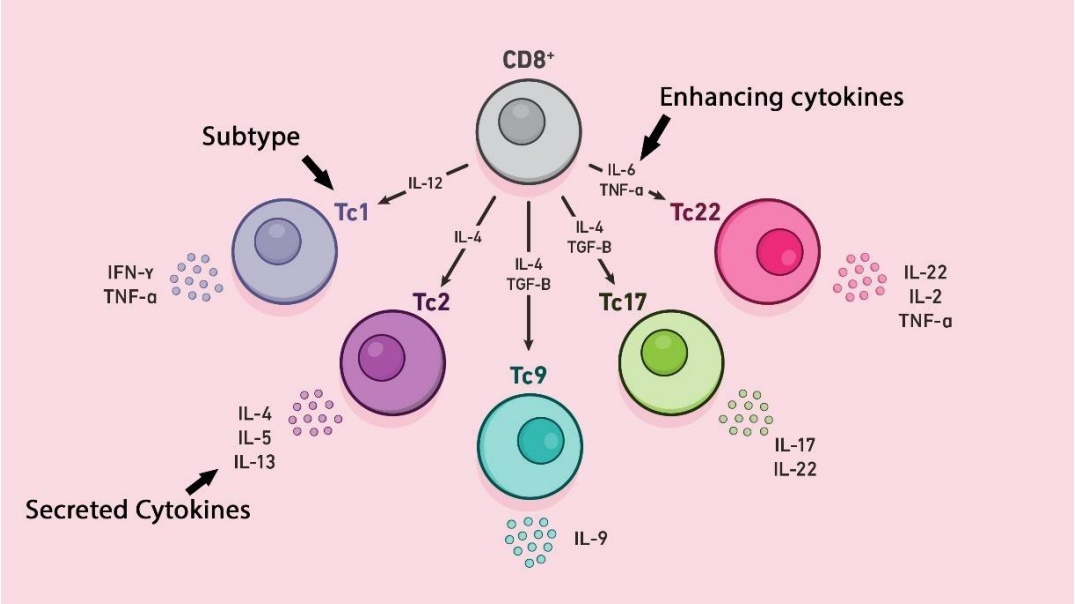

Fig 04 : CD8+ T cells [45]

1.7. Pathophysiology

The skin's epidermal layer grows abnormally quickly and excessively during psoriasis. The progression of pathogenic processes in psoriasis leads to abnormal skin cell generation, notably during the healing of wounds, as well as an oversupply of skin cells. It is believed that the pathogenic processes in psoriasis occur in two phases: the initiation phase, during which an event (such as skin damage, an infection, or medication) activates the immune system, and the maintenance phase, during which the illness progresses slowly over time. In contrast to the typical 28–30 days, skin cells are changed every 3-5 days in people with psoriasis. [27] These alterations are thought to be the result of keratinocytes developing too quickly due to an inflammatory cascade in the dermis involving dendritic cells, macrophages, and T cells (three subtypes of white blood cells). As they move from the dermis to the epidermis, these immune cells produce cytokines that cause inflammation, including interleukin-36, tumor necrosis factor, interleukin-1, interleukin-6, and interleukin-22. These released inflammatory signals are thought to encourage keratinocyte

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proliferation. One theory is that regulatory T cells and the regulatory cytokine interleukin-10 are defective in psoriasis. Similar inflammatory cytokines detected in psoriatic skin lesions and joints (in the case of psoriatic arthritis) point to a shared inflammatory mechanism. Psoriasis susceptibility markers have been shown to be gene variants of proteins involved in the skin's capacity to act as a barrier.[27-28]In psoriasis, deoxyribonucleic acid (DNA) produced by dying cells triggers the receptors on specific dendritic cells, which in turn causes them to create the cytokine interferon-.Keratinocytes also release cytokines including interleukin-1, interleukin-6, and tumor necrosis factor in response to these chemical signals from dendritic cells and T cells, which alert downstream inflammatory cells to arrive and promote more inflammation. The innate immune system and the adaptive immune system are connected by dendritic cells. They are more prevalent in psoriatic lesions and encourage T cell and type 1 helper T cell growth (Th1). Targeted immunotherapy can decrease the number of dendritic cells and favors a Th2 cell cytokine secretion pattern over a Th1/Th17 cell cytokine profile. This is also true of psoralen and ultraviolet A (PUVA) therapy. Psoriatic T cells release interferon and interleukin-17 when they migrate from the dermis into the epidermis [29]. It is well known that interleukin-23 stimulates the synthesis of interleukin-17 and interleukin-22. Keratinocytes are induced to release cytokines that attract neutrophils by interleukin-22 and interleukin-17. [30]

1.8. Epidemiology

It is believed that between 2 and 4 percent of the population in western countries has psoriasis. The prevalence of psoriasis varies according to age, geographic location, and ethnicity. It is believed that this is due to a mix of environmental and hereditary factors. Although it may manifest itself at any age, the average age at which it does so for the first time is somewhere between 15 and 25 years of age. About one third of persons who have psoriasis say they were diagnosed with

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the condition before the age of 20. Psoriasis is a condition that is equally common in men and women. Psoriasis affects around 6.7 million people in the United States, with adults being the most likely to be affected. Psoriasis affects persons of European heritage about five times more often than it does those of Asian descent.[31] Psoriasis is more likely to develop in individuals who have inflammatory bowel diseases, such as Crohn disease or ulcerative colitis, for example. Psoriasis is more prevalent in regions of the world that are farthest from the equator. Psoriasis is more prevalent in people of white European descent, less common in those of African American and Native American heritage, and almost unheard of in people of Asian American ancestry.

1.9. What part of my body will psoriasis affect?

Psoriasis may cause a rash to appear in any part of your skin at any time. Psoriasis is a prevalent condition that may affect:

- Knees and elbows are used.
- Face as well as the inside of your mouth.
- Scalp
- Nails on the fingers and toes both.
- Genitals.
- Back of the legs
- The palms and the feet

Psoriasis affects just a tiny portion of the skin in the majority of patients. In more severe situations, the plaques will link with one another and cover a significant portion of your body.

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1.10. Is psoriasis the same as eczema?

Psoriasis and eczema are two distinct disorders that may affect the skin. Both illnesses manifest themselves with symptoms that are quite similar, including discoloration of the skin, rashes, and itching. Plaques of psoriasis are characterized by patches of the skin that are thick and coated with scales. Eczema manifests as a rash that is characterized by dry, rough skin. Eczema also produces irritation that is often more extreme than that caused by psoriasis.

1.11. What are the clinical features of psoriasis?

Psoriasis often manifests as red, scaling plaques that are symmetrically distributed and have edges that are well defined. In most cases, the scale has a silvery white appearance; nevertheless, in skin folds, the plaques often have a glossy appearance and a wet, peeling surface. Although the scalp, elbows, and knees are the most often affected areas, any region of the skin is at risk for infection. Without therapy, the plaques are often exceedingly difficult to eradicate. The itching is generally modest, but it may be severe in some people. This might cause the patient to scratch, which can lead to latensification, which is characterized by thickening leathery skin and increased skin markings. It's possible your skin may develop painful fissures or cracks. When psoriatic plaques are cleared away, they can leave behind brown or white scars that gradually disappear over the course of many months.[32]

1.12. How is psoriasis classified?

Psoriasis has a number of distinguishing characteristics, and classifying these characteristics may assist identify which tests and treatment options are most suitable. Overlap may arise.

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- 75% of cases are diagnosed before the age of 35, while the remaining 25% are diagnosed beyond the age of 50.
- Acute eg guttate psoriasis versus chronic plaque psoriasis
- Psoriasis that is localized, such as on the scalp or palms and soles, as opposed to psoriasis that is widespread
- Small plaques < 3 cm versus big plaques > 3 cm
- Thin plaques versus thick plaques
- Nail involvement versus no nail involvement [33]

1.13. Health conditions associated with psoriasis

Patients who suffer from psoriasis have a higher risk than other patients of having linked health disorders such as those that are described below.

- Up to forty percent of people diagnosed with early-onset chronic plaque psoriasis are also found to have inflammatory arthritis, often known as "psoriatic arthritis" (an autoimmune illness), as well as spondyloarthropathy.
- Disease of the inflammatory bowel (Crohn disease and ulcerative colitis).
- Uveitis (a kind of infection of the eye) (a form of inflammation of the eye).
- Coeliac disease.
- Obesity, high blood pressure, high cholesterol, high blood fats, gout, cardiovascular disease, and type 2 diabetes are the components of metabolic syndrome.
- Acute generalized exanthemata's pustulosis, localized palmoplantar pustulosis, and generalized pustulosis are the three forms of this condition.

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- ❖ Fatty liver illness not caused by alcohol use [for more information, check the section on liver issues and psoriasis].[34]

1.14. Treatment of psoriasis

General advice

Patients with psoriasis would do well to educate themselves on the disease and its management. Keeping your weight, drinking to moderation, and quitting smoking are all good choices.

Topical therapy

Commonly, only topical treatments are used for mild cases of psoriasis. The choice of therapy may be influenced by the location, intensity, and breadth of psoriasis.

a. Emollients
b. Infusions of coal tar
c. Sodium salicylate with dithranol
d. Similar to vitamin D (calcipotriol)
e. Systemic corticosteroids
f. Combined calcipotriol and betamethasone dipropionate ointment, gel, or foam
g. Constructed to block calcineurin (tacrolimus, pimecrolimus)

Phototherapy

Phototherapy (light therapy) using ultraviolet (UV) radiation is often offered at psoriasis clinics, and is frequently used in conjunction with other, more traditional treatments.

- ➢ Broadband UVB Narrowband the Use of Ultraviolet-B Radiation in Chemotherapy (PUVA)

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- Localized phototherapy
- Treating the body as a whole
- Psoriasis that is moderate to severe often requires a systemic medication and/or phototherapy for treatment. Methotrexate, cyclosporine, and acitretin are the usual go-toss for therapy.

Other medicines occasionally used for psoriasis include:

a. Mycophenolate
b. Apremilast
c. Hydroxyurea
d. Azathioprine
e. 6-mercaptopurine.

Due to the danger of a severe withdrawal flare of psoriasis and other undesirable effects, systemic corticosteroids are best avoided.

Biologics

Since the cost of biologics or targeted treatments is so high, and their adverse effects compare well to those of other systemic drugs, they are often reserved for patients with severe psoriasis that has not responded to conventional therapy. They are also effective in treating psoriatic arthritis that occurs at the same time. Included in these therapies are:

- Anti-tumor necrosis factor (anti-TNF) drugs such infliximab, adalimumab, and etanercept
- Ustekinumab is an antagonist for interleukin (IL)-12/23.
- Immune checkpoint inhibitors that target interleukin-17, such as secukinumab
- Ixekizumab

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- Brodalumab
- Guselkumab
- Tildrakizumab
- Risankizumab

Research is being done on a wide variety of different monoclonal antibodies for the treatment of psoriasis. Researchers are also looking at oral medicines that activate protein kinase pathways. Tofacitinib and BMS-986165, a TYK2 (tyrosine kinase 2) inhibitor, are two of many JAK (Janus kinase) inhibitors in Phase III clinical trials for psoriasis. [35-36]

Fig 05: Brodalumab [46]

Fig 06 : Guselkumab [47]

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1.15. Prevention

1. Apply a moisturizing cream.

Dry skin makes symptoms worse, so use moisturizers to prevent that. The most effective ones are often thick and viscous, like petroleum jelly. They're more effective in retaining moisture deep in the skin. Scales may be easier to remove if cream is applied directly on top of them and then plastic wrap or similar watertight material is applied on top of it. Just let it sit for a while. Discover more about the topical therapies available for psoriasis, such as lotions and other creams.[37]

2. Maintain good skin hygiene

Take cautious not to damage your skin. Don't scratch or pick at your psoriasis, since this might irritate the skin and make it worse. When cutting your nails, please use care. Self-inflicted wounds may exacerbate existing conditions. You should take no more than 10-minute showers or baths. In other words, you should try to stay away from really hot water.

3. Stay away from the dry, cold weather

The severity of psoriasis might vary greatly depending on the climate. Dry, chilly weather exacerbates symptoms for many individuals. They normally feel better in the heat, although this is not always the case. Learn more about psoriasis and its treatment in the colder months by reading this article.

4.Humidifiers

Maintaining a healthy moisture balance for your skin is crucial. If you find that the air within your home is very dry, you should use a humidifier. Find out what options are available for humidification systems and how to best use them.[38]

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5. Stay away from Reaction-Inducing Medications

You should tell your doctor about any and all drugs you use, even those purchased without a prescription. Inquire whether they could have an effect on your psoriasis. The following medications are often known to make things worse:

- Psychiatric diseases are often treated with lithium.
- Beta-blockers like propranolol are often used for cardiac issues.
- Quinidine is a medicine used to treat cardiac rhythm disturbances.[39]

Discuss potential alternatives with your doctor if you are currently taking any of these drugs. The use of these and other medications should be considered a possible flare-up cause for psoriasis.

6. Stay safe from scrapes, cuts, bumps, and infections.

Psoriasis patients should take special care to prevent scrapes and wounds. Koebner's phenomenon occurs when the skin is injured and a rash develops as a result. Infections are another potential source of trouble. The act of shaving requires extra caution. Don't get any tattoos or acupuncture, and try not to be bitten or chafed. Find out more about psoriasis and Koebner's phenomenon.

7. Spend Time in the Sun, But Don't Burn

Sunlight's UV rays are beneficial because they decrease the proliferation of skin cells. But keep the sessions short, no more than 20 minutes each. Remember to put on sunscreen. Psoriasis flare-ups and an increased risk of skin cancer have both been linked to sunburn. Consult your doctor beforehand, since certain drugs might increase your skin's sensitivity to sunlight. Learn more about the possible side effects of sun exposure on psoriasis here.

8.Ways to Get Rid of Stress

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Many individuals believe that stress causes flare-ups, however this is unproven. Do all you can to calm your nerves. That's easier to say than accomplish, but you might try starting with some relaxing practices like yoga or meditation. Learn techniques for dealing with the mental toll psoriasis may have on you.

9. Limit Your Alcohol Intake

Although research on the link between alcohol and psoriasis is limited, there is some anecdotal evidence that suggests drinking may exacerbate symptoms, particularly in males. Talk to your doctor before drinking alcohol while taking some medications for psoriasis.

10.Keep Active, Eat Well, and Manage Your Weight

Psoriasis sufferers are advised to follow a healthy, plant-based diet, even though research has failed to find a correlation between the illness and food intake. Some claim their symptoms subside after giving up dairy and gluten. Also, working out could help. Maintain a healthy weight; research shows that being overweight might cause flares. [40-41]

1.16. Is psoriasis very serious?

Psoriasis is often accompanied by other major medical diseases, such as diabetes, heart disease, and depression, in a significant number of sufferers. Some individuals who have psoriasis also have a disease called psoriatic arthritis, which is an inflammatory disorder that affects their joints.

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1.17. Can psoriasis go away permanently?

Psoriasis is a persistent skin disorder that cannot be cured, nor can it clear up on its own without treatment. The illness, on the other hand, has a fluctuating course, and many individuals might have skin that is clean for years at a time, followed by periodic flare-ups in which the skin is worse.

1.18. What heals psoriasis naturally?

The following are home treatments that have shown some promising outcomes in giving relief for psoriasis symptoms and may give some aid in treating the skin condition.

1. Soaks in hot tubs
2. Aloe vera
3. fatty acids rich in omega-3
4. Turmeric (curcumin) Oregon grape
5. Keeping your weight at a healthy level
6. Utilization of a Humidifier
7. Activities that are helpful in alleviating stress.

1.19. What foods help control psoriasis?

- ✓ Fish, lean protein, or protein derived from plants like tofu or tempeh are all good options.
- ✓ Fruits and veggies.
- ✓ Legumes (beans and lentils) (beans and lentils)
- ✓ Seeds and nuts both.
- ✓ The olive oil.
- ✓ Dairy products with very low quantities of fat.

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✓ Whole grains.

1.20. Is psoriasis a serious disease?

Psoriasis is a widespread condition that lasts for a long time (chronic) and has no known treatment. It often causes discomfort, disrupts one's sleep, and makes it difficult to focus on one thing. The problem often goes through cycles, worsening for a few weeks or months, then getting better for a time, and then becoming worse again.

1.21. How do you stop psoriasis from spreading?

A. Here are eight suggestions to stop the spread of psoriasis.

B. Eat a nutrient-dense diet.

C. Stay away from tobacco and alcoholic beverages.

D. Take care not to irritate it.

E. Reduce your levels of stress.

F. Sleep.

G. Think twice before using some drugs.

H. Use lotion.

1.22. Risk factors of psoriasis

Psoriasis is a condition that may affect anybody. Childhood is the starting point for around one third of all cases. These aspects may play a role in elevating one's likelihood of having the disease:

Family history. It has been shown that this ailment runs in families. Your likelihood of developing psoriasis is increased if one of your parents has the skin condition. Psoriasis runs in families, and having two affected parents doubles your likelihood of developing the condition.

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Smoking. Psoriasis may become more severe if a person smokes tobacco, which not only raises their chance of developing the condition but also raises the danger.

1.23. Complications

Psoriasis puts a person at a higher risk of getting various diseases, including but not limited to the following:

- ✓ Psoriatic arthritis, also known as psoriatic arthritis, is a kind of arthritis that produces pain, stiffness, and swelling in and around the joints.
- ✓ Alterations in the skin's color (post-inflammatory hypopigmentation or hyperpigmentation) that are only temporary and appear where the plaques have healed
- ✓ Conditions that affect the eyes, such as conjunctivitis, blepharitis, and uveitis
- ✓ Obesity
- ✓ Type 2 diabetes
- ✓ Unhealthy levels of blood pressure
- ✓ Cardiovascular disease
- ✓ Other forms of autoimmunity include celiac disease, multiple sclerosis, and Crohn's disease, which is an inflammatory form of bowel illness.
- ✓ Conditions relating to a person's mental health, such as poor self-esteem and sadness

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1.24. Literature Review

1.24.1. J E Gudjonsson, A Johnston, H Sigmundsdottir, H Valdimarsson, "Immunopathogenic mechanisms in psoriasis" Clinical and Experimental Immunology, Volume 135, Issue 1, January 2004

Psoriasis is a common autoimmune skin disease that causes keratinocytes to grow too fast. This is caused by T cells. Psoriasis has a strong but complicated genetic background. About 60% of monozygotic twins have the same disease, and recent linkage and high-resolution association studies show that HLA-Cw0602 is a major susceptibility allele for psoriasis. People with this allele have different symptoms and get sick at a younger age. People with two copies of this allele have a 2–5 times higher risk of getting sick than people with one copy. Data that has been made public suggest that CD8+ T cells may be a major cause of psoriasis.

1.24.2. TiloHenselerMD, PhDEnnoChristophersMD "Disease concomitance in psoriasis" Journal of the American Academy of Dermatology Volume 32, Issue 6, June 1995

Psoriasis is a disease that has more than one cause. The results of the study show that patients with psoriasis have less of the skin immune disorders allergic contact dermatitis, atopic dermatitis, and urticaria than age-matched control patients without psoriasis. On the other hand, people with psoriasis are much more likely than control subjects to have systemic diseases like diabetes, heart failure, and obesity. Patients with early-onset psoriasis were the only ones who had a higher resistance to bacterial infections of the skin. The observations show that there is a clear pattern of diseases that are linked to psoriasis. Even though dietary habits and nutritional status may be linked

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to systemic diseases like obesity, diabetes, and heart disease, the relative resistance to skin infections and decreased immune responsiveness point to a genetic selection.

1.24.3. Adriana Rendon andKnut Schäkel "Psoriasis Pathogenesis and Treatment" Int. J. Mol. Sci. 2019, 20(6), 1475;

Knowledge of skin biology in general has greatly enhanced as a result of research on the pathophysiology of psoriasis. In the past 15 years, advances in our knowledge of the pathogenesis of psoriasis have led to the development of extremely efficient, targeted medicines that have given us a fundamental understanding of the pathophysiology of chronic inflammatory illnesses characterized by a predominate IL-23/Th17 axis. This review covers both the therapeutic possibilities that have resulted from the analysis of the inflammatory psoriatic pathways and the mechanisms involved in the onset and progression of the disease. We'll start off by talking about the important cell types and inflammatory pathways that start and maintain psoriatic inflammation. Next, we discuss how skin flora interacts with genetics, related epigenetic pathways, and the pathophysiology of psoriasis.

1.24.4. James T. Elder, MD, PhD; Rajan P. Nair, PhD; Sun-Wei Guo, PhD "The Genetics of Psoriasis" Arch Dermatol. 1994;130(2):216-224.

Psoriasis belongs to a group of widespread, Human leukocyte antigen HLA-related diseases in which illness vulnerability seems to run in families. It has been challenging to define these disorders' mode of inheritance in plain mendelian words, nevertheless. Of this group of disorders, psoriasis exhibits one of the strongest HLA correlations. A formal genetic relationship between the disease and the HLA locus has been established, however only a small proportion of people who carry the involved HLA susceptibility alleles go on to develop disease, making it challenging

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to confirm. Although it is undeniable that environmental variables play a part in psoriasis and various other diseases, it has long been hypothesized that additional genes, unrelated to HLA, may also be involved. Review and analysis of epidemiologic and immunogenetic data shows that psoriasis predisposition is heritable and implicates genes of the HLA locus as required but insufficient drivers of psoriasis. A systematic search for new genetic determinants of psoriasis, including those unrelated to HLA, is now possible thanks to recent advancements in human genome research.

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Chapter Two: Purpose of the study

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2. Purpose of the study

Skin flakiness and scale formation are symptoms of the skin disorder psoriasis. The patches may seem pink or red and the scales may be white or silvery on skin that is dark, black, or white. The patches may also seem purple or dark brown and the scales may appear gray on brown and black skin.

This study's objective was:

- To understand that in the Bangladeshi city of Mirpur, psoriasis is a skin disorder.
- To see the Psoriasis illness condition's treatment options in the Mirpur, Bangladesh area.
- To determine which age groups, suffer the most from the Psoriasis illness condition in Mirpur, Bangladesh.
- To determine the root cause of the psoriasis problem in Mirpur, Bangladesh.
- To create a new field in higher education.

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Chapter Three: Methodology

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3. Methodology

3.1. Introduction

A survey based on a prescription was used to carry out the research. For this investigation, a database of 120 Psoriasis patients was compiled.

3.2. Research Methodology

This work was physically performed. The area of Mirpur in Dhaka served as the collection point for all prescriptions.

3.3. Data Analysis Method

After compiling the numerous pieces of information, each one was checked for correctness and internal consistency to remove any missing or conflicting information. The widely used upgraded version of Microsoft was used for information research.

3.4. Ethical Considerations

Before beginning the information assortment, educated verbal permission was taken from the investigation members. The respondents' identities were kept secret, and participants in the research were informed that they might drop out at any point throughout the information-gathering process. The Department of Pharmacy supported the investigation.

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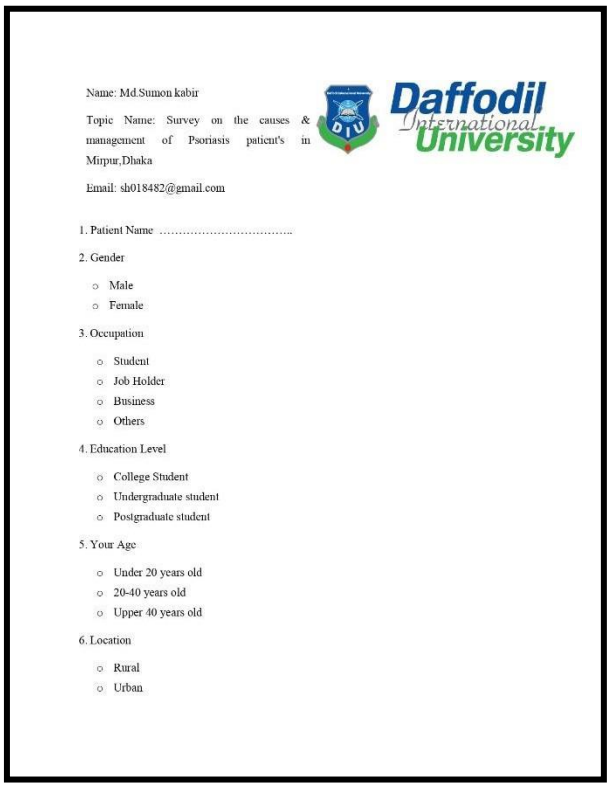
Survey Questionaries:



Name: Md.Sumon kabir

Topic Name: Survey on the causes & management of Psoriasis patient's in Mirpur,Dhaka

Email: sh018482@gmail.com

1. Patient Name ……..

2. Gender

- Male
- Female

3. Occupation

- Student
- Job Holder
- Business
- Others

4. Education Level

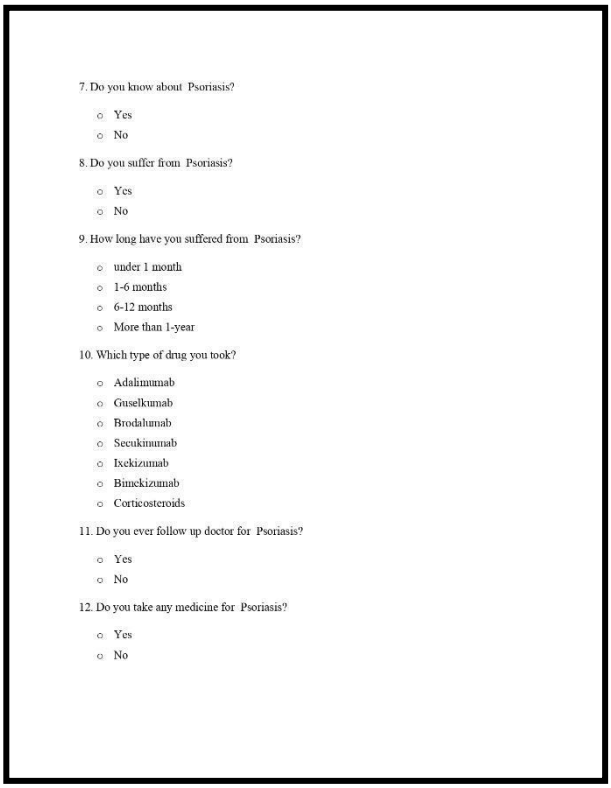
- College Student
- Undergraduate student
- Postgraduate student

5. Your Age

- Under 20 years old
- 20-40 years old
- Upper 40 years old

6. Location

- Rural
- Urban



7. Do you know about Psoriasis?

- Yes
- No

8. Do you suffer from Psoriasis?

- Yes
- No

9. How long have you suffered from Psoriasis?

- under 1 month
- 1-6 months
- 6-12 months
- More than 1-year

10. Which type of drug you took?

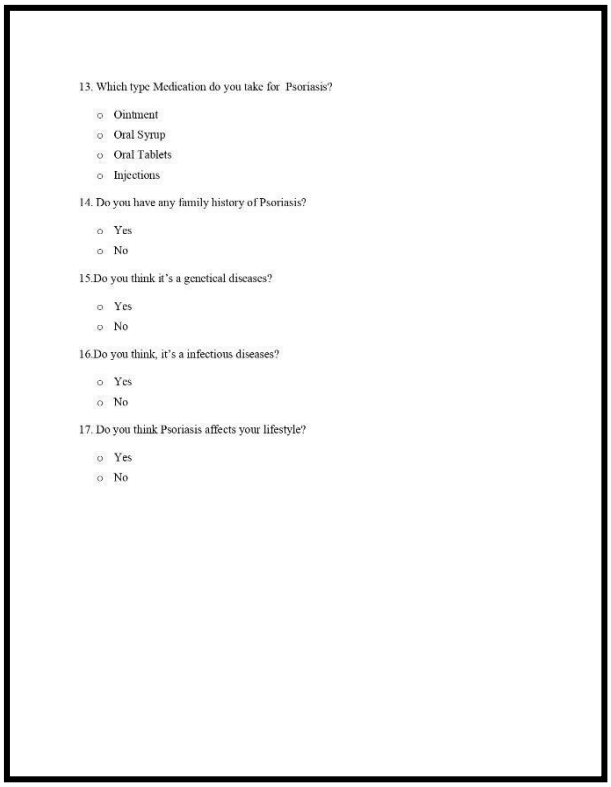
- Adalimumab
- Guselkumab
- Brodalumab
- Secukinumab
- Ixekizumab
- Bimekizumab
- Corticosteroids

11. Do you ever follow up doctor for Psoriasis?

- Yes
- No

12. Do you take any medicine for Psoriasis?

- Yes
- No



13. Which type Medication do you take for Psoriasis?

- Ointment
- Oral Syrup
- Oral Tablets
- Injections

14. Do you have any family history of Psoriasis?

- Yes
- No

15.Do you think it's a genetical diseases?

- Yes
- No

16.Do you think, it's a infectious diseases?

- Yes
- No

17. Do you think Psoriasis affects your lifestyle?

- Yes
- No

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Chapter Four: Result and Discussion

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4. Result and Discussion

4.1. Psoriasis

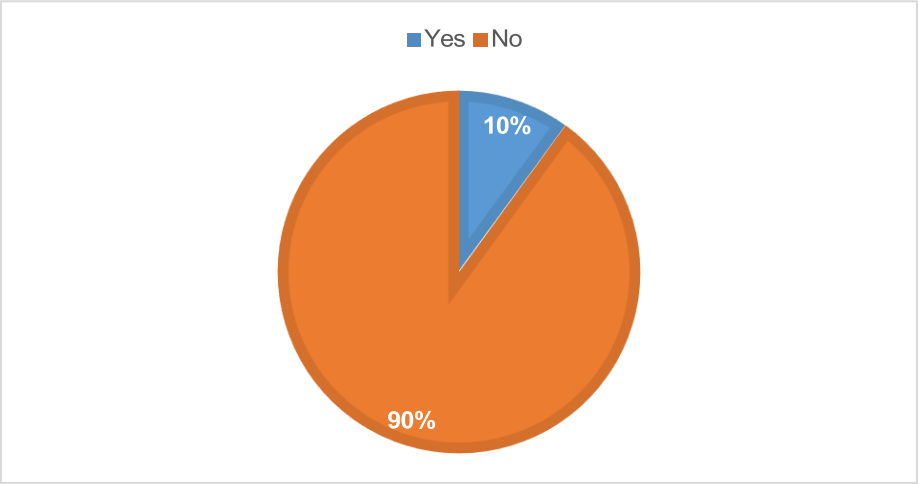

Fig 07: Psoriasis

This survey found that only 10% of people knew about Psoriasis before being diagnosed. 90% of people do not know what Psoriasis is. So, we can say that Psoriasis is not a common illness.

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4.2. Location

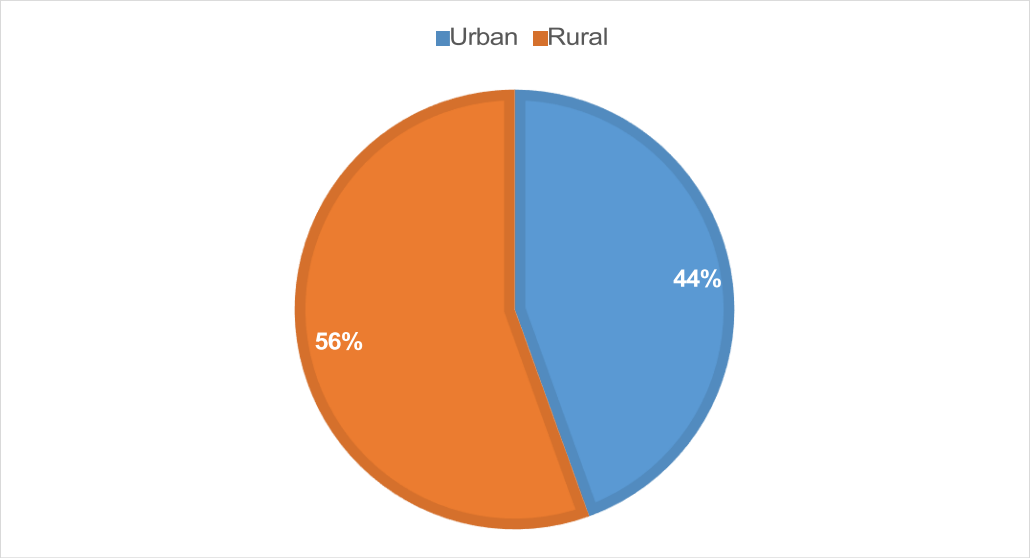

Fig 08: Location

According to the survey, 44 % of persons living in urban areas have Psoriasis. 56 % of those living in rural areas suffer from Psoriasis. Psoriasis is especially common among rural dwellers.

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4.3. Gender

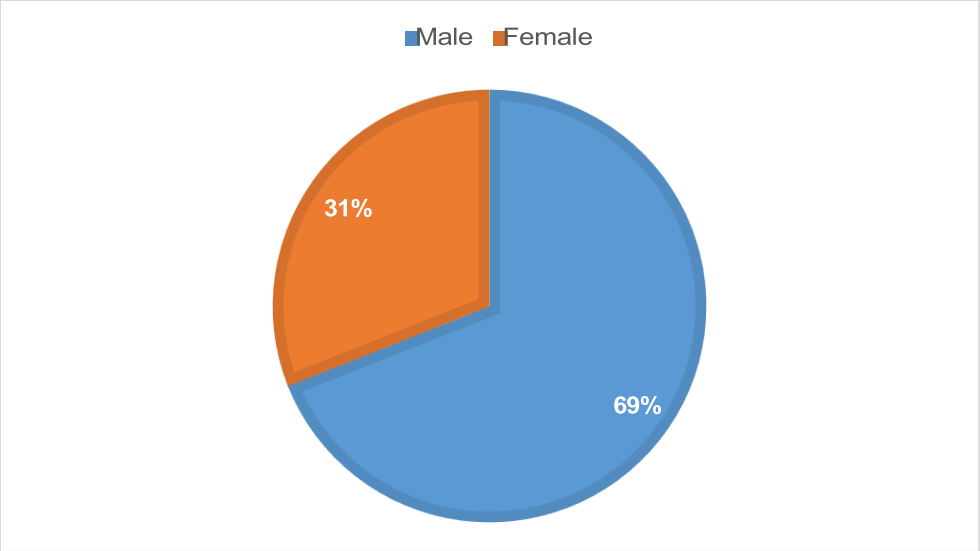

Fig 09: Gender

According to the results of this survey, 69 % of men suffer from Psoriasis. Psoriasis affects the respiratory systems of 31 percent of women. As a result, it appears that Psoriasis disproportionately impacts men.

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4.4. Being afflicted with Psoriasis

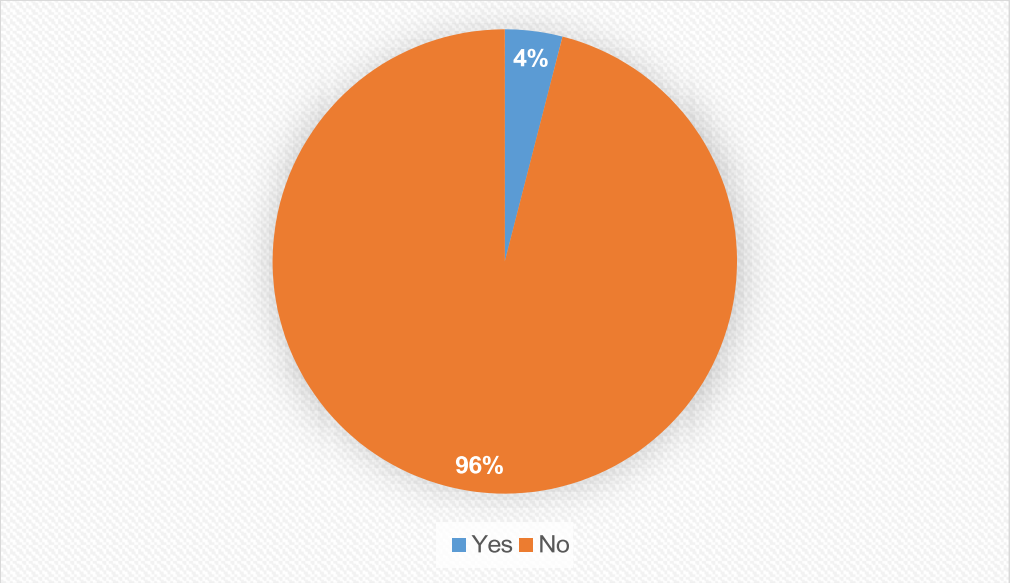

Fig 10: Being afflicted with Psoriasis

According to the results of this survey, 4 percent of persons suffering from Psoriasis. 96 percent of the population does not have any symptoms of Psoriasis.

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4.5. Taking Medication

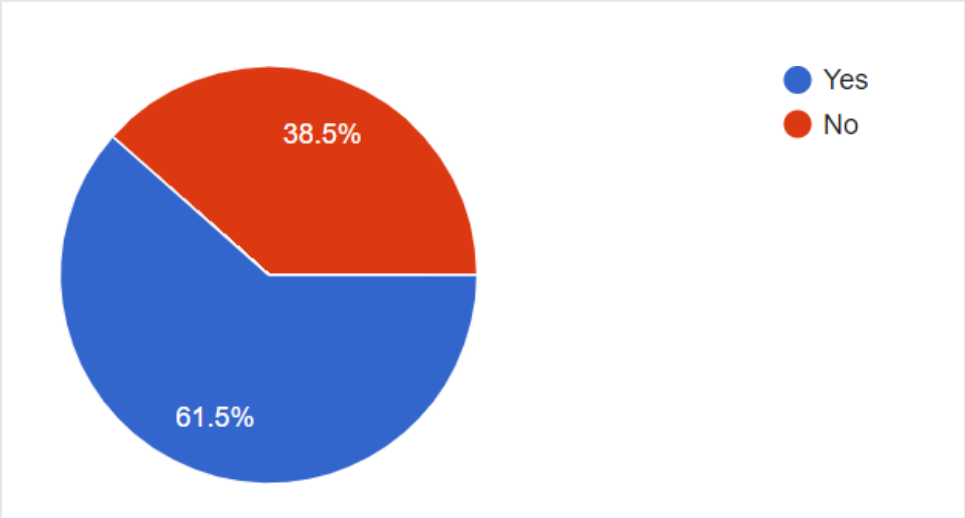

Fig 11: Taking Medication

61.5 % of the individuals in this study said that they use Medication. 38.5% of the population does not use any kind of medicine.

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4.6. Medication

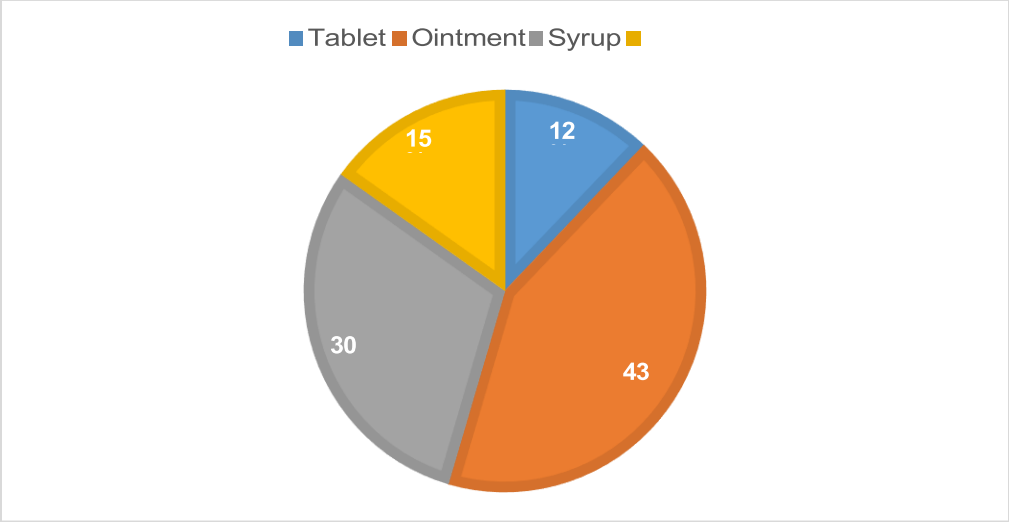

Fig 12: Medication

According to this report, 43% of people take ointment medication for Psoriasis. 30% of people take the oral syrup, 12% take oral tablets for Psoriasis diseases. 15% take injections for Medication.

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4.7. Family History

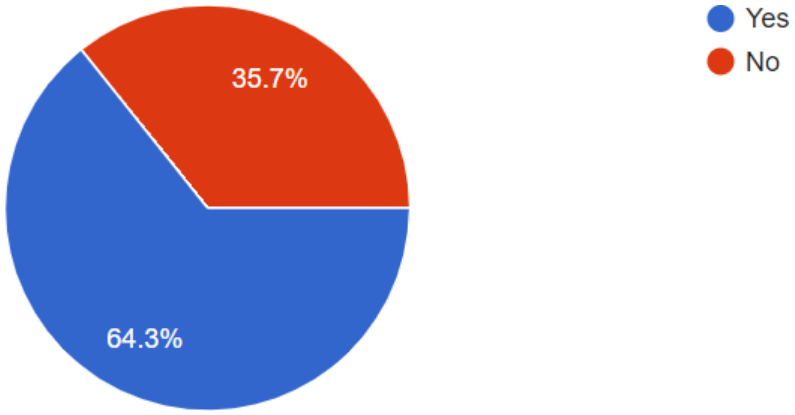

Fig 13: Family History

Based on this survey, 64.3% of people have a history of Psoriasis in their families. And 35.7% of people do not have a history of Psoriasis in their families.

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4.8. Genetically Diseases

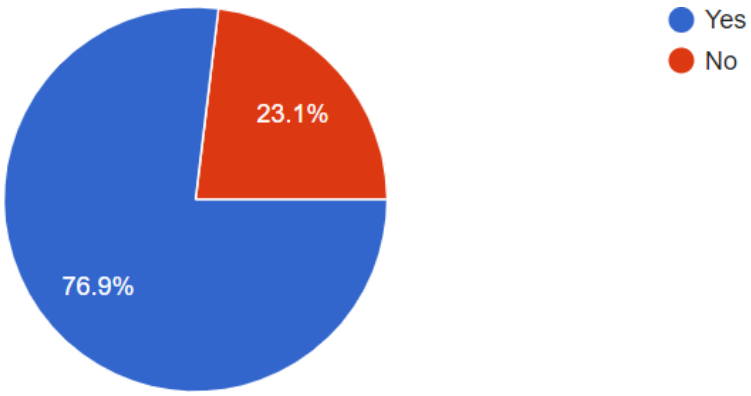

Fig 14: Genetically Diseases

According to this survey, 76.9% of people think Psoriasis is a Genetic disease. 23.1% of people think it's not a Genetic disease.

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4.9. Duration of suffering

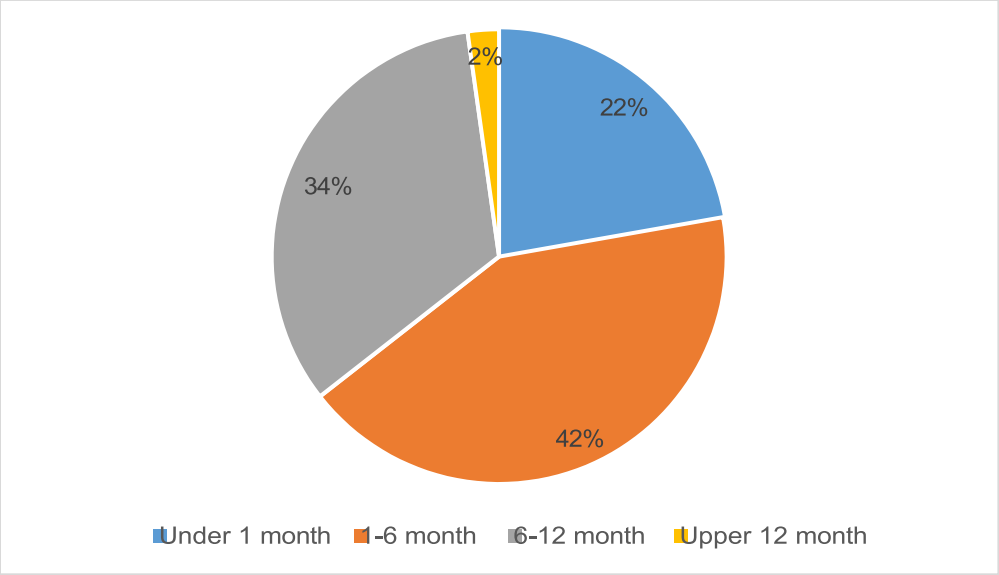

Fig 15: Duration of suffering

In this survey, 42% of people have been suffering from Psoriasis for 1-6 months. 34% of people are suffering for 6-12 months. 22% of people are suffering for under 1 month. Only 2% of people are suffering from more than 1-year Psoriasis disease.

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4.10. Follow Up Doctor

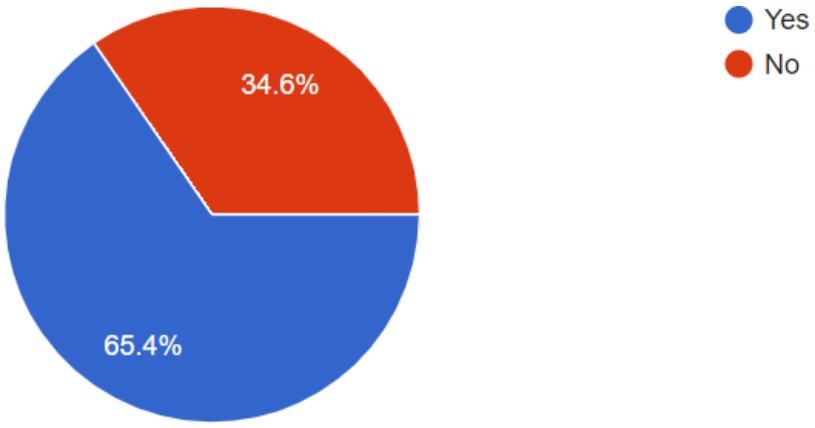

Fig 16: Follow-Up Doctor

According to this survey, 65.4% of patent follow up with doctors regularly. 34.6% of patients are not followed up regularly.

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4.11. Type Of Drug

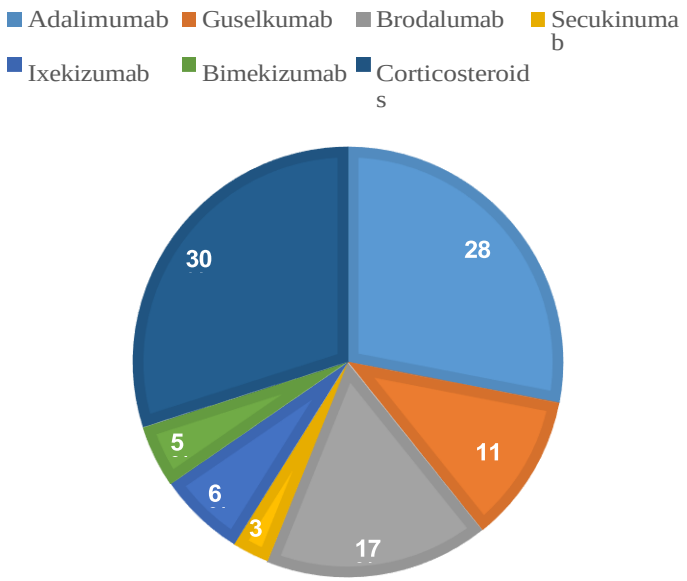

Fig 17: Type of Drug

30% of the people in this survey take Corticosteroid ointment as medicine. Adalimumab is used by 28% of people. Brodalumab is used by 17% of people. About 11% of people take the drug Guselkumab.

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4.12. Effect On Lifestyle

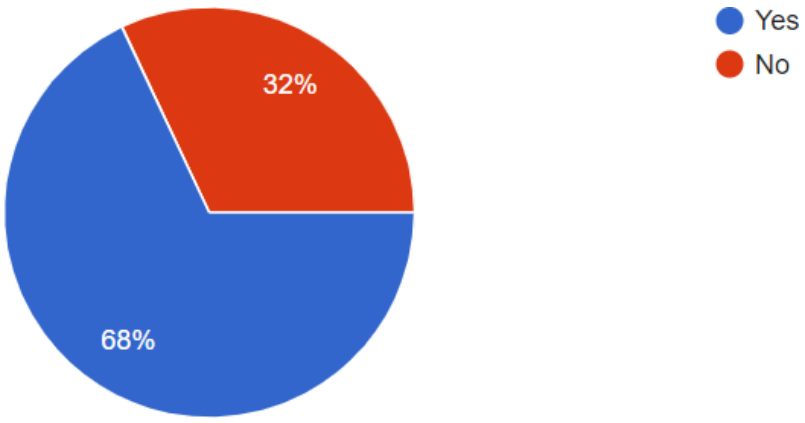

Fig 18: Effect on Lifestyle

According to this survey, 68% of people think Psoriasis affects their lifestyle. 32% of people think it has no effect.

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4.13. Infectious diseases

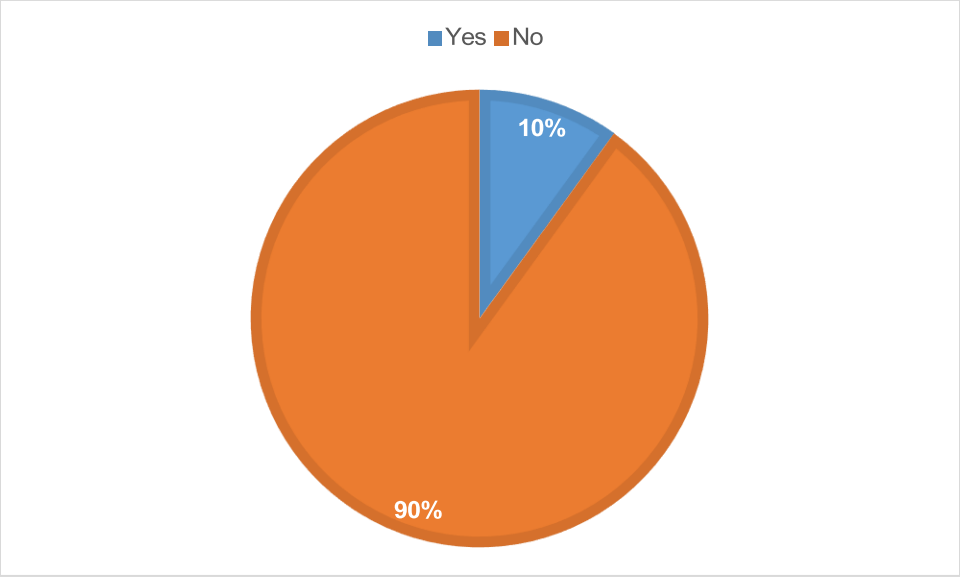

Fig 19: Infectious diseases

In this survey, 90% people think Psoriasis is not a infectious diseases. But only 10% people think, it's a infection diseases.

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Discussion:

Psoriasis is a skin condition that causes inflammation. It is a really difficult sickness. This illness may afflict persons of any age, regardless of gender or sexual orientation, and it can strike at any time in their lives. On the other hand, those in their thirties are the ones most likely to be impacted. Because it is not an infectious illness, it cannot be passed from person to person by contact. Psoriasis is difficult to diagnose for reasons other than genetics because the condition is so complex. It is possible for certain conditions, such as certain types of infection, skin trauma, extremely cold weather, certain medications, and even certain environmental factors to cause rapid growth. Treatment is provided in accordance with the nature of the ailment; for example, if just a small portion of the body is afflicted, various topical applications of medication such as lotions, gels, and creams may be prescribed. Oral medicine, UV therapy, and biological therapy are some of the treatment options if it has spread to other regions of the body. The condition can never be treated to the point that it is totally cured, and it never results in death. It is possible to keep it under control by receiving therapy on a consistent basis. The longer a patient has the ailment, the more complex the condition becomes. Therefore, screening and therapy at an early stage are very necessary. The patient will need therapy for the rest of their lives. As a result, it is necessary to have routine checks at certain intervals and to take prescribed amounts of medicine.

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Chapter Five: Conclusion

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5. Conclusion

A chronic condition caused by an overactive immune system is psoriasis. Although the specific etiology of plaque psoriasis is uncertain, genetics and the immune system both play significant roles. Additionally, there are other influences or "triggers," such as stress, that may bring on or exacerbate symptoms. In order to determine the cause of psoriasis and determine the treatment options, a physical assessment was undertaken in Mirpur, Bangladesh. Patients with psoriasis may temporarily feel better while taking their prescribed medicine, but they can also lessen their symptoms by maintaining good cleanliness and avoiding from using alkali chemicals.

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Chapter Six: Reference

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