

Evaluation of Patients Satisfaction After Receiving PRP Treatment:- A Survey

1. Background

The quest for looking young has become phenomenal over the years. This is becoming trendy among men and women within the top-middle income brackets consisting of professionals in various fields and entrepreneurs and house wives. This results in the increase in the demand for newer methods. These methods include the use of laser microderm abrasion ,rf, ipl mesotherapy, super vitamins and others.

PRP is one of the new method use in this regard. It is looked upon as a useful complimentary method for varied treatment of skin , tissues injuries and tendon injury problems. PRP has become a decidedly new choice for many who want to look young and beautiful because the content of PRP is non-toxic, non-allergenic (using patients own blood).With regard to this survey the use of PRP is confined to treatment to eradicate signs of aging such as those caused by lack of hydration, enlarged pores , lack of collagen, pigmentation, wrinkles , dull Color and lusterless (due to lack of capillaries and appearance of sagginess.

To date hundreds of patient have benefitted from PRP administered at Poliklinik Penawar, Semenyih. Hence, the objective of this survey is to assess the feeling of patient with regard to the treatment. This survey is conducted to find out patients satisfaction after treatment of PRP for skin rejuvenation and for feeling that beauty lost owing to aging has been restored.. Altogether 50 patients have received PRP treatment over the last 6 months they have been given questionnaires as in the appendix in order to evaluate their personal satisfaction on the effectiveness of PRP with regard to their own respective skin problems or beauty enhancement.

2. Problem statement

The effectiveness of treatment is normally measured in terms of a before-after treatment observations whether using measuring instrument or eye-observation of the examiner or how the patients feel sometime after treatment or all three. However, in the beauty treatment using PRP the most important judge and jury are the patients themselves. Thus for this study what is to be measured is the subjective emotional judgment of the patients themselves on whether the treatment has attained for them the desired results.

3. Scope of Research

This research is confined to 35 patients who received PRP treatment in the past six months at Poliklinik Penawar, Semenyih. These patients are selected randomly from the patient record at the clinic. The research is confined to the use of a set of survey questions administered to the patients who have undergone PRP treatment. The assessment is for evaluation of the effectiveness of the treatment from the subjective personal feeling of satisfaction of the users of PRP. There is no objective measure using measurement tools such as in the measuring of body temperature etc. ct. because the bottom line is whether the customers feel that they get value for the money spent. This value can only be given by the customers.

4. Research Questions

- What are their reasons for seeking treatment?
- To what extent are the patients satisfied with the treatment?
- What are common skin conditions that could be treated with this method?
- What are the improvement comments from patients?

5. Research objectives

The following are the research objectives:

- To know their reasons for seeking treatment.
- To know how the patients skin improve after treatment.
- To assess the satisfaction of prp treatment received.

6. Proposition

Based on studies elsewhere PRP has beneficial effects in restoring skin conditions of patients so that aging signs can be obliterated or a certain degree of rejuvenation of skin also takes place. This survey therefore is undertaken to test out the claims by experts in the field that such effects could be obtained from PRP treatment.

7. Research Methodology

The survey method using questionnaires. Patients assessment of satisfaction is measured based on how the patient feel about their skin improved. The comments are standardizing for better evaluation. The patients are selected randomly from the file of patients who received treatment in the Poliklinik Penawar, Semenyih, in the past six months.

8. Literature Review

8.1 Aging of the skin

Research shows that there are, in fact, two distinct types of aging. Aging caused by the genes we inherit is called *intrinsic* (internal) *aging*. The other type of aging is known as *extrinsic* (external) *aging* and is caused by environmental factors, such as exposure to the sun's rays.

8.2 Intrinsic Aging

Intrinsic aging, also known as the natural aging process, is a continuous process that normally begins in our mid-20s. Within the skin, collagen production slows, and elastin, the substance that enables skin to snap back into place, has a bit less spring. Dead skin cells do not shed as quickly and turnover of new skin cells may decrease slightly. While these changes usually begin in our 20s, the signs of intrinsic aging are typically not visible for decades. The signs of intrinsic aging are¹:

- Fine wrinkles
- Thin and transparent skin
- Loss of underlying fat, leading to hollowed cheeks and eye sockets as well as noticeable loss of firmness on the hands and neck
- Bones shrink away from the skin due to bone loss, which causes sagging skin
- Dry skin that may itch
- Inability to sweat sufficiently to cool the skin
- Graying hair that eventually turns white
- Hair loss
- Unwanted hair
- Nail plate thins, the half moons disappear, and ridges develops

Genes control how quickly the normal aging process unfolds. Some notice those first gray hairs in their 20s; others do not see graying until their 40s. People with Werner's syndrome, a rare inherited condition that rapidly accelerates the normal aging process, usually appear elderly in their 30s. Their hair can gray and thin considerably in their teens. Cataracts may appear in their 20s. The average life expectancy for people with Werner's syndrome is 46 years of age.

8.3 Extrinsic Aging

A number of extrinsic, or external, factors often act together with the normal aging process to prematurely age our skin.¹ Most premature aging is caused by sun exposure. Other external factors that prematurely age our skin are repetitive facial expressions, gravity, sleeping positions, and smoking.

¹ Moschella S and Hurley H. (1992) "Aging and Its Effects on the Skin" Dermatology: Third Edition. Philadelphia Third Edition. Philadelphia: W.B. Saunders Company.

8.3.1 The Sun.

Without protection from the sun's rays, just a few minutes of exposure each day over the years can cause noticeable changes to the skin. Freckles, age spots, spider veins on the face, rough and leathery skin, fine wrinkles that disappear when stretched, loose skin, a blotchy complexion, actinic keratoses (thick wart-like, rough, reddish patches of skin), and skin cancer can all be traced to sun exposure.

“Photoaging” is the term dermatologists use to describe this type of aging caused by exposure to the sun's rays. The amount of photoaging that develops depends on:

- 1) a person's skin color and
- 2) their history of long-term or intense sun exposure. People with fair skin who have a history of sun exposure develop more signs of photoaging than those with dark skin. In the darkest skin, the signs of photoaging are usually limited to fine wrinkles and a mottled complexion.

Photoaging occurs over a period of years. With repeated exposure to the sun, the skin loses the ability to repair itself, and the damage accumulates. Scientific studies have shown that repeated ultraviolet (UV) exposure breaks down collagen and impairs the synthesis of new collagen. The sun also attacks our elastin. Sun-weakened skin ceases to spring back much earlier than skin protected from UV rays. Skin also becomes loose, wrinkled, and leathery much earlier with unprotected exposure to sunlight.

People who live in sun-intense areas, such as Florida or Arizona, can show signs of photoaging in their 20s. In fact, some people who live in sun-intense areas develop actinic keratoses (AKs) and skin cancer in their 20s.

While it may seem that the signs of photoaging appear overnight, they actually lie invisible beneath the surface of the skin for years. UV photography enables us to see the damage accumulating beneath the surface of the skin years before the signs of photoaging appear. Most people are surprised by the amount of photoaging that the UV camera shows.

8.3.2 Facial Expressions.

If you perform facial exercises to maintain a youthful-looking appearance, it is time to stop. Repetitive facial movements actually lead to fine lines and wrinkles. Each time we use a facial muscle, a groove forms beneath the surface of the skin, which is why we see lines form with each facial expression. As skin ages and loses its elasticity, the skin stops springing back to its line-free state, and these grooves become permanently etched on the face as fine lines and wrinkles.

8.3.3 Gravity.

Gravity constantly pulls on our bodies. Changes related to gravity become more pronounced as we age. In our 50s, when the skin's elasticity declines dramatically, the effects of gravity become evident. Gravity causes the tip of the nose to droop, the ears to elongate, the eyelids to fall, jowls to form, and the upper lip to disappear while the lower lip becomes more pronounced.

8.3.4 Sleeping Positions.

Resting your face on the pillow in the same way every night for years on end also leads to wrinkles. Called sleep lines, these wrinkles eventually become etched on the surface of the skin and no longer disappear when the head is not resting on the pillow. Women, who tend to sleep on their sides, are most likely to see these lines appear on their chin and cheeks. Men tend to notice these lines on the forehead since they usually sleep with the face pressed face down on the pillow. People who sleep on their backs do not develop these wrinkles since their skin does not lie crumpled against the pillow.

8.3.5 Smoking.

Cigarette smoking causes biochemical changes in our bodies that accelerate aging.² Research shows that a person who

Koh Js et al. "Cigarette smoking associated with premature facial wrinkle : image analysis of facial skin relics" International Journal of Dermatology , 2002 Jan: 41(1) 21-27.

smokes 10 or more cigarettes a day for a minimum of 10 years is statistically more likely to develop deeply wrinkled, leathery skin than a nonsmoker. It also has been shown that people who smoke for a number of years tend to develop an unhealthy yellowish hue to their complexion. Additionally, a study conducted in 2002 showed that facial wrinkling, while not yet visible, can be seen under a microscope in smokers as young as 20.

These signs can be greatly diminished, and in some cases avoided, by stopping smoking. Even people who have smoked for many years, or smoked heavily at a younger age, show less facial wrinkling and improved skin tone when they quit smoking.

8.4 Medical Conditions of skin

Some signs of aging that appear on the skin indicate more than advancing years; they warn of an underlying medical condition. What looks like an age spot could actually be an actinic keratosis. Left untreated, some actinic keratosis progress to skin cancer.

Dermatologists have the medical training needed to distinguish an age spot from skin cancer. They also regularly diagnose and treat the following medical conditions, which are more common in mature skin.

Skin Cancer

Skin cancer is the most common cancer in the United States, and the risk of developing it increases with age. Need for Skin Cancer Exam Increases with Age.

Normal Skin Layers

The skin is made up of 3 layers - the epidermis, dermis, and subcutaneous tissue.

8.4.1 Epidermis

The epidermis is the outer layer and functions as a barrier to the external environment. The cells of the epidermis, keratinocytes, move from the bottom layer of the epidermis to the top layer building up a large

amount of keratin and developing a tough outer shell. Once these cells reach the top layer, they flake off. If this process becomes abnormal the skin can look scaly.

8.4.2 Dermis

The second layer of skin is the dermis, which contains the structural elements of the skin, the connective tissue. There are various types of connective tissue with different functions. For example, collagen gives the skin its strength, proteins called glycosaminoglycans give the skin its turgor, and elastin fibers give the skin its elasticity or spring.

8.4.4 Dermal-Epidermal Junction

The junction between the dermis and the epidermis is an important structure. The dermal-epidermal junction interlocks forming fingerlike projections called rete ridges. The cells of the epidermis receive their nutrients from the blood vessels in the dermis. The rete ridges increase the surface area of the epidermis that is exposed to these blood vessels and the needed nutrients.

8.4.5 Subcutaneous Tissue

The bottom layer of skin is the subcutaneous tissue containing fat cells. These fat cells provide insulation to the body and make the skin look plump or full.

8.5 Chronological Aging and Wrinkles

As a person ages the epidermal cells become thinner and less sticky. The thinner cells make the skin look noticeably thinner. The decreased stickiness of the cells decreases the effectiveness of the barrier function allowing moisture to be released instead of being kept in the skin. This causes dryness. The number of epidermal cells decreases by 10% per decade and they divide more slowly as we age making the skin less able to repair itself quickly.

The effects of aging on the dermal layer are significant. Not only does the dermal layer thin, but also less collagen is produced, and the elastin fibers that provide elasticity wear out. These changes in the scaffolding of the skin cause the

skin to wrinkle and sag. Also, sebaceous glands get bigger but produce less sebum, and the number of sweat glands decreases. Both of these changes lead to skin dryness.

The rete-ridges of the dermal-epidermal junction flatten out, making the skin more fragile and making it easier for the skin to shear. This process also decreases the amount of nutrients available to the epidermis by decreasing the surface area in contact with the dermis, also interfering with the skin's normal repair process.

Wrinkles are creases, folds or ridges in the skin. Most commonly, wrinkles appear as we get older. However, they may develop after our skin has been immersed in water for a long time. The first wrinkles to appear on our face tend to occur as a result of facial expressions. Sun damage, smoking, dehydration, some medications, as well as a number of other factors may also cause wrinkles to develop.

Wrinkles are an inevitable part of the natural aging process. As we become older our skin gets thinner, drier and less elastic. Our skin's ability to protect itself from damage is also reduced as we age. Eventually, wrinkles, creases and lines form on our skin. Apart from the factors mentioned above, a person's genetic makeup also influences how wrinkly we become, and when and where wrinkles start appearing.

According to Medilexicon's medical dictionary:

A wrinkle is "A furrow, fold, or crease in the skin, particularly of a type seen with increasing occurrence as a result of sun exposure or, in perioral skin, cigarette smoking; associated with degeneration of dermal elastic tissue."

Even though wrinkles can give people an aspect of wisdom, most people do not welcome them. Billions of dollars are spent globally on treatments to get rid of them. Some make great claims but have no effect, while others either have moderate, significant or very considerable success.

Most wrinkles tend to appear in the parts of the body which receive the most sun exposure, including the:

- Backs of hands
- Face
- Neck
- Tops of forearms

There are two main types of wrinkles:

- Surface lines
- Deep furrows

Most basic wrinkle treatments, if they have any effect, tend to help reduce the fine lines. For deeper creases more aggressive techniques are required, such as plastic surgery or injections (fillers).

What are the main factors that cause wrinkles?

Apart from the normal aging process, the following factors are known to promote the development of wrinkles:

- a) Smoking - experts say that the link between regular smoking and the accelerated aging of skin is due to a reduced blood supply to the skin.
- b) Light skin - people with light skin tend to experience a higher level of sun damage, which usually accelerates the development of wrinkles.
- c) Genetic factors - if your parents developed wrinkles earlier than other people, your chances of also doing so are significantly higher than somebody whose parents developed wrinkles later than others.
- d) Hair - some hairstyles provide more shade for the face than others.
- e) Clothes - people who tend to wear hats and long sleeves usually develop wrinkles later in life compared to other people of the same skin type.
- f) Some jobs - people whose jobs expose them to more sunlight tend to become wrinkly earlier than others. Examples include fishermen, farmers, sailors, golfers, tanning booth employees (UV exposure), and gardeners.
- g) Exposure to UV (ultraviolet light) - apart from those mentioned above who have jobs that expose them to more sunlight, people who spend considerable time out in the sun during their leisure hours are more likely to develop wrinkles earlier.
- h) Facial expressions - people who repeatedly smile, frown, or squint will develop fine lines and wrinkles earlier than other who do not do these facial expressions so often. According to the Mayo Clinic, each time we use a facial muscle a groove forms under the surface of the skin. When you are young the skin springs back, but as it gets older and loses its flexibility springing back becomes harder and less frequent, resulting in more permanent grooves.

8.6 Causes of Sagging Skin

Skin that has lost its spring isn't the result of just one cause. Several factors are likely responsible for making your once supple skin appear tired and droopy.

The most common cause of sagging skin is aging. As you age, your skin loses the collagen and elastin, your skin's supportive connective tissue, that make it look soft, plump and youthful. In addition, facial muscles can weaken with age, which takes a toll too. Getting older means more exposure to the dreaded pull of gravity; which we know causes skin to sag a little further down with each passing day, [15].

Sun exposure is another reason for skin losing its elasticity. The sun's powerful rays damage skin cells which, over time, this can increase the effects of aging [source: Mayo Clinic]. It's a double-edged sword -- all that ultraviolet radiation you soaked up while getting the perfect tan was also breaking down your collagen and elastin, which can lead to saggy skin and wrinkles [16].

Last but not least, weight loss, especially the loss of large amounts of weight over a short period of time, can cause skin to sag. Those who undergo bariatric surgery often find themselves stuck with skin and tissue too stretched out to snap back [source: eMedicineHealth]. People who lose a lot of weight quickly with diet and exercise may be disappointed by the amount of skin that is left sagging after all their hard work and discipline [17].

Despite all of these skin-sabotaging factors, you are not necessarily stuck with skin that's gone slack. Read on to learn ways to defend against a droopy dermis.

Pores are small openings that cover all of the skin on your body. Each hair follicle is surrounded by a tiny pore, which functions to allow sweat to pass, keeping you cool. Sometimes the pores on your face can appear enlarged. While many factors that lead to enlarged pores are out of your control, including genetics and aging, some conditions that cause big pores can be combated with a good skin care regimen or a trip to a dermatologist.

8.7 Genetics

According to skin experts at the Renaissance Medical Spa in Indiana, your genes are the greatest determining factor in your pore size. People with large pores on their faces often have family members with large pores. If your skin is very oily, those oils can cause the pores on your face to look larger because the

oils tend to thicken your skin. Many people inherit thick, oily skin, which causes their pores to appear enlarged.

What causes age spots? Are age spots caused by aging? Aging itself is a factor, but variables such as ultraviolet radiation exposure and genetics also play a part [16]. Although adults older than age 40 are more likely to have age spots than younger folks, it's usually sun exposure over many years, rather than aging itself, that's the primary cause [18]. If you've spent a lot of time in the sun, your skin has probably sustained some damage from ultraviolet rays. Though a suntan might look healthy, it's not -- too much sun is harmful to the skin. The skin contains melanocytes, the cells that produce the pigment melanin, which helps protect the skin from the sun. Melanin gives skin its color, but extra melanin can result in age spots.

Sometimes as people get older, their bodies produce extra melanin as a result of the aging process. Generally, though, excess melanin is caused by frequent exposure to the sun's UV rays. That's why areas of your body that get the most sun, such as the face, hands and neck, are most often the location of age spots. Intense sun exposure and sunburn are known risk factors for developing age spots. Keep in mind that tanning beds are not a safer alternative, because they also generate harmful UV rays and a similar effect on your body as the sun does [19].

Genetics also play a part. Some people are genetically inclined to develop age spots. Also, if you've inherited fair skin, you are more prone to developing age spots than people with darker skin because your body is used to producing melanin to protect you [16].

In the subcutaneous layer the fat cells get smaller with age. This leads to more noticeable wrinkles and sagging, as the fat cells cannot "fill in" the damage from the other layers.

8.8 Platelet-rich Plasma

Autologous platelet-rich plasma has attracted attention in various medical fields recently, including orthopedic, plastic, and dental surgeries and dermatology for its wound healing ability. Further, it has been used clinically for skin rejuvenation. Growth factors which are present in the plasma act as the stimulant to promote new cells regeneration. The effects of platelet-rich plasma (aPRP) P have been proven to activate dermal fibroblasts, which is essential for rejuvenation of aged or damaged skin.

However beauty does lie in the eyes of the beholder. Most patients who visit our clinic have their own expectation or goals to meet and success of treatments often does not correlate with histopathological assessment of the treated skin. What the patient feels about their skin is often of great value and determine the success of the treatment.

8.8.1 What is Platelet-Rich Plasma?

Platelet Rich Plasma, or PRP is blood plasma with concentrated platelets. The concentrated platelets found in PRP contain huge reservoirs of bioactive proteins, including growth factors that are vital to initiate and accelerate tissue repair and regeneration. These bioactive proteins initiate connective tissue healing: bone, tendon and ligament regeneration and repair, promote development of new blood vessels, and stimulate the wound healing process.

Platelet-rich plasma (PRP) is blood plasma that has been enriched with platelets. As a concentrated source of autologous platelets, PRP contains (and releases through degranulation) several different growth factors and other cytokines that stimulate healing of bone and soft tissue.

The efficacy of certain growth factors in healing various injuries and the concentrations of these growth factors found within PRP are the theoretical basis for the use of PRP in tissue repair.[1] The platelets collected in PRP are activated by the addition of thrombin and calcium chloride, which induces the release of these factors from alpha granules. The growth factors and other cytokines present in PRP include:[1][2]

- Platelet-derived growth factor
- transforming growth factor beta
- fibroblast growth factor
- insulin-like growth factor 1
- insulin-like growth factor 2
- vascular endothelial growth factor
- epidermal growth factor
- Interleukin 8
- Keratin
- oocyte growth factor
- connective tissue growth factor

8.8.2 Preparation

There are, at present, two methods of PRP preparation approved by the U.S. Food and Drug Administration.[3] Both processes involve the collection of whole blood that is anticoagulated with citrate dextrose) before undergoing two stages of centrifugation designed to separate the PRP aliquot from platelet-poor plasma and red blood cells.[3] In humans, the typical baseline blood platelet count is approximately 200,000 per μL ; therapeutic PRP concentrates the platelets by roughly five-fold.[4] There is however broad variability in the production of PRP by various concentrating equipment and techniques.[5][6][7]

8.8.3 Clinical applications

In humans, PRP has been investigated and used as clinical tool for several types of medical treatments, including nerve injury,[2] tendinitis,[8][9] osteoarthritis, [10] cardiac muscle injury,[11] bone repair and regeneration,[12][13] plastic surgery,[14] and oral surgery.[15] PRP has also received attention in the popular media as a result of its use in treating sports injuries in professional athletes.[16][17][18][19]

8.8.4 Clinical validity

The use and clinical validation of PRP is still in the early stages. Results of basic science and preclinical trials have not yet been confirmed in large-scale controlled clinical trials. For example, clinical use of PRP for nerve injury and sports medicine has produced "promising" but "inconsistent" results in early trials.[2][20] A 2009 systematic review of the scientific literature stated that there are few controlled clinical trials that have adequately evaluated the safety and efficacy of PRP treatments and concluded that PRP is "a promising, but not proven, treatment option for joint, tendon, ligament, and muscle injuries".[20].

Proponents of PRP therapy argue that negative clinical results are associated with poor quality PRP produced by inadequate devices. The fact that most gathering devices capture a percentage of a given thrombocyte count is a bias, since there is significant inter-individual variability in the platelet concentration of human plasma. More is not necessarily better in this case.[4] The variability in platelet concentrating techniques may alter platelet degranulation characteristics that could affect clinical outcomes.[2]

8.8.5 How does PRP Therapy work?

To prepare PRP, a small amount of blood is taken from the patient. The blood is then placed in a centrifuge. The centrifuge spins and automatically produces the PRP. The entire process takes less than 15 minutes and increases the concentration of platelets and growth factors up to 500%. When PRP is injected into the damaged area it stimulates the tendon or ligament causing mild inflammation that triggers the healing cascade. As a result new collagen begins to develop. As this collagen matures it begins to shrink, causing the tightening and strengthening of the tendons or ligaments of the damaged area.

What are the potential benefits?

Patients can see a significant improvement in symptoms. This may eliminate the need for more aggressive treatments such as long term medication or surgery, as well as a remarkable return of function.

What can be treated?

PRP injections can be performed in tendons and ligaments all over the body. Sports injuries, arthritic joints, lower back, degenerative disc disease and more specific injuries including tennis elbow, carpal tunnel syndrome, ACL tears, shin splints, rotator cuff tears, plantar fasciitis and iliotibial band syndrome may all be effectively treated with PRP.

9. Result of Survey.

9.1 Participant Range of Age

| Ranges of Age (years) | Nos |
|-----------------------|-----|
| 20-30 | 5 |
| 31-40 | 10 |
| 41-50 | 15 |
| 50< | 5 |

1. Analysis according to age distribution

There are a total of 35 participants seeking treatment with age level between 20-50 years and above. From the distribution pattern it can be deduced that the too young and the too old comprise only about 12% of the participants. The majority consists of those above 30 – slightly below 50.

Several factors can account for this distribution pattern:

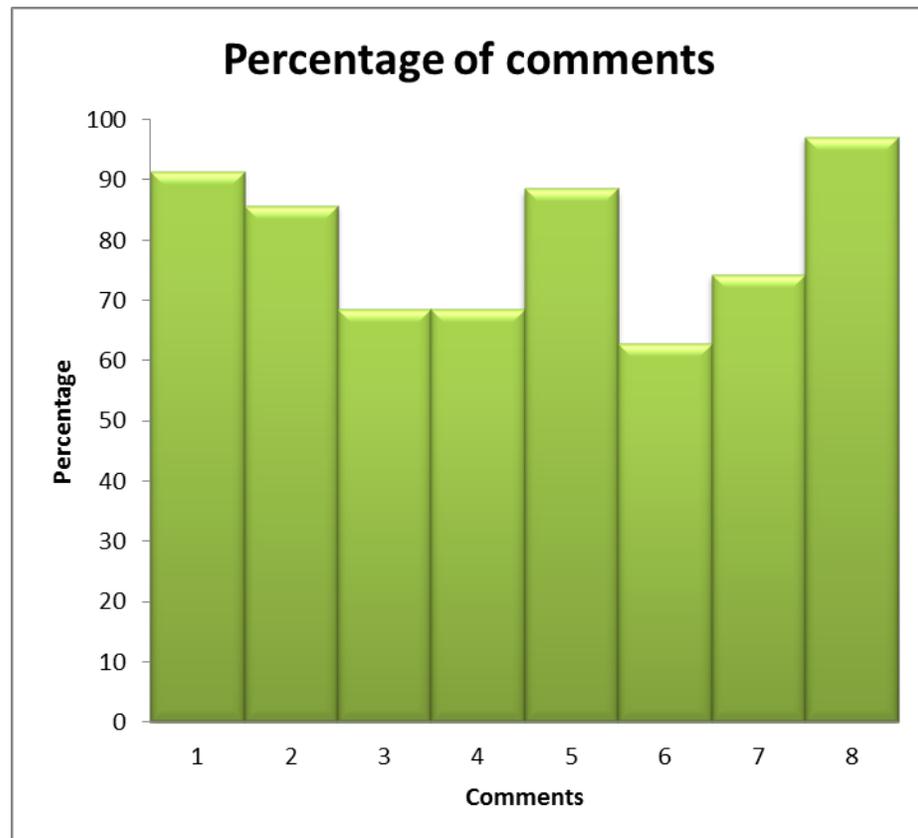
The 20-less than 30 age bracket may not feel too conscious for the need of PRP treatment because they are not too aware of having skin problem because their skin are still youthful. Another point of explanation may be related to affordability as their income may be smaller.

Those between 31-to less 50 are the majority because they are more aware of the need to rejuvenate their skin and also their financial position permits them to pay for such treatment.

There is a need therefore to create awareness among the above 50 age group that they are no too late to rejuvenate.

9.3 Comments/feedback received post treatment.

| No | Comments/Feedbacks | Nos | Percentage % |
|----|---|-----|--------------|
| 1 | Face skin colour become brighter | 32 | 91 |
| 2 | Face skin become smoother | 30 | 86 |
| 3 | face skin become firmer | 24 | 69 |
| 4 | Face skin pores become smaller | 24 | 69 |
| 5 | Face skin become moister | 31 | 89 |
| 6 | Face skin scar/black spot become lesser | 22 | 63 |
| 7 | Face skin become fairer | 26 | 74 |
| 8 | Face skin seems fresher | 34 | 97 |



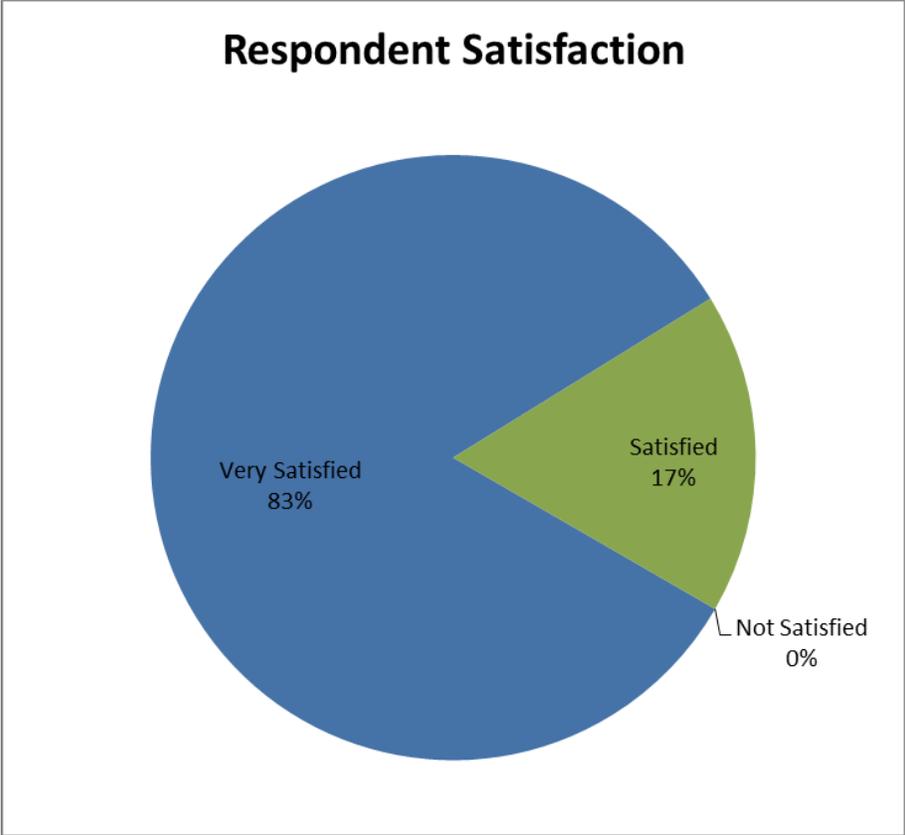
Analysis of patients satisfaction of treatment received.

- Overall satisfaction level of treatment are within the range of above 60% - 95%. This means that every participant reported an above average satisfaction level. Most however recorded satisfaction at a higher end..
- Most patients feel their face skin improved – brighter, fairer, firmer, smoother and fresher especially those between 30-50 age level.
- The very young ones regard treatment as satisfactory because they do not observe radical change in their improvement. This is expected because their skin is youthful.

9.4 Type of Satisfaction & Conclusion.

| Type of Conclusion | Nos. | Percentage % |
|--------------------|------|-----------------|
| Very Satisfied | 29 | 83 |
| Satisfied | 6 | 17 |
| Not Satisfied | 0 | 0 |

Total participation = 35 patients



Conclusion:

It does appear that most patients are very satisfied with the PRP treatment positively proportional with age.

The 17 % patient of who recorded their satisfaction only as satisfactory are the young ones below 30. This is understandable as their young may not show dramatic change with regard to rejuvenation.

This experiment proves conclusively that results of treatment are positive within a time-frame of 6 months.

10. Appendix

10.1 Appendix 1: Questionnaires used:

- a. What is your age when you came for treatment?
- b. What kind of skin problem were you treated for?
- c. Can you describe the effects of PRP treatment after receiving treatment?
 - Face skin become brighter
 - Face skin become smoother
 - Face skin become firmer
 - Face skin pores become smaller
 - Face skin seem become moister

- Face skin black spot become lesser
 - Face skin become fairer
 - Face skin become fresher
- d. Can you rate on your satisfaction of the effects of PPRT treatment in terms of unsatisfied, satisfied and very satisfied.

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