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Evaluation Study Between Traditional and Recent Laser Treatments in Eye Disease

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ABSTRACT

Three distinct ocular treatment methods are well-known: conventional, clinical, and laser. Patients were recruited from three centres: Sharp vision at PAR hospital, IBN SINA in CMC hospital, and Consulting in Rezgary hospital, and were followed for 180 days. A total of 3035 eye sufferers were observed, and it was determined that 22% (673) of patients chose laser therapy with the Argon (146 patients) and Yag kinds (345 patients). Seventy-eight per cent of respondents favoured conventional clinical care. Several (2364) were referred for clinical treatment, while others received traditional medicine from the centre and village populations. This diversity in therapeutic approaches is related to three factors: 1. The population's level of education; 2. Economic sustainability; and 3. Satisfaction in the medicinal kind.

1. Introduction

As a result of the increased stress and tiredness placed on our eyes due to our time spent studying with computer displays and reading books, it's unsurprising that most of us develop eyesight problems. According to the World Health Organization (WHO), approximately 34 million persons worldwide are blind [1]. Cataract and glaucoma are both blinding disorders, while conjunctivitis, while not blinding, and generates signs that necessitate medical attention [2]. Accelerating assistance for medical treatment is one strategy that alleviates the stress in rural locations. [3]. Recent data reveal that around 80% of the affluent nations use conventional and fundamental medicine since it is affordable and inexpensive [4]. Numerous countries cannot implement a therapeutic program that properly fits their inhabitants' demands. Consequently, the fundamentals of conventional medicine are emphasized [5]. In developing nations,

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unconventional medication is referred to as supplementary or alternative medicine [6]. However, alternative medicine encompasses a spectrum of therapies ranging from well-tested and effective to bogus and fraudulent [7].

In current studies, we focused on the ways used to cure eye disorders in Erbil, including laser, conventional, and clinical. Laser eye therapy is classified into two different kinds: Argon and Yag, with each type being used following the kind of eye condition.

They vary in terms of energy and pulse count; for illustration, the energy of an Argon laser is 50-360 mW and the exposure period is 0.1-035 sec, whereas the energy of a Yag laser is 1.6-5 mJ and the pulse count is 6-1194. The amount of pulses is dependent on the area's thickness and the spot size. Complementary or alternative medicine may be ineffectual, and there have been reports of adverse effects associated with conventional and complementary or alternative eye medications used to cure eye problems [8]. Traditional drugs, in particular, are ineffective for certain types of eye illnesses.

In several nations, local medications have been awarded authorization and licenses to market well-researched traditional treatments.

Glaucoma, cataracts, and bacterial conjunctivitis are all frequent eye disorders in developing countries.

This investigation aims to determine the type and cost of alternative medicine treatments for eye disease.

1. Rather than focusing on this treatment's adverse impacts assess the content and cost of commercialized standard drugs employed to treat common eye problems.
2. Make a comparison of conventional, clinical, and laser eye treatments.

The study entailed administering a questionnaire to participants to elicit information about their practice's geographic location and the types of eye illnesses treated.

Cataracts, glaucoma, and bacterial conjunctivitis are all prevalent eye disorders submitted to traditional physicians and treated via proxy. Simulated patients have been demonstrated to be beneficial in evaluating healthcare professionals [9].

2. Laser treatment characteristics

The four primary potential benefits of laser treatment are as follows:

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1. The assessment of people's lifestyles eliminates the need for contact lenses and the related pathological risks and infections. Increased life quality is achieved by removing the need for contact lenses or glasses and thereby avoiding an increased risk of contracting a contact lens-related infection.
2. To ensure the therapy is efficient, an extremely experienced and qualified ophthalmologist must be chosen.
3. The procedure takes about ten minutes and is painless, with computer equipment instructing the physician to ensure a high degree of precision.
4. This treatment could be used to correct nearsightedness, myopia, hyperopia, and astigmatism.

In certain situations, this treatment may consequence in night vision deficiency. Night vision may deteriorate in some patients, particularly those with large schoolchildren. To prevent dry eyes throughout laser treatment, the eye's surface should be hydrated.

3. The limitations of eye laser treatment

In the broad sense, laser eye surgery results in only temporary dry-eye signs. Moisturizing the ocular surface is necessary to prevent this. Additionally, caution must be exercised in selecting candidates for laser surgery.

4. Implications of laser eye surgery

As a result of the side effect of laser surgery, some individuals could believe that this therapy method is unpleasant, as they experience a prickling or aching sensation. If required, pain medication could be provided.

Following laser therapy, the patient may experience temporary blindness due to the laser light's brightness. Occasionally, a bleed in the jelly portion of the eye could happen either before or after the process. This ordinarily resolves on its own.

This type of laser therapy is designed to protect the patient's current level of vision instead of improving it. Scar tissue can form in rare situations, resulting in further vision loss and retinal detachment.

Additionally, your vision may proceed to crumble, notwithstanding the laser treatment.

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5. Side impacts of clinical and traditional eye therapies

1. It has already been revealed in the literature that severe ocular injury was already caused by the usages of plant seeds for TEM [10].
2. Topical application of TEM with an extreme pH will irritate, inflame, and induce pain in the eyes.
3. Additionally, scarification and the use of unsterile concoctions can result in severe local infections or systemic infections, including tetanus.
4. It has been noted that THs perceive TEM to be inefficient in the absence of associated irritation and pain [5].
5. Numerous adverse events associated with harmful TEM have been revealed, including keratitis, endophthalmitis, and pan ophthalmitis [11].

6. Experimentation

The following information was obtained from several centres:

1. Sharp vision centre in PAR hospital
2. IBN SINA center in CMC hospital
3. Consulting in Rezgary hospital

These hospitals provide laser and clinical technology-assisted treatment for eye diseases

1. The number of patients obtained from the Fusion centre in PAR hospital cured through laser and clinical technology was 124 from 1/1/2019- 1/9/2019.
2. The number of patients collected from the Fusion centre in PAR hospital cured through clinic treatment was 90 from 1/1/2019- 1/9/2019.
3. The number of patients obtained from IBN SINA cured through laser technology was 58 from 25/3/2019- 18/8/2019, all cured through laser techniques.
4. The number of patients obtained from Rezgary hospital cured through laser instruments was 491 from 1/7/2019- 1/9/2019.
5. The number of patients obtained from Rezgary hospital cured through clinical method was 2362 from 1/7/2019- 1/8/2019.

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Table (1). The Number of patients treated by different types.

The total sum of patients	Number of patients treated by different types				Traditional treatment
3035	Par Hospital	Rzgary Hospital	Ibn-Sina Hospital	Clinical Technology	2456
	30	472	58	19	

Table (2). Types of Laser beam employed for patient treatment.

Type	Argon	Yag	Excimer	PRK
	207	352	13	7
Percent	%35.75	%60.79	%2.24	%1.208

7. Results and Discussion

1-The findings were acquired from a total of 3035 eye patient from table (1) it is seen that around 22% of them were healed with laser equipment, and the remaining 78% were operated with clinical and traditional methods of care. As a result, it may be stated that a significant proportion of the Erbil population is engaged in conventional ways, while table (2) explain the types and patient percentage treated with different type of laser beams.

2-This research provides an insight into the traditional and current practices in eye therapy in our community. The conventional physicians who were polled were found in the bulk of Erbil's geopolitical zones, which comprised the city's central district. Some of them were from nearby towns and villages.

3-The use of THs is common in Erbil and the surrounding area. The majority of the specimens accepted by the physicians' comprised alkaloids, which indicate that they were derived from plants. Alkaloids are a class of nitrogenous compounds derived from plants that have been shown to exhibit physiological action and to have a wide range of uses as chemotherapeutic compounds [12]; however, they can also have negative consequences.

4-According to previous research, herbal remedies are the most widely utilized complementary or alternative therapy [13]. Additional research has indicated that

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herbs including marijuana and ginkgo biloba may have beneficial impacts in treating glaucoma, according to some reports [14]. In general, two separate illnesses (cataract and conjunctivitis) were treated with the same medication, despite our investigation indicating that both included a mixture of quinolone and atropine (the same two compounds). Although such a one-size-fits-all treatment may look unexpected, it is well-known to be a characteristic of traditional practice healthcare.

5-Based on medical evidence, it is possible to manage both cataracts and conjunctivitis in the same way. Furthermore, topical atropine has been shown to widen the pupil and reduce ciliary spasms in uveitis patients. Increase the amount of light entering the eye via the dilation of the papillary muscles in persons with advanced nuclear cataracts. Quinolones are a class of antimicrobials that includes fluoroquinolones and are effective towards a wide range of microorganisms. They have been demonstrated to be useful in managing microbial conjunctivitis when used as an eye drop [15].

6- The presence of microbial conjunctivitis might result in an adverse reaction to topical quinolone drops based on the concentration of active components present and its bioavailability. It is conceivable that the atropine contained in traditional medications may promote pupillary dilatation, which may somewhat enhance vision, albeit for a brief period, in people suffering from cataracts, an opaque lens. The predominant conventional therapy for cataracts is the surgical removal of the lens.

7-These drops may afford short comfort for end-users, even though the eventual consequence is uncertain. The principal element employed in the therapy of cataracts was, in Malawi, soap, particularly when used to the face, was already characterized as a practice that is believed to be effective in minimizing ocular secretions and preventing the spread of infections and viruses [8]. When traditional healers in Kenya were studied for their capacity to cure all phases of cataracts without surgical intervention, they stated that they were successful [5].

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8- It is necessary for regulatory organizations and eye health promotion programs to be able to check such fictitious claims and limit the dissemination of such claims by conventional practitioners.

9-The medicinal samples included in the analysis had solutions, suspensions, and powders delivered orally, topically, or through scarification, as well as scarification fluid [16].

11-The outcomes of our investigation are likewise consistent with those of Erbil traditional eye healers who administered traditional eye treatment topically or orally [5] in their studies. Several topical medicines had pH values ranging from extremely acidic (3.5) to extremely alkaline (8.5) (10).

11-It has been noted in the literature [17] that the use of plant seeds for TEM can result in severe eye damage. An investigation conducted in southwestern Nigeria found that over a quarter of traditional eye treatment users who presented to a tertiary hospital had used battery acid and fermented cassava water [18], as well as other substances.

12-Ocular irritation, inflammation, and pain will result with the topical use of standard eye medications with high pH levels. Additional risks include serious local infections and widespread infections such as tetanus due to scarification and the administration of unsterile concoctions to the skin.

13-The belief among traditional healers that traditional eye treatment is ineffectual without causing irritation and pain has been expressed in several publications [5].

The topical treatments included a high concentration of microorganisms, which could have contributed to eye infections. In an ideal situation, ocular drops would be sterile. It's possible that the elevated microbial load was caused by the non-aseptic technique employed to prepare the drops for testing. According to the literature, well water has been used to manufacture traditional eye medications [5]. These are only a few examples of hazardous TEMs and have serious health repercussions. Several unsafe traditional eye medication-related consequences have been reported, including keratitis, endophthalmitis, and pan ophthalmitis [10].

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14-In Iraq/Erbil, it has been discovered that educated persons are more likely to seek clinical and laser therapy for their eye disorders, whilst those living in rural areas are more likely to seek traditional care.

8. Conclusions

1. There are certain cautions to therapy with alternative ophthalmology, such as an elevation in the acidity rate within the pH. A fraction of the samples contained substances that may be said to have some level of effectiveness. These results imply that additional study into local treatments is necessary to ensure their bioavailability, sterility, and adequate concentration of the active ingredient. Collaboration with THs is essential to control their eye care procedures.
2. A total of 5836 eye patients were visited, approximately 11% of whom received laser treatment, 40% received clinical medicine, and 39% received traditional treatment.It may be stated that most of Erbil's people, particularly those from small communities, rely on traditional ways.
3. Patients avoid laser treatment because of the high prices, while those with a medium income direct their resources toward clinical medicine; others, particularly those from rural areas, prefer the traditional method of treating their ailments (public clinic).

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خویندنەوەیەکی هەلسەنگینەر لە نیوان چارەسەری ئاسایی (تەقلیدی) و تیشکی لیزەر بۆ نەخۆشیەکانی چاو

پـوختـه:

لە ئیستادا سی جۆر چارەسەری نەخۆشیەکانی چاو هەن کە ئەمانەن چارەسەری ئاسایی (تەقلیدی) و کلینیکی و تیشکی لیزەر.

کە سی جۆر بنکە دیاریکران بۆ نەخۆشیەکان کە ئەمانە بوون:

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(CMC) له نەخۆشخانەی(IBN sina) بنکەی (PAR hospital) - له نەخۆشخانەی (sharp vision) بنکەیوە راویژکاری نەخۆشخانەی رزگاری بۆ نەخۆشیەکانی چاو وە چاودیری کردنیان بۆ ماوەی 180 رۆژ. وە چاودیری 3035 نەخۆش کرا بۆ چاو وە پاش تاکید کردنەوە بۆمان دەرکەوت کە 22% (673) نەخۆشیان پییان باش بوو چارەسەر بە تەکنیکی لیزەر بکریت بۆیان لە جۆری لەیزەری ئارگۆن کە ژمارەیان 146 نەخۆش بوون وە بەشیکی بە لیزەری ژمارەیان 345 نەخۆش بوون، (yag) وە ژمارەیەکی تریشیان پییان باش بوو کە ریژەیان 78% کە چارەسەری کلینیکی / کلاسیکی وە هەندیکی تریان چارەسەری ئاسایی (تەقلیدی) بۆ بکریت کە خەلکی ناو سەنتەری شارەکان و دانیشتووی دەوروبەر و گوندەکان بوون. ئەم چارەسەرە جیاوازانە لەمانە خۆی دەبینیتەوە :

1-ئاستی خویندەواری دانیشتوان.

2-ئاستی داراییان.

3-بروایان بە جۆری چارەسەرەکە.

دراسة تقييمية بين العلاجات التقليدية وتقنيات الليزرالحديثة في أمراض العيون

الملخص:

تم اجراء استفتاء ل3035 مريضا تم معالجتهم داخل مدينة اربيل بتقنيات مختلفة فقد تبين ان 22% من هؤلاء المرضى تم معالجهم بواسطة تقنية الليزر بمراكز و مستشفيات مختلفة و متخصصة اما 78 % المتبقي فقد تم معالجتهم بواسطة الطرق التقليدية . ان علاج امراض العيون يتم بثلاثة أنواع : العلاج التقليدي ، السريري ، والعلاج بالليزر. في هذا البحث تم اختيار المرضى من ثلاثة مراكز قي اربيل: مركز Sharp Vision في مستشفى PAR ، ومركز IBN SINA في مستشفى CMC ، والمركز الأستشاري في مستشفى Rezgary. حيث خضع جميع المرضى للمراقبه لمدة 180 يومًا ولوحظ مايلي:

1. أن حوالي 10 ٪ من المرضى قد فضل تقنية الليزر في علاج أمراض العيون.
2. بينما اتجه نحو 42٪ نحو العلاج السريري
3. 48٪ سلك العلاج التقليدي ، 15٪ منهم من سكان المركز و 33٪ من سكان القرى.