

Research Article

The Usage OF Gou Qi Zi (Goji Berry) Extract for Vision Related Problems and Empowerment OF Kidney's Qi (Energy)

Andrea Leite Barretto Domingues^{1,2,3,4,5*}, Inês Margarida Baptista Dias de Brito⁶, Inês Alexandra Manata Antunes Valente⁶, Filipa Duarte Rosas⁶ and Mônica Alves Carocha⁶

¹Physiotherapist Acupuncturist, Jiangxi University of Traditional Chinese Medicine, China

²Van Nghi Institute, Portugal

³Department of Traditional Chinese Medicine (TCM), The Ebramec College, Brazil

⁴Department of TCM, The Unyleya College, Brazil

⁵Phytotherapy; Respiratory Physiotherapy Specialist; World Federation of Chinese Medicine Societies (WFCMS), Brazil

⁶Finalists of the Traditional Chinese Medicine and Acupuncture course, Portugal

Abstract

This study looks at the usage of gōu qǐ zǐ 枸杞子 extract for vision related problems, as some studies claim that this herb has a great potential to improve eye problems. Gou Qi Zi or *Lycium barbarum* is considered a deciduous evergreen shrub with ellipsoid reddish-orange berries and a sweet-spicy flavor, also known as Goji Berry. *Lycium barbarum* fruits are consumed in several ways, including juices, raw berries, smoothies, mixed with tea, added to morning cereal's, energy bars or soups. Thus, this study was made with the purpose of researching the usage of the extract, supported by the requirements of other studies in improving vision related problems, such as increasing Kidney's Qi (energy) and its functions. It is acknowledged that there is a lack of evidence to support the usage of this herb extract, but it does not necessarily mean that the treatment is ineffective, only that requires further research to support the rec-

*Corresponding author: Andrea Leite Barretto Domingues, Phytotherapy; Respiratory Physiotherapy Specialist, World Federation of Chinese Medicine Societies (WFCMS), Brazil, Tel: +55 82988209050; E-mail: andrealbd@yahoo.com.br

Citation: Domingues ALB, Brito IMBD, Valente IAMA, Rosas FD, Carocha MA (2023) The Usage OF Gou Qi Zi (Goji Berry) Extract for Vision Related Problems and Empowerment OF Kidney's Qi (Energy). J Altern Complement Integr Med 9: 323.

Received: January 31, 2023; **Accepted:** February 06, 2023; **Published:** February 13, 2023

Copyright: © 2023 Domingues ALB, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

ommendation. The study is characterized within the interventional research – a series of cases with a descriptive and qualitative approach on the usage of Gou Qi Zi extract for vision related problems. Eight volunteers, both man and women, with ages between 50 and 70 years old, presenting vision problems were chosen. To all of them was prescribed Gou Qi Zi extract for a period of 3 months. According to the volunteers' responses, there was a clear improvement in their vision, visible through a decrease in blurred vision and increase of sharpness. There was also an improvement of physical strength. The study revealed that Goji Berry can help improving vision. However, more studies are needed to ensure an increase of the yield of the herb extract and to acquire a better understanding of its safety, pharmacokinetics, mechanisms of action, pathways of disposition, and therapeutic targets.

Keywords: Chinese Herbal Medicine; Goji Berry; Gou Qi Zi; Vision-related problems

Introduction

According to the report on World Vision and the World Health Organization (WHO), "around 11.9 million people worldwide have moderate or severe visual impairment or blindness due to glaucoma, diabetic retinopathy and trachoma that could have been avoided." In the world, 2.2 million people have some type of visual impairment or blindness, making it evident, that vision care is an important topic that deserves more attention [1].

Like several countries, Portugal had a mandatory confinement during the Covid-19 pandemic, which caused an increase in myopia problems among the youngest in the last year. This increase was due to more time spent indoors, in front of electronic devices such as television and smartphones, with the absence of natural light. These issues were pointed by WHO, based on recent studies from universities in Canada, China, and South America [2].

Brazil experienced a similar situation: an increase of vision-related problems during the pandemic, which according to experts, was due to the frequent usage of masks (which increases eye dryness), more hours spent in front of electronic devices (resulting in a reduction of blinking) and a reduction in attendance of ophthalmologists' appointments imposed by the pandemic itself, or simply caused by the fear to leaving house [3].

The Gou Qi Zi or Goji Berry or *Lycium barbarum* is considered an evergreen shrub deciduous with ellipsoidal reddish-orange berries and a sweet-spicy flavor. *Lycium barbarum* (fruits) are consumed in several ways, including juices, raw berries, smoothies, mixed with tea, added to morning cereal's, energy bars or soups. [4].

The plant and its fruits contain a wide variety of active secondary metabolites and biological products that are used in medicines, dietary supplements, and functional foods, due to their antioxidant, anti-inflammatory and antimicrobial properties [4].

From a Chinese Medicine point of view, the nature of the Gou Qi Zi (Goji Berry) fruit is neutral. It has a sweet taste, which is linked

to the Liver, Lung, and Kidney channels and in a dosage of 5 to 15 grams it can brighten the eyes, nourish the Yin, and benefit the Liver and Kidney. Therefore, some of its indications are blurred vision, impotence, pain and weakness in the back, acuity decreased vision, insomnia, dizziness, and tinnitus [5,6].

Chinese herbal medicine is a medical system that has evolved empirically over the years. Thousands of years contributed to its development and systematization, which occurred through successive experiences and observations, tasting and ingestion of the most varied animal, plants, and minerals' substances. Its roots go back to the beginning of history, when all kinds of methods, including trial and error, played an important role in the gradual accumulation of facts that have been handed down to us today. One of the most comprehensive herbal medicine books published in China is the "Chung Yao Ta Tsu Tien", with two volumes and covering approximately 12,000 medicinal herbs worldwide [7].

The word "Phytotherapy" is composed of two radicals: "FITO" which means vegetable, tree, plant, and "THERAPY" which means treatment. Therefore, phytotherapy is a form of treatment in which medicinal herbs are used for therapeutic purposes, found in almost all known civilizations or cultural groups [7].

According to Cheng [7], extracts are prepared by dissolving an animal or vegetable solute in an appropriate solvent and then, by evaporating the resulting mixture to the desired consistency. In this case, the solute is Goji Berry, and the solvent is grain alcohol.

Thus, this article was made with the purpose of researching the usage of the extract, supported by the requirements of other studies in improving vision related problems, such as increasing Kidney's Qi (energy) and its functions.

Materials and Methods

The study is characterized within the interventional research - series of cases with descriptive and qualitative approach on the use of Gou Qi Zi extract for related problems with vision, supported by the requirements of other studies in improving vision related problems, such as increasing Kidney's Qi (energy) and its functions.

The bibliographic research was carried out in research gate, medline, pubmed and Google Scholar. The selection of articles and texts is in accordance with the individual evaluations of these, having as inclusion criteria scientific articles of greater relevance to the proposed objective.

As study sample, eight volunteers, both men and women, with ages between 50 and 70 years old, were chosen based on their vision problems, health state and reasons to participate in the study. For a period of three months, three times a day, after the main meals, each volunteer took 40 drops of the extract, diluted in water. As data collection instrument, an interview was made to the participants, at the house of family and friends. Parameters such as age and sex were questioned. Questions such as "Did you have any Western ophthalmic diseases diagnosed?", "Do you usually go to allopathic medicines for treatment?", "Do you have any visual or energetic problems?", "How do you feel about your physical aspect?", "How did you feel after using Goji Berry Extract?" The extract was prepared on January 20th, 2021, with 300g of the herb Gou Qi Zi added to 500 mL of grain alcohol. Then it was stored in a dark bottle covered with a dark cloth. It was kept like this for 2 months (until March 20th, 2021). After April

20th it achieved the right conditions to be used, maintaining the intake until the end July.

The study of the usage of Gou Qi Zi extract for vision related problems is considered a pertinent study due to the world situation related with eye problems explained before. The WHO reveals that millions of people have some type of visual impairment, making it evident, that vision care is a very important and deserves more attention. In general, phytotherapy has a great role in therapy. Therefore, this study is relevant, since there is already scientific evidence that proves its clinical efficiency.

Results

In this study, it was found that in addition to food and cooking, Goji Berry plays an important role in Traditional Chinese Medicine, where it is believed to enhance the immune system, as well as improving vision, protecting the liver, and improving circulation, among other effects. The results demonstrated that the extract has a functional value and may have potential as an herbal prescription for vision-related problems in general, to decrease blurred vision and increase sharpness. Furthermore, the patients subject to the study, reported an improvement in physical and body energy. Volunteer responses are shown in Tables 1 and 2.

Name	Age	Sex	Ophthalmic pathologies	Allopathic medicines
ALBD	50	F	Hypermetropia, myopia	Vitamin-C
CMPM	58	F	Cataract, myopia	Velija (Fibromyalgia)
CPM	63	F	Cataract	Antidepressant
CRS	54	F	Myopia; astigmatism	Prediabetic
LCT	67	M	Cataract, hypermetropia	Arterial hypertension
MCC	61	F	Hypermetropia, myopia	Arterial hypertension atrial fibrillation, cholesterol, anti-coagulant, diuretic
MCPLB	70	F	Cataract; astigmatism	Arterial hypertension and diuretic
MNAB	60	M	Hypermetropia, astigmatism	Diabetes

Table 1: Volunteer responses.

Nome	Energetic visual problems	Physical appearance	Feeling after using the extract
ALBD	Grounded view	Tired, especially in the morning	I felt an improvement in vision, it seems that the images are clearer; I also felt less tired
CMPM	His vision was blurred and at night he saw a kind of halo around some objects or light	Apart from fibromyalgia, I still feel tired, especially after having Covid-19	I feel less grounded and more physically energetic
CPM	I feel like I see halos around the light.	I feel active because I'm retired, but I like to work a lot in home	I think I felt better and more energetic. About the vision, I think it became a little sharper

CRS	I have a blurred, blurred vision sensation	Sometimes I feel tired due to overwork, but I consider myself active	I felt that my eyesight got better, and I feel more energetic
LCT	Blurred vision	I don't feel much physical fatigue because I walk a lot, almost every day	I noticed an improvement in my vision, I found it clearer
MCC	Without glasses I don't have clear vision; blurred vision	When I take long walks, I feel a certain tiredness	I noticed that my vision got better, but I still can't see well
MCPLB	When the pressure increased, the vision was blurred	I feel a normal tiredness due to age, but I am very active, because I always have things to do	I feel my vision less blurred, lower blood pressure and I felt so good physically that I still use the extract
MNAB	Grounded Vision and the times as if there were black dots	Sometimes I feel tired	I feel a vision improvement, but what I felt was tremendous energy after using this extract

Table 2: Volunteer responses.

Discussion

Goji Berry or Gou Qi Zi, also known as Wolf Berry, is known to be an extremely nutritious food in Asia and has been widely consumed raw, in juices or wine, fermented into herbal tea or prepared as tinctures, powders and tablets, ingested in salads and widely used in other culinary preparations [4,6].

It should be noted that Goji Berry is not just used as a medicine in prescriptions of Chinese Medicine to treat illnesses, but it is also a very popular food consumed by the Chinese in their daily life for general health promotion. Therefore, the demand for the fruit increased significantly in the recent years, becoming an option for people who seek health benefits [8,9].

According to Wenli; Shahrajabian; Qi [8], the fruit (Goji Berry) provides eight essential amino acids that the body cannot synthesize. One of the most important reasons for the popularity of this fruit is the fact that it contains a high concentration of an antioxidant called Zeaxanthin. This is a lutein-like carotenoid - yellow-orange food pigment, and essential to the body, which cannot synthesize it. It offers innumerable health benefits, such as vision protection and premature aging prevention.

Still in accordance with Wenli; Shahrajabian; Qi [8], a diet that contains Goji Berry can increase a person's zeaxanthin levels up to 26 times and therefore, improving vision. Besides providing almost twice as much of Vitamin-A as a person needs daily, it contains one third of the recommended daily dose of vitamin-C. It is also rich in important and essential minerals, including iron and potassium. In its constitution it can be found high levels of fiber and protein, as well as amino acids and betaine - also called Trimethyl-Glycine (TMG), a substance related to liver function.

Lycium barbarum has many biological activities including antidiabetic, antiproliferative, antihypertensive and antioxidant. It protects the central nervous system, reduces the risk of glaucoma, has antitumor activity, prevents chronic diseases such as hypercholesterolemia, diabetes, hepatitis and, it also helps reducing fatigue and increasing resistance during exercise, which makes it a strong ally in preventing aging [8].

When the general properties of Gou Qi Zi were investigated, many health benefits were noticed, such as the capacity to improve vision and to increase Kidney's energy. This is because according to Chinese Traditional Medicine, the eyes are governed by the Liver and when its blood is plentiful and when the Qi's Liver (energy) is harmonious, tears are secreted normally, which favors vision [10]. Also, the Kidney is the root of the former heaven, the source of the true Yin (Zhen Yin) and the original Yang (Yuan Yang), whose function is to guard a treasure - Jing (Essence). Therefore, the Kidney is the main reserve, which the body needs to maintain and preserve life [11].

Among other health benefits, Gou Qi Zi increases the immune system and protects the body against flu by combating infectious processes and by strengthening the body energy. It has anti-stress properties, and it can ensure body's homeostasis. It helps maintaining blood sugar, potential aids in weight loss and fights cellulite. It possesses antioxidants useful for the eyes and the skin and, it can increase testosterone, helping to treat male infertility [6,8].

These aspects are important to this study, since the world is facing post-pandemic conditions, which contributed for lowering people's immune system and raising stress levels. Also, the volunteers for this study were people with more advanced age, whose Liver and/or Kidney could present energy deficiency.

As mentioned by GONÇALVES [12], studies carried out using Goji Berry extract for 30 days in adults with ages between 55 and 72 years, suggested that it may "stimulate endogenous factors that protect human cells against oxidative radical damage". Zeaxanthin is a xanthophyll carotenoid that is widely distributed in tissues and is the main carotenoid in the lens and macular region of the retina. Based on its molecular structure, zeaxanthin has high antioxidant capacity since it can exert its antioxidant properties by directly quenching Reactive Oxygen Species (ROS) and by eliminating free radicals, reasons why this carotenoid attenuates visual problems and suppresses oxidative stress in retinal tissues, which may delay lens eye aging [9,13].

Based on Chinese Medicine's view, Gou Qi Zi is mainly used for Liver's treatment and Kidney's Yin Deficiency. Dried fruit is commonly used in preparations with 6-15g per dose, taken two to three times a day. It is a source of bioactive compounds with functional properties, but it still needs further evaluation when used in food or health-promoting formulations [8].

Lycium barbarum has been used for over 2,000 years in Traditional Chinese Medicine, with the first records dating back to the Tang Dynasty. It is currently part of the Pharmacopoeia of People's Republic of China. The recommended dosage of this dried fruit varies between 5 and 12g according to GAO et al. [9], not differing from LUQUIS; YAU; SON [5] where it varies between 5 and 15g, making it evident that this amount can be consumed daily, as this is a scientific dosage on which the study was based, suggesting that the 40 drops of the extract (3 times a day) may also have the desired effects for the purposes of the study.

Although, is necessary to consider the structural changes that the Goji Berry fruits can suffer due to high temperatures during more warm months in different areas such as China and Greece, for example [4].

For the preparation of an extract, herbs are soaked in alcohol made from rice or sorghum for at least a month. As alcohol has scattering and fast-moving properties, it can increase the speed and the herbs'

effects. Medicinal alcoholic beverages are often used in chonical diseases. Herbs that tone the body like Ren Shen (*Ginseng radix*) and Gou Qi Zi (*Lycii fructus*) and, herbs that disperse wind, dampness and cold to treat Bi syndrome like Wu Jia Pi (*Acanthopanax cortex*), are often prepared this way. In the application process, the herbal alcoholic beverage is usually taken once a day, in small amounts of 10 to 20 mL [14].

The usage of Gou Qi Zi extract has great importance, as this plant has been widely used as a functional ingredient in nutraceuticals since studies were carried out and demonstrated that the Goji Berry plays a crucial role in vision improvement [13,15].

Conclusion

After one of Chinese herbal medicine classes, internet searches for data related with the herb Gou Qi Zi and after learning, through scientific studies, that the carotenoid content in Gou Qi Zi has similar selectivity to human retinal carotenoids, the interest in preparing the extract and making use of its property's growth.

Chinese herbs have been widely applied in medicine as drugs for anti-aging due to their few side effects. Considering that millions of people around the world are visually impaired or have eye problem, the study revealed that Goji Berry can help improving the visual field. However, more studies are necessary to ensure a better usage of the herb and extract, a better understanding of its safety, pharmacokinetics, mechanisms of action, routes of disposition and therapeutic targets will help in optimal use.

Aging, defined as the accumulation of various deleterious changes in cells and tissues, is commonly associated with reduced physiological functions and is closely related to apoptosis. Likewise, the study of the usage of the extract can conclude that Goji Berry is a toning agent for the Liver and Kidney, providing a boost of Qi (energy) of these main meridians, in addition to a promising anti-aging.

Out of curiosity, and related to physiological effects of the herb Gou Qi Zi, there are patients that until the present day still use the extract, or eat an exact amount of Goji berries, just because they know the benefits this herb has in their body.

References

1. World Health Organization (WHO) (2021) Light for the world international 2021: World Sight Report. World Health Organization, Geneva, Switzerland.
2. Visão Saúde Magazine (2021) Covid-19: Confinement in the pandemic increases myopia childish. Visão Saúde Magazine, Portugal.
3. Eye Checkup - Focus on Prevention (2021) Alert for the increase in vision problems during the pandemic. Eye Checkup - Focus on Prevention, Brazil.
4. Skenderidis P, Lampakis D, Giavasis I, Leontopoulos S, Petrotos K, et al. (2019) Chemical Properties, Fatty-Acid Composition, and Antioxidant Activity of Goji Berry (*Lycium barbarum* L. and *Lycium chinense* Mill.) Fruits. *Journal Antioxidants* 8: 60.
5. Luquis F, Yau M, Filho RCS (2016) *Phytotherapy Chinese: Pocket Guide*. Brazilian Publisher of Chinese Medicine, São Paulo, Brazil.
6. Cavazim PF, Freitas G (2014) The Antioxidant Properties of Goji Berry in helping to improve the Visual Acuity Center, with an approach to treatments for Diabetic Retinopathy. *Rev Uningá Review* 20: 55-60.
7. Cheng LD (2008) *Chinese Master Formulas*. Publisher Rock, São Paulo, Brazil.
8. Wenli S, Shahrajabian MH, Qi C (2021) Health benefits of wolfberry (*Gou Qi Zi*, *Fructus barbarum* L.) on the basis of ancient Chineseherbalism and Western modern medicine. *Avicenna Journal of Phytomedicine (AJP)* 11: 2.
9. Gao Y, Wei Y, Wang Y, Gao F, Chen Z (2017) *Lycium Barbarum: A Traditional Chinese Herb and A Promising Anti-Aging Agent*. *Aging and Disease* 8: 778-791.
10. Sionneau P, Ferreira S (2015) *The Essence of Chinese Medicine: Return to Origins: Physiology - Zang Fu*. Brazilian Publisher of Chinese Medicine, São Paulo, Brazil.
11. Marié E (2007) *Compendium of Chinese Medicine: Fundamentals, theory, and practice*. Madrid, Spain.
12. Gonçalves LC (2018) Evaluation of the Genotoxic and Antigenotoxic Potential of *Lycium barbarum* (Goji Berry), Nutraceutical used as Cytoprotector and Antioxidant. Master's Dissertation in Biological Sciences, Universidade Estadual Paulista Júlio de Mesquita Filho – UNESP, Brazil.
13. Zhou L, Ngai J, Leung I, Tso MO, Lam KW (2021) The nutritional value for human retina of lipids in Gou Qi Zi. *Hong Kong J Ophthalmol* 4: 8-14.
14. Yang Y, Ross J (2010) *Chinese Herbal Formulas: Treatment Principles and Composition Strategies*. Churchill Livingstone Elsevier, London, UK.
15. Yang S, Xu B (2013) Diffusion Profiles of Health Beneficial Components from Goji Berry (*Lyceum barbarum*) Marinated in Alcohol and Their Antioxidant Capacities as Affected by Alcohol Concentration and Steeping Time. *Journal Foods* 2: 32-42.



- Advances In Industrial Biotechnology | ISSN: 2639-5665
- Advances In Microbiology Research | ISSN: 2689-694X
- Archives Of Surgery And Surgical Education | ISSN: 2689-3126
- Archives Of Urology
- Archives Of Zoological Studies | ISSN: 2640-7779
- Current Trends Medical And Biological Engineering
- International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X
- Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276
- Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292
- Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370
- Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594
- Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X
- Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562
- Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608
- Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879
- Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397
- Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751
- Journal Of Aquaculture & Fisheries | ISSN: 2576-5523
- Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780
- Journal Of Biotech Research & Biochemistry
- Journal Of Brain & Neuroscience Research
- Journal Of Cancer Biology & Treatment | ISSN: 2470-7546
- Journal Of Cardiology Study & Research | ISSN: 2640-768X
- Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943
- Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771
- Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844
- Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801
- Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978
- Journal Of Cytology & Tissue Biology | ISSN: 2378-9107
- Journal Of Dairy Research & Technology | ISSN: 2688-9315
- Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783
- Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X
- Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798
- Journal Of Environmental Science Current Research | ISSN: 2643-5020
- Journal Of Food Science & Nutrition | ISSN: 2470-1076
- Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X
- Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566
- Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485
- Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662
- Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999
- Journal Of Hospice & Palliative Medical Care
- Journal Of Human Endocrinology | ISSN: 2572-9640
- Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654
- Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493
- Journal Of Light & Laser Current Trends
- Journal Of Medicine Study & Research | ISSN: 2639-5657
- Journal Of Modern Chemical Sciences
- Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044
- Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X
- Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313
- Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400
- Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419
- Journal Of Obesity & Weight Loss | ISSN: 2473-7372
- Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887
- Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052
- Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X
- Journal Of Pathology Clinical & Medical Research
- Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649
- Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670
- Journal Of Plant Science Current Research | ISSN: 2639-3743
- Journal Of Practical & Professional Nursing | ISSN: 2639-5681
- Journal Of Protein Research & Bioinformatics
- Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150
- Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177
- Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574
- Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060
- Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284
- Journal Of Toxicology Current Research | ISSN: 2639-3735
- Journal Of Translational Science And Research
- Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193
- Journal Of Virology & Antivirals
- Sports Medicine And Injury Care Journal | ISSN: 2689-8829
- Trends In Anatomy & Physiology | ISSN: 2640-7752

Submit Your Manuscript: <https://www.heraldopenaccess.us/submit-manuscript>