

3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

Response of K Application to Different Crops Grown in Mendki Village of Dewas District

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ABSTRACT

Potassium is one of the three major essential nutrient elements required by plants. plants tolerant to drought and frost and resistant to a number of diseases and pests besides its impact on yield and quality. Today potassium (K) is an important limiting factor in crop production. The quantity of K absorbed by plants is much higher than nitrogen (N) for most of the cultivated crops. The five treatments were given to soybean-based cropping systems viz. soybean-gram, soybean-wheat, soybean-potato, and soybean-garlic. The treatment given to these crops are T1: Control i.e. no fertilizer application; T2: 50% RDF of K; T3: 100% RDF of K; T4: 150% RDF of K; 200% RDF of K. The yield data and K uptake data is presented in Table. The long-term experimentation on vertisols in soybean-wheat-maize that the yield of soybean was increased by 6%.

Keywords:Potassium, crop yield, treatment

INTRODUCTION

One of the three main basic nutrients that plants need is potassium. Potassium, unlike nitrogen and phosphorus, does not make bonds with either carbon or oxygen, hence it is never incorporated into proteins or other organic molecules. Potassium is involved in practically all of the activities required to maintain plant life, despite the fact that it is not a component of any plant structures or compounds. The creation of protein, carbohydrates, and sugars as well as the activation of enzymes all depend on potassium, which is found in the cell sap. It is well recognized to improve crop performance when exposed to water stress by controlling how quickly plant stomata open and close. It is also well known for its function in providing plants with pest and disease resistance and lodging resistance. Potassium is frequently referred to as "the quality element" since it is involved in numerous metabolic pathways that influence crop quality (Hoeft et al.,2000).

In fact, potassium is crucial for conventional agriculture, horticulture, and vegetable crops since it increases plant tolerance to drought and cold as well as their resistance to a variety of diseases and pests. It also has an impact on productivity and quality (Romheld and Kirkby, 2010). Today, potassium (K) is a significant crop output limiting factor. For the majority of cultivated crops, plants absorb far more potassium (K) than nitrogen (N) SOPIB (2001). Layers of 2:1 type expanding clay minerals like vermiculite, smectite, and others can accommodate potassium ions. As a result, potassium from these places to higher plants is "not rapidly available," but it represents a significant reserve of progressively available potassium. Exchangeable Solution Plus forms make up 1% to 2% of the total. About 98 percent of these easily accessible forms are found in exchangeable cations, with the remaining 2 percent found in solutions (Srinivasarao et al. 2007; Tiwari et al 2007). Plants take up potassium in the ionic form K⁺. Typically, potassium is stated in terms of K₂O for fertilizer composition and plant nutrition. (Arvind and Muthusamy,1989).

Lalitha and Dhakshinamoorthy (2014) stated that Different kinds of potassium soil exist in the soil and are in constant equilibrium with one another. The four key types of potassium (K) in soil are mineral K (i), non-exchangeable K (ii), exchangeable K (iii), and soil solution (iv). According to Sharply (1989), the link between clay mineralogy and potassium forms can be utilized to anticipate K cycling, assess prospective soil K fertility, and assess plant uptake (Santhy et al. 1998; Sharma and Verma, 2000).

GREEN SOLVENTS FOR GREEN TECHNOLOGY

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Abstract

In many industrial processes, large amounts of poisonous and dangerous chemical solvents are used in the reaction systems and other steps. Both the environment and the business are affected by this. So, studying green technology means making new chemicals that are safe for the environment and can be tweaked to be used in business and technology. Supercritical and subcritical fluids, natural and reused solvents, and ionic liquids that are liquid at room temperature all show promise as new ways to make solvents. Here is a list of what these solvents are, how they are used, and whether or not they could be used as totally green industrial solvents.

Keywords: Solvents; Research & Development; · Waste minimisation; · Sustainable development;

Introduction

Solvents are responsible for 60% of industry emissions and 30% of all volatile organic compound emissions in the world [1]. The EU's environmental policy and rules for 2010–2050, which focus on lowering the use of risky solvents in industry, show that P.T. Anastas's idea of "green chemistry" has moved beyond academia. [2] Solvents are needed to break up things, move mass and heat, change the structure of things, split them, and clean them. So,



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Accelerating innovations in C—H activation/functionalization through intricately designed magnetic nanomaterials: From genesis to applicability in liquid/regio/photo catalysis

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ABSTRACT

Selective functionalization of highly inert and ubiquitous C—H bonds that would provide a ready access to synthetically valuable motifs has perplexed the chemists since long. Also, environmental benignity and economic viability have been the prime factors driving tremendous interest in C—H functionalization. This has led to many inspiring discoveries infurating the development of potent catalytic systems that enable the facile replacement of the C—H bonds with conventional functional groups, allowing the construction of C—C, C—N, C—O, C—S, C—B and C—halogen bonds at both sp^2 as well as sp^3 centres. In fact, catalytic C—H functionalization strategies integrating the benefits of magnetic recovery have emerged as sustainable gateway for affording a diverse array of transformations. This review sheds light on the remarkable advancements witnessed in this area as a consequence of integrating the inherent magnetism of catalysts with the cutting-edge direct C—H functionalization strategy. Also, the promising future perspectives comprehensively covered in this review is anticipated to motivate the academic and industrial researchers, arousing their creativity for designing competent sustainable strategies to generate a plethora of pharmaceutically active molecules.

1. Introduction

Catalysis has emerged as a pinnacle technology for engineering a more sustainable world [1]. It is undeniably the virtual force behind all the chemicals we use today. Capturing a snapshot of the events and developments that took place in this field, we find that most of the innovations have been accredited with noble prizes that have indeed changed the entire landscape of organic synthesis. The constant urge to meet the challenges of energy and sustainability have paved the pathway for green catalysis; key goals of a green catalyst have been outlined which include high activity, facile recovery and excellent selectivity [2]. Thus, the search for such a kind of ideal catalyst that can display the inherent capability to control the synthesis of architecturally complex molecules has continued to infuriate immense enthusiasm and

interest amongst researchers. Notably, with the introduction of magnetic nanocatalysts that offer bright prospects of facile recovery via attraction with an external magnet, whilst offering exceptional activity in terms of catalyst performance, a myriad of organic reactions have already been benefitted [3]. Amongst these, the C—H activation and functionalization that allows the direct activation of highly inert/unreactive C—H bonds and formation of new C—X bond (where X=O, N, S, C, B or halogen) leading to the synthesis of industrially significant molecules has witnessed a rapid economic and environmental boost with the utilization of magnetically recoverable nanocatalysts [4]. This novel reactivity concept has given promising direction to researchers for accomplishing the straightforward derivatization of diverse organic molecules with improved selectivity. Indeed the historical developments of the catalytic C—H functionalization have truly enthused both

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Research Article

Validation of Inhibitory Activity of Thiazolidine-4-carboxylic Acid Derivatives against Novel Influenza Neuraminidase Enzyme

Author(s): Namrata Jain, Anita K. and Aakanksha Yadav*

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Athletes with Runner's Heel Pain: Dry Needling's Effects and Conventional Treatment vs Conventional Treatment

Dr. Neeraj Singh^{1*}, Dr. Kartik Chhonker², Dr. Namrata Srivastava³, Dr. Kalpana Jain⁴, Dr. Gunjan Shukla⁵

Abstract –

Title: Athletes with Runner's Heel Pain: Dry Needling's Effects and Conventional Treatment vs Conventional Treatment.

Objective: The study is aimed to ascertain the effectiveness of dry needling and conventional treatment vs conventional treatment on pain and functions in athletes with runner's heel pain.

Study design: Trial controlled by randomization was adopted for the study.

Subjects: 50 athletes between the 18 to 40 year old age range having significant amount of heel pain were selected as per the inclusion and exclusion criteria.

Procedure: Random sampling method was used, the 50 subjects separated into two groups. equal groups with 25 subjects in each group. Along with conventional treatment the group A for the experiment was also using dry needling to treat of gastrocnemius and soleus muscle and Conventional group B was only treated with conventional treatment. The pretest values of VAS, FFI, ROM, LEFS were taken of both the groups. Group A was given treatment of four weeks of once-weekly dry needling whereas Group B was given a total of 10 sessions of ultrasound in the span of 4 weeks along with taping and conventional exercises once a week. As a result of 4 weeks the post test values were statistically interpreted.

Results: VAS score for experimental group showed the mean difference of 4.24 while the mean difference in control group was only 2.84. The FFI for experimental group showed the mean difference of 40.56 whereas for the control group the mean difference was only 28.44. Similarly LEFS score for experimental group showed the mean difference of 24.52 whereas for control group it was 19.84. However there was not a major significant difference in the ROM of both the groups.

Conclusion: The study showed that conventional treatment with dry needling of gastrocnemius and soleus muscle was more effective than only conventional treatment in athletes with runner's heel pain.

Keywords - Dry needling, VAS, FFI, ROM

..... X

INTRODUCTION

RUNNER'S HEEL ache is a condition characterised by pain in around the heel and arch of the foot after a running for a prolonged period of time in Athletes. It is mostly found in long distance runners.

There is a difference in the running action of sprinters and Long distance Runners. While long distance runners have a lower limb carriage and greater heel grounding, sprinters have a more

dynamic quadriceps-hamstrings motion and tend to run on the ball of the foot. The long distance runner is frequently disabled by Plantar fasciitis and Achilles Tendon.¹

The bad pain in the heel is known as Plantar fasciitis, also known as RUNNERS HEEL. The plantar fascia is a tissue that looks like a series of fat rubber bands and extends from the heel toward the toes, along the arch of the foot. It's made of collagen, a rigid protein that's less

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To Study the Effects of Muscle Energy Technique with Conventional treatment along with Cellular Nutrition in Patients with Knee Osteoarthritis

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Abstract

Background: Osteoarthritis (OA) is also called Osteoarthrosis or degenerative joint diseases; it represents a vital cause of dejection and defects. With the help of Muscle Energy Technique (MET) claimed to be effective for improvement in flexibility and strength along with cellular nutrition and conservative treatment in knee joint.

Methods: According to the inclusion and exclusion criteria; 60 unilateral participation OA knee patients were randomly placed into two groups, pre and post-test calculation of KOOS scale and knee extension and flexion were done. Group A had MET with conservative treatment along with cellular nutrition.

Conclusion: Both Group A and B improves the strength and flexibility of knee joint but in Group A was shown more improvement than Group B.

Key words: Knee osteoarthritis, MET, conservative treatment, cellular nutrition, KOOS scale, flexion, extension

Introduction

A involve the breakdown of cartilage in joints, which causes bones to rub together. Sometimes bones grow abnormal spurs in response to cartilage breakdown.^{1,3} This can make joints swollen, painful and stiff. Arthritis introduce to biomechanical changes within a joint. Osteoarthritis (OA) is the most frequent kind of arthritis.^{11,13} There are a number of advance factors to osteoarthritis, including age. Its most prominent feature is the progressive destruction of articular cartilage which results in impaired joint motion, severe pain, and, ultimately, disability.^{1,3,16}

Cellular nutrition is providing all nutrients to the cells at optimal levels. This approach could correct

nutritional deficiencies over a few months. Cellular nutrition helps to clean the cells of toxins to keep them active and be able to absorb all the essential nutrients it needs to function properly. Cellular nutrition is obtained only by a few companies worldwide. These few companies have a seed-to-feed philosophy, meaning they are growing the plants in-house, extraction of the super nutrients and manufacturing of high-quality food supplements is done in-house as well as research and innovation, in order to control quality, effectiveness and cost.^{2,8,10}

Muscle energy techniques use an active contraction of deep muscles that attached near the joint and whose line of pull can cause the desired

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To study the effect of pelvic and core strengthening maneuver through Kegel's and flutter sets of exercise in patient with primary dysmenorrhoea.

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ABSTRACT:

BACKGROUND: Dysmenorrhea or painful menstruation is defined as a severe, painful, cramping sensation in the lower abdomen that is often accompanied by other symptoms, such as sweating, headaches, nausea, vomiting, diarrhea, and tremulousness, all occurring just before or during the menses. In primary dysmenorrhoea pain begins few hours before or after the onset of menstruation and lasts for 24-48 hours. The pain is more in the first day and rarely continues to next day. Primary dysmenorrhoea is not life-threatening and does not cause disabilities but it leads to absenteeism and significantly affects the quality of life.

METHODS: The current study was conducted in the physiotherapy department of Career Institute of Medical Sciences and Hospital under MPMSU Jabalpur Madhya Pradesh. All institutional committees approved the research protocol. Patients were randomly assigned into two groups containing 20 in each group. Group A which is control group is asked to do their routine exercises such as aerobic with use of Treadmill. Group B is experimental group which is given physical therapy as per the main aim of the study including pelvic floor muscle strengthening exercises such as pelvic stretching, pelvic rocking, kegel and for core strengthening includes flutter exercises.

Comparison Between Mirror Therapy and Mental Imagery in Improving Ankle Motor Recovery in Acute Stroke Patients: Experimental Study

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Abstract

Introduction: Stroke is the sudden loss of neurological function caused by an interruption of the blood flow to the brain. Initially, some 80% of all patients with stroke experience motor impairments of the contralateral limb, i.e. hemiparesis. Mirror therapy is relatively new therapeutic intervention that focuses on moving the unimpaired limb. Likewise, another technique called Mental imagery is the cognitive rehearsal of a task in the absence of movement.

Aim and Objectives: To compare mirror therapy and mental imagery in improving ankle motor recovery in acute stroke patients.

Methodology: 30 stroke patients were selected in the study, and were randomly assigned into two groups. Group A i.e. Mirror Therapy group (n=15) or the Group B i.e. Mental Imagery group (n=15). Both the groups received 30 minutes of their respective therapy that is mirror therapy and mental imagery and in addition to 30 minutes of conventional therapy which included neuro developmental facilitation technique, stretching, gait training that is a total of 1 hour per day for 5 days a week for 4 weeks. Modified Ashworth Scale, 10 Meter Walk test (10MWT), Fugl-Meyer assessment Lower extremity (FMA-LE) scale were administered pre and post intervention to assess the ankle motor function.

Results: Only Fugl Meyer Assessment scores on comparison between Group A (Mirror Therapy) and Group B (Mental Imagery) revealed that statistically significant improvement was found in Group B (Mental Imagery) (t-value: 2.140; p-value: .041*).

Conclusion: The present study concluded that Mental Imagery proved to be more effective than Mirror Therapy in improving ankle motor recovery in acute stroke patients.

Key Words: Stroke, Mirror Therapy, Mental Imagery

Introduction

Stroke is the sudden loss of neurological function caused by an interruption of the blood flow to the

brain. Ischemic stroke is the most common type affecting when a clot blocks or impairs blood flow, depriving the brain of essential oxygen and nutrients.

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Studies of phytochemical and in vitro anti-oxidant properties of the *Plumbago indica* root

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Abstract

Plumbago indica is a medicinal plant widely grown in the tropics and temperate region to use in traditional systems of medicine. Different parts of this plant are used to treat rheumatoid arthritis, dysmenorrhea, cancer, leprosy, syphilis, rheumatism, paralysis, headache, leukoderma, enlarged glands, scabies, ophthalmia, dyspepsia, haemorrhage, piles, flatulence, loss of appetite etc. Phytochemical screening and antioxidant activities in different solvent extracts of *P. indica* was carried out. The extracts were subjected to various chemical tests for phytochemical constituents, total phenolic contents were evaluated using Folin Ciocalteu method and total flavonoid content was determined by Aluminium chloride colorimetric assay. Their antioxidant activity was assayed through DPPH free radical scavenger method and Reducing power assay. Phytochemical screening showed that ethyl acetate and methanol extract positively contain flavonoid and phenol. The methanolic extract of *P. indica* showed the highest yield, total flavonoid content and total phenolic content compared to ethyl acetate extract investigated. Moreover, methanolic extract has highest DPPH free radical scavenging activity (32.074 μ g/mL) as well as reducing capabilities which could be related to its higher phenolic and flavonoid content. This shows that *P. indica* solvent extracts especially the methanolic extracts may be a potent source of natural antioxidant and its use in the management of diseases associated with oxidative stress is justified.

Introduction

Plumbago indica L. is considered as one of the most important medicinal plants belongs to Family *Plumbaginaceae*. *Plumbago indica* L. syn. *P. rosea* L., popularly called Chethikoduveli in Malayalam, Lal Chitrak in Hindi and Rose Leadwort in English is perennial herb or small shrub grows well under warm tropical climate. It is an erect or spreading half woody plant widely used in Ayurveda, Siddha, Unani and Homeopathy. *P. indica* is cultivated as a medicinal plant as well as an ornamental plant throughout the tropic and temperate region (Schmelzer et al., 2008). *P. indica* is widely cultivated in South India, Philippines, Kenya, Tanzania, Zimbabwe, Mozambique, Madagascar, Africa, Europe, Indonesia, China, Malaysia and Arabian

“The Role of Agribusiness in the Employability of Women, Especially Marginal Farmers in Bhopal.”

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Research Guide

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: Abstract:

The Present paper is focused on role of agribusiness in the employability of women, especially in marginal farmer. In India, small and marginal farmers hold about 44 percent of the land area and produce about 60 percent of the total food production (49 percent of rice, 40 percent of wheat, 29 percent of coarse grains, and 27 percent of pulses), which account for more than half of the national fruit and vegetable production¹. Furthermore, small and marginal farmers are often more efficient than large farms in terms of yield per hectare and cropping intensity.

Introduction

In India, small and marginal farmers hold about 44 percent of the land area and produce about 60 percent of the total food production (49 percent of rice, 40 percent of wheat, 29 percent of coarse grains, and 27 percent of pulses), which account for more than half of the national fruit and vegetable production². Furthermore, small and marginal farmers are often more efficient than large farms in terms of yield per hectare and cropping intensity (Chand et al., 2011). Madhya Pradesh is a typical semi-arid tropical region of India. Agriculture is the main

¹(Agricultural Census, 2014).

²(Agricultural Census, 2014).

A study on the performance of agribusiness, especially its ability to create jobs in India

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Abstract

Agribusiness includes all activities within the agro-food and natural resources industries that involve food and fiber production. Agricultural services are valuable activities for users or purchasers. The term agribusiness unites two different but coherent disciplines with different gears to make them compatible with each other. Economic activities arising from or related to agricultural products and their supply chains are often referred to as agribusiness. In India, agriculture is one of the major economic activities undertaken by the majority of the population. Agriculture has the broadest demographic base and is the main source of income for many people living below the poverty line. India's rich biodiversity makes it one of the world's largest producers of many commodities. Over the past few years, the Indian government has actively promoted youth entrepreneurship through various interventions across sectors. With more than half of the country's population dependent on agriculture, increasing numbers of agricultural start-ups are playing a key role in transforming the lives of farmers and the rural population. Moreover, the success of agricultural start-ups depends on economically viable focus areas in the agricultural sector and government agency support. This article is dedicated to highlighting the key areas that startups can tap into and the successful startups in this space. This article also lists some of the key interventions implemented by government agencies to promote agribusiness entrepreneurship in India.



Role of HR Post COVID in Organization: Implications for Better Management of Taskforce

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Abstract

The COVID-19 pandemic has significantly impacted organizations worldwide, altering the way businesses operate and the dynamics of their workforce. Human Resources (HR) departments have played a critical role in managing the challenges posed by the pandemic and ensuring the well-being and productivity of the taskforce. This research paper examines the evolving role of HR in organizations post COVID-19 and explores the implications for better management of the taskforce. The paper reviews existing literature on HR practices during and after the pandemic, identifies two key objectives of the study, and provides suggestions for organizations to adapt their HR strategies accordingly. The findings emphasize the importance of HR's strategic involvement in crisis management, employee engagement, and organizational resilience. By acknowledging the transformed landscape and embracing proactive HR practices, organizations can thrive and build a resilient taskforce in the post-COVID era.

Keywords: COVID-19, Human Resource Management, Organisational Change

INTRODUCTION

The COVID-19 pandemic has reshaped the global business landscape, presenting organizations with unprecedented challenges and opportunities. During this crisis, HR departments have been at the forefront, playing a pivotal role in managing the workforce, ensuring business continuity, and fostering employee well-being. As organizations transition to the post-pandemic era, HR's role becomes even more crucial. This paper aims to explore the role of HR post COVID-19 and its implications for better management of the taskforce. An article from Forbes India says "From digitally connecting with employees to reinventing job roles, the coronavirus outbreak is witnessing an evolution in the way human resources are engaged and managed". Human resources played an important role in managing COVID - 19 at organizational level. Human resources have always been a motivating force in keeping workforce and organization engaged, productive and resilient. As narrated by Rajni (2023) Life is full of changes