



CONTENT

REVIEW ARTICLE

- **Air Pollution: A Major Culprit of Asthma**
Bharti Ahirwar, Alpana Ram, Dheeraj Ahirwar01

ABSTRACT

The prevalence of allergic disease and asthma has increased dramatically over the past decades. Allergic disease arises as a result of aberrant immune responsiveness against innocuous environmental proteins (antigen). The most important determinant for the development of allergy and asthma is also genetic predisposition, environmental factors, such as exposure to allergens, infections, and air pollution plays an important role in the development of allergic and asthmatic inflammatory responses.

Keywords: Asthma, allergy, environmental factors.

- **The Strategies of Combating HIV / AIDS**
Anand Murti Mishra and Praveen Kumar Shrivastav 04

ABSTRACT

The spread of AIDS has not been uniform throughout the country. The AIDS epidemic has reached the third phase, which means it has attacked the general population. Thousand of innocent housewives and children are caught in the grip of deadly virus. This has resulted from passivity and subservience of the average Indian family and her consequent inability to negotiate safe sex. India has had a sharp increase in the estimated number of HIV infection from a few thousand in the early 1990's to a working estimate of between 3.8- 4.6 million living with HIV / AIDS in 2002. The paper aims to understand situation and combating strategies of HIV / AIDS in India. National AIDS Control Programme in the country was launched in 1987 and in 1992 the National AIDS Control Organization came into being. During phase-1 of the programme (1992-1998) many states were in the elementary stages of setting up the infrastructure and proper reporting of AIDS cases. Phase -2 of the programme began in 1999 with emphasis on blood safely information and education control of sexually transmitted disease and promotion of condoms.

Keywords: Fast-dissolving tablets, Captopril, ACE inhibitor, oral cavity, *In vitro* dissolution.

- **Umpolung Chemistry: An Overview**
Shashikant R Pattan, Nachiket S Dighe, H V Shinde, Deepak S Musmade, Mangesh B Hole, Vinayak M Gaware.....8

ABSTRACT

The present review article on Umpolung chemistry is to significantly facilitate organic synthesis by the implementation of new concepts for catalysis. We focus on the recent development of N- heterocyclic carbenes mediated organic reaction and its implementation to the synthesis of heterocycles of biological importance.

Keywords: Umpolung, N- heterocyclic carbenes, organometallic catalyst.

- **Antidiabetic Activity of *Psidium Guajava* (Guava) Leaves Extract**
Karunakar Shukla and PK Dubey13
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ABSTRACT

Psidium guajava leaves extracts were investigated for hypoglycemic activity. Aqueous extract and ethanolic extract of leaves were prepared and screened for hypoglycemic activity. *Psidium guajava* therapy not only produces blood glucose homeostasis but also reversed metabolic and pathologic changes that took place in pancreatic islets. β -cell secretary activity resumed near normal as evidenced electron microscopic studies. In diabetic albino rats, mean percentage reduction in blood glucose level was found to be 18.88 % and 9.19±% for ethanolic and aqueous extracts respectively. The effect was initiated from first day and increase simultaneously up to thirteenth day. The hypoglycemic effect of ethanolic extract was better compared to same dose of aqueous extract. Blood glucose monitoring and electron-microscopic studies proving that *Psidium guajava* manifests its beneficial activity through β -cell rejuvenation, regeneration and stimulation.

Keywords:

Psidium guajava, hypoglycemic activity, ethanolic extract, aqueous extract.

- **Implementation Challenges of IPv6 on Wireless Sensor Networks**
AK Dwivedi, VK Patle and OP Vyas16
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ABSTRACT

With emerging IPv6 based Standards such as ISA-100a and 6LowPAN/IEEE 802.15.4, IPv6 based sensor networks are the next era. As wireless sensor networks grow, we need implementation of IPv6 on it due to some advanced features available with IPv6 such as security mechanism. There are various challenges when implementing IPv6 on wireless sensor networks major one is interoperability with millions of deployed embedded IPv6 based devices for In-door and Out-door applications, both within the sensor networks itself and between the sensor modules and the Internet hosts. Through this contribution our objective is to explore the key features needed at network layer in WSN's protocol stack, security features of IPv6 should incorporated with next generation of WSNs, challenges faced with implementation or deployment of IPv6 on WSNs, presenting an overview of uIPv6 and recommending portability for all sensor node's operating systems and also highlighting the issues that affects security of WSNs.

Keywords:

Wireless Sensor Networks (WSNs), IPv6, Protocols Stack, Denial of Service (DoS), uIPv6.

- **A Location Intelligent Tool for Finding an Optimal Location for a Retail Pharmacy using Geographic Information Systems**
BG Premasudha and Shivakumar Swamy20
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ABSTRACT

The Pharmacy retail sector in India is witnessing unparalleled growth. Unmatched demographics, rising income levels, shifting lifestyles and changing aspirations of the burgeoning middle class has unleashed a pharmacy retail revolution in the country. Fresh Pharmacy retail geographic's are emerging, innovative formats are being introduced and retailers are tapping into new customer segments with prolific product offerings. The pharmacy retail trade in India, which is highly fragmented and dominated by small chemists, is seeing entry of big industrial groups like Ranbaxy, Reliance Retail, etc. The Geographical Information System (GIS) is used today at retail planning application studies such as the analysis of business results, market potentials and new retail outlet location. GIS tool offer a strong support to this process. This paper presents the use of GIS as a tool in determining the optimal location to open a new retail pharmacy in Tumkur city in India.

Keywords: GIS, retail location, retail Pharmacy planning, Market zone.

- **A Study of the Impact of Multimedia-CD Programme on Environmental Hygiene, Allergy and Aspergillosis amongst Professional Groups at Belgaum**
Jayashri Pattan, BP Kapadnis, SR Pattan and NS Dighe.....25
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ABSTRACT

In the last two decades allergic infections have become more because of modernizations, change of life style and industrializations. It is reported that more than 9 million children under the age of 18 suffer from allergies and asthma. Belgaum is the district where humidity is quite high (20-50%).Mold is the commonest problem in rainy season. Mold spores may cause allergic reactions or asthma attacks in sensitive people. The study was conducted during 2006-2008 in professional groups at Belgaum district, Karnataka. Professional groups included Computer Operators, Bank Employees and Lab-Technicians from Belgaum. Multimedia package-CD and reading material-Booklet were prepared after extensive references about allergy and Aspergillosis and its preventions. Questionnaire was designed to assess the knowledge of respondents. Pretest questionnaire and after exposing the respondents to media post questionnaire were collected and analysed by statistical methods. It was observed that multimedia CD was found to be more efficient (20%-25%) and attractive in disseminating the knowledge regarding the Allergy and Aspergillosis.

Keywords: Allergy, Allergic Aspergillosis, Mold preventions, HEPA filters

- **Formulation and Evaluation of Captopril Fast Dissolving Tablets by Wow Tab and Effervescent Technologies**
Ravi Kumar, MB Patil, Mahesh S Paschapur and Sachin R Patil29
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ABSTRACT

Fast dissolving tablets of Captopril were prepared by Wow tab and Effervescent technologies. In this study our aim was to provide the tablet that quickly disintegrates or dissolves upon contact with saliva and also to provide a good mouth feel. The excipients used in both the technologies not only aid fast disintegration of tablets, but also mask the slight bitter taste of drug. All the prepared formulations were evaluated for thickness, hardness, friability, weight variation, drug content, and disintegration time and drug dissolution. Tablets from Wow tab and Effervescent technologies have shown 94 and 96% of the drug release at the end of 10 min respectively. Study has shown that 8:6 ratio of sodium bicarbonate and citric acid in the Captopril fast dissolving tablets gave good soothing and excellent mouth feel. Tablet prepared by Wow tab technology, formulation W5 and W6 using low moldability saccharide (lactose and mannitol) showed rapid disintegration and released about 92 and 96% drug respectively. Study concluded that fast dissolving tablets of Captopril could be prepared successfully by above mentioned methods. Tablets imparted patient benefits and increased consumer satisfaction, despite the different mechanisms involved in these techniques.

Keywords: Fast-dissolving tablets, Captopril, ACE inhibitor, oral cavity, *In vitro* dissolution.

- **Incidence of Sickle Cell Disorder among Tribal and Non Tribal Community of Bastar (India)**
PK Shrivastava, AK Bansal and CS Kantharaj33
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ABSTRACT

A sample of 263 Sickle cell sufferers was collected from patients attending the Maharani Hospital, Jagdalpur for various ailments. On analysis of the collected data it has been revealed that the percentage of males and females in sickle cell patients is more or less equal. On further analysis it has been observed that 33.08 % are tribal patients in comparison to 66.92 % not tribal. It has further noticed that 3.04% of sickle cell patients belong to the Muslim and Christian communities and has broken the myth that sickle cell has not been found in the Muslim population of India.

Keywords: Sickle cell disorder, Hemoglobinopathies.

- **Design and Characterization of Albumin-Chitosan Microspheres of Aceclofenac for Sustained Release**
Ravi Kumar, MB Patil, Mahesh S Paschapur and Sachin R Patil35

ABSTRACT

The present study deals with the formulation and characterization of cross linked chitosan/ albumin microspheres containing an NSAID drug Aceclofenac. The microspheres were prepared by suspension cross linking method using glutaraldehyde as a cross linking agent of the polymer matrix. Total eight formulation batches (F1 to F8) were formulated using chitosan/albumin alone and in combinations. The formulations were subjected to various evaluation parameters like % practical yield, entrapment efficiency, particle size distribution, swelling ratio, *In vitro* release and stability studies. Perfectly spherical cross linked microspheres loaded with aceclofenac were obtained in the size range of 50 – 500 µm. The % practical yield, entrapment efficiency, particle size, swelling ratio were increased with increased concentration of polymer used. The release of aceclofenac was influenced by polymer concentration and size of microspheres. The stability studies of formulation showed 4°C is suitable temperature for storage.

KEYWORDS: Cross linked microspheres, Controlled release, Chitosan, Albumin, aceclofenac.

- **Study of anti oxidant and anti-inflammatory activity from ethanol fraction of Thuja occidentalis Linn.**
Dubey SK and Batra A39

ABSTRACT

The present study was carried out to evaluate the antioxidant (*in vitro*) and anti-inflammatory (*in vivo*) activities of ethanol fraction of *Thuja occidentalis* Linn. (Cupressaceae). 1, 1-Diphenyl-2-picryl-hydrazyl (DPPH) radical, superoxide anion radical, hydroxyl radical scavenging, nitric oxide scavenging and lipid peroxidation were carried out to evaluate the antioxidant potential of the extract. Anti-inflammatory activity was performed by carrageenan induced paw oedema and cotton pellet granuloma models. Both the *in vitro* and *in vivo* were found significant.

Keywords: *Thuja occidentalis*, Anti-inflammatory, Antioxidant activity.

- **RP- HPLC Method for Simultaneous Estimation of Ofloxacin and Ornidazole from Bulk and Tablets**
RS Jadhav, PN Kendre, MH Kolhe, S N Lateef, SM Shelke, RK Godge.....43

ABSTRACT

A simple, selective, rapid, precise and economical reverse phase high-pressure liquid chromatographic method has been developed for the simultaneous estimation of Ofloxacin and Ornidazole from pharmaceutical formulation. The method was carried out on a Kromasil C₁₈ (5 µm, 25 cm X 4.6 mm, i.d.) column, with a mobile phase consisting acetonitrile: phosphate buffer (pH 2.4) in the ratio 80: 20% V/V at a flow rate of 1.0 ml/min. Detection was carried out at 294 nm. The retention time of Ofloxacin and Ornidazole were 2.773 and 5.448min respectively. The developed method was validated in terms of accuracy, precision, linearity, Limit of detection, Limit of quantitation. The proposed method can be used for estimation of these drugs in combined dosage form for routine analysis.

Keywords: Ofloxacin, Ornidazole, RP-HPLC.

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