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Publication details (2022-23)

Sr. No	Name of Author	Title of research Paper	Journal name	Year of Publication and ISSN number	Link of DOI	Link to Paper	Link of Journal	UGC care list
1	Vaishali Pardeshi	Development and Validation of Simple UV Spectrophotometric Method for the Determination of Pretomanid	International Journal of Research in Pharmaceutical Sciences	2022 ISSN: 0975-7538	DOI: https://doi.org/10.26452/ijrps.v13i4.3939	-	International Journal of Research in Pharmaceutical Sciences (ijrps.com)	Yes
2	Vaishali Pardeshi	Development and Validation of a simple UV spectrophotometric method for the determination of Delamanid	International Journal of Research in Pharmaceutical Sciences	2023 ISSN: 0975-7538	DOI: https://doi.org/10.26452/ijrps.v14i1.4176	https://ijrps.com/home/article/view/4176/13448	International Journal of Research in Pharmaceutical Sciences (ijrps.com)	Yes

Publication details (2021-22)

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1.	Dr. Trupti Tuse	A breakthrough in the treatment of multidrug-resistant tuberculosis: a novel and effective approach	The Egyptian Journal of Chest Diseases and Tuberculois	2022	DOI: 10.4103/ecdt.ecdt_24_22	A breakthrough in the treatment of multidrug-resistant tuber The Egyptian Journal of Chest Diseases and Tuberculosis (lww.com)	The Egyptian Journal of Chest Diseases and Tuberculosis On Web:: Online manuscript submission and processing (journalonweb.com)	Yes
2.	Kumudini R Pawar	Impact of Covid-19 on Pharmaceutical Sector and Leading Stocks.	European Journal of Biomedical and Pharmaceutical Sciences	2022, ISSN: 2349-8870	-	https://www.ejbps.com/ejbps/abstract_id/8583	European Journal of Pharmaceutical Sciences | ScienceDirect.com by Elsevier	Yes

3	Mayuri S. Lokhande	Enhancement Of Solubility And Dissolution Rate Of Curcumin Using Porous Starchby Solid Dispersion Technique	Journal Of University Of Shanghai For Science And Technology	Feb 2021 ISSN: 1007-6735	http://doi.org/10.51201/Jusst12631	Enhancement of Solubility and Dissolution Rate of Curcumin Using Porous Starch by Solid Dispersion Technique - Journal of University of Shanghai for Science and Technology (jusst.org)	https://jusst.org/	Yes
4.	Mayuri S. Lokhande	Formulation And Evaluation Of Herbal Antifungal Cream Of Phyllanthus Urinaria	World Journal Of Pharmacy And Pharmaceutical Sciences	March 2021 ISSN 2278 – 4357	DOI: 10.20959/wjpps20214-18784	Formulation and Evaluation of Harble Antifungal Cream of Phyllanthus Urinaria | Request PDF (researchgate.net)	Welcome TO WJPPS	Yes
5.	Mayuri S. Lokhande	Development And Evaluation Of Polyherbal Hair Oil Formulation: A Preventive Hair Care Preparation	World Journal Of Pharmacy And Pharmaceutical Sciences	March 2021 ISSN 2278 – 4357	DOI: 10.20959/wjpps20214-18724	1617192048.pdf (storage.googleapis.com)	Welcome TO WJPPS	Yes

6.	Bhagyashree Pawar	Herbal Antidiabetic drugs –Review	World Journal of Pharmaceutical Sciences	2021 ISSN 2321-3310	http://www.wjpsonline.org/	-	Welcome TO WJPPS	Yes
7.	Vaishali Pardeshi	Recent Advances and Different Applications of Petasis-Boron Mannich reaction	International Journal of Pharmaceutical Sciences and Research	2021 ISSN-0975-8232	-	-	Volume 14 (2023) | INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH (ijpsr.com)	Yes
8.	Vaishali Pardeshi	Synthesis and Evaluation of Antifungal Activity of N-Methyl-2-α-[(N^4-Aryl) Piperazin-1-yl]Ethyl Benzimidazoles,13(S1):13-21	Der Pharma Chemica	2021 ISSN-0975-413X	-	Synthesis and Evaluation of Antifungal Activity of N-Methyl-2-?-[(N4-Aryl) Piperazin-1-yl] Ethyl Benzimidazoles | Abstract (derpharmachemica.com)	Der Pharma Chemica	Yes
9.	Vaishali Pardeshi	Analysis of sugar in Honey Using the PerkinElmer Altus HPLC System with RI detection	Pharmaceutical Sciences	2021-ISSN-1775-403X	-	-	Journal of Pharmaceutical Sciences | ScienceDirect.com by Elsevier	Yes

10.	Vaishali Pardeshi	Review on Drug Repurposing Stategy for Covid 19,	Journal of Pharma Innovation	2021-ISSN-2277-7695		-	Journal of Pharmaceutical Innovation | Home (springer.com)	Yes
11.	Hemlata Wadkar	Enymosomes TDDS	International journal of Pharmacy and Biological Sciences	2022 ISSN-2230-7605	DOI:10.22376/ijpbs.2022.13.1.P1-8	https://www.researchgate.net/publication/358185206_Enzymosomes-_A_Pioneering_Advancement_in_Targeted_Vesicular_Drug_Delivery	https://ijpbs.com/	Yes
12.	Manasi Savale	Polyherbal Gel development and evaluation for antifungal Activity	European journal of molecular and clinical medicine	2022 ISSN-2515-8260	DOI 10.22159/ijcpr.2018v10i5.29694	article_18033_5b2375ae9dafb7ab14b7211738b315cb.pdf (ejmcm.com)	EJMCM	Yes
13.	Manasi Savale	Polyherbal natural hand sanitizer formulation and evaluation	Journal of university of shanghai for science and technology	2021 ISSN 1007-6735	DOI-1051201/JUSST/21/05360	https://jusst.org/wp-content/uploads/2021/06/Polyherbal-Natural-Hand-Sanitizer-Formulation-and-Evaluation.pdf	https://jusst.org/	Yes

14.	Prachi Karwa	Development and validation of stability indicating high performance thin layer chromatographic method for determination of desloratadine in tablet dosage form	European journal of biomedical and pharmaceutical sciences	2022 ISSN-2349-8870	-	https://storage.googleapis.com/journal-uploads/ejbps/article_issue/volume_8_september_issue_9/1630755234.pdf	WELCOME TO EJBPS	Yes

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Publication details (2020-21)

Sr. No	Name of Author	Title of research Paper	Journal name	Year of Publication and ISSN number	Link of DOI	Link to Paper	Link of Journal	UGC Care List
1	Preeti Gedam	A brief overview on Tablet and it's types	Journal of advancement in pharmacology	2020	https://www.researchgate.net/publication/344902771_A_Brief_Overview_on_Tablet_and_It's_Types	https://www.researchgate.net/publication/344902771_A_Brief_Overview_on_Tablet_and_It's_Types	Table of Contents 2021 | Advances in Pharmacological and Pharmaceutical Sciences | Hindawi	Yes

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Publication details (2019-20)

Sr. No	Name of Author	Title of research Paper	Journal name	Year of Publication and ISSN number	Link of DOI	Link to Paper	Link of Journal	UGC Care List
1.	Ms.Sudha Nerlekar	Investigation of Anthelmintic activity of Caeselpinia decapetala (Roth) seed and leaves extract	British Journal of Medical and Research Journal	2019 ISSN:2394-2967	-	https://www.researchgate.net/publication/340875144_Investigation_of_Anthelmintic_Activity_of_Caeselpinia_decapetala_Roth_Seed_and_Leaves_Extracts	British Journal Of Medical and Health Research (bjmhr.com)	Yes
2.	Ms. Sanjivani Pise	Evaluation of Quality of life in Type 2 diabetes mellitus patients using quality of life instrument for Indian diabetic patient :A cross section study	Journal of Midlife Health	2019	DOI: 10.4103/jmh.JMH_32_18	https://pubmed.ncbi.nlm.nih.gov/31391757/	Journal of Mid-life Health On Web:: Online manuscript submission and processing (journalonweb.com)	Yes

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Publication details (2018-19)

Sr. No	Name of Author	Title of research Paper	Journal name	Year of Publication And ISSN number	Link of DOI	Link to Paper	Link of Journal	UGC Care List
1	Ms.Sudha Nerlekar	Investigation of Phytochemical and Pharmacological evaluation of smooth muscle relaxant potential of Dipliocyclospal matus leaves extract	International Journal of Research in pharmacy and science	2019 ISSN:2249-3522	-	http://www.ijrpsonline.com/down_8313.php	http://www.ijrpsonline.com/	Yes
2	Dr.Trupti Tuse	Evaluation of tetragenicity of ethanol and DMSO in zebra fish	European journal of biomedical and pharmaceutical sciences	2018 ISSN:2349-8870	DOI:10.31024/ajpp.2019.5.2.11	https://www.researchgate.net/publication/330499998_Evaluation_of_teratogenicity_of_ethanol_and_DMSO_in_Zebra fish	WELCOME TO EJBPS	Yes

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Development and Validation of Simple UV Spectrophotometric Method for the Determination of Pretomanid

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ABSTRACT

In order to treat multidrug resistant TB, pretomanid, a nitroimidazooxazine antimycobacterial agent, is used with other antituberculosis medications. There is no technique for its analysis that uses spectroscopy, HPLC or HPTLC. Since a UV spectrophotometric approach for Pretomanid analysis must be developed. Utilizing a Shimadzu UV-2600, a quick, accurate, straightforward, and affordable UV spectrophotometric approach has been devised to determine Pretomanid. Solvent made of methanol to assess the bulk Pretomanid concentration. The detection process was placed at a wavelength of 321 nm. The parameters linearity, accuracy, precision, ruggedness, and robustness were taken into consideration during method validation in accordance with ICH Q2R1 criteria, as well as LOD and LOQ. It demonstrated linearity in the 10–30(g/mL) range at a predetermined max of 321 nm, and had a strong correlation coefficient (R2-0.997) and outstanding mean recovery (99.00–100.07%). In terms of intraday and interday precision, Pretomanid's% RSD was discovered to be 0.6366 and 0.666, respectively. Pretomanid identification using this approach was effective. The method's linearity, accuracy, repeatability, and reproducibility were statistically and empirically verified. The outcomes demonstrated the method's applicability for both routine examinations of protomanid bulks and industrial formulations. The suggested UV-Vis Spectrophotometric approach was verified in accordance with ICH requirements and found to be simple, accurate, precise and quick for the determination of Pretomanid.

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INTRODUCTION

Pretomanid, a nitroimidazooxazine antimycobacterial agent, is used in conjunction with other antituberculosis medications to treat multidrug-resistant TB. [1] Pretomanid is (6S)-2-nitro-6-[[4-(trifluoromethoxy) phenyl] methoxy] in its chemical form. -6,7-dihydro-5H-imidazo[2,1-b] [2, 3] oxazine as shown in Figure 1 [2, 4]. In August 2019, the US Food and Drug Administration authorised Pretomanid. As part of a bedaquiline, pretomanid, and linezolid (BPaL) combination, this orally active medicine has been approved to treat people with pulmonary severe drug tuberculosis (TB) [3, 5]. Mycolic acid production is inhibited by pretomanid. This results in faulty cell wall construction, which eventually leads to bacterial cell death. It eradicates M. tuberculosis bacteria that are reproducing and those that are not. [6] For its analysis, no spectroscopic, HPLC, or HPTLC methods are avail-

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Development and Validation of a simple UV spectrophotometric method for the determination of Delamanid

Vaishali Pardeshi*, Tushar Lokhande, Rina Firke, Sneha Patil, Vishakha Pawar

Department of Pharmaceutical Chemistry, Mahatma Gandhi Vidyamandir's Pharmacy College, Nashik, Maharashtra, India

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ABSTRACT

Using a Shimadzu UV-2600, a quick, precise, easy, and affordable UV spectrophotometric approach has been created. Solvent made with methanol to assess the bulk Delamanid content. A wavelength of 320 nm was used for the detection process. The parameters linearity, accuracy, precision, ruggedness, robustness, LOD, and LOQ were taken into consideration during method validation in accordance with ICH Q2R1 criteria. It demonstrated linearity in the range of 60-360 (/mL) at a predetermined λmax of 320 nm, and it had a strong correlation coefficient (R2-0.996) and outstanding mean recovery (99.00-100.07%). Determination of Delamanid used this technique effectively. The method's linearity, accuracy, repeatability, and reproducibility were statistically and by recovery experiments confirmed. The outcomes demonstrated the method's applicability for both regular Delamanid bulk analysis and commercial formulations.

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INTRODUCTION

The drug delamanid is efficient in treating MDR TB. It is referred to by its trademark, Deltyba. 1. It is the first of a brand-new class of anti-TB drugs known as nitroimidazoles [1]. The chemical name for delamanid is (2R)-2-[(4-(trifluoromethoxy)phenoxy]. -1-piperidinyl]] -6-nitro -2-[(4-4-[4-(trifluoromethoxy)phenoxy]methyl]. Dihydroimidazo[2,1-b] [2, 3] oxazole as shown in Figure 1. Delamanid is a medication used to treat individuals with multidrug-resistant tuberculosis (TB) that affects the lungs. By preventing the production of mycobacterial cell wall constituents such as methoxy mycolic acid and ketomycolic acid, it functions as a prodrug [1, 2]. For delamanid's analysis, no spectroscopic, HPLC, or HPTLC approach is available. thus Delamanid's analytical procedure needs to be developed. The current study's objective was to create a precise, repeatable, accurate UV approach for the analysis of delamanid. The. The developed method looked for linearity, accuracy, precision, robustness, ruggedness, LOD, and LOQ in accordance with ICH guidelines [4].

It is branded as Deltyba 50mg available in tablet form. Methanol, DMSO (Dimethyl Sulfoxide), and DMF are all solubilizing solvents for it. Keto mycolic acid and methoxy mycolic acid, two crucial mycolic acid constituents, have been demonstrated to be prevented by delamanid. Delamanid's inhibitory effect is restricted to mycobacteria since mycolic acids are only present in the cell walls of mycobacteria and are not present in the cell walls of other Gram positive or Gram-negative bacteria [3, 5]. Breaking the cell wall enables increased medication penetration and hence a shorter treatment schedule since these acids make it harder for pharmaceuticals to

Publication details (2021-22)

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2.	Kumudini R Pawar	Impact of Covid-19 on Pharmaceutical Sector and Leading Stocks.	European Journal of Biomedical and Pharmaceutical Sciences	2022, ISSN: 2349-8870	-	https://www.ejbps.com/ejbps/abstract_id/8583	European Journal of Pharmaceutical Sciences | ScienceDirect.com by Elsevier	Yes

3	Mayuri S. Lokhande	Enhancement Of Solubility And Dissolution Rate Of Curcumin Using Porous Starchby Solid Dispersion Technique	Journal Of University Of Shanghai For Science And Technology	Feb 2021 ISSN: 1007-6735	http://doi.org/10.51201/Jusst12631	Enhancement of Solubility and Dissolution Rate of Curcumin Using Porous Starch by Solid Dispersion Technique - Journal of University of Shanghai for Science and Technology (jusst.org)	https://jusst.org/	Yes
4.	Mayuri S. Lokhande	Formulation And Evaluation Of Herbal Antifungal Cream Of Phyllanthus Urinaria	World Journal Of Pharmacy And Pharmaceutical Sciences	March 2021 ISSN 2278 – 4357	DOI: 10.20959/wjpps20214-18784	Formulation and Evaluation of Harble Antifungal Cream of Phyllanthus Urinaria | Request PDF (researchgate.net)	Welcome TO WJPPS	Yes

5.	Mayuri S. Lokhande	Development And Evaluation Of Polyherbal Hair Oil Formulation: A Preventive Hair Care Preparation	World Journal Of Pharmacy And Pharmaceutical Sciences	March 2021 ISSN 2278 – 4357	DOI: 10.20959/wjpps20214-18724	1617192048.pdf (storage.googleapis.com)	Welcome TO WJPPS	Yes
6.	Bhagyashree Pawar	Herbal Antidiabetic drugs – Review	World Journal of Pharmaceutical Sciences	2021 ISSN 2321-3310	http://www.wjpsonline.org/	-	Welcome TO WJPPS	Yes
7.	Vaishali Pardeshi	Recent Advances and Different Applications of Petasis-Boron Mannich reaction	International Journal of Pharmaceutical Sciences and Research	2021 ISSN-0975-8232	-	-	Volume 14 (2023) | INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH (ijpsr.com)	Yes
8.	Vaishali Pardeshi	Synthesis and Evaluation of Antifungal Activity of N-Methyl-2-α-[(N^4-Aryl) Piperazin-1-yl]Ethyl Benzimidazoles,13(S1):13-21	Der Pharma Chemica	2021 ISSN-0975-413X	-	Synthesis and Evaluation of Antifungal Activity of N-Methyl-2-?-[(N4-Aryl) Piperazin-1-yl] Ethyl Benzimidazoles | Abstract (derpharmachemica.com)	Der Pharma Chemica	Yes

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11.	Hemlata Wadkar	Enymosomes TDDS	International journal of Pharmacy and Biological Sciences	2022 ISSN-2230-7605	DOI:10.22376/ijpbs.2022.13.1.P1-8	https://www.researchgate.net/publication/358185206_Enzymosomes-_A_Pioneering_Advancement_in_Targeted_Vesicular_Drug_Delivery	https://ijpbs.com/	Yes
12.	Manasi Savale	Polyherbal Gel development and evaluation for antifungal Activity	European journal of molecular and clinical medicine	2022 ISSN-2515-8260	DOI 10.22159/ijcpr.2018v10i5.29694	article_18033_5b2375ae9dafb7ab14b7211738b315cb.pdf (ejmcm.com)	EJMCM	Yes

13.	Manasi Savale	Polyherbal natural hand sanitizer formulation and evaluation	Journal of university of shanghai for science and technology	2021 ISSN 1007-6735	DOI-105120 1/JUSS T/21/05 360	https://juss t.org/wp-content/up loads/2021 /06/Polyhe rbal-Natural-Hand-Sanitizer-Formulati on-and-Evaluation .pdf	https://jusst .org/	Yes
14.	Prachi Karwa	Development and validation of stability indicating high performance thin layer chromatograp hic method for determination of desloratadine in tablet dosage form	European journal of biomedical and pharmaceutic al sciences	2022 ISSN-2349-8870	-	https://stor age.google apis.com/j ournal-uploads/ej bps/article _issue/vol ume_8_se ptember_i ssue_9/16 30755234. pdf	WELCOM E TO EJBPS	Yes

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A breakthrough in the treatment of multidrug-resistant tuberculosis: a novel and effective approach

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The resistant to multidrug-resistant mycobacterium tuberculosis (MDR) strains has affected to the control on tuberculosis (TB). Drugs such as isoniazid and rifampin are commonly used for the therapy in TB. In these, in the phenomenon of the production of anti-TB drugs, the maintenance of the records is one of the challenging steps. The estimated global incidences of nearly half million are witnesses for MDR/rifampicin-resistant TB. This article included the global problem of the drug resistant to TB with its lengthy, complicated, and life-threatening effects with its poor results. Recently new medicines have been developed after a long time on the treatment of TB in MDR resistance. Levofloxacin, moxifloxacin, bedaquiline, delamanid, linezolid, and other second-line medications for TB treatment include levofloxacin, moxifloxacin, bedaquiline, delamanid, linezolid, and others. In the case of MDR-TB, a variety of medications are advised. In the treatment of TB, these medications are effective anti-TB drugs. The goal of this study is to analyze MDR-TB treatment methods in light of WHO guidelines for MDR-TB care in 2021.

Keywords:
diagnosis, marketed drugs, multidrug-resistant tuberculosis, new drugs in clinical development, treatment

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Introduction

The top causes of deaths in the world are diseases such as cancer, diabetes, hypertension, and tuberculosis (TB). TB may be treated and prevented. In 2019, 7.1 million people worldwide were newly diagnosed with TB, a slight increase from roughly seven million in 2018, but a big increase from 6.4 million in 2017 and from 5.7 to 5.8 million annually from 2009 to 2012 [1]. Compared to drug-sensitive TB, the drug-resistant TB is more rigorous. As per the report from the WHO reports around half a million cases of multidrug or rifampicin-resistant tuberculosis (MDR) develop each year. The development of drug-resistant *Mycobacterium tuberculosis* (MTB) strains, including MDR and broadly extended drug-resistant strains might be caused by poor regimen selection, low drug contributes, and patient faithfulness to a 6-month therapy.

Mechanism of drug resistance

The potency of drug in MTB has been developed by a spontaneous and random chromosomal mutation that limits sensitivity to particular drugs [2]. The efflux pumps are activated in various areas of the body, such as the surface. Drug resistance can be caused by a variety of mechanisms, including the activation of an efflux pump on the bacterial surface, changes in drug targets, the development of drug inactivating enzymes, and disruption of the drug manufacturing process [3]. MDR-TB is rare, with isoniazid mutation rates of 10^{-5} and rifampicin mutation rates of 10^{-7} [4]. Drug resistance can manifest itself in a variety of ways (primary or secondary resistance). Secondary resistance, also called acquired resistance, develops in TB patients as a result of poor medication adherence, drug malabsorption, and an insufficient treatment regimen. Although acquired resistance is the cause of most MDR-TB cases, a previous study found that in most high-burden settings, most of the MDR-TB cases were seen by transmission rather than resistance acquisition during treatment [5].

Findings of multidrug-resistant tuberculosis

A rapid and precise drug sensitivity test (DST) that provides confirmation for selecting an effective antibiotic is required for successful MDR-TB diagnosis and therapy [1]. DST is used to confirm the emergence of drug resistance in TB patients, who have bacteriologically failed to respond to therapy. A rapid and precise DST that provides confirmation for selecting an effective antibiotic is required for successful MDR-TB diagnosis and therapy [3]. Traditional phenotypic DST uses a solid culture-based approach with an egg-based or agar-based medium. The most

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IMPACT OF COVID-19 ON PHARMACEUTICAL SECTOR AND LEADING STOCKS

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ABSTRACT
The COVID-19 Disease was declared a pandemic by World Health Organization on 11th March 2020 and since then, it has affected healthcare and pharmaceutical sector to a great extent. The purpose of this study is to examine how this pandemic has impacted pharmaceutical industry. The following article contains study of short term and long term impacts of this disease on pharmaceutical sectors and how they are going to affect our society in future. This article also focuses on the change in prices of pharmaceutical shares of some leading sectors like Aarti drugs, Sun pharmaceuticals, Dr. Reddy's lab, Cipla Ltd. before and during the crisis period. The results reported positive as well as negative impacts that society might have to face in the coming years. We have also seen a huge hike in the share prices of some Indian pharma sectors in the studied ten month period. With this, some international pharma sectors were also studied. Lastly, this article also includes social responsibilities taken by leading pharma industries.

KEYWORDS: COVID-19, Pharma, Pandemic, Crisis, Stocks.

INTRODUCTION
Novel Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first identified in Wuhan, China and was declared as a pandemic by World Health Organization (WHO) on March 11 2020. As of 29 September 2020, more than 33.4 million cases have been reported.[1] The damage caused by COVID-19 is not confined to only selected businesses but it is a widespread condition that is expected to keep the economy sick for a long time. Although, the magnitude of impact may vary from sector to sector, there are some sectors which have suffered the most while some which have benefited.[2] This article deals with the long term as well as short term impact of COVID-19 on pharmaceutical sector. It also includes change in prices of pharmaceutical shares before and during the crisis of some national level pharmaceutical industries such as Divis Laboratory Ltd, Dr. Reddy's laboratories, Glenmark Pharmaceutical Ltd, Lupin Ltd, Sun Pharmaceuticals Ltd and percentage change in their prices. We have also discussed social causes which have been initiated by some pharmaceuticals in time of clinical need.[3]

Indian pharma sector is the third-largest in the world. It manufactures almost 60 % of the vaccines used globally. Millions across the world use generic drugs produced by Indian manufacturers. More than 250 factories in the country have been approved by the US Food and Drug Administration (FDA) as well as the UK Medicine and Healthcare Products Regulatory Agency (MHRA).[5]

Although, pharmaceutical sectors are one of the least affected due to this pandemic, there might still be a large number of impacts which may either leave with the fading of the virus or will stay with us for a long time. Both short term and long term impacts are considered. Current study assessed pharmaceutical market crisis during covid-19 era, discussing short term as well as long term impacts, first at India's national level and then at global level. Identification of these effects is essential for more informed planning to overcome upcoming challenges.[4]

Short term impact
These are the impacts that will last for a short period of time, or the things that will have effect presently rather than in the distant future.

These include

(1) Panic buying: It is the action of buying large quantities of a particular product or commodity due to sudden fear of an upcoming shortage or price rise. There has been panic buying of medicines, especially OTC drugs which are used in cold and fever. This may cause intermittent shortage in the market and thus medicine may not be available for the people who really need it. Studies reported that pharma markets grew to about 9% in March due to

ENHANCEMENT OF SOLUBILITY AND DISSOLUTION RATE OF CURCUMIN USING POROUS STARCHBY SOLID DISPERSION TECHNIQUE

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Abstract

The poor dissolution characteristics of biopharmaceutical class II drugs are a major concern for scientists in thepharmaceutical industry. Solid dispersion is introduced as a novel method for enhancement of solubility. Class IIdrugs are low solubility and high permeability according to the biopharmaceutical classification system and arepromising candidates for improving solubility and bioavailability through solid dispersion. The purpose of the present attempt is to prepare a soliddispersion of curcumin and porous starch in order to increase the solubility and dissolution of drugs that are poorlysoluble. Solid dispersions (SDs) of BCS-II drugs were prepared by ball milling in ratio of drug:polymer i.e.curcumin:porous starch (1:0.5, 1:1, 1:2 and 1:3). Further, SDs were investigated by solubility, FTIR, XRD, DSC,micromeritics, and in-vitro dissolution.. Conclusively, porous starch offers a hydrophilic matrix to deliver poorwater soluble drugs and Solid dispersion system have demonstrated an improved performance . Solid dispersionsystem have demonstrated an improved performance

Key wards: Solid dispersion, solubility, bioavailability, BCS II drugs.

INTRODUCTION

A drug's oral bioavailability depends on its solubility and/or dissolution rate, and dissolution can be a rate determining step for the appearance of a medicinal effect, so efforts are often required to increase the dissolution of a drug with limited water solubility. Several methods,

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DEVELOPMENT AND EVALUATION OF POLYHERBAL HAIR OIL FORMULATION: A PREVENTIVE HAIR CARE PREPARATION

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ABSTRACT

Beauty and cosmetics are as old as humanity and culture. As a result, they use a variety of herbal-based beauty products to appear attractive and youthful. Because of the concept of less side effects and a higher protection and security profile, herbal cosmetics are now commonly used by the wider populace. The aim of this study was to develop a polyherbal oil that could be used to treat hair issues such as dry or flaky scalp and thinning hair, as well as stimulate hair growth, improve scalp blood circulation, prevent dandruff, and increase volume to the shaft. The formulated hair oil contains a variety of herbal plants that have traditionally been used to promote hair growth. The formulated herbal oil was evaluated for viscosity, saponification value, pH, and other factors.

KEYWORDS: Cosmetics, Herbs, Herbal hair oil, formulation and evaluation.

INTRODUCTION

Cosmetics are substances that are applied to the body in order to enhance its appearance or odor. Cosmetics also include skin-care creams, ointments, powders, fragrances, lip glosses, fingernail and toe nail polish, eye and face makeup, permanent waves, coloured contact lenses, hair colours, hair sprays and gels, antiperspirants, baby items, bathing oils, bubble baths, bath salts, butters, and a number of other items. . Make-up is a category of cosmetics that refers to coloured products that are used to alter a person's appearance. Many manufacturers differentiate between cosmetics for decoration and cosmetics for treatment. Cosmetics use has increased exponentially in the in the previous three decades, not just among females but also among males. Hair dyes, hair oils, and creams are equally common among men and women. Most countries currently have legislation in place that regulate the

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Review Article

Herbal Antidiabetic Drugs -Review

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ABSTRACT

Diabetes mellitus is a syndrome that is characterized by hyperglycaemia, Ample no. of plants form different region of the world has been investigated for anti-diabetic effects. This review article is designed to report some of the most important medicinal plants with hypoglycaemic properties according to reliable clinical and laboratory evidence. In this review we evaluate the clinical and experimental literature on herb–drug interactions in the treatment of diabetes. Pharmacokinetic and pharmacodynamic interactions between drugs and herbs are discussed, and some commonly used herbs which can interact with antidiabetic drugs are summarised. Herb–drug interactions can be a double-edged sword presenting both risks (adverse drug events) and benefits (through enhancement). There is a general lack of data on herb–drug interactions. As such, more rigorous scientific research is urgently needed to guide clinical practice.

Keywords: Combination therapy, Herbal, Pharmaceutical drugs

INTRODUCTION

Diabetes mellitus is a syndrome that is characterised by the hyperglycemia, change in the metabolism of lipids, carbohydrates and proteins [1]. Diabetes mellitus is the most common chronic and metabolised disease characterised by an increase in glucoses level due to absolute or relative insulin deficiency. The disease is associated with eye, renal, cardiovascular, and neurological complications in the long term. This disease is also associated with symptoms such s polyuria, fatigue, weight loss, delayed wound healing, blurred vision, increases in urine glucoses levels, etc.[2.3.4.]. Destruction in beta -cells of the islets of Langerhans in the pancreas and consequently development and insulin-dependent diabetes is one of the impairments of the regulation of the immune system. Several environmental and genetic factors affect the immune system, leading to the attack of lymphocytes, especially lymphocytes, and pancreatitis. This inflammatory response may cause insulitis and diabetes [5].[6]. There are currently more than 150 million people with diabetes across the globe, which seems to reach 300 million by 2025[7]. In the absence of

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RECENT ADVANCES AND DIFFERENT APPLICATIONS OF PETASIS-BORON MANNICH REACTION

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Keywords:

Multi-component reaction, Mannich reaction, Petasis reaction, Types of petasis reaction and Different solvents, Applications

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ABSTRACT: The Petasis boron-Mannich process, also referred to as the Petasis reaction, combines boronic acid, an amine, and a carbonyl derivative in a multi component coupling process. Recent progress on petasis reaction is discussed in this review. The various merits of petasis reaction over the other multi-component coupling reactions are explain here. Noncanonical substrates are used to explore the expansion of a variety of petasis reactions, including two-component, three-component, and four-component reactions, processes, and products. In this review, Microwave-assisted reactions are also explored. The optimal conditions are involved in the microwave heating process. The conditions are successfully applied for petasis reaction. Different solvents are used in petasis boron-mannich reactions, such as glycerol and water. Both solvents are suitable for the reaction and give favorable yield. The reactivity along with numerous synthetic applications of the Petasis reaction are given in this review. The natural product synthesis are given by Petasis boron-Mannich reaction in which loline alkaloid and sialic acid synthesis are given.

INTRODUCTION: A multi-component reaction is a chemical transformation that uses three or more starting elements as input to a synthetic product. The advantages of MCRs include the preservation of atom and step economics, shorter reaction times, and the ability to access highly diverse chemical space rapidly and efficiently.[1]

Classification of Multi-component Reactions: The fundamental conceptual issue in developing newer forms of MCR is finding unusual combinations and sequences of elementary chemical reactions under similar conditions. Regarding the reversibility of reactions, Ivar Ugi, the pioneer of modern multi-component reaction chemistry, outlines three ideal forms of MCRs. Type I: All of the reactions involved are reversible. Type II: Most reactions are reversible; however, the very last product is fashioned through an irreversible response. Type III: All of the reactions are irreversible [2].

History of Multi-component Reactions: For over 150 years, multi-component reactions have been reported. History is given below.

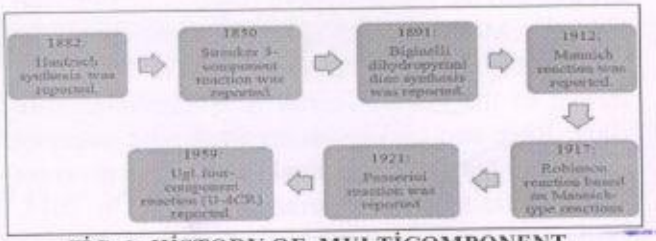

FIG. 1: HISTORY OF MULTICOMPONENT REACTION [3-8]

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Synthesis and Evaluation of Antifungal Activity of N-Methyl-2-α-[(N^4-Aryl) Piperazin-1-yl] Ethyl Benzimidazoles

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GRAPHICAL ABSTRACT

The relative broad spectrum of activity of the azoles against common fungal pathogens, ease of administration and limited toxicity are highly attractive features. Antifungals work by exploiting differences between mammalian and fungal cells to kill off the fungal organism without dangerous effects on the host. Benzimidazoles and piperazines are the important pharmacophores in the field of medicinal chemistry, due to their widespread pharmacological activities, so to exploit their antifungal potential we have selected these two for our research work but they have several drawbacks and limitations like adverse drug reaction due to co-administration and occurrence of resistance of fungal organisms, especially Candida species, to fluconazole. These limitations of the azoles will become more problematic if fluconazole and other azoles continue to be used injudiciously. Many benzimidazole derivatives substituted with piperazines have been synthesized and evaluated for antifungal activity in our department. From the above limitations benzimidazole containing antifungal agents, we have synthesized different substituted aryl piperazines, N-methyl-2-[α-(chloro) piperazin-1-yl] ethyl benzimidazole nucleus, condensed it to offer targeted compounds, evaluated the structures of targeted compounds on the basis of Infra-red spectra, NMR spectra and mass spectra and further carried out antifungal activity against Candida albicans.

Keywords: Benzimidazole, Piperazines, Antifungal, *Candida albicans*

INTRODUCTION

The azoles, as a group of antifungal drugs, act by inhibiting the C-14 demethylation of sterols. In the last three decades, piperazine derivatives dominating the bulk drug market. Today several thousand derivatives have reached advanced stages of drug discovery programs. This investigation relates to new compounds active as fungicidal and methods for their use. More specifically, this invention relates to 1-substituted benzimidazoles effective as fungicidal which possess a high degree of hydrophilic and lypophilic effects and demonstrate excellent systemic activity. An antifungal medication can also be termed as an antimycotic medication, is a pharmaceutical fungicide or fungistatic used to treat and prevent mycosis such as athlete's foot, ringworm, candidiasis (thrush), serious systemic infections such as cryptococcal meningitis, dermatitis, subcutaneous, superficial, hair and nail. The organisms causing these types of infection are *E. Floccosum*, *M. Gypseum*, *T. Rubrum*, *T. Violaceum*, *T. Verrucosum*, *Malassazia furfur*, *Candia albicans* [1-10]. Nowadays, newer potent and less toxic triazoles and echinocandins are often recommended as first-line drugs for many invasive fungal infections. Fluconazole, and Itraconazole are the preferred oral agents. We are more likely to get a fungal infection if have a weakened immune system or take antibiotics. Fungi can be difficult to kill. For skin and nail infections, you can apply medicine directly to the infected area. Oral antifungal medicines are also available for serious infections. Antibiotics are mostly ineffective against fungal infections.

MATERIALS AND METHODS

Reagents

All chemicals used were of Ranbaxy Lab. Ltd. Delhi.

Equipment

All the melting points were determined in thiel's tube and are uncorrected. Infrared spectrums were recorded using Nujol on Shimadzu Fourier-Transform Infrared Spectroscopy (FTIR)-84005 spectrophotometer [11-15]. Proton resonance magnetic spectra (^{1}H-NMR) were recorded on 300 MHz spectrophotometer and chemical shifts were expressed in parts per million (δ ppm), downfield from TMS as an internal standard. All the

Analysis of Sugar in Honey Using the PerkinElmer Altus HPLC System with RI Detection

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ABSTRACT

Honey consumption has grown significantly during the last few decades due to its high nutritional value and unique flavor. The price of natural bee honey is much higher than other sweeteners making it susceptible to adulteration with cheaper sweeteners, primarily sucrose. Besides lower levels of non-sugar ingredients, natural honey primarily consists of glucose and fructose and may contain low levels of sucrose and/or maltose. However, according to the international regulations, any commercially available "pure"-labeled honey products that are found to have in excess of 5% by weight of sucrose or maltose are considered to be adulterated. With the focus on possible honey adulteration, this application highlights the LC separation of various sugars found in honey and the analysis of these components in four store-bought honey samples. Method conditions and performance data, including linearity and repeatability, is presented.

Keywords: Fructose, Glucose, Honey, HPLC, RI Detection, Sucrose, Sugar.

INTRODUCTION

Generally, carbohydrates are one of the most important components in many food items and they may be either present as isolated form or associated form to other macro molecules. Sugars are simple carbohydrates and are important for every-day life biological functions such as providing energy for running vital roles of the living body. The majority of the natural sugars contain 6 or 12 carbon atoms in their molecules. Sugars are crystalline, soluble in water and generally have a sweet taste. The commercial sugar is the disaccharide sucrose white sugar. Honey is composed primarily of the simple sugars glucose and fructose – known as monosaccharides [2] and a further17% to 20% of water. Honey also contains other types of sugars such as sucrose (which is a disaccharide composed of fructose and glucose linked together through a-1–4 linkage) [1]. The chemical structure of the fructose and glucose is presented in various fundamental text books of Chemistry and Biochemistry, therefore, this isn't critical to mention in this article. Usually, fructose is slightly sweeter than sucrose and glucose is less sweet. The sweetness of mono-floral honey – a honey made from a single flower source – is dependent on the ratio of fructose to glucose that results from the bee's processing the nectar of the homomono-specific flower. Most of the honey sold in the markets is a blend of varieties, to create a consistent flavor and sweet-ness profile [3]. However, most of the honey's fructose becomes predominating, thus, it achieves creation of a sweet honey taste Sugars have been separated by ion exchange and normal phase

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Review on Drug Repurposing Strategy for Covid 19

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ABSTRACT

December 2019, the COVID-19 epidemic was described in Wuhan, China, and the infection has spread widely affecting hundreds of thousands. Herein, an effort was made to identify commercially available drugs to repurpose them against Corona virus by the means of structure-based virtual screening. Besides, the ZINC15 library was used to identify novel leads against the main proteases. It causes a global pandemic of severe respiratory illness (COVID19). SARS-CoV-2 makes entry into human cells through its spike (S) protein that binds to cell surface receptors. Widespread of SARS-CoV-2 has been attributed to the high affinity of S protein to its receptor. An anti-asthmatic drug (zafirlukast) and several other drugs (trazol, fazadinium, troglitazone, gliquidone, Idarubicin, Oxacillin) were found to be high-affinity binders that may have a potential to inhibit RBD – receptor interaction. Despite advances in drug discovery, viral infections remain a major challenge for scientists across the globe. Chloroquine (CQ) and its analog hydroxychloroquine (HCQ) have long been used worldwide as frontline drugs for the treatment and prophylaxis of human malaria. While the world is searching for expedited approval for a vaccine, which may be only preventative and not a cure, physicians and country leaders are considering several concerted clinical trials suggesting that the age-old antimalarial drugs CQ/HCQ could be a potent therapeutic against COVID-19. Based on accumulating scientific reports, here we highlight the possible modes of action of CQ/HCQ that could justify its use against viral infections. Considering the global health crisis of the COVID-19 pandemic, the option of repurposing old drugs, e.g. CQ/HCQ, particularly HCQ, for the treatment of SARS-CoV-2 infection could be a good choice. As there is no cure for COVID-19, clinical testing of HCQ is urgently required to determine its potency against SARS-CoV-2, as this is the currently available treatment option.

Keywords: *COVID-19, SARS-CoV-2, Drug repurposing, Coronavirus, Chloroquine, Hydroxychloroquine, Pandemic.*

INTRODUCTION

Corona virus disease (COVID-19) has become an important public issue across the globe since December 2019. As of the 12th of April 2020, more than 1.79 million cases have been reported in 210 countries and territories (Worldometer, 2020). It affects people worldwide and there is no vaccine yet for this virus. Certain types of pneumonia are implicated in the new Corona virus, which is considered a big threat to global public health. There is an urgent need to develop potent anti-COVID-19 agents for the prevention of the outbreak and stop viral infections. Repurposing of known small molecules seems to be a very efficient way in order to develop potent drugs to combat Corona virus in this short time period. The benefits of drug repurposing are that the safety, optimal dosage, and pharmacokinetics of drugs are well known. Recently, several efforts were made to design novel inhibitors or employ drug repurposing approach to identify anti-COVID-19 drugs, which can act as promising inhibitors against Corona virus protease In India, most of the drugs and

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Polyherbal Gel Development And Evaluation For Antifungal Activity

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ABSTRACT

Tridaxprocumbens and Azaridactaindica traditional medicinal plant life which have antifungal hobby in opposition to Candida albicans, a combination of these plant life have now not been known for its pastime against this fungus. The reason of this research was to formulate topical gel, a combination of Tridaxprocumbens and Azaridactaindicta which has antifungal hobby in opposition to Candida albicans. The antifungal pastime take a look at of T. Procumbens and A. Indica the use of agar well diffusion approach turned into carried out. Thereafter, a topical gel formulation was prepared using Sodium carboxymethyl cellulose as a gelling agent of concentration 1; 1.Five and a couple of%. Test parameters for topical gel includes organoleptic, pH, extrudability, spreadability, diffusion, and stability take a look at.

Keywords: Tridaxprocumbens, Azaridactaindica, Antifungal activity, Candida albicans, Gel

INTRODUCTION

One of the maximum commonplace dermatological issues today is pores and skin fungal infection. There are numerous therapy options to be had, inclusive of stable dosage, semisolid dose, and liquid dose formulations. Gels have long been used as a topical training in both cosmetics and remedy. Within the primary class of semisolid arrangements, the usage of gels has increased each cosmetics and scientific preparations [(1)]. Polyherbal formulations are natural formulations with two or extra herbs in them (PHF).

Polyherbal Natural Hand Sanitizer Formulation and Evaluation

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Abstract:

Making a poly herbal hand sanitizer's major purpose is to increase "hand hygiene." In the prevention, control, and reduction of hospital-acquired infections, hand hygiene is a key principle and practise. The plants were validated using fresh Azadirachta indica and Tridax procumbens leaves.The leaves were cleaned, dried in the shade, and used for future research. Using the Soxhlate equipment and hydroalcoholic solvent extraction, several phytochemicals were extracted, and the recovered phytochemicals were qualitatively examined before being evaluated for antibacterial activity. This herbal extract blend was used to make hand sanitizer.

Herbal hand sanitizer was evaluated using microorganism suspensions (Bacteria- E. coli, Staphylococcus aureus), which showed that herbal hand sanitizer is more efficient than commercial synthetic hand sanitizer in reducing the number of germs on the hands.The increased antibacterial activity and efficacy of these plant extracts can be exploited to create herbal hand sanitizers on a commercial scale. When the ingredients are mixed together, they form a hand sanitizer.

Keywords: *Antimicrobial Activity, Azadirachta indica, Tridax procumbens, Hand Hygiene, Herbal Sanitizer, Hydroalcoholic Extraction.*

INTRODUCTION:

One of the most important scientific and religious beliefs is to wash hands before eating. This is to keep dangerous bacteria out of the body and from creating infectious diseases. The uncleanliness of both the patient's and hospital staff's hands is to blame for the majority of hospital-acquired infections.The

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DEVELOPMENT AND VALIDATION OF STABILITY INDICATING HIGH PERFORMANCE THIN LAYER CHROMATOGRAPHIC METHOD FOR DETERMINATION OF DESLORATADINE IN TABLET DOSAGE FORM

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ABSTRACT

The present work describes development and validation of a new simple, accurate and precise stability-indicating high performance thin layer chromatographic (HPTLC) method for determination of Desloratadine as bulk drug and in tablet dosage form. As stability testing is key step in the development of new drug as well as formulation, stress degradation studies were carried out according to ICH guidelines. Desloratadine was found susceptible to all the analyzed stress conditions. HPTLC plates precoated with silica gel 60 F_{254} were used as the stationary phase and chromatographic separation was achieved by using Methanol: Benzene: Acetic acid (6: 4: 0.5, v/v/v) as mobile phase. Densitometric detection was carried out at 242 nm. The retention factor was found to be 0.55 ± 0.05. The developed method was validated with respect to linearity, accuracy, precision, limit of detection, limit of quantitation and robustness as per ICH guidelines. The developed method was found to be linear in the concentration range of 200-1000 ng band^{-1}. The LOD and LOQ for Desloratadine was found to be 31.47 ng band^{-1} and 95.37 ng band^{-1}, respectively. The developed method has been effectively applied for the drug estimation in tablet dosage form.

KEYWORDS: Desloratadine, Stability indicating method, HPTLC, Forced degradation studies.

INTRODUCTION

Desloratadine, chemically, 8-chloro-6, 11-dihydro 11-(4-piperdinylidene)-5H-benzo [5, 6] cyclohepta [1, 2-b] pyridine is a tricyclic H_1 inverse agonist that is used to treat allergies. It is used to treat allergic rhinitis, nasal congestion and chronic idiopathic urticarial.[1]

An extensive literature survey revealed that different analytical methods has been reported for quantitative analysis of Desloratadine. UV spectrophotometric methods for determination of Desloratadine in bulk and its tablet formulation has been reported.[2-5] High performance liquid chromatography (HPLC)[6-10] and High performance thin layer chromatography (HPTLC)[11-13] methods for the determination of Desloratadine either as single drug or in combination with other drugs in pharmaceutical formulations were also found in the literature. Quantification of desloratadine in human plasma by LC-ESI-MS/MS was also reported.[14]

To best of our information, no reports were found in the literature for determination of Desloratadine in pharmaceutical tablet dosage form by stability-indicating high performance thin layer chromatographic (HPTLC) method. High performance thin layer chromatography (HPTLC) is the most powerful analytical version of thin layer chromatography which is used for the analysis of pharmaceuticals to determine the purity of the drugs available from various sources by detecting the related impurities. The most adaptable technology available is HPTLC, which is renowned for its consistency, purity profile, assay values, and precision and accuracy of outcomes. The technique is simpler, provides more flexibility than HPLC and used as cost-effective quality-control tool for analysis of pharmaceuticals.[15] Hence the purpose of present work was to develop and validate a simple, sensitive, precise and accurate stability indicating HPTLC procedure for determination of Desloratadine as bulk drug and in tablet dosage form in accordance with International Conference on Harmonisation Guidelines.[16,17]

MATERIALS AND METHODS

Chemicals and reagents

Pharmaceutical grade working standard Desloratadine was obtained as a gift sample from Sun Pharmaceuticals Ltd. (Gujrat, India). The pharmaceutical tablet dosage

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A Brief Overview on Tablet and It's Types

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ABSTRACT

Medicines are not only a science; it is also an art. It does not consist of compounding pills and plasters; it deals with the very processes of life, which must be understood before they may be guided. Pharmaceutical oral solid dosage forms have been used widely for decades mainly due to their convenience of administration and their suitability for delivery for delivery of drugs for systemic effects. The tablets can be made directly from powders or from granules pellets, or from film-coated multiple units. Tablets are now the most popular dosage form, accounting for some 70% of all ethical pharmaceutical preparations produced. Tablets may be defined as solid pharmaceutical dosage forms containing drug substances with or without suitable diluents and prepared by either compression or moulding methods. Hence, tablets can be broadly classified as compressed tablets and moulded tablets. Compressed tablets can be further classified as directly compressible tablets, chewable tablets and tablet triturates etc.

Keywords: *Binders, Coated Tablets, Compression, Granulation, Ingredients*

INTRODUCTION

Solid medicaments may be administered orally as powders, pills, cachets, capsules or tablets. These dosage forms contain a quantity of drug which is given as a single Unit and they are known collectively as solid unit dosage forms, even in the case of Sustained action preparations which, technically, contain the equivalent of several Normal doses of drug .The stringent formulation requirements of modern Medicaments, the many advantages of tablet and capsule medication, coupled With expanding health services and the commitment need for large- scale Economic manufacture, have led to a steady decline in the prescribing of powders And pills .Tablets and capsules, on the other hand, currently account for well over Two third of the total number and cost of medicines produced all over the world. Tablets are solid dosage form which is the conventional as well as have many advantages over other dosage forms. Tablets are the most popular dosage form; about 70% of the total medicines are dispensed in the form of tablet. Tablets had different shapes, sizes, as well as weight depending on medicinal substances and the intended mode of administration. In this paper the some advantages as well as some disadvantages of tablets, the basic ingredients that are commonly found in tablets, methods of tablet preparation and the various types of the tablets are briefly reviewed.

Definition

According to the Indian Pharmacopoeia Pharmaceutical tablets are solid, flat or biconvex dishes, unit dosage form, prepared by compressing a drugs or a mixture of drugs, with or without diluents. Tablet is defined as a compressed solid dosage form containing medicaments with or without excipients. They vary in shape and differ greatly in size and weight, depending on amount of medicinal substances and the intended mode of administration [1, 2].

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Investigation of Anthelmintic Activity of *Caeselpinia decapetala (Roth)* Seed and Leaves Extracts

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ABSTRACT

The present work is an attempt to assess the in- vitro anthelmintic activity of the leaves and seed extracts of Caesalpinia decapetala (Roth). The crude drug was extracted in alcohol and water by using maceration extraction procedure. These extracts are used for assessment of in-vitro anthelmintic activity by using traditional earthworm technique. Doses of various concentration of extracts are prepared and earthworms are allowed to expose to them. Time of paralysis and death was observed and recorded as observations. In-vitro antihelmintic study of C. decepetala showed promising results. The perusal of the data reveals that the hydroalcoholic extract of the leaves at concentration of 10mg/ml, 20mg/ml, 40mg/ml, 50mg/ml and 100mg/ml showed paralysis and death time in 108, 63, 32, 15, 5& 138, 83, 48, 21, 11 mins. and the seed extract at same concentrations shows both paralysis and death at 63, 48, 25, 21, 4 and 87, 62, 32, 26, 9 mins respectively. Conclusion: The anthelmintic activity of leaves and seed plant extract of Caesalpinia decapetala (Roth) Alston. Was carried out on earth warm. Different concentrations of the hydroalcoholic extracts were used for the studies. The time taken for paralysis and death of earthworms were recorded. The extract showed paralysis followed by death of the worms at all tested dose levels.

Keywords: STH, Morbidity, Ayurveda, Anthelmintic, Earthworm method.

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Original Article

Evaluation of Quality of Life in Type 2 Diabetes Mellitus Patients Using Quality of Life Instrument for Indian Diabetic Patients: A Cross-Sectional Study

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ABSTRACT

Background: Type 2 diabetes mellitus (T2DM) is a chronic metabolic disease with major impact on the quality of life (QoL) in terms of various domains such as social, physical, and mental well-being. **Aim:** This study aimed to study the factors determining the QoL in T2DM patients. **Materials and Methods:** A prospective, observational study was conducted in a tertiary care hospital for 6 months. Patients of age ≥18 years and diagnosed with T2DM for ≥6 months (with and without comorbidities) were enrolled for the study. The sociodemographic and clinical characteristics were noted in the self-designed pro forma. The QoL was assessed by the Marathi-translated version of QoL Instrument for Indian Diabetes Patients questionnaire of 34 items and 8 domains. The reliability was validated by Cronbach's alpha. The differences were analyzed by Mann–Whitney U-test and Kruskal–Walis test. **Results:** Out of 153 T2DM patients, majority were elderly males with mean age of 61.23 ± 11.4 years, married (83%), lower-middle income (57%), urban (51.6%), primary education (46.4%), had diabetes for 5 years or less (42.5%), had positive family history of diabetes (32.6%), and were treated by intensive therapy mainly insulin (41.2%). Statistically significant ($P < 0.05$) association was found between different domains of QoL and family history, hypertension, body mass index, educational status, marital status, income status, treatment, and complications. The domains of diet satisfaction and general health with the least mean estimates of 7.70 ± 2.62 and 8.25 ± 3.08, respectively, were predominantly affected. **Conclusion:** QoL is an important parameter in diabetes treatment modality. Different factors affected QoL in diabetics in our study. Further studies are definitely needed for better data generation at national level.

KEYWORDS: *Quality of Life Instrument for Indian Diabetes patients questionnaire, quality of life, type 2 diabetes mellitus*

INTRODUCTION

India is titled as the diabetes capital of the world, with an estimate of about 72.94 million diabetic patients in 2017.[1] Every 5th diabetic in the world is an Indian[2] and the rising trends are due to aging, obesity, physical inactivity, genetic predisposition, rural to urban migration, and family history.[1-3] Every diabetic patient's life is unique and they feel psychologically overwhelmed by the numerous rules that the disease constrain them to follow. Therefore, assessing the quality of life (QoL) of patients is important due to the fact that each individual has their own individualized perception on their physical, emotional, and social well-being, which includes a cognitive element satisfaction as well as emotional component happiness.

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Investigation of Phytochemical and Pharmacological Evaluation of Smooth Muscle Relaxant Potential of *Diplocyclos Palmatus* Leaves Extract

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ABSTRACT

The aim of this study was investigation of phytochemical and pharmacological evaluation of smooth muscle relaxant potential *of Diplocyclos Palmatus* leaves extract. *D. palmatus* is medicinal plant commonly known as *Shivlingi*, the different parts of plant have been used by traditional practitioner for curing various ailments. The present study was undertaken for investigation of phytochemical and pharmacological evaluation of smooth muscle relaxant potential of *D.palmatus* leaves extract. The leaves were subjected to aqueous extraction. Extract was screened for their phytochemical constituents and evaluated on isolated chicken ileum. The result showed that test drug *(D. Palmatus)* block the action of ach on smooth muscle and produce relaxation of smooth muscle in chicken ileum.

KEY WORDS: *Diplocyclos palmatus*, phytochemicals, smooth muscle relaxant, leaves extract, chickenileum.

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Research Article

Evaluation of teratogenicity of ethanol and DMSO in Zebrafish

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Abstract

Objective: The zebrafish has been widely used in toxicological studies to evaluate either a single compound or small panels of compounds. This study is aimed at standardizing and validating the zebrafish model with ethanol and DMSO and to have a quick testing method to screen synthetic compounds for primary evaluation of teratogenicity. **Material and methods:** In this study various concentrations of each solvent to evaluate the teratogenicity in zebrafish were used. The phenotype changes as pericardial edema and yolk sac edema at 96 hpf were observed with ethanol and DMSO. **Results and conclusion:** Dose dependent phenotype changes as pericardial edema and yolk sac edema were observed with these solvents. Thus, it can be concluded that the zebrafish model could provide a useful tool in the screening of new drugs for treating human diseases. Some solvents act as carrier solvents for water insoluble drugs hence a controlled study of carrier solvents is needed as these solvents alone can have teratogenic potential.

Keywords: Ethanol, DMSO, Zebrafish embryo, solvents, phenotype

Introduction

In the last few years assays using embryonic stages of the vertebrate zebrafish have paid the attention of toxicologists due to their various advantages. The zebrafish has been widely used in toxicological studies to evaluate either a single compound or small panels of compounds. The zebrafish embryo is a potential alternative model in some fields of biomedical research, such as drug screening, safety pharmacology, and assessment of developmental toxicity (Barros, 2008; Spitsbergen, 2007; Lieschke, 2007; Rubinstein, 2003; McGrath, 2008). This whole animal model may be useful as a rapid, high throughtput and low cost assay in the early stages of the drug development (Redfern, 2008).

Zebrafish maintenance is easy and it produces large numbers of embryos which develops outside the mother. Transparency of zebrafish embryos permits the scoring of teratological and embryotoxic effects easily. Also, the development is fast and well characterized which includes morphological and physiological information at all stages of early development (Hill, 2005). The development process is highly conserved among vertebrates and the zebrafish genome is completely characterized. Hence, zebrafish embryos represent an attractive model allowing reduction and refinement of animal use in research (Yang, 2009). Various studies have been reported which explores the capacity of zebrafish assays for the assessment of the teratogenic potential of chemicals showing a good concordance with in vivo results in mammals (Hermsen, 2011; Selderslaghs, 2009; Teixidó, 2012; Carlsson, 2011). Developmental delay is usually considered as a reversible and unspecific effect. However, it might lead to persistent delays or deficits in function (Daston, 2010).

Ethanol is used as an important solvent in pharmacology and chemistry, and is commonly used to dissolve substances proposed for human consumption or human contact (including not only drugs, but also scents, food colors, and flavorings), it is also a psycho active substance and a teratogen. Ethanol has showed well characterized teratogenic malformations in multiple species. In zebrafish, ethanol was previously found to show various defects depending upon the developmental stage at which embryos or larvae are exposed. Zebrafish embryos, treated for a short time with ethanol at early gastrula stages, developed cyclopia due in part to defects in the migration of the prechordal plate

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