ISSN: 0301-4606



BANGLADESH PHARMACEUTICAL JOURNAL

Vol. 19, No. 2

July 2016

EDITORIAL BOARD

Editor-in-Chief

Professor Dr. Md. Anwar Ul Islam Department of Pharmacy & Former Dean, Faculty of Science, Rajshahi University

Executive Editor

Dr. Md. Abdur Rashid, FRSC Professor of Pharmaceutical Chemistry & Former Dean, Faculty of Pharmacy, University of Dhaka

Members

Professor A.Y. Sk. Firoz Uddin Ahmed Chowdhury	Mr. Md. Nasser Shahrear Zahedee	
Department of Pharmacy, Jahangirnagar University	Chairman, Radiant Pharmaceuticals Ltd.	
Professor Dr. Reza-ul Jalil	Professor Dr. Nazmul Qais	
Faculty of Pharmacy, University of Dhaka	Faculty of Pharmacy, University of Dhaka	
Professor Dr. Md. Saiful Islam	Professor Dr. Md. Selim Reza	
Dean, Faculty of Pharmacy, University of Dhaka	Faculty of Pharmacy, University of Dhaka	
Professor Dr. Abul Hasnat	Professor Dr. Md. Sohel Rana	
Faculty of Pharmacy, University of Dhaka	Department of Pharmacy, Jahangirnagar University	
Professor Md. Saiful Islam Pathan	Professor Dr. Md. Aslam Hossain	
Department of Pharmacy, State University of Bangladesh	Faculty of Pharmacy, University of Dhaka	
Professor Dr. Md. Shah Amran	Professor Dr. Md. Khalid Hossain	
Faculty of Pharmacy, University of Dhaka	Faculty of Pharmacy, University of Dhaka	
Mr. Md. Hassan Kawsar	Professor Dr. Mohiuddin Ahmed Bhuiyan	
Department of Pharmacy, State University of Bangladesh	Department of Pharmacy, University of Asia Pacific	
Advisors		
Professor Dr. Abdul Ghani	Professor Dr. Nurun Nahar Rahman	
Department of Pharmacy, Primeasia University	Department of Pharmacy, Manarat International University	
Professor Dr. Rebecca Banoo	Professor Dr. Choudhury Mahmood Hasan	
Faculty of Pharmacy, University of Dhaka, Bangladesh	Faculty of Pharmacy, University of Dhaka	

Published by: **Bangladesh Pharmaceutical Society**, 22 Dhanmondi R/A, Road 2, Dhaka-1205, Bangladesh E-mail: bps@agni.com, Web: www.bps-bd.org

Bangladesh Pharmaceutical Society (BPS) Central Executive Council

Name & Portfolio	Institutional Affiliation
Mr. A. T. M. Fakhor Uddin Chowdhury	House-29, Apt B2, Block - A, Road - 1, Niketon,
President	Gulshan-1, Dhaka-1212
Professor Md. Anwar Ul Islam	Former Dean, Faculty of Science, Rajshahi University,
Vice President	Rajshahi-6205
Mr. Md. Abul Khair Chowdhury	Former Director, Directorate General of Drug
Vice President	Administration (DGDA), Dhaka-1000
Mr. Md. Hassan Kawsar	Associate Professor, Department of Pharmacy
General Secretary	State University of Bangladesh, Dhanmondi, Dhaka-1205
Prof. Dr. Md. Sohel Rana	Department of Pharmacy
Joint Secretary	Jahangirnagar University, Savar, Dhaka
Prof. Dr. Mohiuddin Ahmed Bhuiyan	Department of Pharmacy, University of Asia Pacific
Joint Secretary	Dhanmondi, Dhaka-1205
Prof. Dr. Md. Aslam Hossain	Faculty of Pharmacy, University of Dhaka
Finance Secretary	Dhaka-1000
Mr. Mohammad Shamsul Alam	Senior Assistant Manger, International Business, Radiant
Organizing Secretary	Pharmaceuticals Limited, 22 Dhanmondi, Road-2, Dhaka-1205
Mr. Aninda Kumar Nath	Assistant Professor, Department of Pharmacy
Publication Secretary	BGC Trust University Bangladesh, Chittagong
Mr. Md. Mahbubul Islam	General Manager, Drug International Ltd.
Member	Tongi Industrial Area, Gazipur-1710
Mr. Md. Nasser Shahrear Zahedee	Chairman, Radiant Pharmaceuticals Limited
Member	22 Dhanmondi, Road-2, Dhaka-1205
Prof. Md. Saiful Islam Pathan	Head, Department of Pharmacy
Member	State University of Bangladesh, Dhanmondi, Dhaka-1205
Prof. Dr. Md. Selim Reza	Faculty of Pharmacy, University of Dhaka
Member	Dhaka-1000
Professor Dr. Abul Hasnat	Department of Clinical Pharmacy & Pharmacology
Member	Faculty of Pharmacy, University of Dhaka, Dhaka-1000
Mr. Akhil Dutta	General Manager, Bengal Remedies Limited
Member	Tongi, Gazipur
Prof. Dr. Mustafizur Rahman	Professor, Pharmacy Discipline
Member	University of Khulna, Khulna
Mr. Masum Shahriar	Associate Professor, Department of Pharmacy
Member	Jahangirnagar University, Savar, Dhaka
Mr. Mohammad Ashraful Alam	Marketing Manager, Radiant Pharmaceuticals Limited
Member	22 Dhanmondi, Road-2, Dhaka-1205
Mr. Mohammad Aksir Uzzal Khan	Senior Production Officer, Essential Drugs Company Limited
Member	395-397, Tejgaon I/A, Dhaka-1208.

Computer formatted & printed by:

Hasib Computers & Printing, 62/1 Purana Paltan (2nd floor), Dhaka-1000, Bangladesh Phone: 01552-388130, 01612-388130, 9016429 (Res.), E-mail: hasibprinting@yahoo.com

BANGLADESH PHARMACEUTICAL JOURNAL

July 2016

Vol. 19, No. 2

CONTENTS	
Preparation and Evaluation of Ornidazole Periodontal Films Jayera Islam Urmi and Md. Saiful Islam Pathan	133
Antioxidant and Membrane Stabilizing Activities of Bark of Sonneratia apetala Md. Emdadul Hasan Mukul, Mohammad Salim Hossain, Sayed Koushik Ahamed, Pankaj Debnath and Mariyam Akter	147
Formulation and Optimization of Carbamazepine Microspheres by 2 Factor 2 Level Central Composite Design Nusrat Ahmed, Ikramul Hasan, Mohammad Saifuddin, Jakir Ahmed Chowdhury and Md. Selim Reza	152
Cytotoxic, Membrane Stabilizing and Anti-diarrheal Activities of <i>Bambusa bambos</i> Linn. Ridwan Bin Rashid, Sharmin Khandker Shampa, Md. Al Faruk, Mohaiminul Adib and Mohammad Firoz Khan	161
Flavonoid and Steroids from <i>Polygonum viscosum</i> Bidyut Kanti Datta, Tahamina Iasmin and Mohammad A. Rashid	166
Computational Study of Geometry, IR Spectrum and Molecular Properties of Acetanilide Mohammad Firoz Khan, Rahatullah Razan, Ridwan Bin Rashid, Faiza Tahia and Mohammad A. Rashid	170
Prevalence and Risk Factors of Obesity and Hypertension Among University Students in Rajshahi City, Bangladesh Md. Uzzal Haque, SK. Benozir Ahmmed, Md. Khokon Miah Akanda, Md. Tarek Hasan, Sumaiya Akter Mou, Sadiur Rahman Sajon and Md. Anwar Ul Islam	179
<i>In vitro</i> Membrane Stabilizing and <i>In vivo</i> Analgesic Activities of <i>Boehmeria glomerulifera</i> Miq. in Swiss- Albino Mice Model Sabikunnahar Papia, Muhammed Mahfuzur Rahman, Md. Mustafezur Rahman, Mohaiminul Adib and Mohammad Firoz Khan	185
Prevention of Cap-Locking of Syrup Product by Treating the Manufacturing Process of Sugar Syrup with Citric Acid Monohydrate Mia Mohammad Dulal, Md. Kaisarul Islam, Abu Asad Chowdhury and Jakir Ahmed Chowdhury	190
Study of Interaction of Dextromethorphan Hydrobromide with Deoxyribonucleic Acid by Fluorescence Quenching Toufiq Ul Amin, Md. Reazul Islam, Md. Zakir Sultan, Sonia Sultana, Md. Saiful Islam and Abul Hasnat	197
Detection of <i>Escherichia coli</i> in Drinking Water Sources of Filter Units and Supply Water Arman Chowdhory, Nafisa Kabir, Md. Mazharul Islam Chowdhury and Jakir Ahmed Chowdhury	206
Synthesis, Characterization and Antimicrobial Studies of Schiff Base Ligand-Derived from Amoxicillin and Benzaldehyde Asif Iqbal and Farhana Hoque	211

New Drug Approvals	258
Recent Health Issues	254
Mohammad Musarraf Hussain, Md. Tariqul Haque Tuhin, Fahima Akter and Mohammad A. Rashid	237
Review paper Constituents of <i>Erythrina</i> - a Potential Source of Secondary Metabolities: A Review	
S.M. Ashikur Rahman, Muhammed Mahfuzur Rahman, Md. Aslam Hossain and Mohammad A. Rashid	233
Short communication Chemical and Biological Investigations of Leaves of <i>Abroma augusta</i> Linn.	
Tanvir Ahmed, Amiyo Bala, Jalal Uddin and Zubair Khalid Labu	226
Evaluation of Thrombolytic, Membrane Stabilizing, Antidiarrhoeal and Analgesic Activities of Leaves of Triumfetta pilosa	
Muhammad Rashedul Islam, Md. Elias-al-Mamun and Md. Mizanur Rahman Moghal	219
Release Modification of Indomethacin Controlled Release Press Coated Tablets	
Md. Rahatullah Razan, Muhammed Mahfuzur Rahman, Faiza Tahia, Md. Khalid Hossain and Mohammad A. Rashid	215
Analgesic and Antidiarrheal Activities of Leaf of Podocarpus neriifolius D. Don	

BANGLADESH PHARMACEUTICAL JOURNAL

Vol. 19, No. 1January	2016
CONTENTS	
Secondary Metabolites from Some Species of <i>Albizzia</i> : A Review Mohammad Musarraf Hussain, Faiza Tahia and Mohammad A. Rashid	1
Effects of Solvent Polarity on Solvation Free Energy, Dipole Moment, Polarizability, Hyperpolarizability and Molecular Properties of Metronidazole Mohammad Firoz Khan, Ridwan Bin Rashid, Md. Yeunus Mian, Mohammad S. Rahman and Mohammad A. Rashid	9
Comparative Evaluation of Analgesic, Anti-inflammatory and Anti-pyretic Effects of Synthetic Derivatives of Organoantimony (v) Ferocenyl Benzoate with Piroxicam Muhammad Shoaib Akhtar, Zulfiqar Khan, Muhammad Naveed Mushtaq and Muhammad Salman Akhtar	15
Antinociceptive, Anti-inflammatory and Hypoglycemic Activities of <i>Terminalia citrina</i> Leaves Narhari Das, Md. Sharif Hasan, Sheikh Zahir Raihan and Md. Zakir Sultan	25
Wild Cinchona (<i>Neolamarckia cadamba</i>) – Bioactivities of a Medicinal Plant of Bangladesh Faiza Tahia, Mohidur Rahman, Marzia Bilkiss, Md. Al Amin Sikder and Mohammad A. Rashid	32
Evaluation of Antifungal, Hemolytic and Cytotoxic Potential of Ethyl Acetate Extract of a New Marine <i>Streptomyces</i> sp. AIAH-10 Md. Anwarul Haque, Ashish Kumar Sarker, Md. Ajijur Rahman, Md. Aktar Uzzaman Chouduri and Md. Anwar Ul Islam	37
Antifilarial Activity of Eucalyptus globulus Labill. Leaves Against Brugia malayi Vijai Lakshmi and Shailja-Misra Bhattacharya	44
Correlation of Thrombolytic and Membrane Stabilizing Activities with Total Flavonoid Content Aerial Parts of Spondias pinnata Jalal Uddin, Md. Nurul Islam, Md. Haider Ali, Shah Alam Khan and Zubair Khalid Labu	48
Future Prospects and Barriers of Pharmaceutical Industries in Bangladesh Jesmin Sultana	53
Formulation and <i>In vitro</i> Evaluation of Eudragit RL 100 Loaded Fexofenadine HCl Microspheres Paroma Arefin, Ikramul Hasan, Md. Shfiqul Islam and Md. Selim Reza	58
Study of Preservatives and Stimulants in Commercial Soft Drinks Abida Sultana, Robiul Islam, Md. Mazharul Islam, Mohammad Shoeb and Nilufar Nahar	68
Removal of Levafix Red from Aqueous Solution with Treated Jute Stick and its Relevance to Pharmaceutical Field Rayhan Hossain, Mohammad Arifur Rahman, Nargish Jahan Ara and A. M. Shafiqul Alam	75

Current Trend of Antibiotic Resistance in Lower Respiratory Tract Infections (LRTIs): An Experience in a Teaching Hospital in Bangladesh Borkot Ullah, Sohel Ahmed, Masum Shahariar and Saquiba Yesmine	85
Formulation and Evaluation of Sustained Release Matrix Tablets of Repaglinide Kambham Venkateswarlu	92
<i>In vitro</i> Phytochemical Investigation of <i>Helianthus annuus</i> Seeds Rubab Tarannum Islam, Mir Monir Hossain, Dr. Kishor Majumder and Amjad Hossain Tipu	100
Phytochemical Screening, Cytotoxic and Anthelmintic Activities of Amorphophallus campanulatus (Roxb.), Avicennia marina (Forssk.) and Launaea sarmentosa (Willd.) Md. Mizanur Rahman Moghal, Anik Bhattacharjee, Saifuddin Mohammad Seeam, A. S. M. Monirul Islam and Mahadi Hassan Bappy	106
Development and Validation of HPTLC Method for the Simultaneous Estimation of Emtricitabine, Rilpivirine and Tenofovir Disoproxil Fumarate in Combined Dosage form J. Saminathan and T. Vetrichelvan	114
Recent Health Issues	122
New Drug Approvals	125

Notice to Contributors

Bangladesh Pharmaceutical Journal is an international and multidisciplinary research and review journal, published by Bangladesh Pharmaceutical Society in January and July of each year. Original research papers or review articles are accepted on the understanding that they are subject to editorial revision, that their contents have not been published elsewhere and that in consideration of acceptance of a text for publication the copyright of the said text is assigned to the Bangladesh Pharmaceutical Journal.

Contributions

Manuscripts for publication and communications concerning editorial matters should be sent to the Editor-in-Chief through e-mail: bpjeditor@yahoo.com. A copy of the same should also be sent to the Executive Editor through e-mail: executiveeditor2014@gmail.com.

Preparation of Text

Authors should consult a CURRENT issue of the journal and conform to the typographical conventions, use of headings, layout of tables and citation of references. Texts must be computer composed (MS office programs should be used in preparing the texts, charts and graphs) in double spacing and printed in one side of A4 size offset paper, with a minimum margin of 1 inch on all sides. Two sets of hard copies should be submitted along with soft copy in CD. The articles may also be sent through E-mail to the Editor-in-Chief or to the Executive Editor.

The name(s) of the contributor(s), affiliation of the laboratory where the work was done and a shortened title should accompany the typescript. A summary page should be included, describing results and conclusions in the form of ABSTRACT suitable for use as such by the abstracting journals. It should not exceed 250 words. A list of 3-6 Key words should be supplied by the authors.

References

All citations in the text must appear in the References list and *vice versa*. In the text, the reference should appear as either: Ghani (1984) described, or As described previously (Ghani, 1984). When there are more than two authors, mention only the first author, e.g. Ghani *et al.*, 1984. If the year is same for several references identify these with a,b,c, etc. e.g. Ghani (1975a,b,c) both in the text and in the Reference list. In the Reference list, arrange the references in alphabetical order. References should follow the format shown:

- Khan, S., Jabbar, A., Hasan, C.M. and Rashid, M.A. 2000. Nasimaluns A and B: *neo*-clerodane diterpenoids from *Barringtonia racemosa*. J. Nat. Prod. 63, 410-411.
- Rashid, M.A., Gustafson, K.R., Crouch, R.C., Groweiss, A., Pannell, L.K., Van, Q.N. and Boyd, M.R. 2002. Application of high-field NMR and cryogenic probe technologies in the structure elucidation of poecillastrin A, a new antitumor macrolide lactam from the sponge *Poecillastra* species. *Org. Lett.* **4**, 3293-3296.
- Harborne, J.B. and Williams, C.A. 2000. Advances in flavonoid research since 1992. *Phytochemistry* 55, 481-504.

- Mabry, T., Markham, K.R. and Thomas, M.B. 1971. *The Systematic Identification of Flavonoids*. Springer Verlag, New York, p. 43.
- Harborne, J.B. 1983. In: Chemistry and Chemical Taxonomy of the Rutales (Waterman, P.G. and Grundon, M.F., Eds.), Academic Press, London, Chapter 2, pp. 147-173.
- Hasan, C.M. 1982. Phytochemical studies on some African Annonaceae. Ph. D. Thesis, University of Strathclyde, U.K., p. 35.

Davis, R. 1998. US Patent 5, 708,591.

Abbreviations

Abbreviations are used without periods. Standard abbreviations should be used throughout the manuscript. The preferred forms of some of the more commonly used abbreviations are mp, bp, °C, K, s, min, h, ml, μ l, kg, g, mg, μ g, cm, mm, nm, mol, mmol, μ mol, ppm, TLC, GC, NMR, MS, UV, IR, etc.

Tables

Tables should be typed in appropriate places in the text and numbered consecutively using Arabic numerals (e.g. 1, 2, 3). Their headings should briefly describe their contents.

Graphs and Photographs

All graphs and charts should be made with either MS Excel or Harvard Graphics software along with title and legends. Photographs, either colored or black & white should be developed on glossy paper. Title and legends of the photographs should be typed at the end of the manuscript. The photographs should also be marked at the back with figures number and title of the paper.

If the author scans a photograph, the preferable file formats are Adobe photoshop, JPEG, PSD, BMP. The resolution should not be less than 200 and the size of the photographs should be at least double.

Proofs

Galley proofs will be sent to the corresponding author, which s/he is requested to correct and return as soon as possible. No new matter be inserted in the text and no changes be made in the title or author name(s) at the time of proof reading.

Declaration

All authors are requested to sign a declaration that the work described in the manuscript was carried out by them and the contents of the paper have not been published before or submitted elsewhere for publication. When the number of authors/co-authors is more than one, the corresponding author is required to mention the exact contribution of each co-author and also indicate his/her percentage of contribution.

Editorial Office

Bangladesh Pharmaceutical Journal C/o. Bangladesh Pharmaceutical Society 22 Dhanmondi R/A, Road 2, Dhaka-1205, Bangladesh E-mail: bpjeditor@yahoo.com, executiveeditor2014@gmail.com Web: www.bpj-bd.com

[©]Bangladesh Pharmaceutical Society. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Bangladesh Pharmaceutical Society.

This Issue is Dedicated to Emeritus Professor Dr. Abdul Jabbar

- Obituary



Emeritus Professor Dr. Abdul Jabbar (1921-2016)

Emeritus Professor Dr. Abdul Jabbar, born in Debidwar, Comilla on 21 February 1921, is the founder of Pharmacy education in Bangladesh. He did his graduation from the University of Dhaka in 1945 and post graduation from the same university in 1946. He obtained his PhD, DIC in 1953 from the Imperial College of Science and Technology, London, UK. He started his academic career as a Lecturer in the University of Dhaka in 1947. He served as the Head of the Department of Pharmacy from 1966 to 1978. In 1984 he was honored as the Professor Emeritus of the Department of Pharmacy, University of Dhaka. His tireless efforts and hard work brought the Department of Pharmacy to a full-fledged Faculty of Pharmacy in 1995. He was the founder President of the Pharmaceutical Society of the then East Pakistan (Present Bangladesh). As a pioneer academician, researcher and leader of the Pharmacy community he invested all his efforts to bring the pharmacy education and profession to its highest status in Bangladesh. His vision and mission were to produce quality pharmacy graduates, whose sincere efforts, skills and dedication have turned Bangladesh to a drugs exporting country.

Emeritus Professor Jabbar died on January 30, 2016 at the age of 95 years due to old age complications (Innalillahi Wa Innailahi Rajiun). He will be in the hearts and memories of Pharmacy Family forever. We salute him for his outstanding contribution and pray to the Almighty Allah for salvation of the departed soul.