



ISSN: 0301-4606

BANGLADESH PHARMACEUTICAL JOURNAL

Vol. 16, No. 1

January 2013

EDITORIAL BOARD

Editor-in-Chief

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

Executive Editor

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

Members

Professor A.Y. Sk. Firoz Uddin Ahmed Chowdhury

Department of Pharmacy, Jahangirnagar University

Professor Dr. Reza-ul Jalil

Faculty of Pharmacy, University of Dhaka

Professor Dr. Md. Saiful Islam

Faculty of Pharmacy, University of Dhaka

Professor Dr. Md. Sohel Rana

Department of Pharmacy, Jahangirnagar University

Dr. Md. Aslam Hossain

Faculty of Pharmacy, University of Dhaka

Mr. Md. Hassan Kawsar

Department of Pharmacy, State University of Bangladesh

Mr. Md. Nasser Shahrear Zahedee

Chairman, Radiant Pharmaceuticals Ltd.

Professor Dr. Nazmul Qais

Faculty of Pharmacy, University of Dhaka

Professor Dr. Md. Selim Reza

Faculty of Pharmacy, University of Dhaka

Mr. Md. Saiful Islam Pathan

Department of Pharmacy, State University of Bangladesh

Dr. Md. Khalid Hossain

Faculty of Pharmacy, University of Dhaka

Dr. Mohiuddin Ahmed Bhuiyan

Department of Pharmacy, University of Asia Pacific

Advisors

Professor Dr. Abdul Ghani

Department of Pharmacy, Jahangirnagar University

Professor Dr. Rebecca Banoo

Department of Pharmacy, State University of Bangladesh

Professor Dr. Nurun Nahar Rahman

Faculty of Pharmacy, University of Dhaka

Professor Dr. Choudhury Mahmood Hasan

Faculty of Pharmacy, University of Dhaka

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 or 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: bpjexecutiveeditor@yahoo.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 Keywords 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.

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 Grondon, 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.

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, µl, kg, g, mg, µg, cm, mm, nm, mol, mmol, µmol, 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 and Reprints

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**. Corresponding author will receive 10 reprints free of charge.

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, Web: www.bpj-bd.com

BANGLADESH PHARMACEUTICAL JOURNAL

Vol. 16, No. 1

January 2013

CONTENTS

Fexofenadine HCl Immediate Release Tablets: <i>In vitro</i> Characterization and Evaluation of Excipients	1
Shahriar Ahmed, Mehrina Nazmi, Ikramul Hasan, Sabiha Sultana, Shimul Haldar and Md. Selim Reza	
Binding Affinity of Candesartan, Losartan, Telmisartan and Valsartan with Angiotensin II Receptor 1 Subtype	11
Mohiuddin Ahmed Bhuiyan, Mohammad Shahriar and Takafumi Nagatomo	
Antimicrobial and Cytotoxic Activities of Secondary Metabolites Obtained from a Novel Species of <i>Streptomyces</i>	15
Tahmida Sharmin, Md. Ajijur Rahman, Abu Sayeed Md. Anisuzzaman and Md. Anwar-Ul Islam	
<i>In vitro</i> Effect of Aqueous Extract of Fresh Leaves of <i>Abroma augusta</i> L. on the Diffusion of Glucose	21
Md. Tariqul Islam, Md. Ajijur Rahman and Md. Anwar-Ul Islam	
Effects of Ethanolic Extract of <i>Hibiscus rosa-sinensis</i> Leaves on Alloxan-Induced Diabetes with Dyslipidemia in Rats	27
Al Mamun, Saiful Islam, A.H.M. Khurshid Alam, Md. Aziz Abdur Rahman, Mamunur Rashid	
Pharmacological and Phytochemical Screenings of Ethanol Extract of <i>Etlingera linguiformis</i> (Roxb.) R.M.Sm. Growing in Bangladesh	33
Md. Arafat Hossan, Mohammed Ibrahim, Md. Qamrul Ahsan, Fahima Aktar, Md. Ruhul Kuddus, M. Mohi Uddin Chowdhury and Mohammad A. Rashid	
Design and Development of Sustained Release Microspheres of Ibuprofen by Emulsification Solvent Evaporation Method Using Polymeric Blend	39
Nandini Saha, Ikramul Hasan, Mehrina Nazmi and Md. Selim Reza	
Enhancement of Dissolution Rate of Gliclazide Using Solid Dispersions: Characterization and Dissolution Rate Comparison	45
Sharmi Islam, Laboni Rani Dey, Mohammad Shahriar, Irin Dewan and S.M. Ashraful Islam	
Antibiotic Sensitivity of Pathogens Causing Urinary Tract Infections	53
Taslima Akter, Zakaria Mia and Masum Shahriar	
Evaluation of Analgesic and Anti-inflammatory Effects of a Poly-herbal Ayurvedic Formulation	59
Mohammad Jashim Uddin, Md. Abdul Motaleb Bhuiyan, Kishor Mazumder, Mohammad Shohel, Md. Belayet Hossain, Abu Asad chowdhury, Md. Abdul Mazid	
Bioactivities of <i>Artocarpus chaplasha</i> Roxb. and <i>Bougainvillea spectabilis</i> Willd.	63
Farjana Chowdhury, Senjuti Pal, Tasnuva Sharmin, Ridwan Bin Rashid, Md. Al Amin Sikder, Shaila Kabir, Mohammad S. Rahman and Mohammad A. Rashid	

A Validated RP-HPLC Method for Simultaneous Estimation of Antidiabetic Drugs Pioglitazone HCl and Glimepiride	69
Khohinur Hossain, Asma Rahman, Md. Zakir Sultan, Farhana Islam, Md. Akteruzzaman, Md. Abdus Salam and Mohammad A. Rashid	
Capacity of Non Ionic and Ionic Surfactants for Solubilisation of Paracetamol	77
Tamanna Rahaman, Jannatul Fardous, Faria Farzana Perveen and Sakina Sultana	
Levels of Heavy Metals in Different Tissues of Pigeon (<i>Columba livia</i>) of Bangladesh for Safety Assessment for Human Consumption	81
Aleya Begum and Sabrina Sehrin	
Membrane Stabilizing and Preliminary Hypoglycemic Activities of <i>Picrasma javanica</i>	89
Tasnuva Sharmin, Farhana Islam, Md. Al Amin Sikder, Shaila Kabir, Mohammad Rashedul Haque and Mohammad A. Rashid	
Removal of Remazol Red from Textile Waste Water Using Treated Sawdust - An Effective Way of Effluent Treatment	93
Nargish Jahan Ara, Md. Abu Hasan, Mohammad Arifur Rahman, Md. Abdus Salam, Abdus Salam and A. M. Shafiqul Alam	
Evaluation of Cardiovascular Activity of an Ayurvedic Product 'Mrityunjay' in Rat Model	99
Most. Shammi Rahman, Shahana Jahan, Kamrun Nahar, Nazia Islam, Danis Rahman, Ridwan Bin Rashid, Abu Asad Chowdhury, Rebecca Banoo and Mohammad Shah Amran	
Preparation and Evaluation of Gastroretentive Floating Pellets of Metronidazole	107
Shahriar Nowshad and Md. Saiful Islam Pathan	
Recent Health Concerns	117
New Drugs Approval	121

Bangladesh Pharmaceutical Society (BPS)

Central Executive Council

Name & Portfolio	Institutional Affiliation
Mr. Md. Nasser Shahrear Zahedee President	Chairman, Radiant Pharmaceuticals Limited 22 Dhanmondi, Road-2, Dhaka-1205
Professor Md. Anwarul Islam Vice President	Dean, Faculty of Science Rajshahi University, Rajshahi
Mr. Md. Mahbubul Islam Vice President	General Manager, Drug International Limited Tongi Industrial Area, Gazipur-1710
Mr. Md. Hassan Kawsar General Secretary	Associate Professor, Department of Pharmacy State University of Bangladesh, Dhanmondi, Dkhaka-1205
Professor Dr. Mohiuddin Ahmad Bhuiyan Joint Secretary	Head, Department of Pharmacy The University of Asia Pasific, Dhanmondi, Dhaka-1209
Mr. Mahmmad Mahbubul Haq Assistant Secretary & Controller of Exam. (in-charge)	Pharmacy Council of Bangladesh Ministry of Health & Family Welfare
Mr. Md. Abul Khair Chowdhury Finance Secretary	Director Directorate General of Drug Administration, Dhaka-1000
Mr. Mohammad Shamsul Alam Organizing Secretary	Senior Officer (IB), Radiant Pharmaceuticals Limited 22 Dhanmondi, Road- 2, Dhaka- 1205
Dr. Md. Aslam Hossain Publication Secretary	Associate Professor, Faculty of Pharmacy University of Dhaka, Dhaka-1000
Mr. Md. Amzad Hussain Member	Plant Manager, Cosmic Chemical Industries Limited Mirpur- 2, Dhaka- 1216.
Mr. Md. Rahmat Ullah Member	Managing Director, Ethical Drugs Limited Dilkusha Commercial Area, Dhaka-1000
Professor Dr. Sohel Rana Member	Department of Pharmacy Jahangirnagar University, Savar, Dhaka.
Professor Dr. Abul Hasnat Member	Department of Clinical Pharmacy & Pharmacology Faculty of Pharmacy, University of Dhaka
Dr. Md. Shah Amran Member	Associate Professor, Faculty of Pharmacy University of Dhaka, Dhaka
Mr. Akhil Dutta Member	General Manager Techno Drugs, Narshingdi
Mr. Md. Saiful Islam Pathan Member	Associate Professor, Department of Pharmacy State University of Bangladesh, Dhanmondi, Dkhaka-1205
Mr. Md. Habibul Kibria Member	Pharmacology Department Sir Salimullah Medical College & Hospital, Dhaka
Dr. Md. Khalid Hossain Member	Associate Professor, Faculty of Pharmacy University of Dhaka, Dhaka
Mr. Aninda Kumar Nath Member	Assistant Professor, Department of Pharmacy BGC Trust University Bangladesh, Chittagong

Computer formatted by:

Hasib Computers & Printing, 62/1, Purana Paltan, Dhaka-1000, Bangladesh
Phone: 01552-388130, 9016429 (Res.), E-mail: hcomputer05@yahoo.com

Printed by:

Asiatic Civil Military Press, 43/10 C, Swamibag, Dhaka-1100, Bangladesh. Phone: 7120428

Updating Pharmacy Curricula

Pharmacy curricula evolved to meet the need of the society for a profession dedicated to the service of patients with respect to formulation and dispensing of medicines. Over the centuries, this simple task has eventually widened the spectra to shoulder the responsibilities that include the areas of invention, discovery, research, development, clinical trials, studies, formulation, manufacturing, storage, distribution, dispensing and regulation of medicines, medicinal substances and any other substances that primarily come in contact with it. The spectra further embraced the veterinary products, cosmetics, toiletries, nutraceuticals, supplements, excipients, packaging materials etc.

The vast expansion of the pharmacy profession has subsequently generated different specialties areas to ensure more focused services to the people. Accordingly, different universities across the globe have adjusted their undergraduate and postgraduate curricula to match the need of the profession.

In Bangladesh, the pharmacists were only focused to the manufacturing of medicines until end '70s when one or two pharmacists started taking up pharmaceutical marketing as career. From the '90s onward the marketing jobs have appeared to be the most lucrative to most of the pharmacists. The vast arenas of community pharmacy, hospital pharmacy and clinical pharmacy remain as the pivotal sectors for the absorption of pharmacists for the next hundred years.

Now is the time for the universities offering pharmacy courses in Bangladesh to update their curricula to meet the need of the country and also to prepare the pharmacists for availing of the opportunities of the coming days. The same matter was also emphasized by the Vice President of the Pharmacy Council of Bangladesh in a recent meeting with the Chairpersons of the departments of Pharmacy of the public and private universities in Bangladesh.

With the establishment of about thirty universities that are offering Pharmacy courses, it has become a matter of paramount importance to bring in the uniformity in the curricula and also to safeguard the standard of pharmacy education. We are positive that the respective universities and the Pharmacy Council of Bangladesh will do the needful in this regard and that would obviously be the sooner the better.