YENEPOYA
(DEEMED TO BE UNIVERSITY)
Recognized under Sec 3(A) of the UGC Act 1956
Accredited by NAAC with 'A' Grade

Details of the Collaborative Activities under Functional MoUs/linkages

Collaborating Institute: Sri Adichunchanagiri College of Pharmacy

Month and Year of MoU: 2017

Activities

1. **Joint Research Publications:**

- **Sanjana A, Gulzar MA, Ahmed MG**.. Formulations and optimization of oro dispersible tablet of Rabrezalore sodium as proton pump inhibitor. *International Journal of Current Research* 2017;9(6):53099-53103

- **Inayatullah, Gulzar M, Prakash G.** Evaluation of market potential for in situ gel containing Antimicrobial and anti inflammatory agent in Periodontal disease. *The International Journal of Therapeutics.* 2018;1(1):66-74

ATTESTED
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ORIGINAL RESEARCH

The International Journal of Therapeutics 2018; 1(1): 66-74.

EVALUATION OF MARKET POTENTIAL FOR IN-SITU GEL CONTAINING ANTIMICROBIAL AND ANTI-INFLAMMATORY AGENT IN PERIODONTAL DISEASE

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ABSTRACT

Objective: The aim of the study is to determine the market potential for *in-situ* gel containing antimicrobial and anti-inflammatory agent.

Methodology: The data obtained from market research carried out by self-administered questionnaire method and personal interview with dentists and pharmacists in Mysore area.

Results: The study revealed that there is an enormous potential for oral local application containing antimicrobial and anti-inflammatory agents in periodontal disease. The results of data analysis study are; it was found that 80% of dentists treat periodontal disease patients with antibiotics and anti-inflammatory drug; and 48% of dentists treats periodontal disease patients with doxycycline and metronidazole; 40% of dentists consider aceclofenac is better for periodontal disease; majority of dentists (60%) preferred local application containing antibiotics and anti-inflammatory agents as a route of administration of in periodontal disease; majority of dentists (80%) prescribe metronidazole oral local application for periodontal disease; and 60% of dentists preferred the local application containing newer classes of broad spectrum antibiotics consider better in periodontal disease.

Conclusion: Overall, the findings from dentists and pharmacists were similar for antibiotics and anti-inflammatory agents with commonly prescribed drugs are aceclofenac, doxycycline and metronidazole for periodontal disease. The local application containing newer classes of broad spectrum antibiotics consider better in periodontal disease This study concluded to have promising potential research to develop *in-situ* gel containing anti-microbial & anti-inflammatory agents with various combinations.

Keywords: Anti-microbial, Anti-inflammatory, Periodontal disease

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ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 06, pp.53099-53103, June, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

REVEIW ARTICLE

FORMULATION AND OPTIMIZATION OF ORO DISPERSIBLE TABLET OF RABEPRAZOLE SODIUM AS PROTON PUMP INHIBITOR

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ARTICLE INFO

Article History:
Received 21st March, 2017
Received in revised form
13th April, 2017
Accepted 24th May, 2017
Published online 30th June, 2017

Key words:
Crosspovidone,
Orodispersible tablets,
Rabeprazole,
Superdisintegrants.

ABSTRACT

Rabeprazolea proton pump inhibitor the most effective pharmacotherapy for treating acidity related disorders. The main objective of the study is to formulate and optimize an orodispersible tablet of rabeprazole sodium. The tablets were prepared by direct compression method by using varying concentration of Crosspovidone as superdisintegrants. Theprepared formulations were evaluated for various parameters like, hardness, weight variation, friability, *in vitro* dispersion time, water absorption ratio, drug content uniformity and *in vitro* release study. The prepared tablets were dispersed in the range of 7.9±0.5- 12.2±1.5 seconds, the water absorption ratio was 122.5±2.2-157.9±3.2%. All the formulations exhibited fairly uniform drug content92.7±0.4-99.5±0.8%and 85.6-95.2% of drug release was observed in 10 min, among this different formulation, the formulation containing 7.5% of Crosspovidone has shown maximum of 95.2±0.7% of the drug release. Stability study of optimized formulation revealed no significant change and its found to be a stable. The overall result indicated that the formulation F3 containing Crosspovidone 7.5% is fulfilling the needs of the orodispersible tablets.

Citation: Sanjana, A., Mohammed Gulzar Ahmed and Sharath, H. N. 2017. "Formulation and optimization of oro dispersible tablet of rabeprazole sodium as proton pump inhibitor", *International Journal of Current Research*, 9, (06), 53099-53103.

INTRODUCTION

For the past one decade, there has been an enhanced demand for more patient-friendly and compliant dosage forms. As a result, the demand for developing new technologies hasbeen increasing dramatically. Since the development cost of a new drug molecule is very high, efforts are now being made by pharmaceutical companies to focus on the development of new dosage forms for existing drugs with improved safety and efficacy with reduced dosing frequency. To fulfil these needs, the pharmaceutical technologists have developed a novel dosage form known as Orally Disintegrating Tablets ODTs (Hirani J J *et al.*,2009). The Orally Disintegrating Tablets are also called as oro dispersible tablets, fast dissolving tablets, porous tablets etc. The Centre for Drug Evaluation and Research, US FDA defined orally disintegrating tablet as "A solid dosage form containing medicinal substances, which disintegrate or dissolve rapidly, usually within a matter of seconds, when placed upon the tongue" (Missula S *et al.*,2013). The demand for development of orally disintegrating tablets (ODTs) has enormouslyincreased as it has significant impact on the patient compliance, as they offer an advantage for populations who have difficulty in swallowing. It has been reported that Dysphagia (difficulty in swallowing) is common among all age groups and more specific with pediatric, geriatric population along with institutionalized patients and patients with nausea, vomiting, and motion sickness complications. ODTs with good taste and flavour increase the acceptability of bitter drugs by various groups of populations(Modi J *et al.*,2013). The proton pump inhibitors are a group ofdrugs that reduce the secretion of gastricacid. They act by binding withthe enzyme H+, K (+)-ATPase, hydrogen/potassium adenosine triphosphates,which is sometimes referred to as the protonpump. This enzyme causes parietal cells of the stomach lining to produce acid. Although they perform much of the activity similar to the histamine H-2 receptor blockers, the protonpump inhibitors reduce stomach acid more andover a longer period (Gencarelli DM.2005).Purpose Proton pump inhibitors are used totreat ulcers; gastro oesophageal reflux disease(GERD), a condition in which backward flow of acid from the stomach causesheartburn and injury of the foodpipe(oesophagus); and conditions in which the stomach produces too much acid, such asZollinger-Ellison syndrome (Kirchheiner *et al.*, 2009). Proton pumpinhibitors may be used to protect againstthe ulcerogenic effects of non-steroidal anti-inflammatory drugs

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Recognized under Sec 3(A) of the UGC Act 1956 as per Notification No. F.9-11/2007-U.3 (A) dated 27th February 2008

ATTESTED

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SRI ADICHUNCHANAGIRI COLLEGE OF PHARMACY B.G. NAGAR

FRAMEWORK AGREEMENT FOR COLLABORATION ON RESEARCH BETWEEN YENEPOYA UNIVERSITY AND SRI ADICHUNCHANAGIRI COLLEGE OF PHARMACY

This Agreement dated 27.11.2017 is made **BY AND BETWEEN**:

The party of the first part,

Dr. Shreekumar Menon, Registrar of Yenepoya University, Deralakatte, Mangaluru, Karnataka, India, acting on behalf of Yenepoya University, Mangalore.

And the party of the second part,

Dr. Ramesh B., Principal, Sri Adichunchanagiri College of Pharmacy, Nagamangala Taluk, Mandya District, B.G. Nagara – 571 448.

The Parties mutually acknowledge the necessary capacity to subscribe to this Framework Agreement, and to this effect:

DECLARE

FIRST.-. That Yenepoya University is a private Deemed-to-be University under section 3A of the UGC Act 1956 (2008). The University was accredited with NAAC "A" grade with CGPA points 3.14 in the year 2015. University offers 105 different programmes in Health and Allied Sciences, The University currently has on its rolls nearly 3500 students. The University has Introduced 70 new programmes during last 5 years. The University has introduced PhD programme in 39 Departments and Research Centres as per the UGC regulations. Research fellowship schemes and short research studies have been included in the curriculum to bring about research orientation and practice of evidence based medicine. 19 Application Oriented Courses and Value Added programmes enable students to acquire soft skills and provide greater employment opportunities.

SECOND – Sri Adichunchanagiri College of Pharmacy was established in the year 1981 and running D.Pharm, B.Pharm, M.Pharm, Pharm-D, Post Bacculerate and Ph.D courses. It is approved by AICTE, PCI, New Delhi and affiliated to Rajiv Gandhi University of Health Sciences Bangalore, Karnataka. The Institute is successfully maintaining the level of education and research to its students through various curricular and co-curricular activities in the area of pharmaceutical sciences. The college is attached with Super specialty Hospital, Adichunchanagiri Institute of Medical Sciences (AIMS). The teaching is students centric and the lecture method is followed supported by seminars, symposium, special lectures, orientation program and group discussions. The Institution is committed to excellence in Research and Development and continues to march with times and is well concerned with the existing needs. Institution has well equipped research Centre and faculty members have fetched research grants from RGUHS, AICTE and VGST.

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THIRD-That both parties according to their nature and purposes share interests in the development of research in order to foster the creation, the comprehension and transfer of knowledge. Therefore, both parties are interested in signing an agreement regulating this collaboration and developing the described objectives. From now on this agreement will be called Framework Agreement, subject to the following.

CLAUSES

FIRST- OBJECTIVE

This Framework Agreement is intended to facilitate the scientific exchange and advice between the undersigned institutions within the scope described in this document and, in particular, those activities related to teaching, research, management and transfer of the results of research activity.

SECOND- FORMS OF COLLABORATION

The forms of collaboration under this Framework Agreement may include, but are not limited to:

1. Preparation and development of joint research projects; in which doctoral students can participate doing doctoral research as part of their PhD.
2. Implementation and joint development of specialized training programmes such as degrees, postgraduate and doctoral programmes official.
3. Teaching support in degrees, postgraduate and doctoral programmes official through giving conferences and specialized seminars.
4. Use of scientific and technical facilities;
5. Exchange of researchers;
6. Exchange of PhD students;
7. Scientific, technical and academic advice;
8. Creation or participation in networks concerning different fields;
9. Organization of conferences and seminars;
10. Edition of publications;
11. Whatever other form of collaboration considered necessary to meet the objectives of this Agreement.

THIRD-DEVELOPMENT AND MANAGEMENT OF JOINT ACTIVITIES

The development of the activities to be developed jointly between the Parties shall be established through specific Agreements, in which the signatory entities or any other minority holdings shall be able to intervene, directly or indirectly.

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The specific Agreements shall refer to this Framework Agreement and, where appropriate, shall establish the economic contributions which are necessary for the adequate development of the project.

FOURTH.- SUPERVISION OF THE EXECUTION OF THE FRAMEWORK AGREEMENT

A Supervision Committee shall be created to interpret, supervise and control compliance with this Framework Agreement, as well as with the specific Agreements subscribed to during the development of this Agreement. Each party shall designate two of the four members of the Committee, which shall meet at least once a year.

The Committee shall interpret the questions that may arise regarding the content of this Agreement and shall ensure coordination, development, supervision and implementation of the actions set forth therein.

FIFTH.- LENGTH OF THE AGREEMENT

This Framework Agreement shall remain in force for a period of four years, and may be extended for additional periods by agreement of the Parties, unless otherwise expressed by one of the Parties and communicated at least three months before the expiry date.

The specific Agreements made in the course of this Agreement shall be of the agreed length for each case.

SIXTH.- DISCLOSURE OF INFORMATION

Any information or publicity resulting from collaboration under this Framework Agreement or the specific Agreements shall include the collaboration between the Parties.

SEVENTH.-TERMINATION

This Framework Agreement may be amended at any time by agreement of all Parties, at request of either party, and may be terminated by any of the following causes:

a) by mutual agreement;
b) due to a serious and repeated breach of the obligations under the agreement;
c) due to a denunciation of any of the Parties in accordance with the seventhclause;
d) other causes set out in the legislation currently in force.

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EIGHTH- JURISDICTION

This Agreement has a civil nature. Any conflicts that could arise regarding the interpretation and execution of this Agreement will be resolved by mutual agreement and by the Supervision Committee mentioned in the fourth clause.

In any case, disputes concerning the interpretation and implementation of this Agreement which cannot be resolved by the Supervision Committee, shall be settled by the Civil Courts in Mangalore and Ananthpur.

IN WITNESS WHEREOF, the undersigned, being duly authorized, sign this Framework Agreement in duplicate, on all the sheets, in the place and on the date mentioned at the beginning of said Agreement.

Registrar
Yenepoya University

Principal
Sri Adichunchanagiri
College of Pharmacy

Signed:

Dr. G. Shreekumar Menon
Registrar
Yenepoya University
Mangaluru - 575 018

NAME

Signed:

NAME Dr. B. RAMESH.

Principal
S.A.C. College of Pharmacy
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