Summer Internship At

Bharat Serums and Vaccines Ltd.

Perception mapping of Ulinastatin in Health Care Professionals

Submitted By

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MBA-Pharmaceutical Management
2018-2020

Under the guidance of

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CERTIFICATE

This is to certify that **Annu Mathur** has undergone Summer Training at **Bharat Serums and Vaccines Ltd.** from 1st April 2019 to 31st May 2019.

The candidate herself completed the project assigned to her in summer training. Her approach to project was sincere and proactive. This Summer Training is in partial fulfillment of the course requirement recommended for the award of MBA in Pharmaceutical Management.

I wish her success in all her future endeavors.

Mr.Rahul Sharma
Assistant Professor
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Dr. Sandeep Narula
Dean- in- Charge (Associate Professor)
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3rd July, 2019

To whomsoever it may concern

This is to certify that **Ms. Annu Mathur**, Second year **MBA in Pharmaceutical Management** student from **The IIHMR University, Jaipur, Rajasthan.** Has successfully completed her internship program in this organization from **1st April 2019 to 31st May 2019**. The topic of her internship was **"Perception mapping of Ulinastatin".**

During the duration of her internship, She has worked under our supervision and guidance and has shown a great amount of sincerity, interest and dedication in carrying out the responsibilities assigned to her.

We are satisfied with the output of her work and we wish her all the success in future.

For Bharat Serums and Vaccines Limited

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Senior Vice President – Human Resources

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The satisfaction and elation that accompany the self-made completion of the project would be incomplete while not the mention of those who created it possible .

First of all, I categorical my sage sense of feeling and obligation to Mr. Nitin Keluskar General Manager marketing Bharat serums and vaccines Ltd. I'd wish to extend my sincere and dear because of sir for providing a chance to find out and develop professionally .

I would conjointly wish to categorical my deep sense of feeling to Mr. Aditya Maheswari Business unit head, Bharat serums and vaccines Ltd. I am greatly indebted to him for providing his valuable steering the least bit stages of the billet, his advice, constructive suggestion, positive and adjuvant perspective and continuous encouragement, while not that it'd haven't been potential to finish the project .

To place on record, I owe a debt of feeling to Mr. Sandeep Narula and Rahul Sharma, professor, IIHMR University for grooming for the inspiration required figuring with dedication and motivation throughout as an Intern at Bharat serums and vaccines Ltd .

I hope that I will hinge on the expertise and information that I even have gained and create a valuable contribution towards the business in coming back future .

Last however not the smallest amount i'm conjointly grateful to any or all those that have directly or indirectly rendered facilitate in completion of my summer internship .

Annu Mathur

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Executive Summary

The study aimed to grasp the molecule Ulinastatin or U-Tryp Prescription in treatment among the Physicians .

Structured form was utilised for information assortment from respondent i.e. seventy two doctors comprising of Intensivist, Pulmonologist and physician specialist, from metropolis NCR .

Data was analyzed & the findings given doctor's opinion and a comprehensive review of the market state of affairs to be used for framing and suggesting the market strategy .

The project was carried out in 3 stages:

- First stage was to check regarding the Ulinastatin and prepare a questionnaire.
- Followed by stage 2 that involves meeting with the specialists in numerous government and private.
- After the completion of the survey last stage followed that incorporate analyzing data} and getting information from hospitals and conduct the survey .

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INTRODUCTION

Ulinastatin is reportable to inhibit pro-inflammatory markers and additionally inhibits natural action and dissolution. Ulinastatin may be a conjugated protein and aminoalkanoic acid antiviral agent found in human excreta and blood. It's secreted once inter-α-trypsin inhibitors are degraded by neutrophilic enzyme. Enzyme inhibitors act to suppress the photolytic action of enzyme on a range of tissues .

Ulinastatin attenuates the elevation of leucocytes enzyme unleashes, thereby blunting the increase of pro-inflammatory cytokines and additionally inhibits secretion of pro-inflammatory cytokines IL-6 and IL-8 .

Ulinastatin (UTI) may be a multifunctional Kunitz-type aminoalkanoic acid antiviral agent found in human water and blood. UTI (also called Ulinastatin, HI-30, ASPI, or bikunin) is made by hepatocytes and belongs to a gaggle of proteins called the inter-a-inhibitor (IaI) family .

Ulinastatin additionally inhibits inflammation by suppressing the infiltration of neutrophils and unleash of enzyme and inflammatory mediators from neutrophils. Ulinastatin additionally inhibits the assembly of TNF-a, IL-1, and IL-6 probably through suppression of MAPK communication pathway

Severe acute redness; Severe acute redness (SAP) is found in two hundredth to half-hour of patients with pancreatitis Associate in Nursing is related to an raised risk for complications, together with multiple organ failure, necrosis, symptom and also the formation of exocrine gland pseudocysts .

Gaps in Existing Therapy

- Although microorganism cause infection, death in patients not just thanks to microorganism

- Rather death thanks to dysfunctions of system and uncontrolled general inflammatory response.

- Antibiotics ICU care are the sole obtainable treatment for infection

. • Mortality remains high despite current customary of care want for brand spanking new medication to scale back inflammation.

Research Methodology

Objective

The main objective to conduct this analysis is to grasp the Ulinastatin market the Market developing strategies .

Primary Objectives

1) Detailed study about the indications in which the Ulinastatin is used.
   a) Market size of Ulinastatin in Delhi NCR.
   b) Competitors available in market.

2) To study the usage pattern of product among the doctors in various indications.
   a) Brand awareness among customers.
   b) Customer satisfaction regarding to product.

Scope

The project scope involves the study of Ulinastatin indications. Perceive the Ulinastatin Prescription pattern, their usages length of treatment. The project scope conjointly involves the finding of doctor's preferences in severe infection and severe acute inflammation medical cares on the market at intervals the selling analysis.

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Methodology

Sample Design:

Descriptive study

Sampling:

Non probability (convenience sampling)

Sample Size:

Respondents: 72

Sample population:

ICU Specialists
Pulmonologist and Gastroenterologists Consultants

Sample area:
Delhi NCR

Tools Used For Data Collection: Direct Questionnaire method
Type of Questionnaire: Semi-Structured
Tools Used for data analysis: MS-Excel

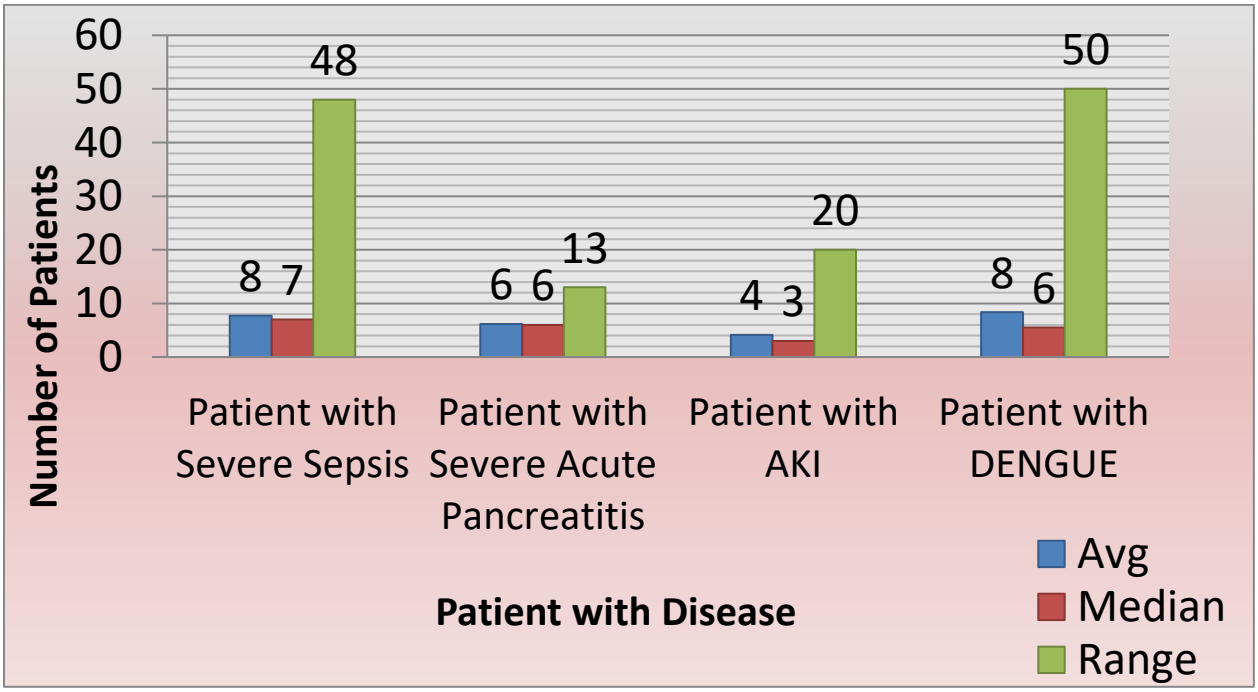
Data Collection:
Primary data- through questionnaire.

Secondary data- From the medical journals, literatures and internet.

Study duration:
40 days

Findings and Interpretation

1. What is the average number of patients you see per week/ Month?



INTERPRETATION

- It was observed that the number of patients seen were in severe sepsis on an average is 8 per week while range is 48 mainly in case of govt hospitals.
- While in Severe acute pancreatitis the average patients were 6 mostly in case of private hospitals while range is almost 13 patients included govt hospitals.
- Patients have acute kidney injury were 4 patients on an average per week having a range of 20 patients per week.
- While patient with dengue on an average per week were 8 patients with a range of 50 patients per week depending upon the season or occurrence.

2. What is your line of treatment in Severe Sepsis?

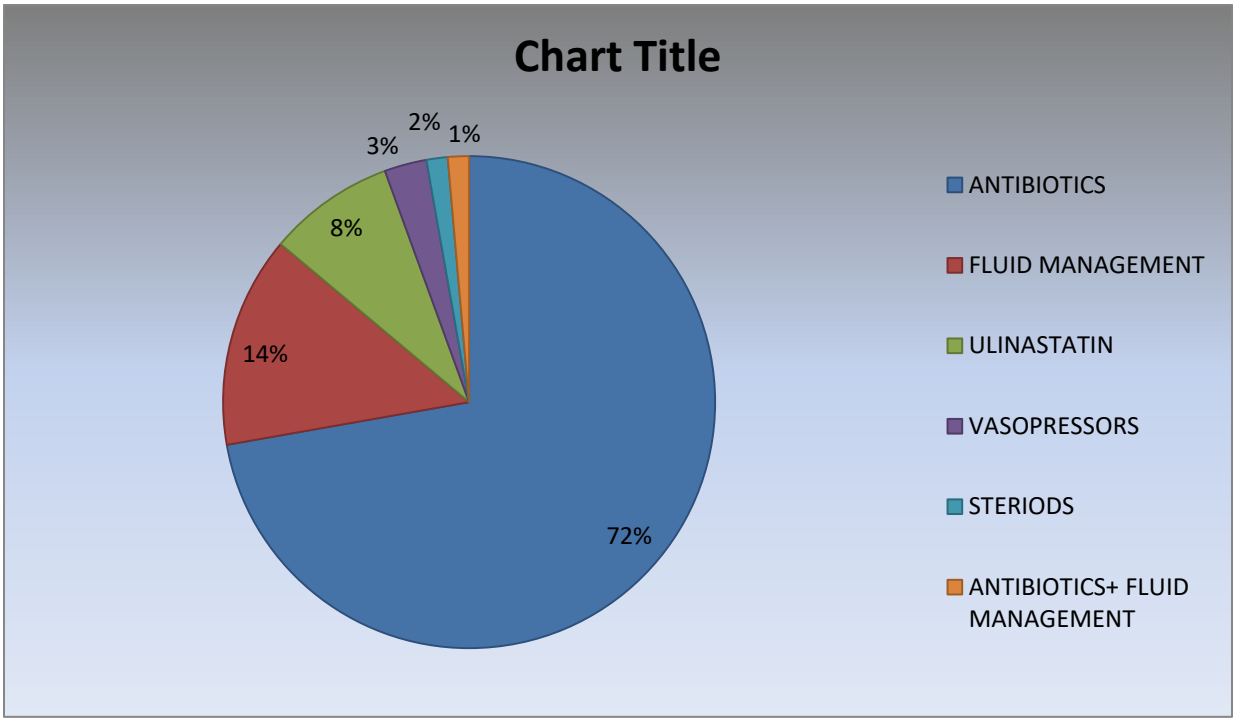


Figure2.Line of treatment in severe sepsis

INTERPRETATION

- In severe sepsis antibiotics in on first priority (72%) then immediate fluid management is given to the patient preferred by (14%) doctors.
- (8%) of respondents considered Ulinastatin in severe sepsis that is to be given in early phase of 24 hours.
- Vasopressors (3%) and steroids (1%) are also preferable by some respondents in the treatment for severe sepsis.
- While (1%) of respondents gives priority to both antibiotics and fluid management together should be given the patients.

3. What is your line of treatment in Severs Acute Pancreatitis?

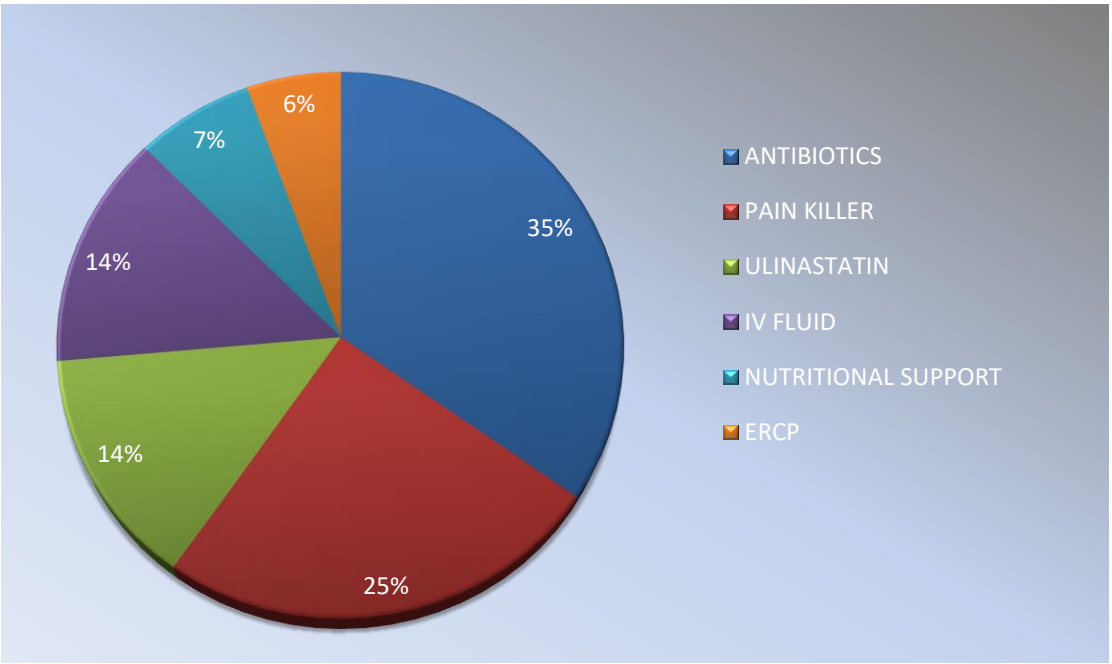
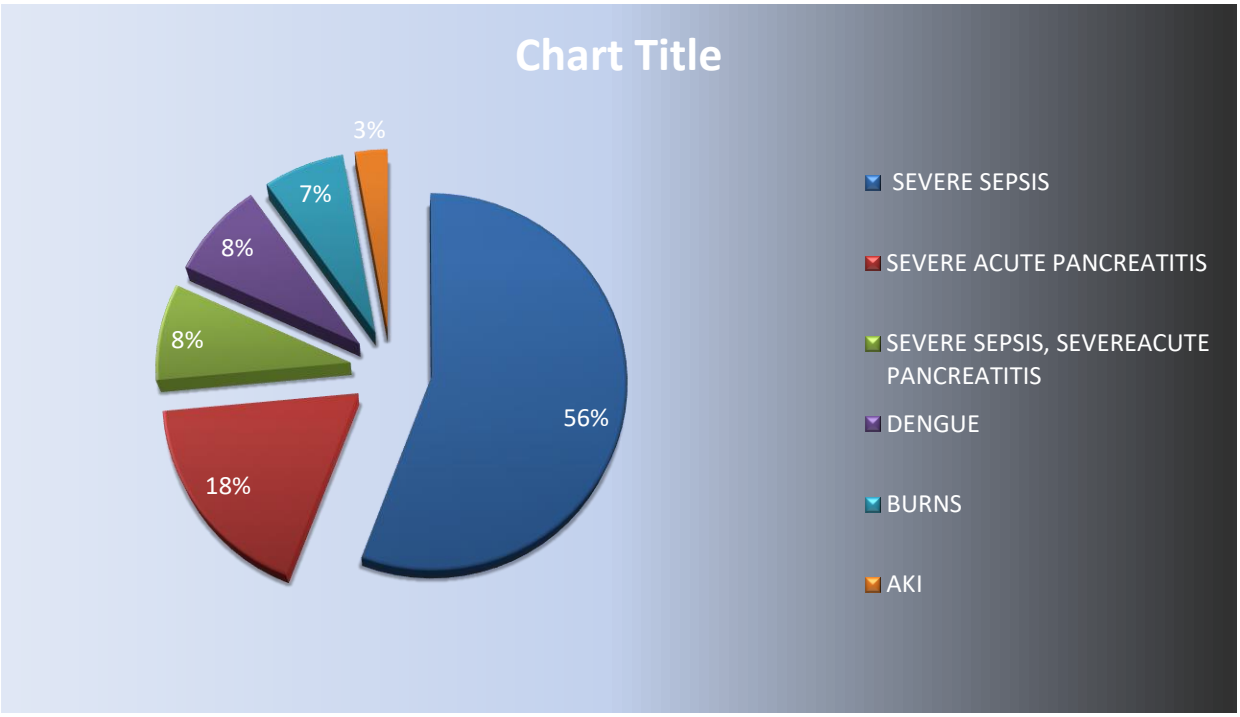


Figure3; Line of treatment in severe acute pancreatitis.

INTERPRETATION

- In case of treatment line for severe acute pancreatitis;(35%) of doctors gives first preference to antibiotics then (25%) to pain killer when pain is severe and on third preference (14%) they consider Ulinastatin because there is a significant reduction in mortaility,followed by IV fluid(14%) .
- While (7%) respondents considered that Nutritional support plays an active role in condition of severe acute pancreatitis because ill patients have high metabolism and low protein catabolism. The aim of nutritional support is to full fill the demands of elevated metabolism.
- Endoscopic retograde cholangiopancreatography (6%) is considered less or depends upon individuals.

4. In which indication you prescribe Ulinastatin?



Figure; Indication in which Ulinastatin is prescribed.

INTERPRETATION

- Respondents considered Ulinastatin more in severe sepsis (56%) and severe acute pancreatitis(18%) in comparison to the other indications. While (8%)of respondents are those which prescribe Ulinastatin in both severe sepsis and in severe acute pancreatitis
- (8%)of respondents prescribed Ulinastatin to be given in case of dengue while (7%) considered to be used in burns .
- To a less extent (3%) used in acute kidney injury.

5. Rate the following attributes you consider while prescribing Ulinastatin? (1 as least important and 5 as most important)

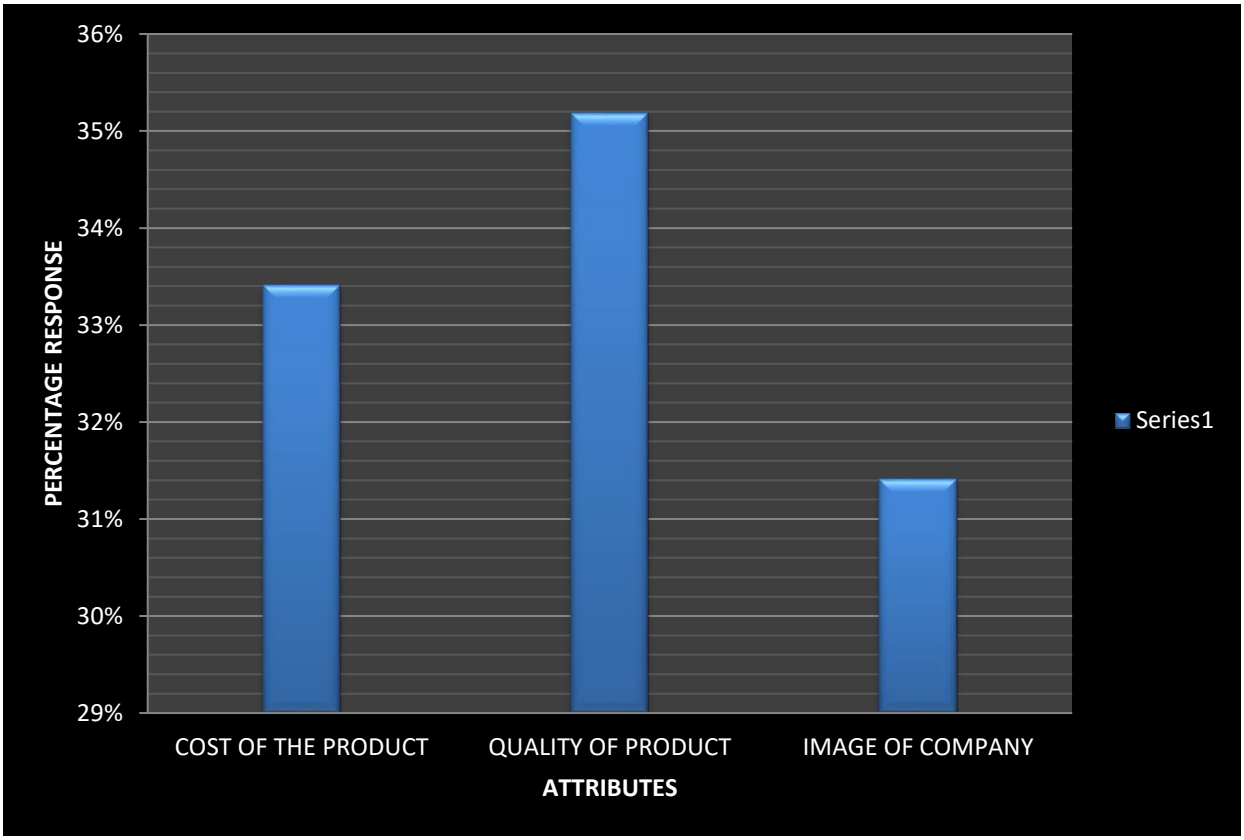


Figure 5;Attributes while prescribing the Ulinastatin

INTERPRETATION

- For the government doctors the cost(33%) of the product is the important attribute while prescribing the product where as for the private practice doctors the cost is least important or somewhat important factor .
- Quality (35%) of product matters in both sectors private as well as govt. Image(31%) of the company is least important and somewhat important factor .

6. Based on the cost of Ulinastatin therapy (average 20 Vials) how many of your patients will be benefited per month in following.

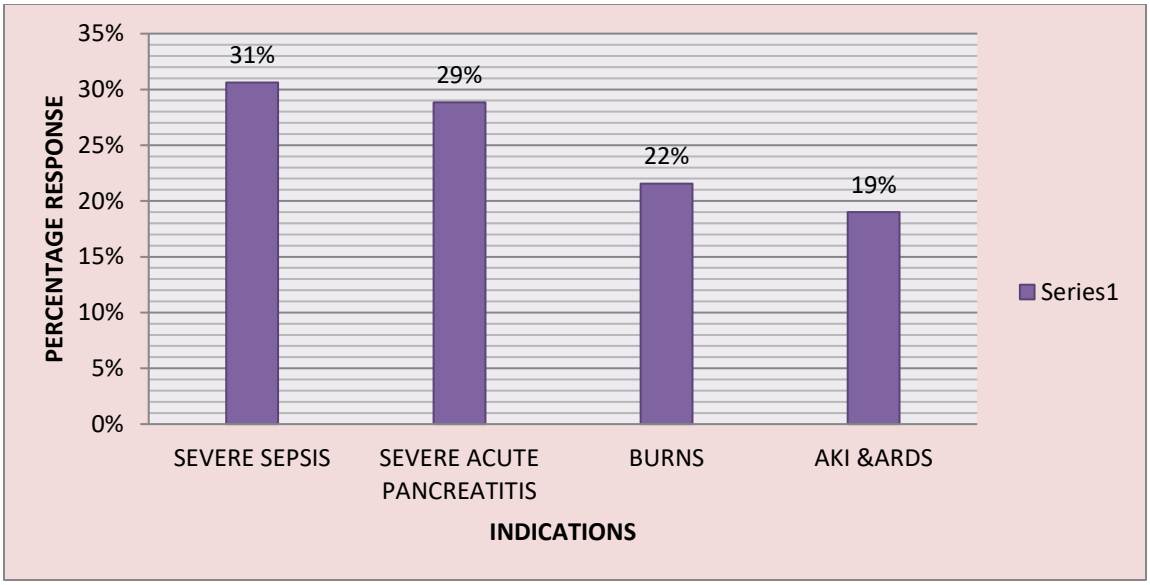


Figure 6:Based upon cost patient benefited from Ulinastatin therapy

INTERPRETATION

- (31%) higher numbers of patients are benefited from severe sepsis and (29%) are from severe acute pancreatitis.
- While (22%) of patients of burns are benefited by Ulinastatin and least number(19%) benefited in acute kidney injury and (19%) from acute respiratory distress syndrome.

7. Rate the significance of the following problems, while prescribing the Ulinastatin?

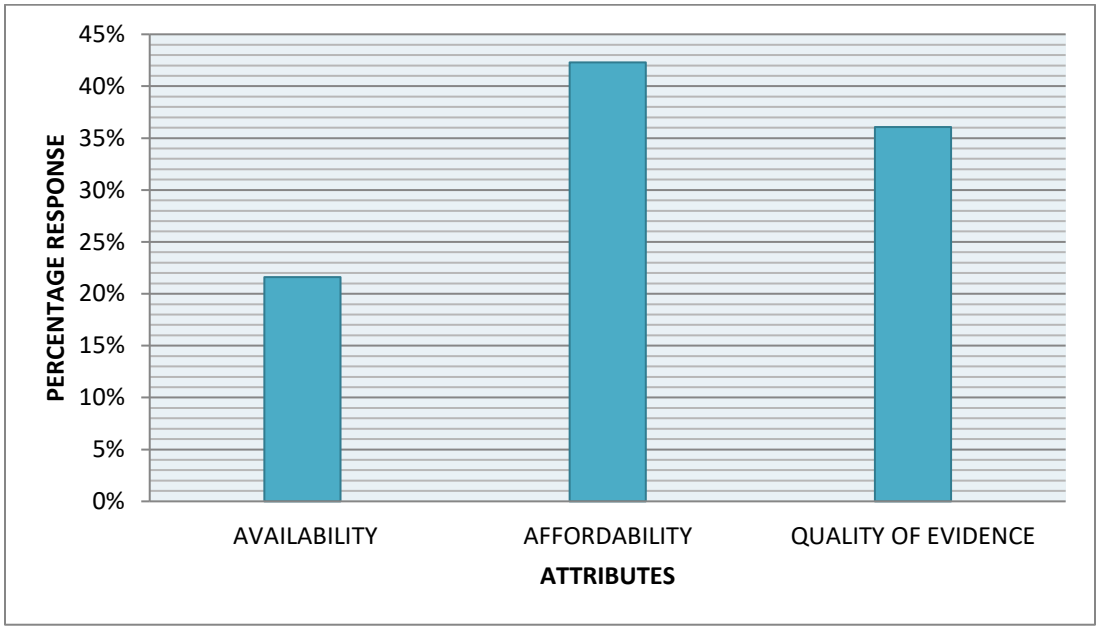


Figure 7:Problem considered while prescribing Ulinastatin

INTERPRETATION

- 22%) respondents accepted that availability is not the major problem in the prescription of Ulinastatin. Affordability (42%) is the major problem in prescribing the product and about (36%) respondents accepted that lacks of data for special indications are not available to a greater extent .

Limitations to the study

- Doctors were not ready to share information easily.
- Brand preference was not clearly mentioned by the most of the doctors.

Recommendations

- Product compliance should be highlighted in the market strategies.
- For the employment of Ulinastatin the factors like value of treatment may need future implication within the treatment of outlined indications and so have to be compelled to be self-addressed.
- A proper promotional arrange ought to be developed with associate degree objective of accelerating awareness concerning the promising outcomes of Ulinastatin in comparative study.
- The promotional arrange ought to be targeted and will demonstrate the key considerations of the target customers by organizing seminars, conferences etc. on an everyday basis .

Annexure

What is the average number of patients you see/ Month with Severe Sepsis?	☐1☐2☐3☐4☐5☐6☐7☐ 8 ☐9☐10☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15
What is the average number of patients you see/ Month with Severe Acute Pancreatitis?	☐ 1☐2 ☐ 3☐4 ☐ 5☐6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15
What is the average number of patients you see/ Month with AKI?	☐ 1☐2 ☐ 3☐4 ☐ 5☐6 ☐ 7☐ 8
What is the average number of patients you see/ Month with Dengue?	☐ 1☐2 ☐ 3☐4 ☐ 5☐6 ☐ 7 ☐ 8
What is your line of treatment in Severe Sepsis?	1. …….. 2. …… 3. ……

If Yes, in which Indication?	☐Severe Sepsis ☐Severe Acute Pancreatitis ☐AKI ☐ Dengue☐ ARDS
Rate the following attributes you consider while prescribing Ulinastatin? (1 as least important and 5 as most	a. Cost of the product☐ 1☐2 ☐ 3☐4 ☐ 5 b. Quality of the product☐ 1☐2 ☐ 3☐4 ☐ 5

important)	c. Image of the company☐ 1☐2 ☐ 3☐4 ☐ 5
Based on the cost of Ulinastatin therapy (average 20 Vials) how many of your patients will be benefited per month in following	a. Severe Sepsis☐2☐4☐6☐8☐10 If > 10 patients Pls specify …… b. Sev.acute pancreatitis ☐2☐4☐6☐8☐10 If > 10 patients Pls specify …… c. Burns ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 d. AKI & ARDS ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Rate the significance of the following problems, while prescribing the Ulinastatin?	a. Availability ☐ 1☐2 ☐ 3☐4 ☐ 5 b. Affordability ☐ 1☐2 ☐ 3☐4 ☐ 5 c. Quality of evidence ☐ 1☐2 ☐ 3☐4 ☐ 5

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