

# A Study on Assessment of Knowledge Attitude and Practice (KAP) Towards Good Pharmacy Practice (GPP) Among Working Pharmacist.

Malini S<sup>1\*</sup>, Dr. B Jaykar<sup>2</sup>, Dr. Santhosh M Mathews<sup>3</sup>, Dr. B S Venkateswarlu<sup>4</sup>, Dr. Sampath Kumar<sup>5</sup>.

<sup>1</sup>Research Scholar, Vinayaka Missions Research Foundation (Deemed to be University), Salem, Tamil Nadu.  
Email: maliniani1505@gmail.com

<sup>2</sup>Registrar, Vinayaka Missions Research Foundation (Deemed to be University), Salem, Tamil Nadu.

<sup>3</sup>Principal, Pushpagiri College of Pharmacy, Thiruvalla, Pathanamthitta, Kerala.

<sup>4</sup>Principal, Vinayaka Missions College of Pharmacy, Salem, Tamil Nadu.

<sup>5</sup>Professor, Department of Pharmacy Practice, College of Pharmacy, Coimbatore Medical College, Coimbatore, Tamil Nadu.

\*Corresponding Author: Malini S,

\*Research Scholar, Vinayaka Missions Research Foundation (Deemed to be University), Salem, Tamil Nadu.

Email: maliniani1505@gmail.com

DOI: 10.47750/pnr.2022.13.508.506

## Abstract

**Background:** The advancement of profession of pharmacy is now based on good pharmacy practice, which might be considered the core essence of the profession. The main objective is to provide patients with the best possible care that is safe, affordable, and effective. It can be implemented with improved practice of pharmaceutical care.

**Materials and Methods:** An observational study was conducted utilizing 850 pharmacists working in various pharmacies such as community pharmacy, pharmacies attached to private hospitals, Government medical college hospitals and government Primary Health Centers in the southern state of India. Utilizing self-administered and structured closed ended questions, observations were collected and summarized. The data were categorized and analyzed.

**Results:** The distribution of the pharmacists according to their Knowledge, Attitude and Practice towards Good Pharmacy Practice was studied. It was seen that 94.9% of the pharmacists accepted that the pharmacists should practice pharmaceutical care to assure a role in the healthcare team. Majority of them (95.64%) agreed that the pharmaceutical care will enhance the confidence in pharmacist and value of pharmacy profession. It was observed that most of them did not involve in patient follow up after the dispensing of drugs.

**Conclusion:** Good pharmacy practice is advanced professional service for better healthcare. The pharmacists must involve in all health associated issues along with drugs for better therapeutic outcomes. It was also pointed that patient counseling is mandatory to improve patient knowledge about drugs and other related care. This will ultimately lead to improved pharmaceutical care to the patients and also betterment of the profession of pharmacy.

**Keywords:** Good Pharmacy Practice, GPP, Knowledge, Attitude, Practice, Pharmacist.

## INTRODUCTION

The goal of pharmacy practice is to make people to have healthier lives and to ensure that they get their medications. The World Health Organization (WHO) and the International Pharmaceutical Federation (FIP) jointly introduced a document regarding Good Pharmacy Practice in 2011 in an effort to standardize pharmacy practice (GPP). The publication expressed the minimum requirements needed to comply with GPP, pharmacists' practice as four functions, and outlined sets of standards that guide national pharmacy professional organization for the formation of their own national GPP guidelines<sup>1</sup>. The GPP recommendations are to promote good health, to provide medications and medical equipment, to educate patients about self-care, and to encourage medication adherence. By implementing these standards in pharmacy practice, healthcare outcomes for patients would be improved.<sup>2</sup> The International Pharmaceutical Federation (FIP) created the Good Pharmacy Practice (GPP) standard as a reference for working pharmacists for providing patient care in pharmaceutical organizations. GPP evaluates whether the medications are secure, efficient, accessible, and used appropriately according to the standards. GPP cares about providing effective therapeutic outcome using medications.<sup>3</sup> Good relation between the doctors and the pharmacists is necessary for effective therapy using prescribed medications. Pharmacist interventions can be useful to identify and minimize any potential drug errors. Before the patient begins to take the medication, the pharmacist is the last member of the healthcare team to see the patient. In addition, patients can approach pharmacists, who see them multiple times in between appointments to the doctor. Therefore, it is the role of the pharmacist and the pharmacist is the person who can give guarantee that the patient uses the drug in a safe and proper manner.<sup>4</sup>

To effectively advice on the rational use of medicines in the healthcare team, the pharmacist must be able to use the evidence based therapeutic plans (e.g: scientific, pharmacy practice, and health system). In order to improve patient care and results, the pharmacist can also add to the body of evidence by discussing and recording experiences. The pharmacist must be able to improve public and other healthcare professionals' access to unbiased health and medication-related information as a researcher<sup>5</sup>. The pharmacists themselves are a potent instrument that can be used to assist patients in avoiding harmful drug interactions and negative health impacts. The pharmacist often has more interactions with patients than the doctor who is writing the prescription. Improved health outcomes are undoubtedly a result of helping patients comprehend their prescription regimes, but it also enhances the relationship between the pharmacist and the patient and supports the pharmacist's position as a trusted health advisor<sup>6</sup>.

In order to help the pharmacists in their nations, national pharmacy professional associations in collaboration with their governing bodies and other health-care professional associations include developing national standards for pharmacy services for providing continuing professional development activities, such as distance learning programs.<sup>7</sup>

Pharmacists should keep themselves updated in the changes in their field. They must have great communication abilities to cooperate closely with other healthcare professionals and share experiences and learning in their profession. Through professional encounters, different healthcare experts in the area can better their understanding of one another and upgrade their professional skills.<sup>5</sup>

Their professional responsibilities also include patient counselling at the time of prescription and over-the-counter drug dispensing, providing prescription and over-the-counter drug information to patients, health professionals, and the general public, and taking part in health promotion programs<sup>8</sup>. In order to successfully administer a safe medication programme, identify areas for intervention, and choose the right tools to support rational drug use, a pharmacist's Knowledge, Attitude, and Practice in safe medication use are crucial.<sup>2</sup> The field of pharmacy is currently expanding quickly, and new positions are being given and announced not just by the profession but also by other medical specialists, governmental agencies, and institutions.<sup>9</sup> The "Pharmacy Act" and "Drugs and Cosmetics Act" regulations, which were first introduced by the central government a long time ago, are followed by the pharmacy industry in India. A standard code of pharmacy ethics, patient health-related duties, work alternatives for pharmacists, community pharmacist activities, drug information pharmacists in our country, etc. are all incorporated into this set of rules.<sup>10</sup>

The objective of the current study is to examine the Knowledge, Attitudes, and Practices (KAP) of the Pharmacist regarding the drug use and Good Pharmacy Practice (GPP).

## **MATERIALS AND METHODS**

We have conducted a prospective observational study in the southern part of India. It involved working pharmacist in different pharmacies especially, community pharmacy, private hospital pharmacy, government medical colleges and Public Health Centres within the southern state of India. The study was conducted for a period of twelve months. Data were collected from 850 registered pharmacist. Consent was obtained from all participants prior to the study. Self-administered and structured closed ended questions were included in the questionnaire. Descriptive statistics was used to summarize the data and then grouped into different categories according to the sections in the questionnaire.

### **Data Source**

Based on the IPA GPP guidelines as well as WHO-FIP recommendations, a survey form was created. The research proposal was presented over the Institutional ethics Committee (IEC) and got the approval for conducting the study.

### **Study Procedure**

900 survey forms were given to working pharmacists in different pharmacies which include private hospitals, community pharmacies, government medical colleges, government Primary Health Centres (PHCs) throughout various regions of Southern State of India. The purpose of the survey was well explained to all the dispensing pharmacists and were asked to complete the forms as per their own knowledge and experience. Informed consent forms were obtained before participating in the study. We have received 850 survey forms that have been duly completed. Results from these completed forms were tabulated and analyzed. Wherever applicable, descriptive statistical analysis was done for the current investigation.

## **RESULTS**

The data from completed survey forms are tabulated and analyzed as question by question.

Out of 850 pharmacists participated in the study, 627 (73.8%) was female and rest were males (Table-1). This indicated that majority of the pharmacists entering into the dispensing practice are females than males.

**Table 1. Demographic Characteristics**

Demographic Characteristics	N (850)	%
<b>Gender</b>		
Female	627	73.80%
Male	223	26.20%
Total	850	100%
<b>Distribution of Various Districts</b>		
Alappuzha	175	20.60%
Kottayam	164	19.30%
Kozhikode	163	19.20%
Thrissur	172	20.20%
Trivandrum	176	20.70%

All pharmacists were selected randomly from different five districts in a southern state of India. They were almost equally distributed to avoid bias on region wise (Table-1).

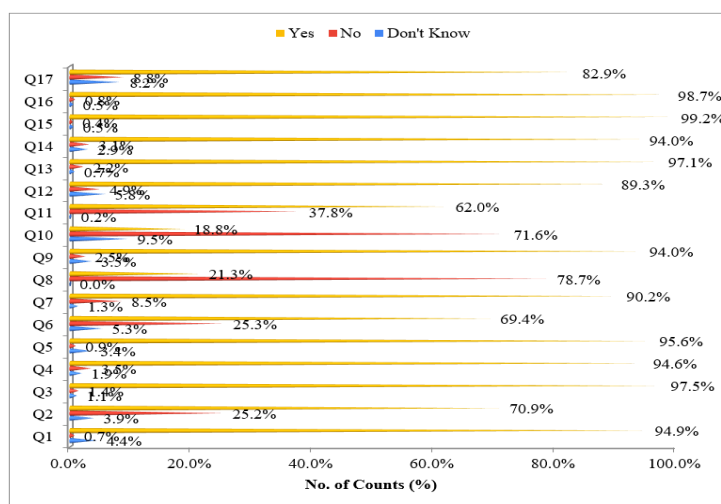
Qualifications of the pharmacists play an important role in the KAP for Good Pharmacy Practice. Out of 850 participants 587 (69.10%) were Diploma in Pharmacy (D. Pharm) qualified while 230 (27.10%) B. Pharm, 31 (3.60%) M. Pharm and 2 (0.20%) PharmD qualified pharmacists also participated in the study.

Out of 850 participants, 475 (55.9%) were working in community pharmacies. The other areas of work were pharmacies attached to private hospitals, government medical colleges and government Primary Health Centres. The pharmacists working in these areas were 176 (20.7%), 137 (16.10%) and 62 (7.30%) respectively.

The distribution of pharmacist according to their KAP towards GPP are tabulated in Table-2 and is diagrammatically represented in Figure -1.

**Table 2. The distribution of Pharmacist according to their KAP towards GPP**

Questions	Don't know		No		Yes		Total	
	N	%	N	%	N	%	N	%
In order to assure themselves a place in health care team, pharmacists must practice pharmaceutical care:	37	4.40%	6	0.70%	807	94.90%	850	100%
Do you think by practicing pharmaceutical care is too resource intensive, time consuming and requires more man power.	33	3.90%	214	25.20%	603	70.90%	850	100%
Trained pharmacy technicians working under the direct supervision of pharmacists, are necessary for presenting better pharmacy services to the patient.	9	1.10%	12	1.40%	829	97.50%	850	100%
The main underlying item in a pharmacist's performance should be the professional factors rather than the economical factors.	16	1.90%	30	3.50%	804	94.60%	850	100%
Do you think practicing of pharmaceutical health care in pharmacies will increase patient's confidence in the profession and enhance pharmacy practice?	29	3.42%	8	0.94%	813	95.64%	850	100%
Time taken to address a patient & prescription is satisfactory?	45	5.30%	215	25.30%	590	69.40%	850	100%
Whether the pharmacist can counsel the patient regarding lifestyle modifications.	11	1.30%	72	8.50%	767	90.20%	850	100%
Whether the pharmacist does follow up after dispensing the OTC drug.	0	0.00%	669	78.70%	181	21.30%	850	100%
Do you know the responsibility of pharmacist for safety evaluation of prescription?	30	3.50%	21	2.50%	799	94.00%	850	100%
Health education, only to problems related to drugs should be provided.	81	9.53%	609	71.65%	160	18.82%	850	100%
Will you dispense drug to children if they come with prescriptions?	2	0.20%	321	37.80%	527	62.00%	850	100%
Do you ensure that the environment within the pharmacy reflects a professional setting both in terms of staff and facilities?	49	5.80%	42	4.90%	759	89.30%	850	100%
Do you assess whether a prescription is legally valid.	6	0.70%	19	2.20%	825	97.10%	850	100%
Are you aware of the term "Essential drugs"?	25	2.90%	26	3.10%	799	94.00%	850	100%
Is professional appearance necessary in pharmacy?	4	0.47%	3	0.35%	843	99.18%	850	100%
Ensuring appropriate storage conditions for medicines.	4	0.50%	7	0.80%	839	98.70%	850	100%
Current Pharmacy services in Kerala are not appropriate.	70	8.24%	75	8.82%	705	82.94%	850	100%



**Figure 1. The distribution of Pharmacist according to their KAP towards GPP**

In this study majority (94.9%) accepted the fact that in order to assure a place in the healthcare team pharmacist must practice pharmaceutical care. But few of them (0.7%) did not agree and 37 (4.4%) were not having any specific assessment.

Most of them (70.9%) agreed that it was too resource intensive, time consuming or require more man power for practicing pharmaceutical care.

Among all, 97.5% of the participants agreed that the pharmaceutical care must be practiced under direct supervision of qualified pharmacist. A small number of them (1.4 %) did not agree. Majority of them (94.6%) pointed out that it must be practiced professionally without economic interests.

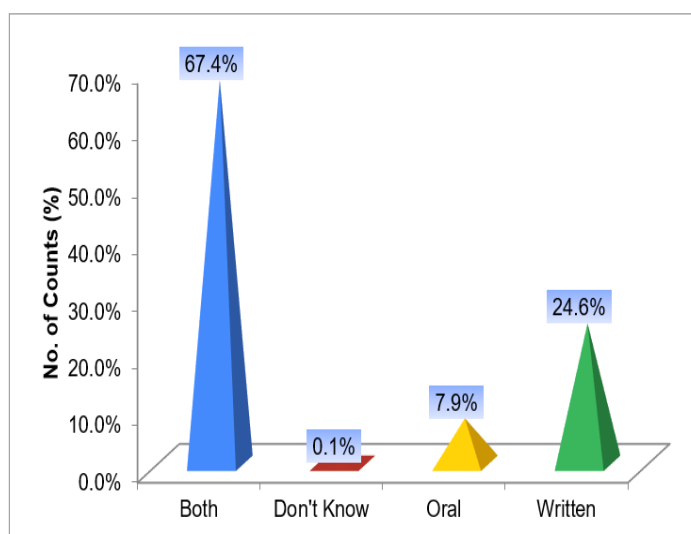
Among all, 95.64% of them said that the practice of pharmaceutical care will definitely enhance the values of profession and the practice of pharmacy. It was pointed out by 90.2% of the participants that patient counseling on life style modifications along with drug administration for better pharmaceutical care.

Many (90.2%) were having the opinion that to improve the GPP, pharmacists should counsel the patient about life style modifications. But 8.5% did not agreed and 1.3% were having no specific remarks.

The survey was also extended to know the best method of presenting the instructions and directions to the patients by the pharmacists (Table-3, Figure- 2). Most of them (67.4%) prefer to provide drug use instructions in both written and oral methods. Some (24.6%) preferred written method while 7.9% wanted to provide oral instructions only. One candidate (0.1%) has no specific answer.

**Table-3.** What is the best method for presenting drug use instructions to the patients?

Methods	N	%
Both written and oral	573	67.40%
Not specific	1	0.10%
Oral	67	7.90%
Written	209	24.60%
Total	850	100.00%

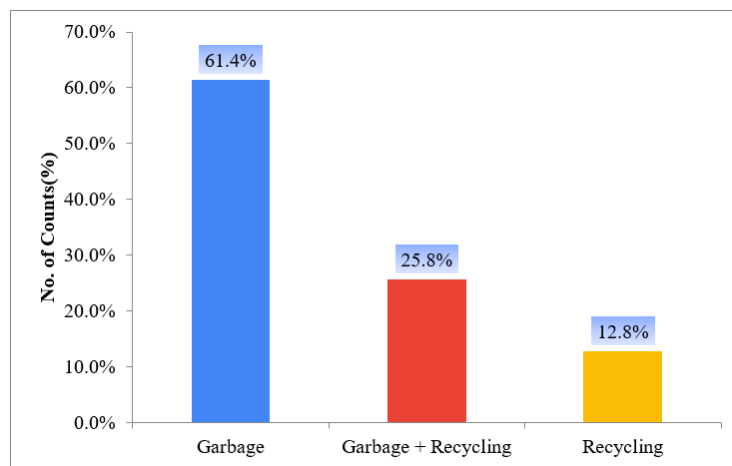


**Figure-2.** What is the best method for presenting drug use instructions to the patients?

Regarding handling of expired medicines, most of them (61.4%) preferred to dispose it to garbage while some to recycle them (12.8%) and some (25.8% ) used both these methods (Table-4 Figure-3).

**Table 4.** How do you handle expired medications?

Methods	N	%
Garbage	522	61.40%
Garbage + Recycling	219	25.80%
Recycling	109	12.80%
Total	850	100.00%

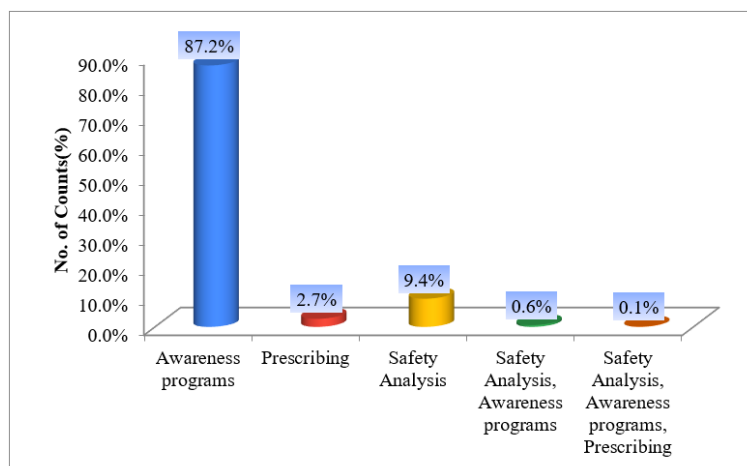


**Figure 3.** How do you handle expired medications?

The study was extended to know the pharmacists interested in other interested activities related to drug therapy. The opinions collected are tabulated in Table-5 and represented diagrammatically in Fig-4. Most of them (87.2%) were interested to improve their knowledge professionally by participating in awareness programs. Other activities which pharmacists preferred to do were prescribing (2.7%) and safety analysis (9.4%). One candidate (0.1%) liked to participate in all activities

**Table 5.** Other activities pharmacist would like to participate.

Other activities	N	%
Awareness programs	741	87.2%
Prescribing	23	2.7%
Safety Analysis	80	9.4%
Safety Analysis, Awareness programs	5	0.6%
Safety Analysis, Awareness programs, Prescribing	1	0.1%
Total	850	100.0%



**Figure-4.** Other activities pharmacist would like to participate.

The opinion of the pharmacists was almost equally divided in case of wearing apron during working hours. Among all, 440 (51.80%) of them said the pharmacists should wear apron while 410 (48.20%) of them said not necessary.

## DISCUSSION

The study was conducted to assess the Knowledge, Attitude and Practice (KAP) of the working pharmacists towards the Good Pharmacy Practice (GPP). It was conducted in various districts of a state in Southern parts of India. It was a prospective observational study among working pharmacists.

Most of the participants were Diploma in Pharmacy (D. Pharm) qualified. The higher the number of pharmacists working in community pharmacies may be the one of the main reasons for this increased number of D Pharm qualified pharmacists. It was observed that the pharmacists working in the hospital pharmacies were more qualified as the working condition and other professional standards are higher than community pharmacies.

The distribution of pharmacists according to their KAP towards GPP are well studied. The results showed significant differences in opinion for various parameters. Most of them accepted the fact that pharmacist must practice pharmaceutical

care for getting professional status in the healthcare team. But it was found that such a practice required more time and more manpower. Since technicians are not much experienced in the GPP, it was reported that they must be practiced under direct supervision of qualified pharmacist. Moreover, the study pointed out that the pharmaceutical care must be practiced professionally without much economic interests.

It was commonly accepted that the practice of pharmaceutical care will definitely enhance the values of profession and the practice of pharmacy. It was pointed out that counseling on life style modifications along with drug administration is absolutely necessary for better pharmaceutical care. It was also pointed out that pharmacist must evaluate the legal validity of the prescription as well as safety of the medications prescribed.

Appropriate knowledge regarding storage conditions of drugs particularly insulin and professional appearances in the pharmacy are mandatory for the better practice of GPP.

The patient follow up is one of the most modern practices of pharmacy for better pharmaceutical care. It is conducted to assess the rational use of drugs. The follow up is found to be helpful to provide adequate counseling and education about the need of taking drugs at appropriate intervals and to complete the drug therapy, especially in case of antibiotics. In this study the response for patient follow up by the pharmacists after the dispensing of drugs was very low. It was also observed that most of them agree to the fact that pharmacist should provide health education along with drugs related problems. Disposal of expired medication is of great concern for all pharmacists as it can cause health hazards. In this study the different methods were studied and found that majority of them dispose to garbage.

The appearance of pharmacist while dispensing was also assessed because it gives professional identity and professional outlook. Wearing apron and carrying pharmacy identification card distinguish pharmacists from others working in the pharmacy.

Various other parameters which may influence the Good Pharmacy Practice were also quantified. This included appropriate staff and facilities inside pharmacy and time taken by the pharmacist to address a patient and the prescription. All these criteria were found to be satisfactory for the pharmacist for better pharmaceutical care.

## CONCLUSION

Good Pharmacy Practice is the most advanced practice of pharmacy profession for better healthcare. It can be practiced through better pharmaceutical care to the patients. In this study it was pointed out that pharmaceutical care must be practiced professionally without much economic considerations to play a vital role in the healthcare system. It was pointed out that pharmacist should address not only about the problems associated with drugs but also all health related issues in their counselling with the patient for better therapeutic care. It was also high lightened that in addition to rational use of drugs pharmacist should counsel the patient for life style modifications for better healthcare. It was concluded that improved pharmaceutical care to the patients will definitely improve the values of the profession and the pharmacy practice services to the patients.

## REFERENCE

1. Badro DA, Sacre H, Hallit S, Amhaz A, Salameh P. Good pharmacy practice assessment among community pharmacies in Lebanon. *Pharmacy Practice* 2020; 18(1):1745.
2. Divya Sree P et al. Evaluation Of Knowledge, Attitude And Practice Towards Drug Use Along With Good Pharmacy Practice Among Pharmacy Students Of Sri Venkateswara College, Chittoor, India. *Int. Res. J. Pharm.* 2017, 8 (3).
3. Rajeev Shrestha, Anish Ghale., Study of good pharmacy practice in community pharmacy of three districts of Kathmandu valley, Nepal. *Int J Sci Rep.* 2018; 4(10):240-245.
4. Sangeeth Gandesiri , M. P. Srujana , Dr. Y. Padmanabha Reddy , Dr. Mohanraj Rathinavelu. Assessment of Knowledge, Attitude And Perception Towards Good Pharmacy Practice In Community Pharmacists Of India. *World Journal of Pharmaceutical Research.* 2015;4(5):1738-1746.
5. Anup Jagarlamudi , Asma Begum, Mahalakshmi Teegala. A Survey Based Study for the Assessment of Knowledge and Practice of Community Pharmacy Personnel on Good Pharmacy Practice in Hyderabad, India. *Indian Journal of Pharmacy Practice.* 2018; 11(1).
6. Terry Spears, *Specialty Pharmacy Times*, 23-11-2010.
7. T Kranthi Rana Dev Chowdary , Shaik Habeeb , K Divyashree , Apoorva Dev. Assessment And Evaluation Of Knowledge, Attitude And Perception Towards Good Pharmacy Practice In Community Pharmacists., *International Journal of Scientific Research and Review.* 2019; 8 (4): 292-313.
8. Abdul Nazer Ali, Sivadasan shalini et.al. Community Pharmacists Attitude towards Professional Practice in Penang, Malaysia. *Journal of Pharmacy Practice and Community Medicine.* 2017, 3 (4): 232-239.
9. Liana Unhurian, Oksana Bielyaieva, Irina Vyshnytska, Natalia Suschuk, Irina Petkova. Implementation of Standards of Good Pharmacy Practice in the World: A Review. *Asian Journal of Pharmaceutics.*2018; 12(1): S42-S46.
10. S Vedha Pal Jeyamani, et al. "Knowledge, Attitude and Perception of Community Pharmacists about the Professional Standards and Responsibilities Entrusted by Pharmacy Practice Regulation, 2015- A Cross Sectional Survey in the State of Tamil Nadu". *Acta Scientific Pharmaceutical Sciences* 2.7 .2018, 2 (3):55-59.