

Prescription Analysis of Vitamin B12 (Optineuron) in Tertiary Care Hospital

Dr. B. Raja Narender¹, G. Hemalatha², K. Vinay², M. Deepika², M. Swetha², K. Nandini².

¹*Associate Professor, Jyothishimathi Institute of Pharmaceutical Sciences, Ramakrihsna Colony, Thimmapur, Karimnagar.*

²*Jyothishimathi Institute of Pharmaceutical Sciences, Ramakrihsna Colony, Thimmapur, Karimnagar*

Corresponding Author

Dr. B. Raja Narender

Associate Professor,

Jyothishimathi Institute of Pharmaceutical Sciences,

Ramakrishna Colony,

Thimmapur, Karimnagar.

Email: rajanarenderbongoni@gmail.com

ABSTRACT

Purpose: Drug use prescribing indicators advocated by the World Health Organization (WHO) are important tools for assessing the degree of polypharmacy, use of generic medicines, and to evaluate if there is inappropriate use of antibiotics or parenteral medications besides estimating the adherence to the essential drugs list. This study aimed to assess the WHO prescribing indicators in prescriptions given at the medical outpatient department (OPD) in a private medical college hospital in South India.

Materials and Methods: The study was done prospectively from patients when they presented for consultation at the medical OPD at our tertiary care center. Prescriptions were randomly chosen to be analysed for the WHO prescribing indicators from September 2016 to April 2017. Results: A total of 700 prescriptions were analysed and the average number of drugs per prescription was 2.955 ± 1.32 . 32.57% of prescriptions had fixed drug combinations and a similar value of 36% was obtained for prescriptions containing more than one drug for the same indication. Amongst the prescribing indicators, generic prescribing was appallingly low (6.42%). In contrast, antibiotic prescribing and prescription of injections showed an appreciably rational trend with 15.42% and 8.14%, respectively. Furthermore, the prescription of the drugs enlisted in the essential drugs list was determined to be 90.67%.

Discussion: The need for increase in generic prescribing and augmenting the adherence of prescriptions to the essential drugs list has been identified. This can be accomplished by multimodal approach that includes regulatory changes, conducting educational programs directed at attitudinal change among current doctors and imparting modifications in medical curriculum so as to inculcate the culture of abiding by the best prescription practices among budding doctors.

Keywords: Vit B12, Optineuron, Prescription patterns.

INTRODUCTION

Medicines are an integral part of the health care and modern health care is impossible without the availability of necessary medicines. They not only save lives and promote health, but prevent epidemics and diseases too. The rational use of drugs is imperative for an effective and efficient health-care system. However, irrational drug use, considered as a global menace is especially prevalent in the developing countries due to irrational prescribing, dispensing, and administration of medications. The World Health Organization (WHO) has reported that more than half of all medicines are prescribed, dispensed, or sold inappropriately. Prescription includes some prescribing errors are classified into 2 important errors.

Omission errors: Prescription missing essential information

Commission errors: Incorrect written information in prescription, to avoid such a drug some components of the prescription may encourage the rational use of medication therapy.

II. METHOD:

1. STUDY SITE

This study survey was conducted at Prathima Institute of Medical Sciences, Karimnagar, Telangana, India.

2. STUDY PERIOD

This study was organized for 6 months

3. STUDY DESIGN

This was a prospective observational study.

4. SAMPLE SIZE

200 -A total number of dialysis outpatients were included in the study.

5. STUDY APPROVAL

The study protocol and written informed consent form which is approved by the Head of the Department.

6. STUDY CRITERIA

INCLUSION CRITERIA

- Patients above 20 years of age
- Out patients department

EXCLUSION CRITERIA

- Pediatric patients
- Pregnant women

7. DATA SOURCE

- Patients
- Patient case notes
- Patients prescriptions
- Diagnosis and laboratory reports
- Qualitative interviews via patients
- The above data will be documented in the data collection form. The data will be co-related and comparison will be done.
- A micro soft excel sheet used to record all information of 200 patients.

STUDY PROCEDURE: This is a prospective observational study. A Protocol was prepared and submitted. This study was conducted by Prathima Institute of Medical Sciences, Nagnoor, Karimnagar, Telangana. In this study, 200 patients were included. In this study, the clinical proforma was prepared and used to collect demographic details of patients, comorbidity status, history, and physical parameters. understanding the treatment patterns and providing medication adherence among patients.

Data were collected from total of 200 patients and the results were as follows

Table:1 Deficiency of vit B12 based on gender

<u>Gender</u>	<u>Number of patients</u>	<u>Percentage</u>
<u>Male</u>	<u>53</u>	<u>65</u>
<u>Female</u>	<u>29</u>	<u>35</u>

Figure-1- Deficiency of vit B12 based on gender

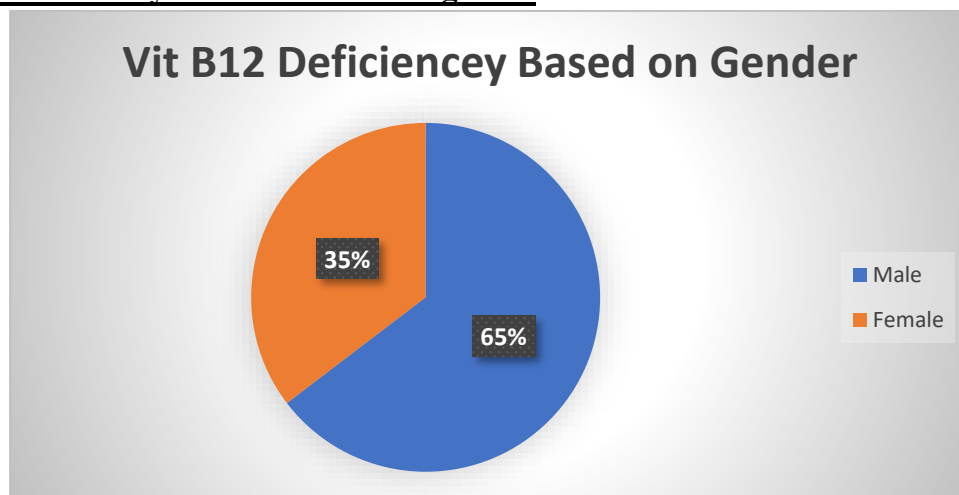


Table:2 distribution of vitb12 deficiency based on age

Age interval (years)	Frequency	Percentage
20-40	18	24%
40-60	33	45%
60 and above	23	31%

Figure:2 Deficiency of vit B12 based on Age

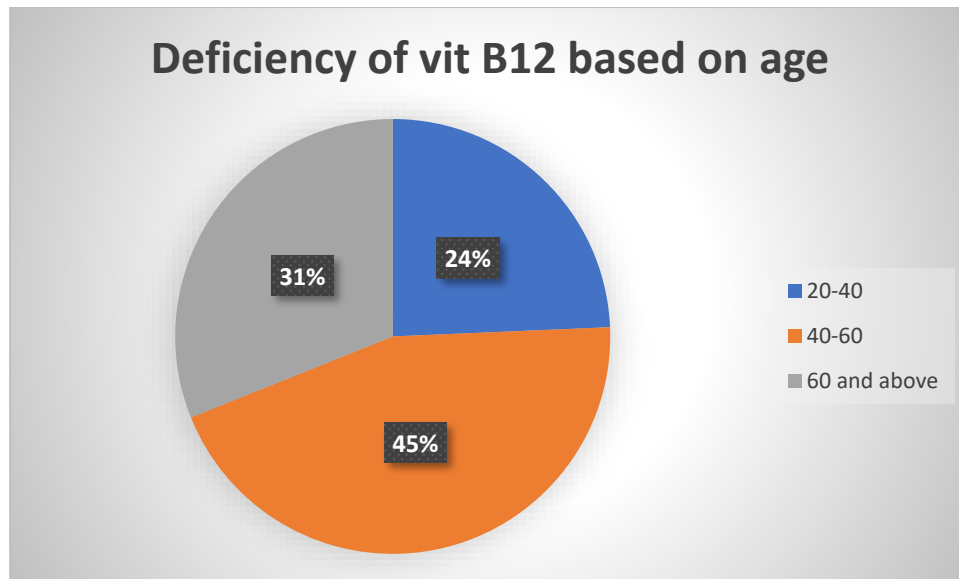


Table:3 Based on vit B12 deficiency

Reading	NO.of patients	Percentage
200-100 mg/ml	53	53
<100	29	29

Figure:3 Based on vit B12 deficiency

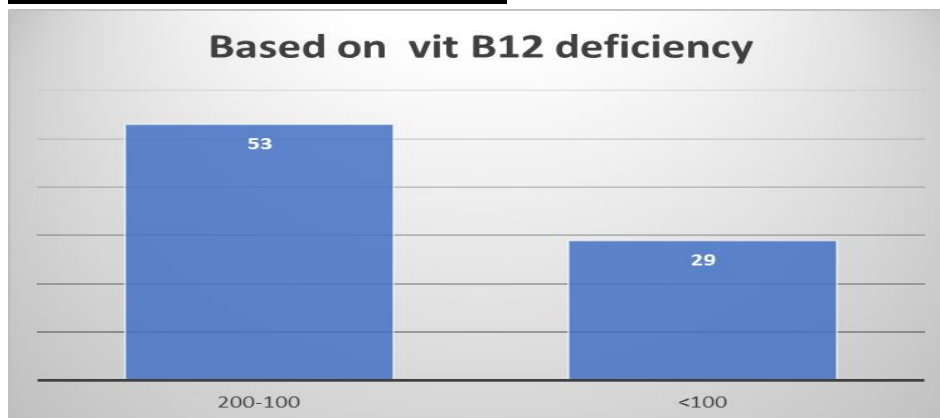


Table:4 Deficiency based on vit B12 based on the Co-Morbidities

Co-Morbidities	Total No. of Patients	Percentage
Posterior dementias	30	36%
Frontotemporal dementias	24	29%
Schizophrenia	13	15%
Parkinson’s disease	8	9%
Alcohol dependent syndrome	5	6%
Bipolar affective disorder	4	5%

Figure:4 Deficiency of vit B12 based on the Co-Morbidities

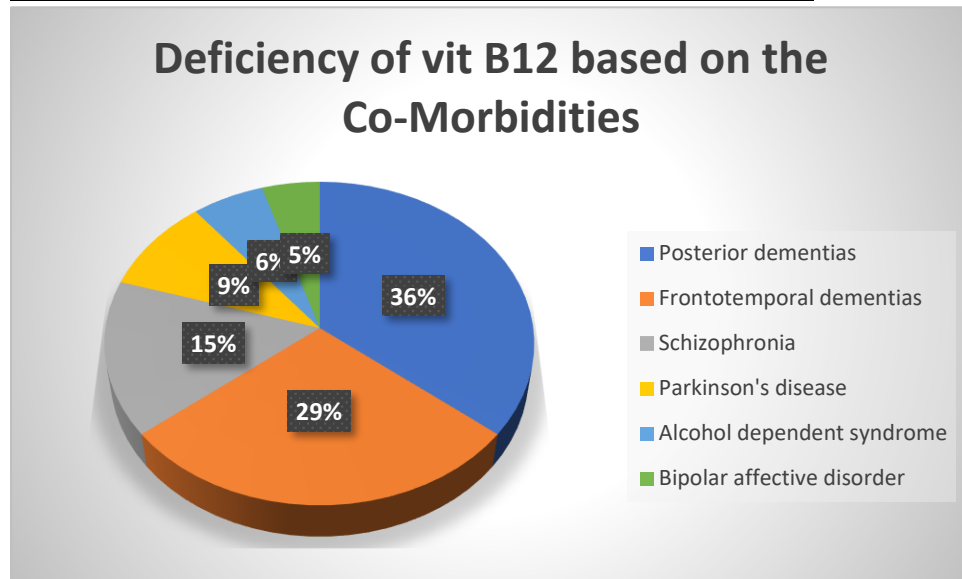


Table:5 distribution of study based on outcomes

OUTCOMES	NO. OF PATIENTS	PERCENTAGE
BEFORE TREATMENT	31	31%
DURING TREATMENT	52	52%

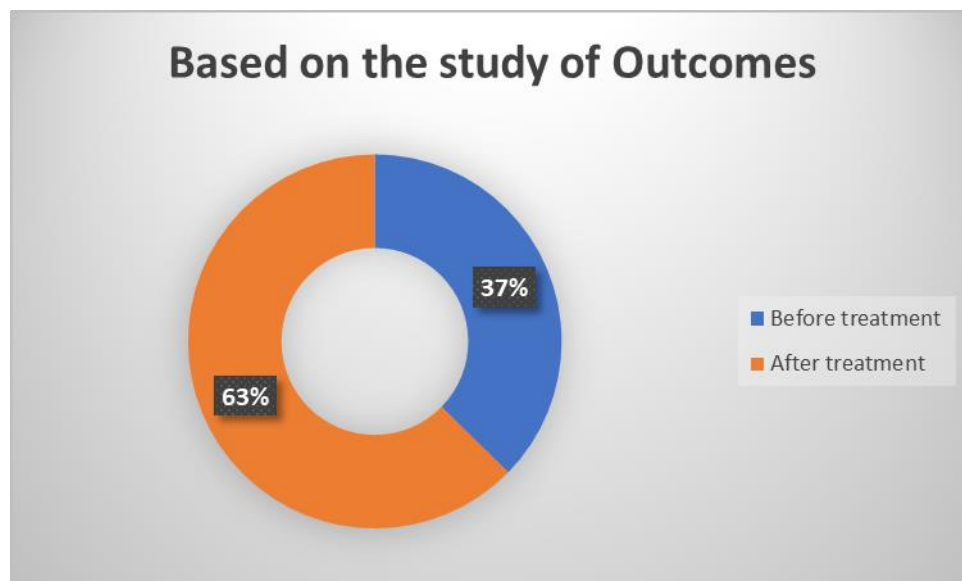


Figure:5 Based on the study of Outcomes

DISCUSSION

Optineuron Injection is a combination of six various forms of vitamin supplements: Thiamine(Vitamin B1), Vitamin B6 (Pyridoxine), Cyanocobalamin, Vitamin B2, Nicotinamide, and D-Panthenol. Altogether they provide essential nutrients for the proper functioning of organs and adequate growth of the body.

GENDER: The study shows that male(53%) were more commonly affected than females(29%)

This was in accordance with the study done in the prathima institute of medical sciences Karimnagar . This shows that male are frequently seeking treatment facilities for their problems and females may be neglected for treatment purpose.

AGE:: majority of the study subject were of age group 40 to 60 accounting 22%

CO-

MORBIDITY:posteriordementias,frontotemporalamentias,schizophrenia,parkinsonsdisease ,alcohol dependent syndrome,bipolar affective disorder

HEMOGLOBIN:Anaemia is one of the complications in the vitamin b12 deficiency 70% of the patients were anemic and anemia is due to vitamin b12 and erythropoietin deficiency nutritional factors plays important role in it.

CONCLUSION

It is finally concluded that rational and prophylactic use of optineuron can reduce further complications of Alzheimer's disease and various vitamin deficiency like pernicious anemia. You may also be more likely to get a vitamin B12 deficiency if you have Atrophic gastric, and also conditions like Crohn's disease, celiac disease, bacterial growth, or a parasite. Vitamin B12 can cause very rare but serious allergic reactions (Anaphylaxis). This includes swelling of throat and difficulty swallowing and breathing. This treatment is favorable in long term treatment of disease; it is most effectively used in treatment of serious disease conditions which has shown its immense therapeutic role in treatment. The salts cyanocobalamin, Dpantheon, nicotinamide, pyridoxine, riboflavin, thiamine are involved in the preparation of optineuron. The use of Optineuron was found to relieve the symptoms of Weakness, tiredness, Lightheadedness, Heart palpitations and shortness of breath, Pale skin, A smooth tongue, Constipation, diarrhea, loss of appetite or gas.

ACKNOWLEDGEMENT

We would like to thank the multidisciplinary health care team and staff of pharmacy department for continuous support and guidance

REFERENCE:

1. S.Shanmugapriya, T.Saravanan ,S.Saranya Rajee ,R.Venkatrajan, PinkyMariamThomas. **Drug prescription pattern of out patients in a tertiary care teaching hospital.** Departments of Pharmacology, Medicine,Pharmacy Practice, PSG Institute of Medical Sciences and Research. Perspectives in Clinical Research | Volume 9 | Issue 3 |July-September 2018.
2. M.Praveen Kumar, K.Bhanu Prasad, Afshan Naaz , Pooja Aksa ,CH.SriNidhi , N.Sriram Praveen. **Int. A study on prescription pattern and rational use of statins in tertiary care corporate hospital** J.of Pharmacologyand Clin. ResearchVol-3(1)2019
3. Simon RJ Maxwell **A study on prescription pattern and rational use of statins in tertiary care corporate hospital** Clinical Medicine 2016Vol16,No5:459–64.
- 4.Nicolas M. F. Øyane, Morten Finckenhagen, Sabine Ruths, Geir Thue & Anne Karin Lindah. **Improving drug prescription in general practice using a novel quality**

improvement model. SCANDINAVIAN JOURNAL OF PRIMARY HEALTH CARE 2021, VOL. 39, NO. 2, 174–183

5. Khayal Muhammad, Muhammad U. Amin, Farman U. Khan, Najlaa S. Ismael Sabi-Ur-Rehman, Ali Ahmed, Muhammad Saqlain, Muhammad H. Butt, Muhammad S. Latif, Muhammad Kamran Trop J Nat Prod Res, **Prescription Analysis of Outpatients in a Tertiary Care Hospital** April 2021; 5(4):643-64.