Understanding Dosage Acceptance of High Dose Methylcobalamin – An Exploratory Survey

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INTRODUCTION

- Methylcobalamin (mecobalamin, MeCbl, or MeB_{12}) is a cobalamin, a neurologically active form of vitamin B_{12}.
- We need Vitamin B_{12} for the healthy development and sustenance of our nervous, circulatory, and immune systems.
- Dietary vitamin B_{12} is found mostly in animal foods.
- Maximum dosage 500 mcg/kg body weight/day can be given.
- It is important role in transmethylation as a co-enzyme in the synthesis of methionine from homocysteine.

RATIONAL OF SYUDY

- Largely prescribed dose of Methylcobalamin is 500 mcg to 1500 mcg in India.
- Methylcobalamin single dose high strength dose preparations can be used various neurological indications because it is very helpful in faster neuron regeneration and recovery.
- No adverse effect, harmful reaction or known toxicity of dose up to 6000 mcg as a single dose.
- Urinary loss of Methylcobalamin is not much due to renal uptake and reabsorption by kidneys.
- In developed countries Methylcobalamin 5000 mcg is available Over the Counter. Yet, Indian Pharma market has limited number of preparation available above 1500 mcg as a single dose.

RESEARCH QUESTIONS

- What is the acceptance of doctors for high dose of Methylcobalamin?

OBJECTIVES

- To Analyze the Need of Single Dose - High Strength Preparation of Methylcobalamin.

RESEARCH METHODOLOGY

Research Design:- Qualitative research

Sampling Frame:-

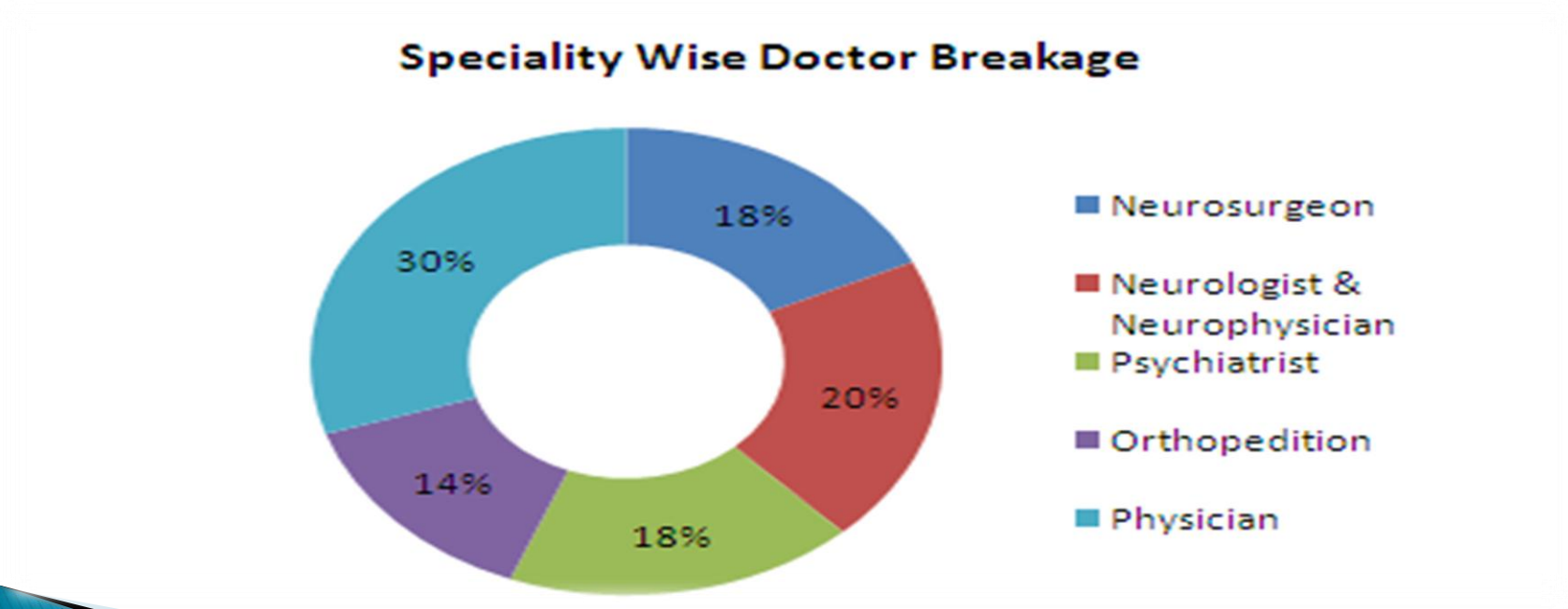
- Target population- Doctors who prescribe Methylcobalamin
- Sampling Element- Individual respondents of questionnaire
- Sampling Technique- Purposive sampling
- Sampling size- Sample size for the study was 50

Data Collection Tools and Technique:-

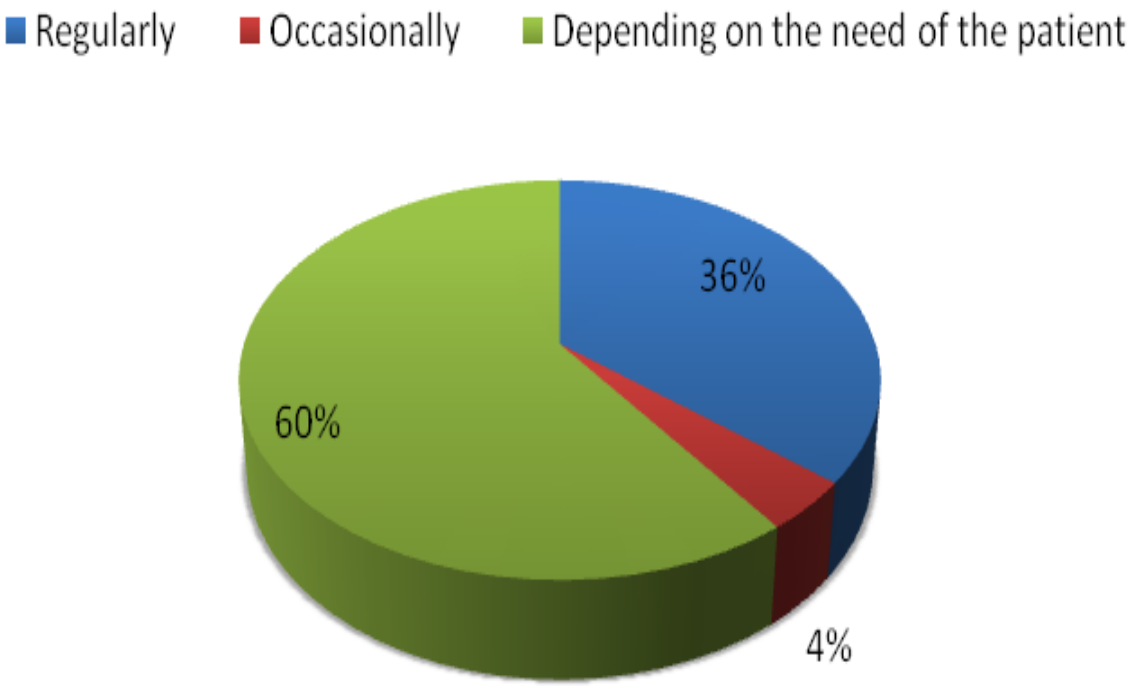
- Semi structured questionnaire that include both open ended and close ended questions
- Survey method was used by the help questionnaire.

ANALYSIS AND INTEROPERATION OF DATA

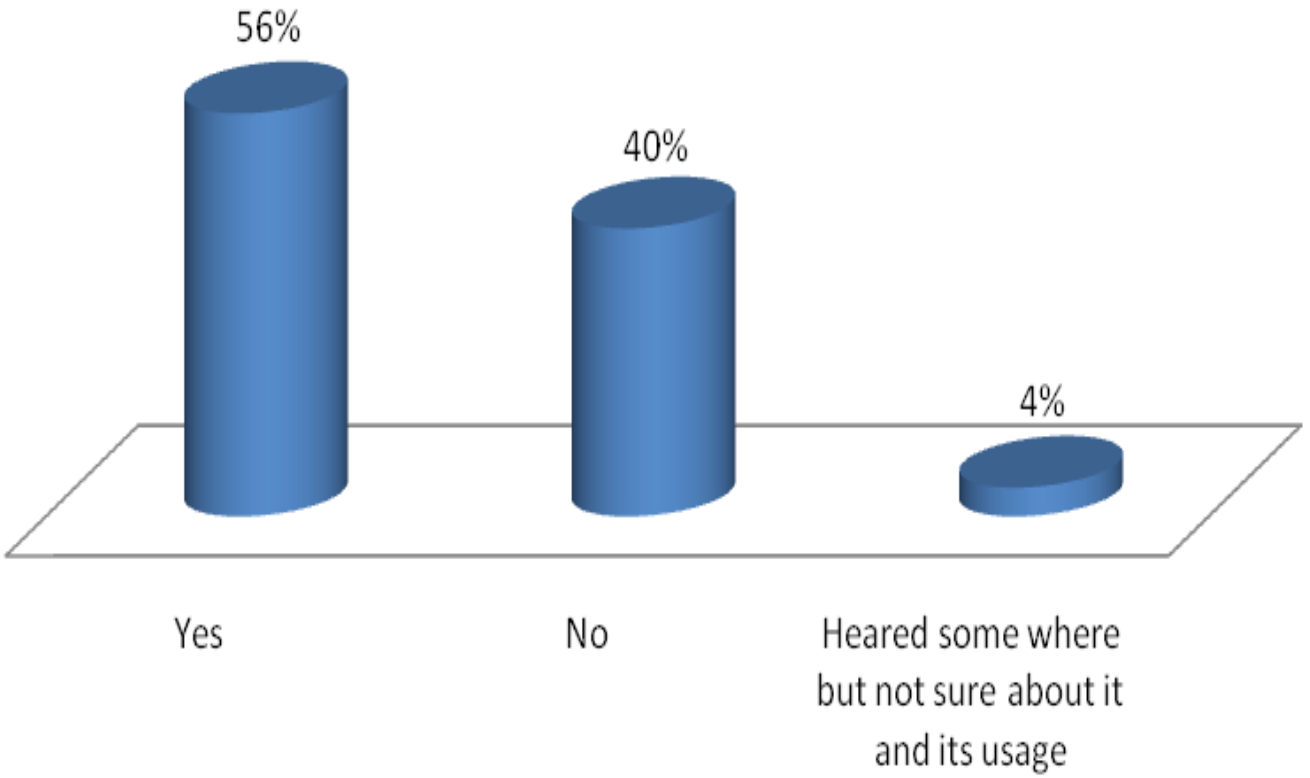
- A primary research on data obtained from the questionnaire was performed in Microsoft office excel 2007 and coding method was used for the purpose of data entry.
- Out of 50 respondents, all were prescriber of Methylcobalamin.



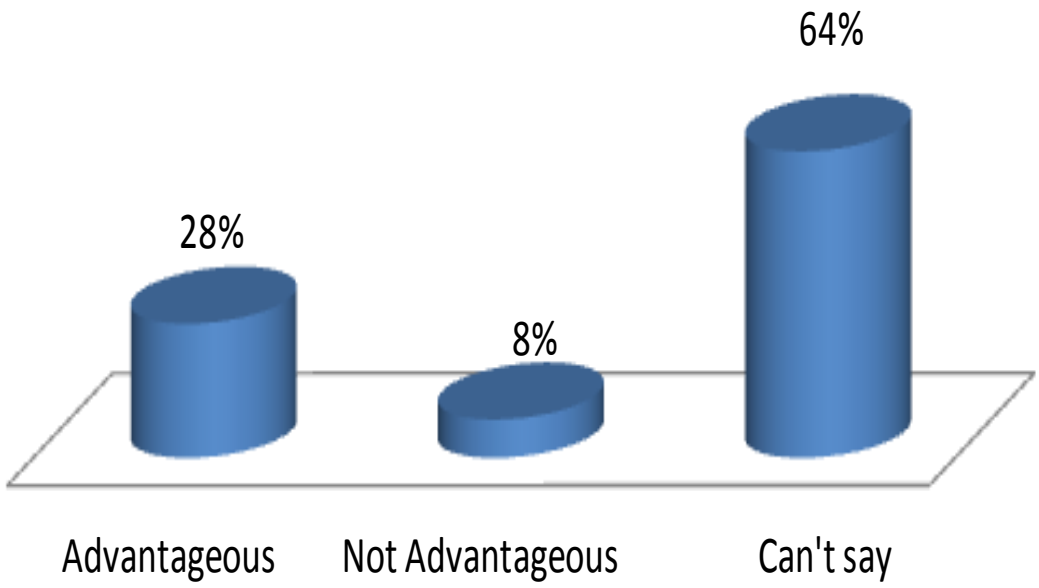
PRESCRIBING HABIT OF DOCTORS



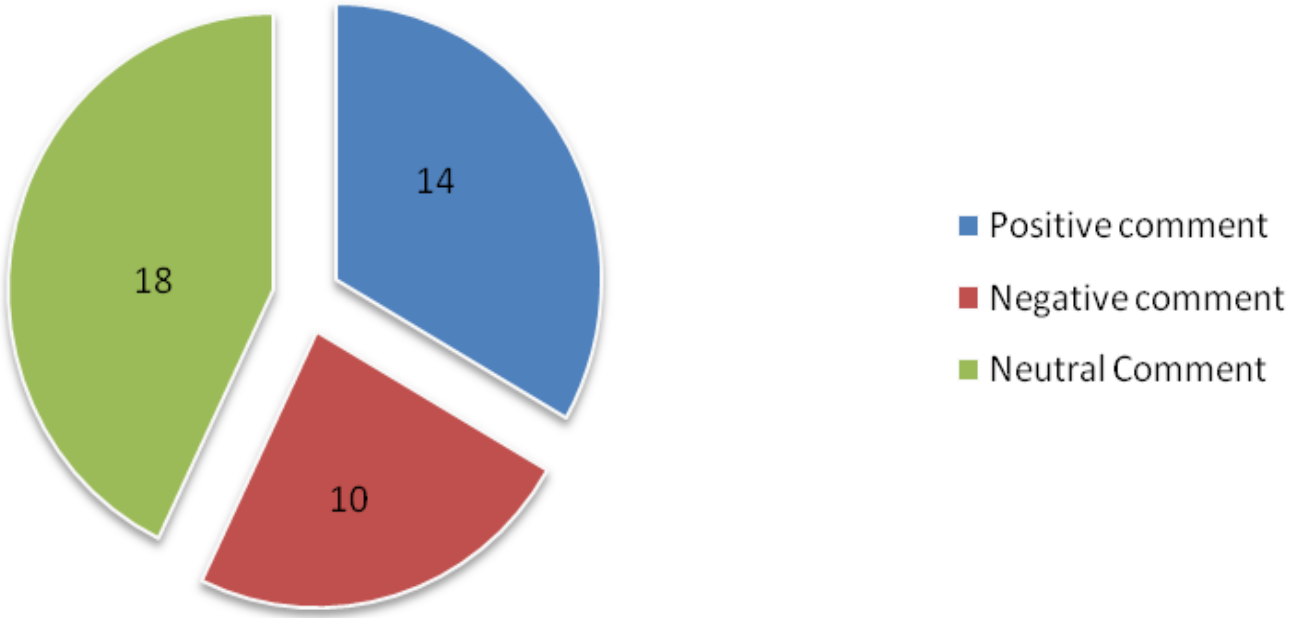
AWARENESS OF ULTRA HIGH DOSE OF METHYLCOBALAMIN



HIGH DOSE OVER NORMAL DOSE



NUMBER OF RESPONDENT COMMENTED



Respondents Comment On High Dose Over Regular Dose Methylcoblamin

ASPECT OF COMMENTS	COMMENT GROUP	NUMBER OF COMMENT
POSITIVE	Used in past	2
	Always show better result over regular dose	2
	Excellent result	3
	Dose convenience	3
	Faster Recovery and good improvement	6
	Best Result in-	
	Neuropathy	4
	Drug induced neuropathy	1
	Diabetic Neuropathy	2
	Sciatica pain and Sciatica pain without herniated disc	3
	Tingling, Radial pain with low back pain	1
	Lumber Radiculopathy	1
NEUTRAL	Heard somewhere but not sure on use of high dose	7
	Not have any idea on use of high dose	8
	Use 750 to 1500 mcg	2
	Depend on B_{12} level	1
	Not useful in my practice	2
NEGATIVE	Seen Side effect dizziness, difficulty in walking with 1500 mcg	2
	Not required	3
	Result can't be judged	3
	Absorption is not more than 1500 mcg	2
	In Harrison medical book dose up to 1000 mcg only	1
	Not seen any out come from high dose	1
	Storage capacity of body is only up to 2-3 milligram	1

- Only 26% of all respondents were prescriber of high dose of Methylcobalamin. In other words out of all aware respondents of high dose of Methylcobalamin is only 46% were prescriber of Methylcobalamin.

Indications And Respondents Of High Dose Methylcobalamin

INDICATION	SCHEDULE			Number of Respondent
	STRENGTH	DOSAGE FORM	DURATION	
NEUROPATHY	2500 mcg	IV/IM	Once a week up to 5 time	5
DIABETIC NEUROPATHY	2500 mcg	IV/IM	Once in a week up to 5 time	3
MALE INFERTILITY				
LOW BACK PAIN	2500 mcg	IV/IM	Once in a week up to 5 time	1
TRAUMATIC NERVE INJURY	2500 mcg	IV/IM	Once in a Month	1
SCIATICA PAIN	2500 mcg	IV/IM	Once per week up to 5 time	3
NEURALGIA				
DEMENTIA	2500 mcg	IV/IM	Once in alternate day up to 7 times	1
PARALYSIS				
BELL'S PALSY	2500 mcg	IV/IM	Once in alternate day up to 7 times	2
VERTIGO				
MULTIPLE SCLEROSIS				
ALS				
PARKINSON'S DISEASE				

Overall Comment for High Dose Methylcobalamin therapy

ASPECT OF COMMENTS	COMMENT GROUP	NUMBER OF RESPONDENT
POSITIVE	Good information or new information	4
	Show Good Result	2
	Searched on net in past, need clinical evidence	1
NEUTRAL	Evidence based use in particular indication	9
	Prescribe after text book reference	1
	Need more information	10
NEGATIVE	No rational of high dose	1
	Storage Capacity is not more then 2-3 milligram	1

CONCLUSION

- All the doctors in the sample prescribed Methylcobalamin on a regular basis. Methylcobalamin prescribing habit of doctors was frequent; only 4% of doctors prescribe Methylcobalamin occasionally.
- Awareness level of high dose of Methylcobalamin was adequate. Maximum numbers of doctors were aware from high dose Methylcobalamin therapy.
- Doctors opinion were scattered on high dose. 28% doctor's had opinion that high dose of Methylcobalamin is advantageous over regular dose. 64% of doctors were unable to say anything and needed more clinical evidence. Rest 8% of respondent had opinion that there is no advantage of high dose over regular dose.
- Maximum comments of respondents were falling under positive and neutral category.
- Among all respondents 56% respondent were aware of high dose of methylcobalamin but only 26% respondents were prescribing high dose.
- Prescribers were maximum prescribing in Neuropathy.
- All prescriber of high dose of Methylcobalamin are using injectable dosage form and 2500 mcg strength.

RECOMMENDATION

- Companies can tap this untapped market of high dose Methylcobalamin.
- Injectable preparation is most suitable for high dose Methylcobalamin preparation.
- Scientific Literature on high dose recommends 2500 mcg and maximum doctors were using 2500 mcg. So 2500 mcg Injectabale strength is most acceptable form according to data.
- Maximum doctors are unaware of high dose of Methylcobalamin and easy to convert in loyal customers by scientific literatures and clinical evidences based marketing.
- My study focused on doctor's specialization in neurological diseases. But from the study and responses other doctors like physician, orthopedic can also use in their therapy.

LIMITATIONS

- Time and Money were the major constraints in this project. Because of which sample size was also small.
- Maximum number of literature on high dose of Methylcobalamin was available in Pub-Med (USA and Europe), other Journals' of Japan and were through paid access.
- Study included open ended questions which are qualitative in nature rather than quantitative for that groping method was used and way of understanding may be different from individual to individual.
- Since sample size was small, so it was not possible to make strong recommendations.

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THANK YOU…