

An FGD Report on Vitamin B12 Deficiency in Medical Professionals

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ABSTRACT

Introduction: Vitamin B12 Deficiency has become an important health concern in the recent times. Acknowledging the health of medical professionals shall improve the health status of the community as they form a classified population of the society. The present study was done with an aim to assess the treatment seeking behavior of the doctors in RNT Medical College, Udaipur who were found deficient in Vitamin B12 levels.

Material and methods: Two focused group discussions were conducted in the department of Community Medicine with a strength of 13 and 17 each, few pre-decided questions were asked to the groups by the moderator and answers were reported by the recorder in the form of tally sheets.

Results: Maximum doctors were interested in taking Oral treatment by self, most of them were consuming Reverse Osmosis water and most common clinical feature they expressed were weakness and fatigue.

Conclusion: Vitamin B12 deficiency is becoming a silent epidemic which needs to be addressed as it is affecting all the groups of the society and thus further large scale multicentric studies are needed to address this issue at the global level.

Keywords: Vitamin B12 Deficiency, Treatment-Seeking Behavior, Reverse Osmosis Water

INTRODUCTION

Vitamin B 12 deficiency has always been thought to be synonymous with megaloblastic anemia. Though a lot of researches have proved the role of Vitamin B12 outside the hemoglobin picture especially in the neurological settings of the body, a lot more is required to be done to assess its relation and connection with other metabolic factors in the body. Medical professionals are one of the most elite and knowledgeable population of the society and act as a connecting link between the Medical science and the community. Vitamin B12 Deficiency is reported to exist in India in more than 30 percent in adults and children.¹ The Recommended Dietary Intake of Vitamin B-12 by ICMR (2010) for normal adult is 1 mcg/day, 1.2 mcg/day for pregnancy, 1.5 mcg/day for lactation and 0.2 mcg/day for infants and children.¹ According to Framingham Heart Study, vitamin B₁₂ deficiency is defined as serum vitamin B₁₂ level <200 pg/mL.² Also Serum vitamin B-12 concentration of 200–300 pg/mL indicates depletion.³

Vitamin B-12 is a known important factor for DNA synthesis, protein synthesis and methylation.³ This deficiency is attributed mostly to lack of dietary intake of Vitamin-rich food, vegan diet or malabsorption conditions like elderly or gastric achlorhydria.⁴ Clinical manifestations the deficiency include anemia (macrocytic, megaloblastic), hyperpigmentation, glossitis, neuropsychiatric like cognitive

impairment, irritability, paresthesias, weakness etc. However, the classic hematologic expression may not be visible in all the patients.² Vitamin B12 deficiency can be effectively treated by both oral and intramuscular administration of high-dose vitamin B₁₂ (1 to 2 mg daily) irrespective of etiology.^{4,5} Keeping this in mind, a study to find out the prevalence of Vitamin B12 deficiency in doctors was done and two focused group discussions were conducted with the ones who were found deficient in Serum Vitamin B12 in order to assess their treatment seeking behavior as well as other issues regarding Vitamin B12 deficiency.

MATERIAL AND METHODS

The present study was a cross-sectional survey conducted in the form of focused group discussions in the department of community medicine in the Government medical college of Udaipur. A survey on the doctors was done to assess the prevalence of Vitamin B12 deficiency in them, results of which have been published elsewhere. The vitamin-deficient doctors were invited to the discussion hall in department of Community Medicine. 13 doctors turned up for the first round of focused group discussion while 17 doctors appeared for the second round. The questions related to Vitamin B12 deficiency were asked to the group members by the moderator and their treatment seeking behaviour and other related issues were discussed. The questions put up in both the groups were same and results were recorded by the recorder in the form of tally sheets. Time allotted for the discussion of each question was roughly five minutes in both the groups. Results were discussed amongst the investigator and moderator post discussion sessions and the FGD report was prepared.

The questions discussed in order to assess the treatment seeking behaviour were

- Was there a need of consulting a physician for the Vitamin B12 deficiency?
- Do you have any clinical features? If yes, what could be the cause of these symptoms?

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- Which treatment modality will you opt for?
 - Oral Methylcobalamine 1000 mcg for 100 days
 - Intramuscular Methylcobalamine 1000 IU on alternate days for 2 weeks, then once weekly for 4 weeks
 - Ayurvedic regimen (Curd and rice) for 4 weeks⁶
- What is the source of your drinking water?
 - Reverse Osmosis water home set up
 - Aquaguard home set up
 - Reverse Osmosis water campers
- Are you aware about the TDS score of the drinking water?
- What are your perceptions about Vitamin B 12 deficiency?
- Do you think this kind of discussion is useful?

RESULTS

As per the baseline study that was conducted on 90 doctors and results were analyzed, 65 doctors (72.2%) were found deficient in Vitamin B12 levels. Out of these, 23 doctors (25.5%) were severely deficient in Vitamin B12 levels, i.e. below the level of 50 pg/ml.⁷ The results have already been discussed and published elsewhere.

These 65 doctors were invited for a group discussion in the department of Community Medicine. Two rounds of Focused Group Discussions were held in seminar hall in the department of Community Medicine, RNT Medical College, Udaipur in October 2017. 13 doctors turned up for the first round of focused group discussion while 17 doctors appeared for the second round. Similar questions were asked in both the groups as discussed above. The results were recorded by the recorder in the form of tally sheets. Results of these 30 participants were discussed amongst the investigator and moderator post discussion sessions and the FGD report was prepared.

FGD report

In both the groups, when asked about consulting a physician for the Vitamin B12 deficiency, only a few participants acknowledged the need for the physician for the investigations and management of Vitamin deficiency. Most of them considered taking the treatment on their own without any consultation.

The most common symptoms that were told by these participants were Weakness and fatigue followed by strange sensations like paresthesias. The symptoms were so vague that they attributed most of them to Iron deficiency anemia and rest to Vitamin D deficiency. And some of them had already taken Iron and folic acid tablets and calcium and Vitamin D tablets too for the same in the past before getting investigated for serum Vitamin B 12 levels.

The group was suggested about three types of treatment modalities, oral, intramuscular and a home remedy suggested by Ayurvedic professionals (rice and curd). The treatment regimens were also explained to them about the three modalities. Most of them were interested in Oral treatment and some agreed for Intramuscular treatment. Only 2 out of 30 felt interested in home remedy.

The source of drinking water of the participants was discussed. Out of 30 participants, 15 had installed RO water set up in their homes and were consuming RO water. 6 participants had installed Aquaguards and rest 9 were consuming water from Campers. Almost all the RO water users were aware of the TDS score of the water, except a few who were not aware. Most of them had their TDS scores ranging from 50-100.

Next was the discussion about the perceptions regarding this deficiency disorder. The most common perception in the group was that the "Vitamin B12 deficiency is not that big a health problem in the society", especially in the elite group like doctors. Some of them were even questioned the importance of the discussions and researches about this topic. However, after discussing the results of the previous studies with the participants, there was a widespread agreement in all the participants about the fact that the results of this study could be projected to their family and friends.

DISCUSSION

The present study was a cross-sectional survey conducted in the form of focused group discussions with an aim to assess the treatment seeking behavior of the doctors in RNT Medical College, Udaipur who were found deficient in Vitamin B12 levels. Two focused group discussions were conducted in the department of Community Medicine with a strength of 13 and 17 each, few pre-decided questions were asked to the groups by the moderator and answers were reported by the recorder in the form of tally sheets.

When asked about consulting a physician for the Vitamin B12 deficiency, only a few acknowledged the need for the physician. Most of them considered taking the treatment on their own. The doctors with this view mostly belonged to the non-clinical streams of the medicine. As felt by the investigator, doctors do not consider a deficiency of Vitamin B 12 a significant health problem and thus do not have a tendency to undergo a proper management.

The most common symptoms that were told by these participants were weakness and fatigue followed by strange sensations like paresthesias. In a similar study by Paudel et al⁸ in, paraesthesia in the lower limbs was the commonest complaint followed by fatigue and tiredness. Similarly in the study by Akabwai et al⁹ in Uganda, the most frequent clinical symptoms were paraesthesias, forgetfulness and tiredness even after light exertion. Others included irritability, gait abnormality and skin hyperpigmentation.^{10,11} The symptoms were so vague that they attributed most of them to Iron deficiency anemia and rest to Vitamin D deficiency. On analyzing post-discussions, it was inferred that because of the non-specific symptoms related to deficiency, it does not seem to be an alarming situation and thus delay in the treatment becomes inevitable.

Most of them were interested in Oral treatment and some agreed for Intramuscular treatment. Only 2 out of 30 felt interested in home remedy (curd and rice) on suggesting the three types of treatment modalities. Oh and Brown (2003)¹² noted that, because most clinicians are generally unaware

that oral vitamin B-12 therapy is effective, the traditional treatment for B-12 deficiency has been intramuscular injections. Elia M¹³ in 1998 in an article cited evidence that demonstrates, however, that oral vitamin B-12 has been shown to have an efficacy equal to that of injections in the treatment of pernicious anemia and other B-12 deficiency states. Though various studies suggest the equal efficacy of the oral and intramuscular regimens, many suggest intramuscular to be better. An ayurvedic home remedy for the prevention and treatment of Vitamin B12 deficiency has been claimed as an excellent alternate to the allopathic regimens.⁶ But its acceptability still remains questionable and thus need further structured studies to assess them.

Maximum participants in the discussions had installed Reverse Osmosis water set ups in their homes and their TDS score was ranging from 50-100. Ekant Surendra Gupta et al¹⁴ did a study in Gujarat in 2016 and suggested that in their study, the logistic regression analysis showed independent association between use of RO water and Vitamin B12 deficiency. The source of drinking water was taken into consideration as past few studies suggested the relation of level of TDS water in drinking water and vitamin B 12 deficiency.

The common perception of Vitamin B12 deficiency not being a health problem in the society remained constant in both the groups. However it was contraindicated with the findings of the past studies.^{7,15} After the discussion, most of the doctors were convinced with the prevalent situation of the deficiency disorder. Though there was a widespread agreement in all the participants about the fact that the results of this study could be projected to their family and friends and will help in increasing the awareness about the Vitamin B12 deficiency in the community as the early detection and treatment is important, otherwise severe neurologic problems and blood diseases can ensue in long-standing deficiency cases.¹⁶

Strength of the study

It was a useful exercise to observe the group feelings, perceptions and opinions of the participants. There was an opportunity to discuss few of the upcoming topics like use of RO waters and TDS scores and could seek more clarifications regarding what and how participants think.

Study limitations

As only the deficient participants were included in the study, the thoughts, views, feelings and misconceptions of the non-deficient participants could not be assessed. Not everyone in the group was equally enthusiastic and hence it was difficult to keep everyone in the conversation at the same pace. And most importantly, the data collected was majorly qualitative, only descriptive analysis could be done. No statistical analyses could be performed authoritatively.

CONCLUSION

The present study was aimed at assessing the treatment seeking behavior of Vitamin B12 deficiency in the doctors. Nearly 2/3rd of the study subjects were tested vitamin B12 deficient. On conducting the discussions with the groups,

most of the participants considered taking the treatment on their own. Maximum were interested in Oral treatment. The common symptoms in reported were weakness and fatigue. There was a relatively higher trend of RO water consumption in the vitamin-deficient doctors. It can be concluded that Vitamin B12 deficiency has become a silent epidemic which needs to be addressed as it is affecting all the groups and classes of community equally. There is a significant prevalence of Vitamin B12 deficiency in doctors which could be attributed to their lifestyle. There is a need for sensitization of public and health care community about this health issue and promoting its earliest diagnosis and prompt treatment. Further large scale multicentric studies are needed to determine the prevalence of vitamin B12 deficiency in Indian population, and, depending on the findings, national strategies in the form of food fortification or vitamin B12 supplementation in order to prevent long-term effects of mild, subclinical cobalamin deficiency.

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