

Alcohol consumption and nutritional imbalance in emergency department patients at Thrissur

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ABSTRACT

Road traffic accidents is a leading cause of death in India. Mostly the killed ones are in their productive age. Now-a-days alcohol consumption has been considered as an important cause of road accidents. Alcohol in our body cause a variety of negative health effects .It may interact with the process of digestion and absorption and leads to nutrient deficiency. This nutrient deficiency leads to the decreased production of neurotransmitter –whose main function is to regulate sleep, appetite, and mood. This study is a nutritional survey to evaluate the difference in nutritional intake and RDA in alcoholic patients.

Key Words : Alcohol, Nutritional imbalance, RDA, Health effects

INTRODUCTION

Road traffic accidents (motor vehicle collision mvc) occurs when a vehicle collides debris or other stationary objects .It often results in injury death or property damage. It is often a leading cause of death in India. The very sad thing is that mostly killed ones are in their productive age or earning member of family. Rapid urbanisation, poor awareness level and poor enforcement of traffic laws, Over speeding ,drunken and reckless driving etc. are the main causes of accidents. More than mechanical ,human factors increases the number of accidents in India.

Now-a-days alcohol consumption has been considered as an important public health problem. Alcoholism increases the risk of accidents. Ethanol in the alcohol is a depressant and it slows down the brain and affects bodys responses. For drivers alcohol reduce the ability to see distant object. Then night vision can be reduced by 25 percentage or it make a blurred or double vision. Alcohol have the potential to modify the food intake. Alcoholic beverages primarily consist of water, alcohol (ethanol) and different amounts of sugar. The

calorie came from the alcohol and sugar and considered as empty calories because of the lack of other essential nutrients. It is made through a process known as fermentation.

Excess alcohol in your body cause a variety of negative health effects and may face the risk of damage from poor nutrition. Alcohol intake interacts with the process of digestion and leads to nutrient deficiency. Alcohol intake leads to the vitamin and trace element deficiency and to suboptimal health. Alcohol contributes to malnutrition by replacing foods needed for essential nutrients and interfere with absorption ,storage and metabolism of essential nutrients. Once alcohol enters your stomach upto 1/5 th of it can be absorbed there and go directly into our blood stream. Within minutes it will reaches our brain and give the feeling of being stimulant. No other food or beverage is able to do it. The remaining alcohol goes to intestine and is absorbed with other nutrients. A small excreted through urine, saliva, sweat and breath. It can be detected by a breath analyzer. Energy generated by alcohol metabolism have the potential to modify the food intake. Alcoholism is a

Table 1 : Comparison of Nutritive value with RDA

	Calorie(kcal)	Protein(g)	Fat(g)	Vitamin A(IU)	Folate(mcg)	Vitamin C(mg)	Iron(mg)
RDA	2200	60	20	600	200	40	17
Mild	2472	56	28	516	184	38	14
Moderate	2466	55.5	28	522	182	37	14.5
Heavy	2109	48	28.5	372	136	32	13.5

complex component of the diet and appears to have multiple effects on appetite.

Imbalanced diet will negatively affect your mood and brain function. Alcohol consumption may affect ones food intake and it leads to the decreased production of serotonin-the neurotransmitter. Major part of serotonin is produced in gastrointestinal tract and its main function is to regulate sleep, appetite, mediate mood, etc. Serotonin is made from the essential amino acid tryptophan. The deficiency in tryptophan can lead to lower levels of serotonin. Imbalanced diet pattern along with alcohol consumption may increase the chances for mood disorders and depression which may affect the driving.

METHODOLOGY

200 Road traffic accident patients from casualty of hospitals of Thrissur has taken and causes of accident checked using a questionnaire. The age limit for this study is marked as 18-60. Alcoholic patients are divided in to three groups as mild, moderate and heavy alcoholics. Mild alcoholics is considered as no more than 7 drinks per week or more than 3 drinks per sitting. Moderate alcoholics consume 2 drinks per day. Heavy drinkers consume 4 drinks on one occasion or 8 drinks over the course of a week. More alcoholic patients are available in male gender. So we take male ones as subject, second part of the questionnaire will provided for the alcoholic patients and their 24 hour recall has taken. Food frequency questionnaire is used to check frequency of use of food items. Interview method is used for this study. Interviewer herself filled the questionnaire. Result examined with suitable statistical method.

RESULTS AND DISCUSSION

200 Patients came to casualty by 176 accidents. Among them 94 were the drivers of the accident vehicles. In between 94 drivers 48 of them were alcoholics. From the total 200 patients 56 of them were alcoholics. From the 200 patients 126 patients were bike travellers (Table 1).

56 alcoholic patients filled the second part of the questionnaire. Among 56 alcoholics patients 21 patients were in mild alcoholic intoxication, 27 in moderate intoxication and 8 of them were in severe alcoholic intoxication. 56 alcoholic RTA patients dietary pattern analysed. By analysing 21 mild alcoholics average calorie intake were 2472. Moderates average calorie intake were 2466. At the same time the average calorie intake of severe alcoholics were 2109. The RDA is taken as 2200 kcal, according to RDA of ICMR guidelines 2010.

Average Protein intake of the first and second group was 56g and 55.5g, respectively. Severe alcoholics average protein intake decreased upto 48g compared to 60g of normal value. Average fat consumption increased as 28g for the first group and 28g for the second group. For the third group the average fat consumption was 28.5g.

Average intake of Vitamin A was 516, 522 and 372, respectively for the three groups. Average intake of Thiamin was slightly less. Average intake of Folate for the three groups were 184, 182 and 136, respectively. Vitamin C intake was slightly less. For the three groups average intake was 38, 37 and 32, respectively.

Among the three groups of 56 alcoholics only 8 patients were over weight. None of them is taking a balanced diet. Fruits, vegetables-especially leafy vegetables consumption is less. A very low percentage of subjects is taking food at time.

56 alcoholic patients came to casualty due to RTA were in imbalanced diet. Alcohol may impare the digestion and absorption of nutrients. But this study focused on the decrease in the dietary intake of alcoholics using dietary survey. Alcohol may replace the food intake of severe drinkers. Neurotransmitters are decreased due to poor nutrition and altered amino acid absorption, the intake of nutrients may affect ones mood or brain function. It may lead to an accident indirectly.

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