

# Effects of Food Habits on Road Accidents Due to Micro-Sleepiness and Analysis of Attitudes to Develop a Food Product as a Preventive Measure

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**Abstract**— Study it was attempted to identify effect of food habits and public's attitudes on micro-sleepiness and preventive measures to develop a food product to combat. Statistical data pertaining to road accidents were collected from, Sri Lanka Police Traffic Division and a pre tested questionnaire was used to collect data from 250 respondents. They were selected representing drivers (especially highway drivers), private and public sector workers (shift based) and cramming students (university and school). Questionnaires were directed to fill independently and personally and collected data were analyzed statistically. Results revealed that 76.84, 96.39 and 80.93% out of total respondents consumed rice for all three meals which leads to ingest higher glycemic meals. Taking two hyper glycemic meals before 14.00h was identified as a cause of micro-sleepiness within these respondents. Peak level of road accidents were observed at 14.00 - 20.00h (38.2%) and intensity of micro-sleepiness falls at the same time period (37.36%) while 14.00 to 16.00h was the peak time, 16.00 to 18.00h was the least; again 18.00 to 20.00h it reappears slightly. Even though respondents of the survey expressed that peak hours of micro-sleepiness is 14.00-16.00h, according to police reports, peak hours fall in between 18.00-20.00h. Out of the interviewees, 69.27% strongly wanted to avoid micro-sleepiness and intend to spend LKR 10-20 on a commercial product to combat micro-sleepiness. As age-old practices to suppress micro-sleepiness are time taken, modern day respondents (51.64%) like to have a quick solution through a drink. Therefore, food habits of morning and noon may cause for micro-sleepiness while dinner may cause for both, natural and micro-sleepiness due to heavy glycemic load of food. According to the study micro-sleepiness can be categorized in to three zones

such as low-risk zone (08.00-10.00h and 18.00-20.00h), manageable zone (10.00-12.00h), and high-risk zone (14.00-16.00h).

**Keywords**— Micro-sleepiness, Food habits, Road accidents, Glycemic Load

## I. INTRODUCTION

**M**ICRO sleepiness is a temporary biological disorder, which has been a major cause of road accidents leading to physical injuries, deaths, disabilities, numbness and economic losses. Traffic accidents due to human errors cause many deaths and injuries all around the world. Especially the sleepiness simply feels after taking meals because body should gain more energy for food digestion and ultimately it may convert into micro-sleepiness, which last about 1-30 seconds. The dietary habits of a person may strongly accompanied with this biological phenomenon cause for half or full eye shutting unintentionally and wake up with unconscious mood. Also the micro-sleepiness is the main factor for sleepiness in drivers and cause one in four fatal accidents on highways.

A considerable fraction of the population does not consume a balanced diet (Jayewardena et al, 2012). Total mean carbohydrate, protein and fat intakes of Sri Lankan adults are approximately 304.4, 44.6 and 35 g and 71.2, 10.8 and 18.9% from total energy generated respectively (Jayewardena et al, 2014). Sri Lankans ingest numbers of starch sources and consume them for lunch or dinner by limiting themselves to three meals per day (Jayewardena et al, 2012). Almost 65% consumed well beyond the upper level of the references and this is principally due to the average person's meal containing three-quarters of rice with lesser amount of vegetable curry (15g), piece of meat or fish (15g) and some starchy curry as potato or dhal (Jayewardena et al, 2012). Incorporation of these types of higher glycemic loads with stresses and tiredness may eventually leads the brain towards the micro-sleepiness.

The overall objective of this study was to evaluate the effect of food habits and attitudes of public on micro-sleepiness and

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