1. INTRODUCTION

Food is an essential source of power. Food is much more than a substance supplying nutrients for health. Food is a symbol of hospitality and friendship throughout the world. Food is a status symbol. It is an outlet of emotion. Food is a source of security for people to feel reasonably secure when they have enough food stored up to take care of them during periods of scarcity. Familiar foods give a sense of security when one has to eat away from home.

Food is the more basic need of man than shelter and clothing. It will provide adequate nutrition for the body's growth, maintenance, repair and reproduction. Food furnishes the body with the energy required for all human activities. It provides materials required for the building and renewal of body tissues and the substances that act to regulate body processes (Peckhan, 1979 and Sabarwala, 1994).

Food is an important basic necessity; it is a critical contributor to physical well-being and a major source of pleasure (Rozin et al., 1999), its procurement, preparation and consumption are vital for sustenance of life. However, diseases spread through food are common and persistent problems that result in appreciable morbidity and occasionally in death (Scharff, 2009, Tomohide, 2010). Foodborne illnesses have been described as one of the most widespread problems of the contemporary world (Zotermans et al., 1994, Wheelock, 2006) as it is an important and growing public health and economic problem in many countries.

Nutrition is the science of food the nutrients and other substances in it. It deals with their action, interaction and balance in relationship to health and disease. Nutrition is also concerned with socioeconomic, cultural and psychological implication of food. Energy is required for all human activities; it provides materials required for the building and renewal of body tissues and the substances that act to regulate body processes. An individual food such as milk may fulfill all these functions or as in the case of sugar any one functions. However, all the above functions of food must be served by the diet in order to maintain the body in good health. Most foods fulfill more than one function as they are complex mixtures of a number of chemical substances (Srilakshmi, 2002).

Food businesses have become widespread in recent times, in response to the changing lifestyle and food consumption of people. They offer convenience and ease of access to food to busy individuals, who are unable to pre- pare their own meals regularly at home. In large scale cooking, food passes through many hands, thereby in- creasing the chances of food contamination due to improper handling. Deliberate or accidental contamination of food
during large production might endanger the health of consumers, and have very expensive repercussions on a country, as such outbreaks feature prominently in national statistics (Adams and Motarjemi, 1999 and Omaye, 2004).

Street vendors have been in existence since ancient times. In all civilizations, ancient and medieval, one reads accounts of travelling merchants who not only sold their wares in the town by going from house to house but they also traded in neighboring countries. Perhaps ancient and medieval civilizations were tolerant to these wandering traders and that is why they flourished. In modern times we find that street vendors are rarely treated with the same measure of dignity and tolerance. They are targeted by municipalities and police in the urban areas as illegal traders, the urban middle class complains constantly on how these vendors make urban life a living hell as they block pavements, create traffic problem and also engage in anti-social activities (though more often than not, the same representatives of middle class prefer to buy from street vendors as the goods they sell are cheaper though the quality is as good as those in the overpriced departmental stores and shopping malls).

The Food and Agricultural Organization defines street foods as ready-to-eat foods and beverages prepared and/or sold by vendors and hawkers, especially in streets and other similar public places (Simopoulos, 2000). Street foods provide ready-to-eat and fairly inexpensive priced snacks and meals for a wide variety of people (Arambulo et al., 1995; Taylor et al., 2000). According to Scott and Gravani (2003), temporary food service, such as mobile unit may operate on a more regular basis, but unlike modern food service establishments operate under less than optimum conditions.

Street foods are defined as ready to eat foods and beverages prepared and sold by vendors in the streets and other similar public places. The popularity of street food vending is spreading rapidly all over the world due to several reasons viz., economic and industrial developments followed by tremendous increase in urban population at an average annual growth rate of 4.2%, which is likely to continue in the years to come. Besides an increase in the number of working women over the last decades, from 76.2 to 105.7 million, employments far away from the home, modern life style compels both men and women to go to work and giving less time to cook at home. Nevertheless, tremendous growth of small nuclear families has resulted in the rapid proliferation of street foods as these acts as convenient source of food.

The street food industry plays an important role in meeting the food requirements of urban dwellers in many cities and towns of developing countries. The industry feeds millions of people daily with a wide variety of foods that are relatively cheap and easily accessible.
However, food borne illnesses of microbial origin are a major health problem associated with street foods (WHO, 2002).

The street foods being quickly served, tasty and available at reasonable rates and offering a variety of traditional foods have become an attraction to many customers. The street foods provide considerable amounts of valuable nutrients, depending on the raw ingredients used. Purchase of such ready-to-eat foods often pre-occupied with food price and convenience rather than with food safety, quality and hygiene. Persons who vend the street foods are often free from taxes, thus selling what they want and few existing regulations on the subject are not usually enforced. The street foods with substantial amounts of nutrient contribution are also likely to deteriorate in their quality (Kamalabai et.al., 2013).

There is substantial increase in the number of street vendors in the major cities around the world, especially in the developing countries of Asia, Latin America and Africa. As per ILO report 2002 street vendors account for 14.6 percent of total non-agricultural employment in south Africa, 9 percent in Guatemala, 8 percent in Kenya, 6 percent in Tunisia and 1-5 percent in Brazil, Costa Rica and Mexico. In India Street vendors represent about 3 percent of total non-agricultural employment. This translates to more than 3.1 million street traders across the country. In the state of Jammu and Kashmir no study has been conducted to study the lives and conditions of these venders (Bhat and Aasif, 2013).

The traditional processing methods that are used in preparation, inappropriate holding temperatures and poor personal hygiene of food handlers are some of the main causes of contamination of street-vended food. Consumers who depend on such food are more interested in its convenience and usually pay little attention to its safety, quality, and hygiene (Mensah et.al, 2002; Muinde and Kuria, 2005; Barro et.al., 2006).

Food borne illness associated with the consumption of street vended foods has been reported in several places in India and elsewhere (FAO, 1988; Estrada Garcia et al., 2004; Chumber et.al., 2007; Ghosh et.al., 2007). Street foods are frequently associated with diarrhoeal diseases which occur due to improper use of additives, the presence of pathogenic bacteria, environmental contaminants and disregard of good manufacturing practices (GMPs) and good hygiene practices (GHPs). Vendors are often poorly educated, unlicensed, untrained in food hygiene, and they work under crude unsanitary conditions with little or no knowledge about the causes of food borne disease (Barro et al., 2007).

Street food industry plays an important role in meeting the food requirements of commuters and urban dwellers because this industry feeds large number of people daily with
a wide range of foods which are relatively cheap and easily accessible (Tambekar, Jaiswal, Dhanorkar, Gulhane and Dudhane, 2008).

In India, there have been several reports of food-borne illnesses associated with the consumption of street-vended ready-to-serve foods (FAO, 1993) (Chumber, Nwinyi, and Chinedu, 2007) (Ghosh, Wahi, and Ganguli, 2007). Vendors are often not aware of Good Hygienic Practices (GHPs) and Good Manufacturing Practices (GMPs). Despite knowing the ill effects of street vended foods, consumers still disregard the health hazards (Bryan, 1998) (Garode and Waghode, 2012).

The workers handling the food are highly responsible for transmitting the pathogens to food from the contaminated surfaces, other food items or from the hands contaminated with microorganisms of gastrointestinal origin (Cruickshank, 1990) (Muzzafar, Amin and Bhat, 2013).

*E. coli* are commonly used as surrogate indicator in which its presence in food generally indicates direct or indirect faecal contamination. According to Eley (1992a), presents of *E. coli* in food may indicate poor hygienic practice in of food handlers. However, the regular presence of *E. coli* in the human intestine and faeces has led to tracking the bacteria in nature may reflect water contamination by intestinal parasites of humans. A significant number of *E. coli* in food may also suggest a general lack of cleanliness in food handling and improper storage of food (Food and Environmental Hygiene Department of Hong Kong, 2001).

Many studies have shown that the street- vended foods do not meet the microbiological standards and are often contaminated with various pathogens viz. *Escherichiacoli*, *Salmonella*, *Vibrio*, *Listeria* etc. (Chiou, Wang and Lin, 1996; Ryu & Beuchat, 1998). The workers handling the food are highly responsible for transmitting the pathogens to food from the contaminated surfaces, other food items or from the hands contaminated with microorganisms of gastrointestinal origin (Cruickshank, 1990; Muzzafar, Amin and Bhat, 2013).

A food borne illness is a disease that is transmitted through the consumption of a contaminated food. Food borne illnesses are one of the most widespread and overwhelming public health problems (WHO, 2000).

Food borne disease is attributed to consumption of contaminated food with a wide variety of bacteria, parasites and viruses. Cases of food borne diseases occur daily throughout the world, from the most to the least developed countries. It is difficult to obtain accurate estimates of the incidence of microbiological food borne disease. However, in developed
countries, the percentage of people suffering from microbiological food borne disease each year has been reported to be up to 30%, while the problem is likely to be even more widespread in developing countries (WHO, 2002).

According to the WHO, the global incidence of food-borne diseases is difficult to estimate, but it has been reported that in 2005 alone 1.8 million people died from diarrheal diseases. Other studies also show that food and waterborne diarrhea diseases are considered as the leading causes of illness and death in less developed countries, causing an estimated 1.9 million deaths annually in the world (Kaferstein, 2006).

Unsafe food handling can increase food borne risks, especially for vulnerable populations such as children, the elderly, pregnant women, and individuals with weakened immune systems (USDA, 2011a). Children under the age of five are at a higher risk of acquiring a food borne illness than adults due to their less developed immune systems, low weight, and lack of control over the food served to them (Buzby, 2001; Haffejee, 1995).

Food handlers play an important role in ensuring food safety through the chain of production, processing, storage and preparation (Goh, 1997, Hedberg et al., 1994). Approximately 10 to 20% of food-disease outbreaks are due to contamination by the handler. Mishandling of food and disregard of hygiene measures enable pathogens to come into contact with food and, in some cases, to survive and multiply in sufficient numbers to cause illness in consumers. Personal hygiene and environmental sanitation are key factors in the transmission of food-borne diseases. Investigations of outbreaks of food borne disease throughout the world show that in nearly all instances, they are caused by failure to observe satisfactory standards in the preparation, processing, cooking, storing or retailing of food (Tomohide, 2010).

Contamination of street food with S. aureus was also significant at 16% which might be occurring through infected wounds, running hands through hair or scratching the scalp, cuts, burns and dirty clothing of the vendors (Muleta and Ashenafi, 2001; Ghosh et al., 2007). Unhygienic surroundings like sewage, improper waste disposal system, inadequate water supply attracts houseflies or fruit flies, which further increases food contamination (Chumber et al., 2007).

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Food safety education is defined as the delivery of the necessary knowledge and skills to any person who manipulates food at any step of the food system, with a final goal to avoid food borne illnesses (Hazelwood and McLean, 1994). Non-formal food safety education often takes place as “staff development” by employers. Since large companies are not willing to lose business if any of their food products were the cause of a food borne illness outbreak, food safety education has become a lucrative business, (Nieto-Montenegro, et.al., 2000).

Health education is a process that bridges the gap between health information and health practice. An important step in planning health education intervention is to identify predisposing factors like; knowledge, attitude, practice and different socio - demographic characters of patients. Health education is not an addition to treatment, but it is one of the treatment tools that has a great effect on enhancing the diabetic patients own abilities to carry out self - care through providing adequate knowledge changing their attitude, and empowering them with skills that are essential for better control of the disease (Nutbeam, 2000).

Food handler training is seen as one strategy whereby food safety can be increased, offering long-term benefits to the food industry (Smith, 1994). A postal survey of manufacturing, retail and catering food businesses by Mortlock, Peters, and GriYth (2000) revealed that less than 10% had failed to provide some food hygiene training for staV. Less encouraging was the fact that less than 20% of managers were trained to supervisory level. This lack of training for food managers may restrict their ability to assess risks in their business and to assign appropriate hygiene training for their staff.

Considering the above facts, this study was under taken with special interest on assessing the nutritional components and hygienic qualities of the street foods with respect to the homemade foods. The major objectives of the study are as follows:
Objectives

1. To assess the nutrient components of food sold in the streets by mobile food vendors and compare with the homemade food
2. To evaluate the microbiological quality of the foods sold in the streets by mobile food vendors and compare with the homemade food
3. To detect the food adulterants present in the raw ingredients of selected foods sold in streets by mobile food vendors
4. To evaluate the food safety knowledge, attitude and hygienic practices of the mobile food vendors