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Lifestyle Practices, Dietary Pattern, and Nutritional Status of Call Center Agents

KASHMER JEFF C. CAMELLO
ORCID No. 0000-0002-6266-9477
kjccamello@gmail.com

Liceo de Cagayan University
Cagayan de Oro City, Philippines

ABSTRACT

A call center is a central customer service operation where agents handle telephone calls on behalf of a client. The purpose of the study is to explore the mutual interaction of lifestyle practices and dietary pattern of call center agents during graveyards shifts. The Health Belief Model and Theory of Planned Behavior were utilized to investigate the relative interplay of individual approach and lifestyle patterns. Descriptive – correlational research design was applied to describe the correlation of the independent variables and dependent variables. A survey questionnaire was used in collecting data. Frequency, percentage, and mean standard deviation were the method used in the analysis of data. Finding shows that with regards to Physical Activity, Smoking, Alcoholic, Caffeine Drinking/ Beverage, there was no significant result; therefore, hypothesis is accepted. There were significant results to food frequency which means that the hypothesis is not accepted. It does show that call center agents have a good food frequency and they make sure that they will be able to eat three times a day which shows they have good eating patterns and practices. With regards to BMI, call center agents had normal nutritional status.

Keywords: lifestyle, graveyard shifts, food frequency, nutritional status, Call Center Agent.

INTRODUCTION

The call center industry is tagged by our government as a "Sunshine Industry" because of its massive expansion, thus generating employments. A call center is a central customer service operation where agents handle telephone calls on behalf of a client. Clients include mail-ordering, catalog houses, telemarketing companies, computer help desks, banks, financial series, and insurance group, transportation and computer handling firms, hotels, and IT companies.

During break time, some even occupy the various dining fast-food areas. In some parts of our country for instance, call center agents enjoy their 30-minute to one-hour break in food chains. Because of their erratic work schedule that may affect the regularity of their meals and meeting the nutrient requirements for their age, there is a need to look into the nutrition-related lifestyle practices, dietary pattern, nutrient intake and most especially the nutritional status of call center agents. The habit of eating is health-related, and the factors that modify the habit when examined with their food choices and consumption frequency are not the same.

Most call center agents work at times when they would usually be sleeping. According to Suri et al. (2007), this could challenge the individual's circadian rhythm because the sleep-wake internal clock setting is at odds with sleep-wake cycle of the shift schedule ultimately resulting in circadian rhythm sleep disorders. A majority of workers in night duties is unable to sleep adequately during daytime and hence may develop cumulative sleep debt leading to significant sleep deprivation. Sleep deprivation can further complicate their health as it can result in fatigue, mood changes like depression, decreased cognitive functioning, poor executive functioning, impaired vigilance, and a predisposition to infections.

A study by Bulaon (2017) stated that call center agents find that food intake and physical activity are related with obesity. Interestingly, the same study also reveals that alcohol consumption was consumed more by regular shift workers than by late shift workers.

In a rapidly evolving world, the pleasure of eating fast foods is more enticing and convenient, which perfectly fits the demands of today's fast-paced lifestyle of modern society, especially the call center agents. The general effects of urbanization and globalization have significantly influenced common dietary practice over the last few years. The rise of fast foods in the regular diet has been so famous that in many countries traditional foods are often being replaced by modern westernized fast foods. The frequency of increasing fast-food consumption is seen in the

developed and developing countries that fast-food has become a cohesive part of the regular diet.

A study conducted by the Kantar Media Philippines (2015) showed that at least 72 million Filipinos regularly enjoy eating out with families and friends. Of this number, 20 million live in Mega Manila. Also, the 2015 Annual Survey of the Philippine Business and Industry (ASPBI) showed that a total of 27, 028 establishments in the formal sector of the economy were engaged in Accommodation and Food Service Activities. Among industries, restaurants led the sector with 6,652 establishments, accounting for 24.6 percent of the total number of establishments. Fast-food chains ranked second with 4,477 establishments or 16.6 percent, followed by refreshment stands, kiosks, and counters with 3,772 establishments or 14.0 percent.

According to a study in Globalization and Health and a conclusion supported by a study by University of the Philippines researchers, the flood of ultra-processed food and drinks made Asia – Pacific at great risk of poor nutrition and non-communicable diseases (NCDs) from consuming fast food.

Thus, the present study aimed to understand the lifestyle practices and dietary pattern of call center agents during graveyard shifts and how does it affect its nutritional status.

FRAMEWORK

This study utilized the Health Belief Model (Becker, 1974), which expresses the decision of an individual about alternative health behaviors to scrutinize the relative interaction of individual approach and other forces like lifestyle practices and their dietary pattern. Given that the study was focused on lifestyle practices and dietary pattern of call center agents can undermine the necessity to take preventive health actions, HBM is the right conjectural support for this study. The HBM perceives at the mutual interaction of firm attitudes and factors that predict whether a specific health behavior will be adopted.

The HBM (Hochbaum, Kegels, & Rosenstock, 1950), demonstrated a novel approach for explaining the motivational intention of perceivers toward a particular health behavior. The orientation of the researchers was to develop a collaborative theoretical framework that would explain not only a particular problem but also could be used to explain other behavioral problems (Rosenstock, 1974). The early construction of HBM was influenced by the theory of Kurt Lewin with its implication which expounds that an individual's life space

consists of three regions: a region positively valued (positive valence), negatively valued (negative valence) and neutrally valued. Lewin's principle presupposes individuals' activities as continuous processes adjusted between positive forces and negative forces. Rosenstock describes this adjustment: "Diseases, if they were epitomized in the life space, there would be regions of negative valence that could be expected to exert a force moving the person away from that region, unless doing so would require him to enter a region of even greater negative valence" (Rosenstock, 1974). The HBM proposes that any intention to initiate any positive step toward health behavior originates at the psychological level of an individual. The important structure of the Health Belief Model (Becker, 1974) focuses on three principal points. These are the perceived susceptibility and perceived severity of a particular disease, the perceived threat of a disease and calculation of the perceived benefits and the perceived barriers of the recommended action (preventive health behavior). Each of these perceptions operates at the mind of the individual who has been modeled to a health risk and is likely to respond to the situation by taking preventive actions. The modifying factors and cues can only influence these three perceptions, but the decision - making process is the outcome of the mutual interaction of these three basic perceptions.

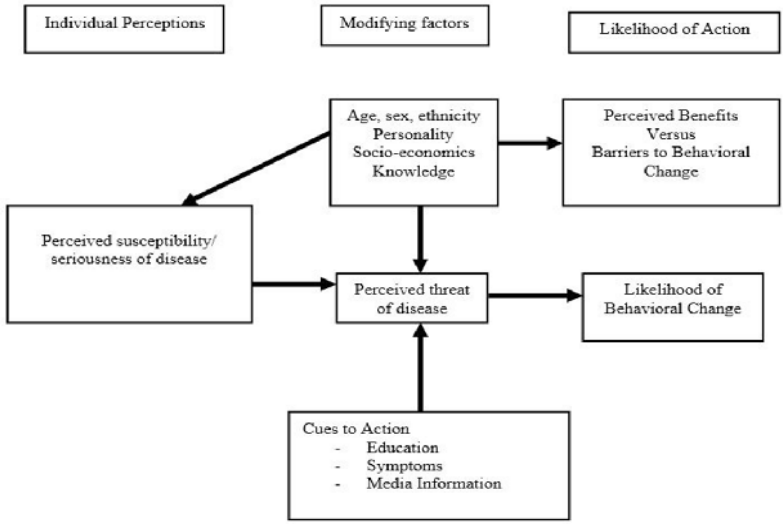

Figure 1. Concept of Health Belief Model

Another model utilized in this study is the Theory of Planned Behavior (Ajzen,

1985) that postulates the intention of an individual to perform a given behavior. Intentions are assumed to capture the motivational factors that influence behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert in order to perform the behavior. As a rule, the stronger the intention to engage in a behavior, the more likely it should be its performance. It should be clear, however, that a behavioral intention could find expression in behavior only if the behavior in question is under voluntary control. Although some behaviors may meet this requirement quite well, the performance of most depends at least to some degree on such non-motivational factors as availability of essential opportunities and resources (e.g., time, money, skills, and cooperation of others). Collectively, these factors represent people's actual control over the behavior. To the extent that a person has the required opportunities and resources, and intends to perform the behavior, he or she should succeed in doing so. The idea that behavioral achievement depends jointly on motivation (intention) and ability (behavioral control) is by no means new.

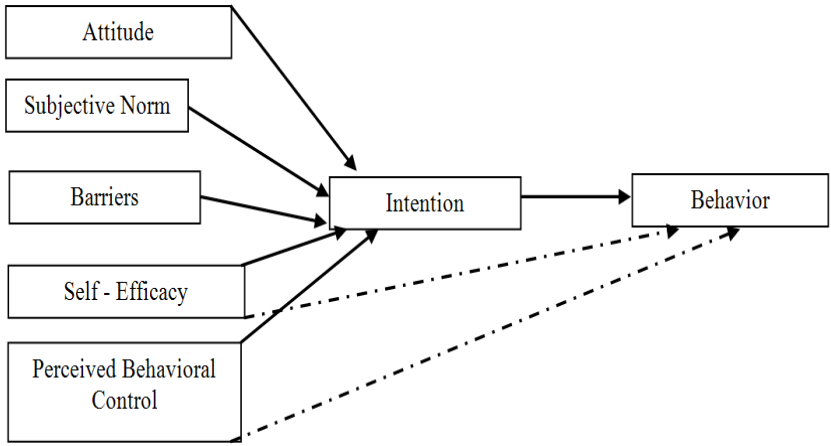

Figure 2. Conceptual Model of Theory of Planned Behavior

The TPB has demonstrated strong efficacy for predicting health-related behaviors (e.g., healthy eating, exercise, smoking, condom use) among the general population (Andrykowski, Beacham, Schmidt, & Harper, 2006; Armitage & Conner, 2001; Bassett-Gunter et al., 2015; Blue, 2007; Godin & Kok, 1996; Kothe, Mullan, & Butow, 2012; White, Terry, Troup, Rempel, & Norman, 2010; Wyker & Davison, 2010). The three higher order TPB constructs are composed of primary components (i.e., behavioral beliefs, normative beliefs, control beliefs) and secondary components (i.e., attitudes toward the behavior, subjective

norms, and perceived behavioral control, respectively), which predict behavioral intentions and subsequent behavioral outcomes. TPB model illustrates the relationship between the TPB constructs, intentions, and behaviors. Behavioral beliefs include an individual's expectation of a particular behavior and the individual's perceptions of the potential outcomes of engaging in the behavior.

Subjective norms are determined by an individual's perception of the perceived endorsement of a particular behavior among their significant others (e.g., friends, family members) and the individual's inclination to comply with referents' opinions. Perceived behavioral control is considered as the resources and barriers that an individual perceives will facilitate or inhibit engaging in a particular behavior, to what degree those factors can influence behavioral engagement, and the individual's ability to utilize resources to overcome barriers to perform the behavior.

This study is linked to the assumption that lifestyle practices and eating patterns of the call center agents determined by the factors internal and external to the biosphere of the person. It also theorized that in establishing the nutritional status of the call center agents, it will be indicated through measuring the height and weight of the person.

According to the World Health Organization in their global health observatory data that, at least 2.8 million people die each year as a result of being overweight or obese, and an estimated 35.8 million (2.3%) of global DALYs are triggered by overweight or obesity (2008). Overweight and obesity lead to adverse metabolic effects on blood pressure, cholesterol, triglycerides, and insulin resistance. Risks of coronary heart disease, ischemic stroke, and type 2 diabetes mellitus increase steadily with increasing body mass index (BMI), a measure of weight relative to height. Raised body mass index also increases the risk of cancer of the breast, colon, prostate, endometrium, kidney and gall bladder. Mortality rates increase with increasing degrees of overweight, as measured by body mass index.

To achieve optimal well-being, the median body mass index for an adult population should be in the range of 21 to 23 kg/m2, while the goal for individuals should be to maintain body mass index in the range 18.5 to 24.9 kg/m2. There is increased risk of co-morbidities for body mass index 25.0 to 29.9, and moderate to severe risk of co-morbidities for body mass index greater than 30.

In 2008, 35% of adults aged 20+ were overweight (BMI ≥ 25 kg/m2) (34% men and 35% of women). The worldwide prevalence of obesity has nearly doubled between 1980 and 2008. In 2008, 10% of men and 14% of women in the world were obese (BMI ≥30 kg/m2), compared with 5% for men and 8% for

women in 1980. An estimated 205 million men and 297 million women over the age of 20 were obese – a total of more than half a billion adults worldwide.

The prevalence of overweight and obesity was highest in the WHO Regions of the Americas (62% for overweight in both sexes, and 26% for obesity) and lowest in the WHO Region for South East Asia (14% overweight in both sexes and 3% for obesity). In the WHO Region for Europe and the WHO Region for the Eastern Mediterranean and the WHO Region for the Americas, over 50% of women were overweight. For all three of these regions, roughly half of overweight women are obese (23% in Europe, 24% in the Eastern Mediterranean, 29% in the Americas). In all WHO regions, women were more likely to be obese than men. In the WHO regions of Africa, South East Asia, and Eastern Mediterranean, women had roughly doubled the obesity prevalence than men.

Likewise, according to Hall (2006), Body Mass Index (BMI) is currently the best available anthropometric estimate of fat for public health purposes. Direct body measurement is a valid anthropometric assessment and can be used as a substitution for body fat. There are two main approaches: physicochemical methods and imaging. The first of these measures the amount of body water by dilution using deuterium oxide or using bioelectrical impedance and total body electrical conductivity. Imaging using CT or, more recently, MR, can provide precise and reliable measures of FM and lean body or fat-free mass (FFM) both overall and in various body compartments.

Its long-term effects of the growing dependence on fast food consumer health has been evident in numerous ways. Excessive consumption of fast food can predispose its consumers to an uneven intake of nutrients to calories and, therefore, can aggravate certain health conditions. Repeated consumption of fast foods has been associated with some non-communicable diseases such as obesity, cardiovascular diseases, Type II diabetes, or hypertension (Stender et al., 2007). Though the direct association of fast food consumption and the causes of these diseases need to be supported by more scientific evidence, the effects of fast food on the degeneration of these health conditions will not be disregarded.

Recent data suggest that the increasing rates of chronic degenerative diseases have a direct connection with diet, and especially with the consumption of fast food. Frequent consumption of fast food has been directly associated with weight gain and Type Two diabetes in a US-based population (Pereira et al., 2005). The increased consumption of fast food is positively related to an increase in BMI (Duffey et al., 2007). Fast foods are often rich in salt content. Recent studies show a positive relationship between increased salt intake and stroke and other

cardiovascular diseases (Strazzullo et al., 2009).

General food choice behavior is a complex process and involves other factors such as beliefs and attitudes toward food (Shepherd, 1989). These beliefs and attitudes are extremely personal and may have different social, cultural, and religious implications. The increasing trend of fast food consumption is intensely culture-specific (Seubsman et al., 2009). Attitudes toward fast food consumption might have been developed differently in various cultural groups depending on their socio-cultural preferences. The availability of food may be also a chief contributor in developing food-related attitudes and preferences.

Pico (2006) also asserted that working at night and sleeping at day time would lessen opportunities for social interaction and will be more limited to the social environment in the call center which is mainly composed of co-workers who may follow the same routines. The combination of night-time work and constant schedule change takes its toll on agents' health, social and family life. Manegdeg (2007) also found that 57 out of 100 respondents from three call center companies disclosed that they could no longer spend time with their families like they used to.

Night workers have higher health risks compared to that of day time workers. These risks include potential danger and difficulty in availing themselves of transport services; effects on health and body rhythms in terms of sleep and nourishment; deprivation in socialization opportunities like attending family and other social gatherings; among others (Sibal, 2010, citing Soriano, 1985). Safety measures and other arrangements should be put in place to address the specific concerns of women, such as security guards to accompany employees to where they take their rides, arrangement with taxi companies, and shuttle services. Pregnant women should be excused from night shift jobs. Call center establishments should provide resident physicians for pregnant women, breastfeeding areas and daycare facilities.

The study of Tunajeck (2007) showed that 24% of the call center agents studied were either overweight or obese. This theory supports the findings of that night shift work can lead to weight gain and obesity. Most of the call center agents said they engaged in physical activity but described their level of physical activity as sedentary and light active. Most of call center agents considered walking as their only daily physical activity every day. According to the participants, they did not have time to engage in physical activity because of their busy schedule. Results showed that more than half (53%) of the call center agents were smokers, consuming 7 or more sticks per day. About two- thirds (68%) of the call center

agents in this study admitted alcohol drinking. The study revealed that most (95-95%) of the call center agents did not have regular time in taking their meals. Majority of them did not take breakfast, lunch, and dinner on time due to their erratic schedule, although half (51%) of them took 3 or more meals a day. This concerns to this group of people since such dietary pattern if continued as a regular practice can put their health & nutritional status at high risk. Results showed that frequently consumed food by the call center agents was Meat/ Poultry/ followed by Cereal/ Cereal Products then sweets/ dessert. The adequacy of intakes of energy, protein, carbohydrates & fats were generally poor except for the female group < 19 years old. These negative outcomes are quite expected because of their erratic schedule that affects their eating pattern especially the regularity of the time for eating meals.

Civil Status

Recently, Dizon and Gregorio (2010) did an exploratory study on the well-being of single young adults, males, and females alike, working as call center agents. The respondents were single college graduates belonging to the age bracket 20-26. The results of the survey and follow-up interview show that the well-being of single young adults working as call center agents is satisfactory. The study also showed that time constraints from the job did not affect the family relations of the respondents. Work was not perceived as a stressor in family relations. This is not consistent with earlier studies showing that the combination of night-time work and constant schedule change takes its toll on agents' family life.

However, the focus of Dizon and Gregorio's study were single young adults who may have lesser or no domestic obligations. As the researchers explained, single young adults are typically shown to be able to adapt and relate to their work effortlessly. Moreover, the data was primarily based on the survey of 100 (50 single males, 50 single females) call center workers in Quezon City, which was carried out by distributing questionnaires to agents who fit the criteria (single and between 20 to 26 years old).

Age/Young Adult

According to Bala (2017), young adulthood is a period when people have to learn to cope with many new demands arising from marital relationships, parenthood, and professional career. In earlier mastery tasks, a firm sense of self-efficacy is an important contributor to the attainment of further competencies and success. Those who enter adulthood poorly equipped with skills and plagued

self-doubts find many aspects of their adult life stressful ad depressing. At this stage, a student has to make a beneficial decision by using their abilities as it suggests that necessary help should be provided to adolescence in order to utilize their capabilities in proper manner. Student's self-efficacy should be cultivated routinely through activities to become competent decision-makers.

Wyker and Davison (2010) quoted that people in their late teens and twenties – those who are no longer minors but who have not yet taken on full adult responsibilities – have become a unique age group. Many risky behaviors, such as heavy alcohol use, use of illegal drugs, sex with acquaintances or relative strangers, and drunk-driving peak during the 18-25-year-old age group. Many people in this age group keep switching college majors, moving into and out of their families' homes, changing jobs, and moving in and out of relationships.

A study on call center agents by Bulaon-Ducusin (2017) finds that food intake and physical activity are correlated with obesity. Interestingly, the same study also reveals that alcohol consumption was consumed more by regular shift workers than by late shift workers. The study also suggests that nutrition education on proper food choices and application of moderate physical occupation of shift workers could help improve the workers' health.

Gender

A study by Sibal et al. (2006) has shown that the call center company employs sixty percent more female regular employees than male. In 2005, call center industries on the average employed 379 Women workers per establishment. Pineda (2005) also observed that the call center, the fastest growing sub-sector of the service industry, has in recent years generated many "high value" but short-term jobs for young, English-speaking Filipino women who work night shifts at great expense to their health, family and social life

Belt et al. (2002) examined the relationship between the feminization of the labor market and the demand for stereotypical feminine qualities and social skills in the service-based economy, specifically in call centers. A number of authors (Belt et al. citing Adkins, 1995; McDowell, 1998; Woodfield, 1998; Bradley et al., 2000) observed that there is an abrupt rise in female labor power, given that women are believed to possess an abundance of social skills required by employers in service-based economy, and especially in the so-called "interactive service occupations," the central emphasis of employment trend today are upon face-to-face or voice-to-voice contact with people. They posted that call centers are

good sites to explore certain questions on how "feminine" social skills are being used by employers in the service industries, and to what degree these "feminine" skills are valued, acknowledged and rewarded. Not only because women make up the majority of employees in the industry, it has also been claimed by employers that women are more suited to the work than men because they are more likely to possess the appropriate social skills, particularly the ability to "smile down the phone."

Belt et al. (2002) at the same time, however, showed that women are also recruited to call center work because they perceived to be more capable of dealing with the monotony of the work and the well-organized work environment. The highly standardized and controlled nature of work and organization used in call centers constrains the extent to which women's social skills can be used and further enhanced. Further, women are also most heavily concentrated in those areas of call center work, particularly in customer service roles, that attract the lowest financial rewards.

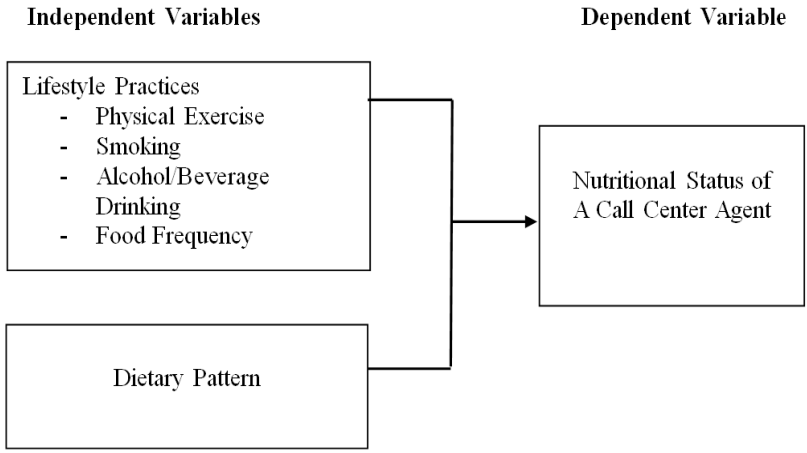

Figure 3. Schematic Presentation showing the interplay of the variables

OBJECTIVES OF THE STUDY

The primary objective of the study was to determine the association of nutritional status with nutrition-related lifestyle practices and dietary pattern among night-shift call center agents. Specifically, the study aimed to: (1) determine the nutritional status thru Body Mass Index (BMI) of call center agents covered

in this study; (2) assess the nutrition-related lifestyle practices such as physical activity, smoking, alcoholic beverage / caffeine drinking, and food frequency; (3) describe the daily eating pattern of the call center agent; and (4) correlate nutritional status and lifestyle practices and daily eating pattern.

METHODS

This study was conducted at Cagayan De Oro City specifically at the participants' respective designation area of work. The call center agents who were on night shift were the participants of this study under Concentrix Synnex Corporation. The BPO company continuously grew its operations with nearly nine business sites across the country. Recognized as one of the world's best global business service companies which handled 450 international brands, Concentrix Synnex Corporation hired more than 13,000 employees across the Philippines. The Cagayan de Oro City branch is situated at the upscale Pueblo De Oro IT Zone along Block 2 Lot 3 Trade Street, which consisted 1,300 call center agents both morning and night shifts.

This descriptive correlational research design utilized the quantitative approach as it collected the data through a survey. This research used a quantitative research design to describe the relationships of the independent variables to the dependent variables and to gather the assessment of the participants. Survey research as a type of descriptive-correlational research design was also applied to describe the correlation of the independent variables and the dependent variables. The study attempted to determine the association of nutritional status with nutrition-related lifestyle practices, and dietary patterns among night-shift call center agents.

The participants of the study comprised of 64 call center agents aged 18 to 40 years old during graveyard shift of Concentrix Synnex Corporation in Cagayan de Oro City from October to November 2018, together with their nutritional status. The study used non-probability sampling. Survey questionnaires were selected and sent to the participants based on their convenience and availability.

The main instrument used in this study was the questionnaire. The instrument used was an investigator – made questionnaire to gather the needed data for the call center agent's profile. The survey was in the form of a self-administered questionnaire that was available through answering the questions in a print-out paper which will be manually given by the investigator to the participant. The questionnaire included questions about the participant's anthropometric measurements, eating patterns, food choice consumptions, and lifestyle practices.

The questionnaire contained questions about the participant's nutrition-related lifestyle practices and daily eating patterns and asked questions on how they engage to physical exercises, their food preferences and their views on hunger and satiety. This instrument will be validated by a panel of experts in terms of content and construct.

The participant's height and weight were measured and calculated using the Body Mass Index (BMI) computation. Each participant will be weighed using the bathroom weighing scale throughout the time frame of the study or a calibrated bathroom scale, and steel tape will be used to collect anthropometric data.

Furthermore, to obtain the participant's weight in kilograms, the investigator used the bathroom weighing scale. Since the Body Mass Index required the height and weight of the participants, the investigator made use of the steel tape or tape measure to measure the participants' height in centimeter. To compute for BMI (Body Mass Index) for male and female: BMI = weight (kg)/height (meters squared)

It was calculated using the WHO 2002 standard in computing the BMI nutritional status.

Table 1

Stages or Grade of Chronic Energy deficiency (CED) Based on Body Mass Index

Class / Category	Body Mass Index Range
CED Grade III	Less than 16.0
CED Grade II	16.0 – 16.9
CED Grade I	17.0 – 18.4
Low Normal	18.5 – 19.9
Normal	20.0 – 24.9
Obese Grade I	25.0 – 2.99
Obese Grade II	30.0 – 34.9
Obese Grade III	35.0 – and over

Source: World Health Organization (WHO) 2002

For the questionnaire regarding to nutrition-related lifestyle practices and the daily eating pattern, the following were the scoring scale:

Scale	Range	Verbal Description	Qualitative Interpretation
5	4.50 - 5.00	Always	Means Subject do it in all instances
4	3.49 - 4.49	Often	Subject do it in the majority of instances
3	2.50 - 3.49	Sometimes	Subject do it occasionally of the instances
2	1.50 - 2.49	Rarely	Subject do it in a few instances
1	1.00 - 1.49	Never	Subject did not do it in any instances

Research Protocol

To ensure the quality and reliability of research findings, the investigator observed the following protocol. The investigator secured first the approval from Dean of Graduate Studies and the Director of the Research and Publication office. Upon the approval of the Dean and Research Director, the investigator conducted the study in Cagayan de Oro city, with 64-night shift call center agents aged 18 to 40 years old as participants. The project involved the participation of the people other than the investigator and supervisors, so the investigator obtained a valid consent such as the approval from the call center company and research director. The participants for this study were purely anonymous, and data for this study were purely confidential. The information it contained was confidential and will be used only by the Liceo de Cagayan University students for Ethical Review and monitoring of the research project described herein, and to satisfy reporting requirements to regulatory bodies. The information cannot be used for any other purposes without prior consent from the investigator. Provision of the final manuscript. The investigator provided the adviser the copy or the manuscript for assessment and review of the quality and relevance of the paper prior to the scheduling of the final research presentation. Once the paper was approved by the adviser, it was forwarded to the School of Graduate Studies Research Coordinator for further review of the completeness of the paper. The Coordinator then met with the dean for the scheduling of the paper presentation. After the final paper presentation, the investigator incorporated all the corrections and suggestions of the Research Panel and reviewed by the adviser and the panel members. After the paper was approved by the panel, it was then submitted to the Research and Publication Office for Plagiarism and Grammarly Tests. The investigator then forwarded the final paper to their assigned editor. After incorporating all the corrections, the investigator submitted the final paper to the adviser and Research Panel for signature and approval for binding.

Upon the approval of the proposal by the research committee, the investigator

secured a permit to conduct this study from the adviser. The investigator gave informed consent before the start of the survey. The participants could answer the questions through selecting their choice of answer by marking a check of what they felt appropriate. The survey also included a few questions where the participants had to write down their answers. After gathering the data, the investigator collected and made a transcription of the gathered responses. After that, the investigator analyzed and interpreted the data based on the assumptions of Health Belief Model by Hochbaum, Rosenstock, and Kegels (1950) and Theory of Planned Behavior by Icek Ajzen (1985), noting comprehensive patterns and schemes with related issues.

A quantitative approach was used to analyze data involving the demographic profile of the participants. Descriptive statistics: Mean, standard deviation, frequency, and percentage were used to test the significant relationship between variables, Pearson Product – Moment Correlation was applied.

Since the questionnaire is an investigator - made questionnaire, a pilot study with 15 participants was conducted to test for reliability of the research tool utilizing the Cronbach's alpha method. Reliability test is applied in this study by ensuring that no question was answered twice by the same participant and all participants have answered all the questions in the questionnaire. Questionnaires are referred to always lack validity for many reasons (Bryman and Bell, 2003). Several individuals may lie; give responses that are desired and so on. Reliable measurement instruments are free of random error. The validity of measurement denotes the degree to which the scores from the test or instrument measure what it is supposed to measure (Myers, 2009). Validity test is adopted in this study by ensuring that the questions in the questionnaires are relevant to that of the proposed research objectives. The data gathered from the said pilot study was analyzed, and the survey questionnaire has been validated reliable.

This study made use of the Descriptive Statistical Approach Pearson Product – Moment Correlation such as Frequency and Percentage which is a particularly useful method of expressing the relative frequency of survey responses and other data.

For objective 1, the WHO 2002 standard in computing the BMI nutritional status was utilized.

For objective 2, the descriptive statistics was used to determine the Mean and Standard Deviation to describe nutritional – related lifestyle practices such as physical activity, smoking, alcoholic beverage / caffeine drinking, and food

frequency.

For objective 3, the Pearson Product Moment Correlation was utilized to determine the significant relationship and measure of the strength that exists between two variables measured on at least an interval scale.

RESULTS AND DISCUSSION

Objective 1: To determine the nutritional status through Body Mass Index (BMI) of call center agents covered in this study.

Table 2

Stages or Grade of Chronic Energy deficiency (CED) Based on Body Mass Index

Class / Category	Body Mass Index Range	Frequency	Percentage
CED Grade 111	Less than 16.0	0	0.00
CED Grade ll	16.0 – 16.9	0	0.00
CED Grade l	17.0 – 18.4	7	10.94
Low Normal	18.5 – 19.9	3	4.69
Normal	20.0 – 24.9	28	43.75
Obese Grade l	25.0 – 2.99	13	20.31
Obese Grade ll	30.0 – 34.9	9	14.06
Obese Grade lll	35.0 and over	4	6.25
Overall Mean		**64**	**100.00**

Table 2 presents the result of the body mass index of the participants which showed that most of the participants (43.74%) were in the standard category based on body mass index range of 20.0 – 24.0 while almost half (40.62%) of the participants were above category of obese grade 1 (20.31%), grade 11 (14.06%), and grade 111 (6.25%). Therefore, half of the call center agents are conscious of their healthy lifestyle but nearly half of the participants' BMI also were in the obese categories. A study by Bulaon-Ducusin (2017) on call center agents found that food intake and physical activity are both related with obesity. Interestingly, the same study also reveals that alcohol consumption was consumed more by regular shift workers than by late shift workers. The study also suggests that nutrition education on proper food choices and application of moderate physical occupation of shift workers could help improve the workers' health.

Objective 2: To assess the nutritional – related lifestyle practices such as physical activity, smoking, alcoholic beverage/caffeine drinking, and food frequency.

Table 3

The nutrition-related lifestyle practices of the call center agent

Indicators	Mean	SD	Verbal Description	Qualitative Interpretation
A. Physical Activity				
About how many times in the average week do you engage in 30 minutes of moderate activity?				
a. Brisk Walking	3.11	1.286	Sometimes	Subject do it occasionally of the instances
b. Light Bicycling	1.75	1.008	Rarely	Subject do it in a few instances
c. Jogging	2.28	1.119	Rarely	Subject do it in a few instances
d. Gym Workout	1.52	0.926	Rarely	Subject do it in a few instances
Overall Mean	2.17	1.085	Rarely	Subject do it in a few instances
1. How do you engage your physical exercises or activity?				
a. Jogging	2.30	1.122	Rarely	Subject do it in a few instances
b. Walking	3.73	1.312	Often	Subject do it in the majority of instances
c. Running	2.47	1.154	Rarely	Subject do it in a few instances
d. Swimming	1.81	1.052	Rarely	Subject do it in a few instances
e. Cycling	1.58	0.887	Rarely	Subject do it in a few instances
f. Boxing	1.48	1.023	Never	Subject did not do it in any instances
Overall Mean	2.23	1.092	Rarely	Subject do it in a few instances
B. Smoking				
1. Do you smoke cigarette?	1.69	1.258	Rarely	Subject do it in a few instances
2. I smoke 1 to 5 sticks per day	1.63	1.241	Rarely	Subject do it in a few instances
3. I smoke 1 pack or more per day	1.02	0.125	Never	Subject did not do it in any instances
Overall Mean	1.45	0.875	Never	Subject do it in a few instances
C. Alcohol Beverage / Caffeine Drinking				
1. Do you drink alcoholic beverages?	2.34	1.087	Rarely	Subject do it in a few instances
2. How often do you drink alcohol beverages?	2.28	0.983	Rarely	Subject do it in a few instances
3.I consume alcoholic beverages 1 4 glasses / bottles per week	2.00	1.008	Rarely	Subject do it in a few instances
4.I consume more than 16 glasses / bottle alcoholic beverages per week	1.56	0.906	Rarely	Subject do it in a few instances
5.I prefer beer for my alcohol beverages	2.16	1.288	Rarely	Subject do it in a few instances
6.I prefer spirits such as rum, vodka, tequila, or whisky	2.13	1.228	Rarely	Subject do it in a few instances
7.I like to drink coffee during my shift	2.92	1.674	Sometimes	Subject do it occasionally of the Instances
8.I consume 2 cups of coffee per shift	2.30	1.388	Rarely	Subject do it in a few instances
9.I almost consume coffee 3-4 cups per shift	1.78	1.046	Rarely	Subject do it in a few instances
10.When I am on night shift, I consume 11 cups per shift	1.09	0.344	Never	Subject did not do it in a any instances
Overall Mean	**2.06**	**0.966**	**Rarely**	**Subject do it in a few instances**

Table 3 Continued

Indicators	Mean	SD	Verbal Description	Qualitative Interpretation
D. Food Frequency				
1. The food I frequently eat during night shift are vegetables.	2.56	1.022	Sometimes	Subject do it occasionally of the instances
2. I like Instant noodles because it is easy to prepare.	2.36	1.239	Rarely	Subject do it in a few instances
3. Fries and burger are my choice of food to eat in my shift.	2.20	1.115	Rarely	Subject do it in a few instances
4. I bring home cooked food as my choice of food.	2.56	1.283	Sometimes	Subject do it occasionally of the Instances
5. I usually eat street food for my night shift duty.	2.03	1.054	Rarely	Subject do it in a few instances
6. I prepare fruits as my food during night shift.	2.20	0.995	Rarely	Subject do it in a few instances
7. I like food cooked with oil or deep-fried foods.	2.84	1.101	Sometimes	Subject do it occasionally of the instances
8. I usually eat take away foods/ fast food.	2.89	0.945	Sometimes	Subject do it occasionally of the Instances
9. I usually eat fruits and vegetables every meal.	2.78	0.934	Sometimes	Subject do it occasionally of the Instances
Overall Mean	2.49	1.076	Rarely	Subject do it in a few instances

Legend:

Scale	Range	Verbal Description	Qualitative Interpretation
5	4.50 – 5.00	Always	Means Subject do it in all instances
4	3.50 – 4.49	Often	Subject do it in the majority of instances
3	2.50 – 3.49	Sometimes	Subject do it occasionally of the instances
2	1.50 – 2.49	Rarely	Subject do it in a few instances
1	1.00 – 1.49	Never	Subject did not do it in any instances

Table 3 shows that the nutrition-related lifestyle practices of the call center agent, most participants were engaged in brisk walking (mean = 3.11) for their 30-minute physical activity which means most of them make it occasionally while most of the participants would not go on gym workouts (mean = 1.52). The most common physical exercise participants engaged in was walking (mean = 3.73) and least physical exercise they engaged in was boxing (mean = 1.48). In the study conducted by Tunajeck (2007), night shift work was shown to lead to weight gain and obesity. Most of the call center agents said they engaged in physical activity but described their level of physical activity as sedentary and light active. Most of call center agents considered walking as their only daily physical activity every day.

With regards to smoking, most participants do smoke cigarettes (mean = 1.69) with at least 1 to 5 sticks per day (mean = 1.63), which means that most participants do it in a few instances. The result contradicts the study conducted by Choudhary, Rao, Suneetha (2003) that smoking was considered by many to be a quick-fix solution to their stress problems. Based on the study, 63% of

employees had multiple addictions (smoking, chewing tobacco, alcohol, and other forms). As much as 56% of the "more than one pack-a-day" smokers and 61% of the "more than one peg-a-day" drinkers worked in call centers.

Alcohol beverage and caffeine drinking was detected that call center agents drink coffee during their shift which has a mean score of 2.92 with a verbal description of sometimes and with a qualitative interpretation of Subject do it occasionally of the instances.

Food frequency revealed that call center agents usually eat fast food or take-away foods during graveyard shifts which has a mean score of 2.89 and with a qualitative interpretation of subject do it occasionally of the instances, and least of them were eating street foods with a mean score of 2.03. In a study on Globalization and Health and a conclusion supported by a study of University of the Philippines, researchers surveyed 1,030 college students aged 16 to 20 years to determine their commonly consumed fast food products. The Food and Nutrition Research Institute (FNRI) found that the most consumed fast food products of young people were energy- dense but low in fiber.

Objective 3: To describe the daily eating pattern of call center agent.

Table 4

Daily Eating Pattern of a Call Agent Center During Graveyard Shifts

	Scale	Mean	Standard Deviation	Verbal Description	Qualitative Interpretation
1.	I regularly eat breakfast, lunch and dinner	3.78	1.215	Often	Subject do it in the majority of the instances
2.	I eat breakfast only with snacks	2.31	0.990	Rarely	Subject do it in a few instances
3.	I eat lunch only with snacks	1.86	0.852	Rarely	Subject do it in a few instances
4.	I eat dinner only with snacks	2.16	1.057	Rarely	Subject do it in a few instances
5.	I eat snacks only during my night shift	2.66	1.158	Sometimes	Subject do it occasionally of the few instances
6.	I consider fruits, chips/crisps, or a glass of soda etc. as a single snack	2.75	1.141	Sometimes	Subject do it occasionally of the few instances
7.	I regularly eat at restaurants / fast food stores	2.72	0.967	Sometimes	Subject do it occasionally of the few instances

Table 4 Continued

8.	I do watch out for healthy nutrition facts	2.72	1.161	Sometimes	Subject do it occasionally of the few instances
9.	I do eat when I feel stressed, unhappy, angry or bored	3.38	1.374	Sometimes	Subject do it occasionally of the few instances
10.	I preferentially buy food which are Pre-cooked foods	2.75	1.084	Sometimes	Subject do it occasionally of the few instances
11.	Are you aware of your sensation of hunger?	3.39	1.203	Sometimes	Subject do it occasionally of the few instances
12.	Are you mindful of your sensation of satiety? (fullness: opposite of hunger)	3.06	1.320	Sometimes	Subject do it occasionally of the few instances
	Overall Mean	**2.80**	**1.127**	**Sometimes**	**Subject do it occasionally of the few instances**

Legend:

Scale	Range	Verbal Description	Qualitative Interpretation
5	4.50 – 5.00	Always	Means Subject do it in all instances
4	3.50 4.49	Often	Subject do it in the majority of instances
3	2.50 – 3.49	Sometimes	Subject do it occasionally of the instances
2	1.50 – 2.49	Rarely	Subject do it in a few instances
1	1.00 – 1.49	Never	Subject did not do it in any instances

Table 4 shows that the highest daily eating pattern of the call center agent is "I regularly eat breakfast, lunch, and dinner which has a mean score of 3.78 with a verbal interpretation of Often. This means that they eat regular meal with breakfast, lunch, and dinner. The lowest score is on the "I eat lunch only with snacks" question, which has a mean score of 1.86. The recent study of Suarez (2010) revealed that less than half of call center workers (47%) regularly eat three meals a day.

Objective 4: To correlate nutritional status and lifestyle practices and daily eating pattern.

Ho1 – There is no significant relationship between the daily eating pattern, nutritional status, and nutritional related lifestyle practices.

Table 5

The result of correlations between the variables: Physical Activities, Smoking, Alcoholic Beverages / Caffeine Drinking and Nutritional Status and Food Frequency and Daily Eating Pattern

Dietary Pattern

Lifestyle Practices	Pearson Correlation	P - value	Interpretation
Physical Activity	0.161	0.204	Not Significant
Smoking	0.215	0.088	Not Significant
Alcoholic Beverage Caffeine Drinking	0.032	0.802	Not Significant
Food Frequency	0.483	0.000	Significant

*P - value < 0.05
**P - value < 0.01

Table 5 shows that Physical Activity, Smoking, and Alcoholic Beverage/ Caffeine Drinking were not significantly related to daily eating dietary pattern. However, food frequency is absolutely related to daily eating pattern. It shows that call center agents have a satisfactory food intake in terms of frequency and they make sure that they will be able to eat three times a day which shows they have good eating patterns and practices.

CONCLUSIONS

The overall results of the call center agents with regards to the lifestyle practices and dietary patterns have been normal and most of them have a normal BMI with regards to their nutritional status. The results also showed that nearly half of the participants were in the obese categories 1, 11 and 111. There is a significant relationship between daily eating pattern and food frequency. On the contrary, nutritional status and lifestyle practices are not related to daily eating pattern. This means that call center agents are conscious of their health and well – being.

RECOMMENDATIONS

Based on the results of this study, the following are recommended that to improve the implementation of programs to improve the situation of call center agents, thereby lessening their exposure to health and nutrition risks:

1. Nutrition education and information program may be initiated and maintained by the call center companies to enable the call center agents to minimize the negative impact of the lifestyle brought about by the nature of their job. This can be implemented through health and nutrition materials, nutrition seminars on wellness where they will have access to information and awareness programs; and dietary and nutrition counseling from health workers such as physicians, nurses, and nutritionists;

2. Facilities and resources for a wellness program in the workplace such as a gym, gym instructor and selected equipment may be considered. The wellness program may also include routine exercise for call center agents including those on night-shifts;

3. Access to inexpensive healthy meals in the companies' pantries or canteens may be served and classified with nutrition labels and calorie counts;

4. A similar study may be conducted with more participants using representative samples from call center companies from different shifts to be able to determine possible associations among the variables studied of adolescence health program among all areas. This hopes to decrease the number of ill patients in the country and worldwide; and

5. There should be a provision of mini-health clinics in order to update the health status of employees to sustain a well-balanced lifestyle and to maintain a healthy body for continuous and lasting years of employment.

LITERATURE CITED

Annual Survey of Philippine Business and Industry. (ASPBI)(2013) - *Economy Wide for All Establishment :* Retrieved February 14, 2017 from https://psa.gov.ph/content/2013-annual-survey-philippine-business-and-industry-aspbi-economy-wide-all-establishment Ajzen I, *Handbook of Theories of Social Psychology*: 1, Chapter 21: *The Theory of Planned Behavior,* Van Lange P, Kruglanski A, Higgins E. 2012: 1:438.

Andrykowski, M.A., Beacham, A.O., Schmidt, J.E., & Harper, F.W. (2006). Application of the theory of planned behavior to understand intentions to engage in physical and psychosocial health behaviors after cancer diagnosis. *Psycho-Oncology*, 15(9), 759- 771.

Armitage, C.J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A metaanalytic review. *British Journal of Social Psychology,* 40(4), 471-499.

Bassett-Gunter, R.L., Levy-Milne, R., Naylor, P.J., Downs, D.S., Benoit, C., Warburton, D.E.R., Blanchard, C.M., & Rhodes, R.E. (2015). A comparison of theory of planned behavior beliefs and health eating between couples without children and first-time parents. *Journal of Nutrition Education and Behavior,* 47(3), 216-224.

Becker, M. H. (Ed.) (1976). *The Health Belief Model and Personal Health Behavior:* Thoroface, NJ: Charles B. Slack.

Becker, M. H., Drachman, R.H., & Kirscht, J.P. (1974). "A new approach to explaining sick role behavior in low-income populations." *American Journal of Public Health* 64 (3):205-16.

Belt, V., Richardson, R., & Webster, J. (2002). "Women, social skill and interactive service work in telephone call centers."New technology, *Work and Employment.* 17(1), 20-34.

Birch, L.L., McPhee, L., Steinberg, L., & Sullivan, S. (1990). *Physiology & Behavior.*

Blue, C. (2007). Does the theory of planned behavior identify diabetes-related cognitions for intention to be physically active and eat a healthy diet? *Public Health Nursing,* 24(2), 141-150.

Bulaon-Ducusin, G. (2017). Call center agents prone to obesity, study says, S&T *Media Service Published*: 06 October, 2017

Choudhary, S.B., Rao, V., Suneetha, S. (2003). Attitude alters the risk for development of repetitive strain injuries in software professionals. *Indian J Occup Environ Med.;*7:32–4 Did you know 7 out of 10 Filipinos eat out with families & friends & post photos on social media? Retrieved September 6, 2017 from https://pinoyfoodblog.com/food-news-events/filipinos-share-food-social-media/

Dizon, V.A.L., & Gregorio, A.G.R. (2010). *Well- being of single young adults working as call center agents: an explor- atory study*. Undergraduate thesis. University of the Philippines,Diliman, College of Home Economics.

Duffey, K. J., Gordon-Larsen, P., Jacobs, D.R., Williams, O.D., & Popkin, B.M. (2007). "Differential associations of fast food and restaurant food consumption with 3-y change in body mass index: the Coronary Artery Risk Development in Young Adults Study." *The American Journal of Clinical Nutrition.* 85(1):201.

Godin, G., & Kok, G. (1996). The theory of planned behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion*, 11(2), 87-98.

Kothe, E.J., Mullan, B.A., & Butow, P. (2012). Promoting fruit and vegetable consumption. Testing an intervention based on the theory of planned behavior. *Appetite*, 58(3), 997- 1004.

Manegdeg, R.F.G. (2007). Study of Call Center Agents' Commitment and Willingness to Stay." *Master's Tesis*. University of the Philippines, Diliman, School of Labor and Industrial Relations.

Pereira, M. A., Kartashov, A.I., Ebbeling, C.B., Van Horn, L., Slattery, M.L., & Jacobs, D.R. (2005. "Fast-food habits, weight gain, and insulin resistance (the CARDIA study): 15-year prospective analysis." *The Lancet* 365 (9453): 36-42.

Rosenstock, I. M. (1974). "Historical origins of the health belief model." Health *Education Monographs* 2 (4):328-335.

Shepherd, R. (1989). "Factors influencing food preferences and choice." *Handbook of the Psychophysiology of Human Eating*: 3-24.

Sibal, J.V., Maragtas S.V., Aolentino, A., & Aolentino, M.C. (2006). "*Globalization and Changes in Work & Employment Condi tions in the Philippines*." Retrieved from https://www.kli.re.kr/Attach File/emategw/ Seminar/63BF8D8B5F7E13434925727D001B2846/8- Philippine.pdf

Stender, S., Dyerberg, J., Bysted, A., Leth, T., Astrup, A. (2006). A trans world journey. *theroscl Suppl* ; 7: 47–5.

Stender, S., Dyerberg, J., & Astrup, A. (2007). "Fast food: unfriendly and unhealthy." *International Journal of Obesity* (London) 31(6): 887-890.

Strazzullo, P., D'Elia, P., Kandala, N.B., & Cappuccio, F.P. (2009). "Salt intake, stroke, and cardiovascular disease: meta-analysis of prospective studies." *British Medical Journal* 339:b4567.

Suri ,J.C., Sen, M.K., Singh, P., Kumar, R., Aggarwal, P. (2007). Sleep patterns and their impact on lifestyle, anxiety and depression in BPO workers. I*ndian J Sleep Med.* ;2:64–70.

White, K.M., Terry, D.J., Troup, C., Rempel, L.A., & Norman, P. (2010). Predicting the consumption of foods low in saturated fats among people diagnosed with Type 2 diabetes and cardiovascular disease. The role of planning in the theory of planned behaviour. *Appetite*, 55(2), 348-354.

World Health Organization. (2002), *Global Health Observatory data.*WHO Publication http://www.who.int/gho/ncd/risk_factors/bmi_text/en/

World Health Organization. (2018), *Global Health Observatory data*.WHO Publication.

Wyker, B.A., & Davison, K.K. (2010). Behavioral change theories can inform the prediction of young adults' adoption of a plant-based diet. *Journal of Nursing Education and Behavior,* 42(3), 168-177.