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KAHRAMANMARAŞ SÜTÇÜ İMAM UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCE

FAST FOOD CONSUMPTION BEHAVIOUR OF CONSUMERS IN NORTHERN REGION OF IRAQ

ZOZIK SABAH RASOOL

MASTER THESIS

DEPARTMENT OF BIOENGINEERING AND SCIENCES

KAHRAMANMARAŞ - TURKEY 2017

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This Thesis submitted in candidature for the degree of
MASTER OF SCEIENCES
At the Department of Bioengineering and Sciences

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I hereby declare that all information in the thesis has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

ZOZIK SABAH RASOOL

TÜKETİCİLERİN FAST FOOD TÜKETİM DAVRANIŞLARI, KUZEY IRAK ÖRNEĞİ
(YÜKSEK LİSANS TEZİ)

ZOZIK SABAH RASOOL

ÖZET

Fast-food kısa zamanda pişirilip hazırlanabilen yemeklerdir. Bu çalışmanın amacı Kuzey Irak'ta tüketicilerin fast-food tüketim davranışlarını ve sosyodemografik değişkenlerin fast-food tüketimi üzerine etkisini araştırmaktır. Bu çalışmanın ana materyalini Kuzey Irak bölgesinde yer alan Erbil, Süleymaniye ve Duhok' da 380 hanehalklarıyla yapılan anket verileri oluşturmaktadır. Verilerin analizinde Çoklu regresyon modeli ve Anova testinden yararlanılmıştır. Sonuçlar hanehalkı geliri arttıkça hanehalklarının toplam gıda harcamaları içerisinde fast-food tüketiminin payı artmıştır. Artan hanehalkı geliri hanehalklarının fast-food tüketiminin payını artırmış fakat fast-food harcamalarını azaltmıştır. Hanehalkı genişliği ile fast food tüketimi arasında pozitif ve istatistiksel olarak önemli bir ilişki bulunmuştur. fast food tüketimi ile gelir arasında güçlü bir ilişki vardır. Araştırma sonuçları ganehalkı geliri arrıkça fast food tüketim harcamalarının da istatistiksel olarak arttığını göstermiştir. Model sonuçlarına göre, fast food gelir esnekliği inelastiktir ve 0.56 olarak tahmin edilmiştir. Bu sonuç, hanehalkı gelirinin %1 artması durumunda fast food tüketiminin sadece %0.56 kadar artacağını göstermektedir.

Anahtar Kelimeler: Fast-food, Tüketim, Tüketici Davranışı, Kuzey Irak.

FAST FOOD CONSUMPTION BEHAVIOUR OF CONSUMERS IN NORTHERN REGION OF IRAQ
(M.Sc. THESIS)

ZOZIK SABAH RASOOL

ABSTRACT

Fast food is a food that can be cooked and prepared in a short time; some people enjoy (relish) fast food instead of popular food take advantage of working time. The purpose of the research is to investigate fast food consumption behavior consumers in North-Iraq. The number of sample size was 380 and questionnaire were distributed among the families in three main area includes Erbil, Sulaimaniya, and Duhok in northern region of Iraq. Multiple linear regressions models and ANOVA were used to analyze fast food consumption behavior of consumers. The result shows that the share of total food expenditures spent on fast food consumption increased with incomes. Results from this research suggest that increasing household income increased household fast food consumption share, but decreased food expenditure. In addition, as the result of the statistically significant coefficient, household size has a positive effect on the fast food consumption expenditure. The result of statistically significant coefficient showed that household income has a positive effect on the fast food consumption expenditure. The coefficient values of income (income elasticity of fast food consumption) is equal to 0.56, that's mean when the income increasing by 1% the amount of fast food consumption expenditure will increase by 0.56%.

Keywords: Fast food, Consumption, Behavior, Consumer, Northern Iraq.

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LIST OF SYMBOLS AND ABBREVIATIONS

IQD   : Iraqi Dinar

Kg   : Kilogram(s)

FAFH   : Food away from home

BMI   : Body mass index

HHB   : Size of household

NIH   :   National Institutes of Health

1. INTRODUCTION

1.1. Preface

Fast food is a mass-produced food that is prepared and served very quickly. It was first introduced in the early 1900s with automatic vending machines for simple foods and drinks could be bought by inserting coins into the machine, First food chain, White Castle, in the United States started with producing hamburgers in 1921 (Chavadi and Kokatnur, 2008). Fast food started with the main fish and chip shops in Britain in the 1860s. Drive-through eateries were first promoted in the 1950s in the United States. The expression "fast food" was perceived in a lexicon by Merriam–Webster in 1951. As indicated by the National Institutes of Health (NIH), quick sustenance is speedy other options to the home-cooked suppers (Schlosser, 2012).

Eating excessively fast food has been connected to, in addition to other things, colorectal growth, and corpulence and elevated cholesterol. The conventional family supper is progressively being supplanted by the utilization of takeaway, or eating "on the run". The idea of prepared cooked nourishment available to be purchased is firmly associated with urban advancements (Block et al., 2013). Along these lines, urbanizes were urged to buy pre-arranged meats or starches, for example, bread or noodles, at whatever point conceivable. This need is the thing that drove the marvelous achievement of the early fast food monsters, which obliged the family in a hurry (Franklin A. Jacobs). Fast nourishment turned into a simple alternative for a bustling family, just like the case for some families today (Andreyeva et al., 2010).

The most affected gathering of the buyer agrees to be extending from center schools' young people to the main middleman workers. Concentrate statistic purchaser components, for example, sexual orientation, age, and wage can comprehend shopper conduct in the fast food eatery industry and help pick up a superior comprehension of customers by taking the impact of the buyers' observations (Paeratakul et al., 2003). Eating is an everyday activity and needs of every single individual. Contingent upon person's explanation behind eating at eateries person's aim or intuition surveys a diverse arrangement of characteristics in front of picking an eatery (Warraich et al., 2013). The significance of these eatery characteristics is eventually assessed in the client's psyche and prompts by choice. A few components like age, organization and even social divisions

enhance these properties as the client settles on eating choice (Powell et al., 2007). The investigation of buyer conduct possibly manages the majority of the way individuals may act on their part as buyers (Schiffman and Kanuk, 1991).

Fast sustenances are smart, sensibly valued, and promptly accessible contrasting options to home-cooked nourishment. In this day and age, fast nourishment is something that practically everybody, appropriate for children to the oldies, adores, and the specifying of a fast food. While helpful and conservative in a bustling way of life, quick nourishment are commonly high in calories, fat, soaked fat, sugar, and salt. according to the free word reference, fast food is reasonable nourishment, for example, signed chicken, cheeseburgers and, arranged to serve rapidly (Schiffman and Kanuk, 1991).

This imaginative thought was grabbed by the business group who made it well-known with a trademark of "less work for moms" and it later acquired a gigantic change the propensity for the general population in taking their nourishment. This idea additionally earned simple acknowledgment by the clients in autos, open suburbanites, and trains (Rosenheck, 2008).

Consumer loyalty and the nature of nourishment likewise have for quite some time time have been recognized as fundamental capacities for achievement and continuance in the aggressive commercial centers that have been associated with buyer buy conduct, devotion, and their eagerness spread positive informal, suggestion, and compliments (Olsen, 2002). Purchaser conduct means how people settle on choices to use significant assets, for example, time, cash and exertion or utilization related matters, for example, what they purchase, when they purchase and how they purchase. This may allude to be an outlook change which redirected the maker's consideration from item to the customer and extraordinarily centered on the purchasers' conduct (Statt and Cleric, 2013). However, practically speaking tends to center upon practices identified by looking, purchasing and use items and administrations. Customers might be dealt with as gatherings, regularly advertise fragments, distinguished by Geo statistic qualities and expected to have normal mentalities and conduct (Johns and Pine, 2002). On the other hand, individual, subjective points of view may give an understanding in to conduct designs. The nourishment benefits industry has highlights which set it apart from different regions of the administrative division, for example, money related and proficient administrations (Johns, 1999). Along these lines, alludes comprehensively to the investigation of people and the procedures

buyers get a kick out of the chance to look, select, use and discard items, administrations, experience or thoughts to fulfill their necessities and also its effect on the

purchaser and society (Statt and Cleric, 2013; Wilkey, 1994). It is firmly worried about nourishment decision and quality, however, in the meantime has for quite some time have been considered to offer a rich feast involvement to which numerous different components contribute (Campbell-Smith, 1967).

Components, for example, surface, notice, shading, surface, and sound in an eatery that influences the buying probability is known as the mechanical pieces of information (Berry and Eileen, 2007). This builds the eatery business income also the verbal exposure (Almanza and Jaffe, 1994). Sustenance and drink quality are furthermore an essential eating properly and dinner administration ought to guarantee that quality drink and the nourishment are given to the clients (Reece et al, 1999).

Without pre-existing knowledge of these behaviors, it's difficult to ascertain what influences are important for determining the amount of fast food consumed. Menu availability suggests that traditional fast food items are more popular than healthier alternatives. In contrast, MacDonalds have cited sales from their healthy choice" menu as a reason for sales growth (Green et al., 2003).

The main aim of this research is to know the customers behaving and reactions towards fast food as well as its level. Furthermore, to clarify the budget of the families that they spend for fast food, the effect of fast food on the income of families. Eating fast food has increased in the north of Iraq due to its large number of citizens who are employees. In addition, a large number of women/girls working as clerks outside their home which has a positive effect on increasing fast food eating. On the other hand, the increasing of the number of tourists coming from middle and south of Iraq to the north of it has made a great change in opening more fast food restaurants. There are around 1800 restaurants in northern Iraq, 776 of them are international restaurants, and others are public restaurants. The family unit overview information was used to decide the example of purchase spending in the northern Iraq in 2016. The fundamental target is to distinguish the determinants that impact purchase fulfillment in fast food showcasing in the northern Iraq. Information was gathered from the general population in a private industry in the northern Iraq. The fast-food eatery industry has been growing up; the primary element which remains the achievement in the north of Iraq, buyer decision is identified with the statistic elements and the showcasing elements. One of the main thrusts behind the development of

the fast administration eatery in the north of Iraq is the adjustment in purchaser's inclination.

1. 2. Problem Statement

Fast food utilization maker in the northern Iraq faces different difficulties and it is significant to understand the relative among the parts also heterogeneity make, such item substitution, changing family, socioeconomic, industry solidification, fast food utilization security, esteems included item improvement, well-being acknowledgment and about sorts of fast food utilization, and so forth. In this way, from a perspective, these cases may affect the conduct of shoppers. In this vein comprehension, customers' fast food utilization request and conduct, current patterns and portray recorded in the socioeconomic of family units and evaluating for noteworthy changes in the qualities of the family unit are all impressive.

However, it's impressive to explore how customers select their utilization choices for the buy of fast food utilization items with various brands and nourishment accommodation trademark. In spite of the fact that perception how families spend their nourishment cash on fast food utilization items when their pay decline or increment. The connection between fast food utilization and overweight, hypertension builds the predominance of a few malignancies, discharge of stomach corrosive and osteoporosis. The utilization of sodas irritate hyperactivity in youngsters is additionally powerful and process the sustenance in the stomach related track because of their high fat is debilitated among family.

1. 3. Objectives of Study

The purpose of the research was to investigate socio-demographic factors on consumers' fast food consumption behavior in North-Iraq. The specific objectives of the study can be laid down as follows:

-to examine the factors influence to purchase of fast food.

-To identify the overall satisfaction level among the customers in fast food.

Hence, the research depends on the plausibility of helping merchants to make reasonable systems and grow new fast food items and additionally holding clients to make a supportable upper hand. The research can help fast food industries to create suitable

strategies and develop new fast food products as well as retaining customers to create a sustainable competitive advantage.

The research attempts to recognize the consumers buying behavior of fast food problem and to obtain a sale performance model of fast food restaurants in the north of Iraq.

1. 4. Hypotheses

H1: Fast food quality has a positive and significant influence on customer behavior.

H2: Service has a positive and significant influence on customer behavior.

H3: Fast food variety has a positive and significant influence on customer behavior.

H4: There is a relationship between age and fast food consumption.

H5: There is a relationship between gender and fast food consumption.

H6: There is a power relationship between income and fast food consumption.

H7: There is a relationship between education and fast food consumption.

H8: There is a relationship between health and fast food consumption.

2. LITERATURE REVIEW

Fanning et al. (2002) evaluated the determinants of fast food utilization that use the gathered information of Ministry of Agriculture in 1994-1998 for fast food contributions by people. Additionally, they used the *logit* and Tobit model to analyzed data. The result anticipated fast food consumption are given crosswise over family unit size and salary. Family unit pay likewise has a straight impact, where the greatest anticipated consumption for family sizes underneath 16 happen at a family salary equivalent to $100,000. There is an instinctive association between family size and salary with use increments as both pay and family unit estimate increments. Fast food consumption increments until the point that family unit measure reaches about six and afterward diminishes from that point. Once more, head of family unit age has a diminishing impact on fast food consumption. The biggest family unit consumption on fast food is anticipated for families where the leader of the family unit is under 30 years old with a family unit size of about 6.

Lucas (2004) researched to evaluate purchaser recognition and dispositions towards sustenance well-been in Portugal. The obtained data were analyzed with SPSS program by using methods containing descriptive statistics and Pre-test. The outcomes demonstrate that, with the special case of the living arrangement put, the other financial factors assume a consistently diminishing part while clarifying the purchaser conduct. The elements are measuring the way of life, particularly those identified with security, and primarily, utilization encounter, appear to be the primary perspectives clarifying Portuguese purchasers' view of sustenance well-been. Keeping in mind the end goal to reestablish the certainty lost, an exertion of dispersion of clear and honest data is important, for past the need for an effective coordination all through all the advertising tie with a specific end goal to offer sustenance well-been items.

Park (2004) explores the connections between purchaser benefits of eating-out and the significance of fast food eatery properties in Korea. The information was collected from the poll and was dissected by utilizing component and connection investigation in SPSS. The outcomes demonstrated that the hedonic benefit of eating-out had a positive connection with inclination, snappy administration, cleanliness, sustenance savors, worker thoughtfulness, and offices, the utilitarian esteem fixated on sensible value, fast administration, and limited time motivating forces. Likewise, the hedonic esteem more impacted purchasing recurrence than the utilitarian. Additionally, the yield demonstrated

that observational confirmation demonstrating that Korean shoppers pick fast food eateries more by redness, not utilitarian, benefits of eating-out.

Akbay et al. (2007) explained the connection between shoppers' fast food utilization recurrence and their financial/statistic attributes and dispositions in Turkey. They got information from a shopper overview dissected in the SPSS by applying the Chi-square trial of autonomy to look at customers' fast food utilization frequencies. Encourage an exact model was assessed by utilizing a requested probit to deal with acquiring the coefficients connected to the computation of peripheral impacts and probabilities. The outcomes show that age, having children, salary, household size, training and different elements, for example, the shopper state of mind towards the cost of fast food, youngster inclination, and well-being concerns essentially impact the recurrence of fast food utilization. The results will help fast-food directors to grasp the basic elements that affect buyers' fast food utilization conduct and help them make enhancement likewise.

Goyal and Singh (2007) examined the consumer concern on fast food in India. The study used T-test to analyze data. Eventually, they turn up that the young people of India user have the passion of visited fast food gaps for fun as well change, but their first choice is home food. They felt that making food in the home is much better than the food served at fast food outlets. They have the biggest value and so on quality (nutritional values) followed by ambiances as well hygiene. Three ways (service, delivery dimension, product dimension and quality dimension) of fast food outlets attributed were identified depended on factor analyses sequence compile differs naturally on the seven attributes. McDonald's registers were bigger on all attributes barring "variety "further. Users felt that fast food outlets must demonstrate additional knowledge on nutritional worth's as well as stipulations in the kitchen.

Dong and Hu (2010) investigated the territorial contrast in nourishment utilization far from home of urban inhabitants. The information utilized as a part of our investigation is gotten from China's national factual book and commonplace measurable books. Likewise, the investigation utilized examination of past examinations with family reviews, information, as a rule, include estimation of some edited relapse models, for example, Tobit displays. The outcome we find that, these days salary is the most imperative financial variables that decide the sustenance far from home utilization of urban inhabitants, and individuals' nourishment far from home utilization is profoundly versatile, the wage

flexibility of nourishment far from home is higher in the low wage bunch than that in the medium and high pay gathering.

Uzunoz et all. (2011) determines the factors impact consumer preferences of food away from home in Tokat province of Turkey. The obtained data survey questioner, applied to 280 urban households in Tokat province in the period of February-March 2006, the study is used to analyses Chi-square test and so on factors in SPSS. According to the study findings, there is a significant relationship between households' tendency of consuming FAFH and gender, age, mother's and father's education, level of income and marital status. As a finding, it can be said that it is of vital importance to investigate the existence of the current condition. It will be possible to make predictions on future by determining this current condition in the light of the results of this research on the consumption of FAFH which is increasing due to the development in the center of Tokat province. The research can be considered to be worthwhile for arranging the policies help the region develop and raising the level of prosperity.

Swamy et al. (2012) analyzed to determine to buy conduct of customers towards moment sustenance results of Hyderabad city in Andra Pradesh. Essential information was required for the study were gathered from the chose respondents by an individual meeting technique utilizing all around an organized timetable. While the optional information was the one area, demography and different insights about the examination range were gathered from city factual office and different records and diaries. The outcome minimal effort of home planning and contrasts in tastes were the real explanations behind non-utilization, while prepared accessibility and spare the season of readiness were the purposes behind devouring moment sustenance items. Retail shops are the significant wellspring of data and wellspring of procurement of moment sustenance items. The normal month to month consumption on moment sustenance items was observed to be most elevated in higher pay gatherings. The normal per capita buy and per capita use on moment sustenance items had a positive association with a wage of family units. High cost and poor taste were the purposes of not obtaining a specific brand, though best quality, retailers impact, and prepared accessibility were considered for leaning toward the specific brand of items by the customers.

Baig and Saeed (2012) researched to determine deciding survey of patterns in fast food utilization, the examination range in Pakistan. The information for the study are gathered through a self-regulated survey, as indicated by their fast food inclinations and

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feelings following outcomes were computed.99% individuals were of assessment that fast food industry is developing quickly, only 1% denied, 89% individuals were leaning toward fast food over fine eating, 10% respected fined dining or cooking at home.77% individuals were favoring markdown offerings by FFCs, and of suspected that along these lines they can get increasingly or more at lesser price.70% individuals were of sentiment that fast food is significantly more advantageous than fine feasting, they can take it away or get it conveyed at their required spots when starving.23% respondents were of conclusion they don't had anything to do with its comfort.

Yahya et al. (2013) determined the pattern of fast food utilization and its impact on Pakistani society. The exploration utilized polls to gather information. The substantial (398) respondents were broke down Microsoft exceed expectations had utilized for tables and charts while SPSS for clear and inferential examination. Results demonstrated that adolescents spend more cash on garbage sustenance. Atomic and Joint both family frameworks like fast food because of its taste. Individuals jump at the chance to eat fast food, outside their homes. Appetite can be happy with fast food. In addition, fast food is not a practical mean. Fast food additionally utilized for delight and fun. Because of good taste and familiar accessibility individuals incline toward fast food over home cooked sustenance. Fast food is likewise a noteworthy reason for staying away from appropriate nourishment. Individuals incline toward fast food in their working environment because of their bustling timetables. Age and training have negative connection with the resemblance, utilization and burning through cash on fast food. In any case, with the expansion in wage, there will be more resemblance toward fast food.

Singh and Mishra (2014) investigated the choose fast food usage illustration and weight among School Going (9-13 Years) in India. A survey was managed to assemble data and was separated in the SPSS. The result found that 40% of respondent were eating pizza once consistently, 39% of respondent were eating burger 2-4 time for every week,

29% of respondent is eating chocolate 2-4 times for every week, 33% of respondent is eating treats/cake, 35% of respondent is eating solidified yogurt step-step 5-6 times for consistently, 31% of respondent is eaten ordinary 2-4 times for consistently, 31% of respondent is eating pasta once consistently, 42 percent of respondent were eating Maggi 5-6 times for consistently. 98% of respondents took after to eat fasts food and 2% of respondents loathe eating fast food.

Mehra and Ratna (2014) identify and analyses state of mind and conduct of purchasers towards natural sustenance: an exploratory investigation in India. An organized survey having 58 questions was utilized for gathering the information, of the 321 people reached just 113 restored the filled polls. The investigation utilized examination of Chi-square, relationship Lattice and Mann Whitney test in SPSS. The finding Mann Whitney-test was utilized to examination the impact of sex on factors distinguished. The factors that were critical at $p < 0.05$ and $Z < -1.96$ just two variables–well-been cognizance and impression of natural nourishment, appear to be an impact of sexual orientation. Just a single variable from the factor, item data was altogether by sex. They showed that ladies had a more positive of natural sustenance and well-being awareness. They contrasted names with select the most nutritious nourishment, which shows a more prominent requirement for item data.

Ashraf et al. (2014) analyzed to investigate the buyer conduct in fast food promoting in Bangladesh. Likewise, information was gathered from the understudies in a private industry in Dhaka city in Bangladesh. Likewise utilized examination information vital part factor investigation and SEM are utilized for breaking down data. An aggregate of 339 college understudies was enrolled from sophomore level classes at a private college in the capital locale of Bangladesh to finish a poll that contained measures of the development of concern. The comes about demonstrating that among the six logical factors, five are seen to factually altogether impact customer fulfillment in the fast food industry. These factors sustenance quality, benefit quality, nourishment assortment, outlet condition and advantageous area.

Musaiger (2014) tried to utilization, well-been Mentalities and recognition toward fast food among Middle Easterner shoppers in Kuwait. Gathered little information from 499 purchasers were chosen at accommodation from three shopping centers in Kuwait city. Utilized as a part of the examination acquired information review survey, the information was investigated through SPSS by applying Chi-square. The result uncovered that men were more every now and again expended fast food than ladies ($p < 0.001$). Men were essentially more inclined to devour "twofold" burgers (52%) than ladies (29.9%) (P < 0.001). The immense dominant part of buyers (95%) considered fast food hurtful to well been. In any case, the purchasers were proceeding to admission fast food (92%), demonstrating that well-been data on fast food does not really influence their utilization. Neighborhood sustenance will probably be viewed as fast food is eaten as a sandwich or

without a transfer holder. It can be reasoned that fast food recognition is affected by sex, media, and socio-cultural components. Sustenance training projects should concentrate on nutritive estimations of the nourishment instead of on their "fast food" grouping.

Aruppillai and Phillip (2015) studied an analysis of purchasers' purchasing conduct and its determinants of fast food in the Moratuwa city chamber territory, which is situated in Sri Lanka. A quantitative was applied to gather information by methods for a poll. Information was gathered through a shopper overview with an organized poll directed in the examination range and 100 examples from 50 eateries were chosen haphazardly. The examination utilized investigation of variance Chi-square, and probit model. Results from the requested probit demonstrate uncovers that the age of the respondent, instruction level, work and common status, separation to the closest fast food outlet from their home have measurably huge and they are the key determinants of the utilization of fast food. The discoveries of this investigation will help for fast food administrators to plan their advertising methodologies which are the most reasonable to fit with the customers' states of mind and desires and their purchasing conduct of fast food eateries in Sri Lanka.

Jiang et al. (2016) in a research to investigate the fast food practices among in Malaysia. The examination utilized a survey to gather the information. The optional information that used to lead this examination to incorporate diaries from scholarly course book and database. Results demonstrated most of the respondents are around the age gathering of 31 to 35 years of age, which contained 36.50% of respondents out of 200 respondents and 33% of the respondent is from the age gathering of 26 to 30 years of age. Furthermore, age gather between 21-25 years of age composed of 15.50% of respondents and 15% was the age bunch between 36 to 40 years of age. Other than that, the value quality deduction variable influenced the slightest to the fast food utilization conduct among era. Through the poll overview, found that the Malaysian era very trusts the nature of sustenance that fast food eateries gave. What's more, with the outlook of "low cost does not equivalent to low quality" guideline, the era in Malaysia demonstrates the less effect on this variable all through their utilization conduct.

Rosfatihah et al. (2016) investigated the profiling of Malaysian youthful buyers towards fast food utilizations, in Malaysia. The acquired information poll information accumulation was performed amongst April and May 2015. Information got in the examination were broke down by applying SPSS. This finding uncovers the basic normal for the youthful shopper that in the long run assists the fast food supplier with

understanding the profile of their current and potential client. Results demonstrate this more youthful customer eats fast food when even they like and pick the least difficult menu to involve their hunger and spending plan. This data, later on, can be utilized to impact youthful customer purchasing designs for the fast food. In this manner, in the meantime can enhance the variety of fast food item offered by the fast food supplier. The getting ready for future research will then be concentrate top to bottom on clarifying the pattern of fast food utilization among the college understudy.

Selvarani et al. (2016) analyzed to investigate the examination on purchaser conduct of moment nourishment items with extraordinary reference to Tiruchirappalli city. The examination utilized a survey to gather the information. The investigation applied examination of the F-Test. The outcome demonstrates that there is no noteworthy distinction between the instructive capability of the participants and their general supposition about customer conduct of moment nourishment items. The ascertained esteem is more noteworthy than table esteem (P>0.05). So the exploration speculation is rejected and the invalid theory is acknowledged. Additionally, that the 70.5% of the respondents are fulfilled that item nature of the moment pickles. 72.9% of the participants have fulfilled that appealing bundle of the pickles. 55.3% of the participants have disappointed the sensible cost of the pickles. 73.1% of the participants have fulfilled that accessibility of the retail locations of the pickles. 50.6% of the participants have fulfilled that notice and advancements of the pickles.

3. MATERIAL AND METHODS

3.1. Material

3.1.1. Study area

The study was conducted in the northern region of Iraq (Erbil, Duhok, and Sulaymaniyah), which is located north of Baghdad. Erbil city is located between Sulaymaniyah, Duhok, Mosul, and Kirkuk; it is within the borders of Turkey and Iran. Duhok is near Mosul and Erbil. Duhok is also located on the borders of Turkey and Syria. Sulaymaniyah is near Erbil and Kirkuk, it is the border of Iran.
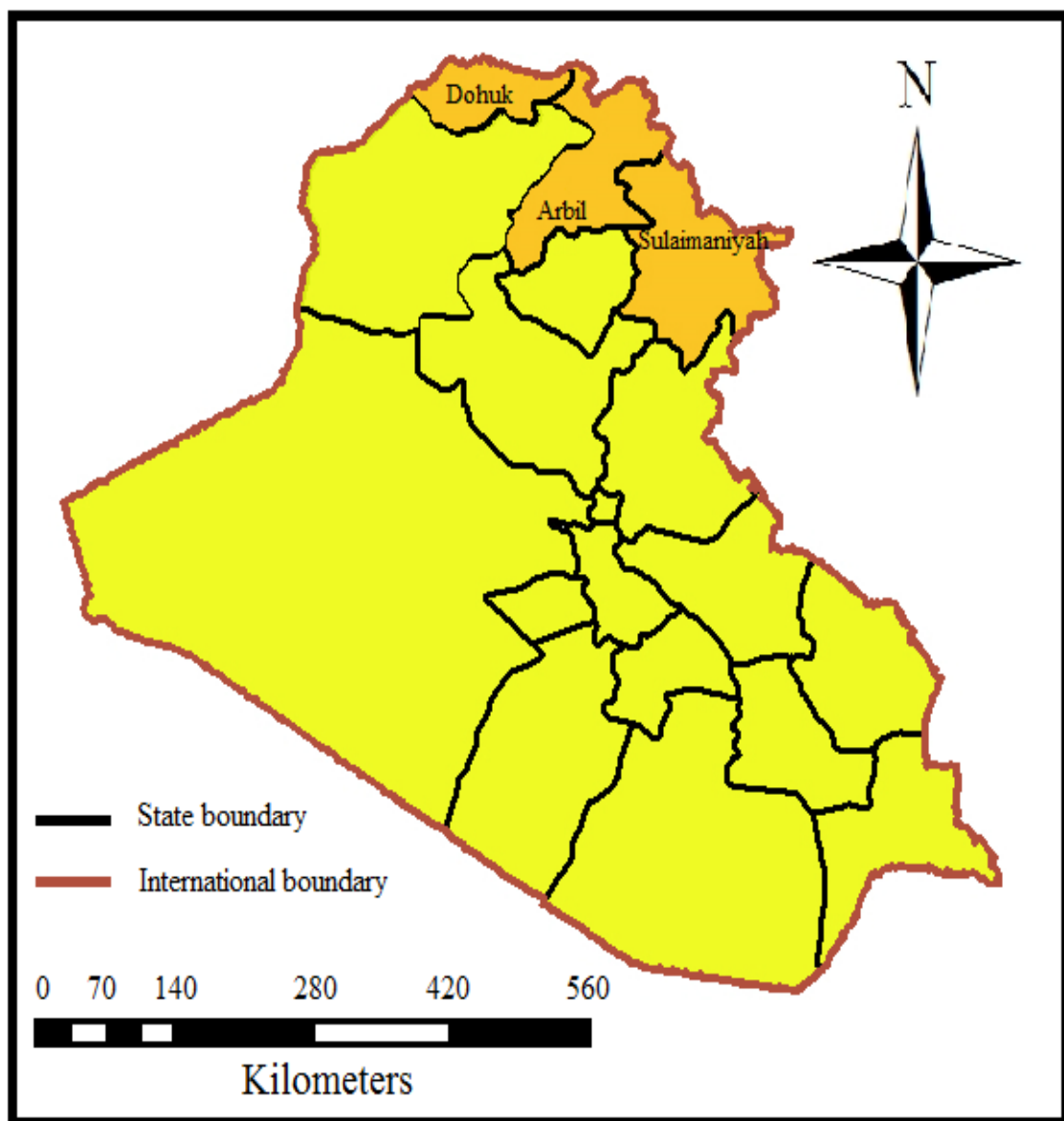
Figure 3. 1. Map of Northern region of Iraq

3.1.2. Survey sampling

The sample size was determined by utilizing the ungrouped one stage random likelihood sampling method based on families (Aydin and Kilic, 2013):

$$n = \left(\frac{z_{a/2}}{d}\right)^2 * p * q$$

Where:

n= the sample size

$Z\alpha/_2$= the significant level (assumed to be 95%)

P= the probability of examining the state occurring (p= 0.5 is used to the absence of preliminary information concerning consumers' fast food demand awareness levels)

d= the margin of error (assumed to be 95%)

q= Probability of the situation not occurring (q=1 − p)

According to the method utilized, the sample size was found to be 380.

3.1.3. Design of the questionnaire

The initial oral survey asked few questions concerning the quantity of fast food consumed by families. It has been found that a public questionnaire couldn't be utilized in this research because families did not remember precisely their fast food consumption in one month. In the literature, we designed a questionnaire to record purchasing fast food for one month in the north of Iraq. Although this questionnaire had some problems such as being time-consuming, long-term and costly and little income, we finally achieved a result that was very close to reality. The first part of the questionnaire contained regular demographic questions about the number family, age, education and another questionnaire of the research, and also included a number of questions about monthly income and all sources of family expenditures. The questionnaire included family eating fast food consumption and food expenditure, including fuel, drink, rent, education, smoking, health, electricity/telephone/internet, transportation, and of common food and food groups in the north of Iraq. A total of 380 questionnaires were distributed among the families of Erbil, Sulaymaniyah and Duhok in different areas, together with explanations, training on how to respond and fill out the questionnaires. If some families were happy to respond, questionnaires were given to them. All families respond questionnaires. The survey was done in 2016.

3.1.4. Data entry and analysis

When printing the questionnaires, a series was printed on each questionnaire. When the questionnaires were returned the first step was to enter the data and develop an Excel spreadsheet, by using the series of the questionnaires and the corresponding data of each observer in a row. The preparatory works, such as arranging, sorting, correcting and revising the data were completed in the Excel file and then the data were exported to the SPSS program. Descriptive statistics were also needed. Statistical tests were carried out by SPSS programs.

3.2. Methods

To obtain the necessary data for the study, a questionnaire survey has been designed particularly for this purpose collected through the family of the province (north Iraq) during 2016. Therefore, the sample for the study consisted of 380 families, so 380 copies of questionnaires were distributed randomly. The respondents were asked to indicate the extent to which they agree/disagree, somewhat agree with various statements. Data collected by the research instrument were analyzed in line with each research question and hypothesis. Descriptive statistics (such as percentages and frequencies) were used to answer the research questions. In addition, the F-test was carried out to compute the variance within each group for the factors of more than two groups. ANOVA-test is a statistical technique that assesses potential differences in a scale-level dependent variable by a nominal-level variable having two or more categories.

$$F = \frac{MST}{MSE}$$

Where,

F = Anova Coefficient

MST = Mean sum of squares due to treatment

MSE = Mean sum of squares due to error.

$$MSE = \frac{SSE}{P-1}$$

$$SSE = \sum (n-1)s^2$$

Where,

SSE= Sum of squares due to error

S = Standard deviation of the samples

N = Total number of observations

The multiple linear regression analysis is used that allows inclusion of any preferred variable. Moreover, multiple linear regression analysis pursues to launch a relationship between a dependent variable (in this case fast food consumption) and two or more independent variables (the predictors). The regression model was used to analyze fast food consumption of respondents:

Ln (Fast food consumption expenditure) $= \beta_0 + \beta_1 x_1 + \beta_2 \times_2 + \ldots + \beta_k \times n + \varepsilon_i$

Where β_0 is intercepted; β_k is the regression slope or coefficient for a given independent variable k, and ε_i is the error term for the individual I based on the record of observations. The model includes independent variables covering the size of household, the age of respondents, education level of respondents and household income.

The independent variables should have slight or no correlation with each other to avoid problems initiated by multicollinearity. In order to attain valid results from the overall significance of each regression coefficient (F-test) of the equation, the residual ε_i has to be normally and independently distributed, with a mean of zero and a constant variance.

4. RESULTS AND DISCUSSION

4.1. Socio-Demographic Characteristics of Respondents

4.1.1. Size of household

The result indicated that 26.8% of the respondent is living in a family with a size of fewer than three individuals. On the other hand, the finding showed 51.6% of respondents in which the families with an extent between 3-4 person, furthermore, 21.6% of the respondent is living in a family with a size more than four individuals, as can be seen in Figure 4. 1. Average household size is about 3.61.
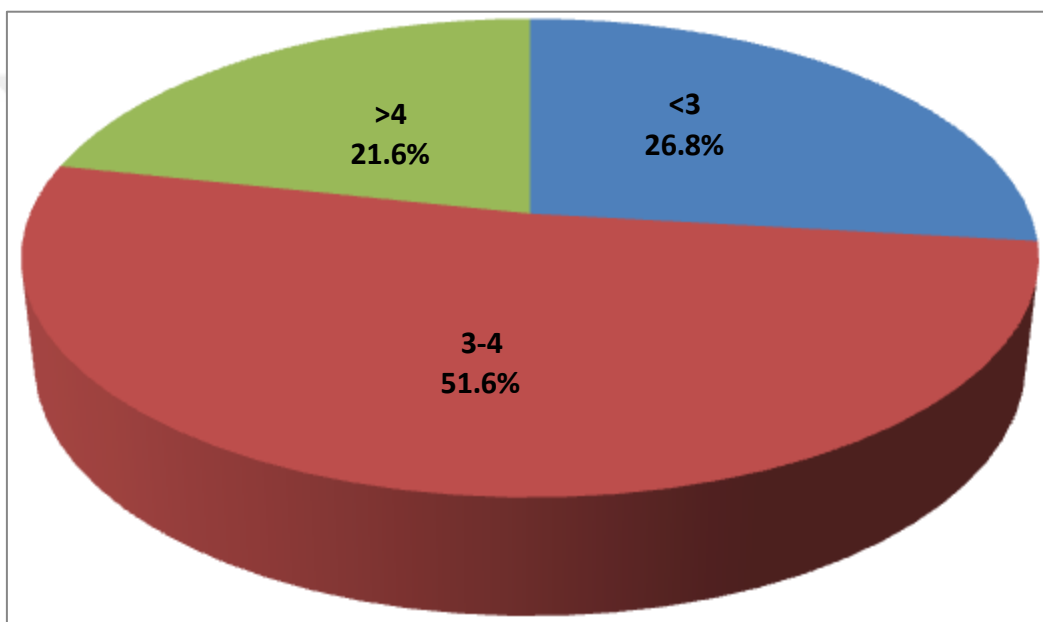
Figure 4. 1. Size of household

4.1.2. Age of respondents

The age as a variable has a great effect on eating fast food. However, individuals who are under 30 years old don't go out regularly as the majority of them have a limited time due to them. It has been bound to the educational process. But, they have fast food whenever they go out regardless the side-effect of the food. So, the ranges of eating fast food among those teenagers are not the range of middle-aged (French et al., 2001). In other words, they eat less than middle-aged as it is shown in the previous study results. Meanwhile, middle-aged people have fast food more than young people because of their nature of work, as they generally go out to their work offices or workplaces and they don't have plenty of time due to the business with working nature (Huenemann et al., 1966).

Moreover, over age people also have fast food less than middle-aged due to their worries or hesitation about their health; even they have more free time, unlike others. According, to this study result, 24.2% of participants stated that they were less than 30 years old. Also, the age between 30-35 years old accounted 32.6% of participants, while the remained 43.2% of participants claimed that they were older than 35 years old. The average age of respondents was around 36.09. In another study by Tan (2016) in Malaysia, the majority of the participants are from the age group of 31 to 35 years old, which comprised by 36.50% of participants out of 200 and 33% of participant is from the age group of under 30 years old.
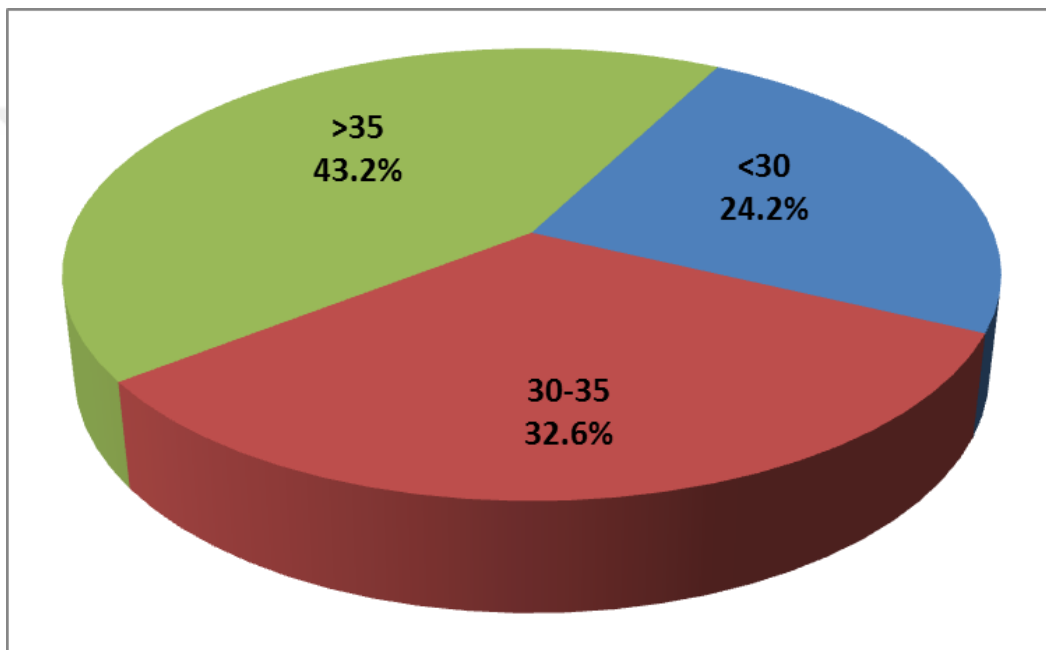
Figure 4. 2. Age of respondents

4.1.3. Educational level of respondents

The education as a variable also effects on the range of having fast food. Though, people, who are educated on the fast food more than uneducated people as they are busy with, study even they think about the quality of the food, unlike the uneducated people who don't care about the quality of food (Johnston and Szabo, 2011). Therefore, uneducated or who have a lower degree are not busy with studying and whenever, the degree is higher the range of having fast food is higher, starting from uneducated to a higher degree and the high range of participants was held high school as it is obvious in the result. The result indicated that 6.3% of the participant is non-literate. In addition, 31.6% of the respondents had degrees less than a high school, while the remained 62.1% of respondents had a degree of primary school, secondary school, bachelor or masters (Figure

4. 3). On the other hand, Kim et al. (2011) found that 14.25% of respondent have high school diploma, 2.3% have master and 66.6% have college.
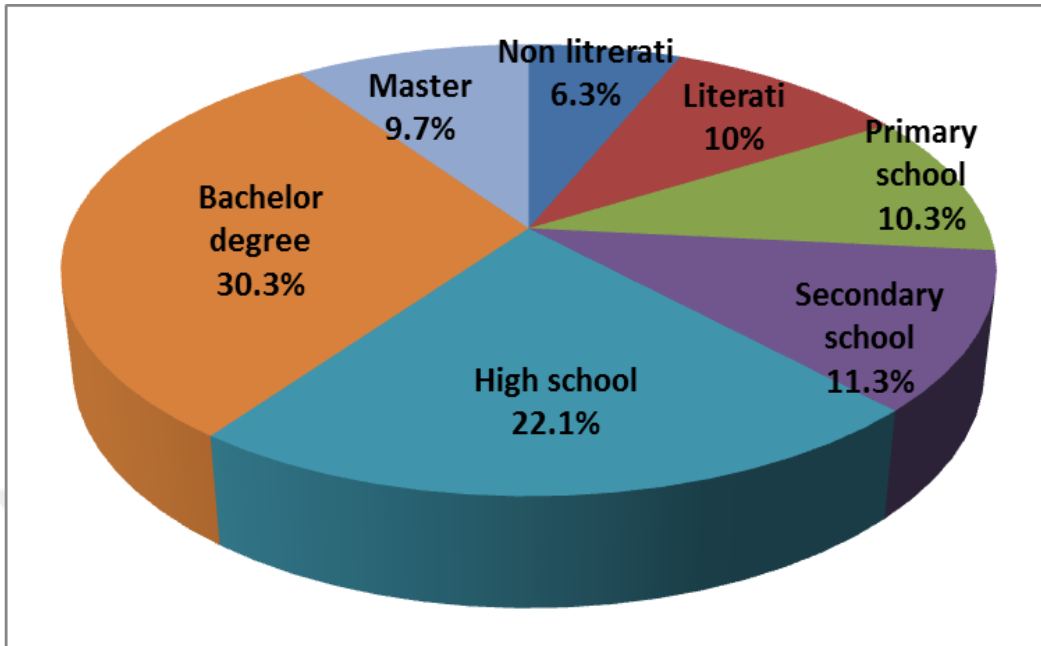
Figure 4. 3. Education level of respondents

4.1.4. Working status of respondents

The results of the survey showed that out of 380 participants, 92.1% of respondent was employed, while 7.9% of them was jobless and unemployed for various reasons (Figure 4. 4).
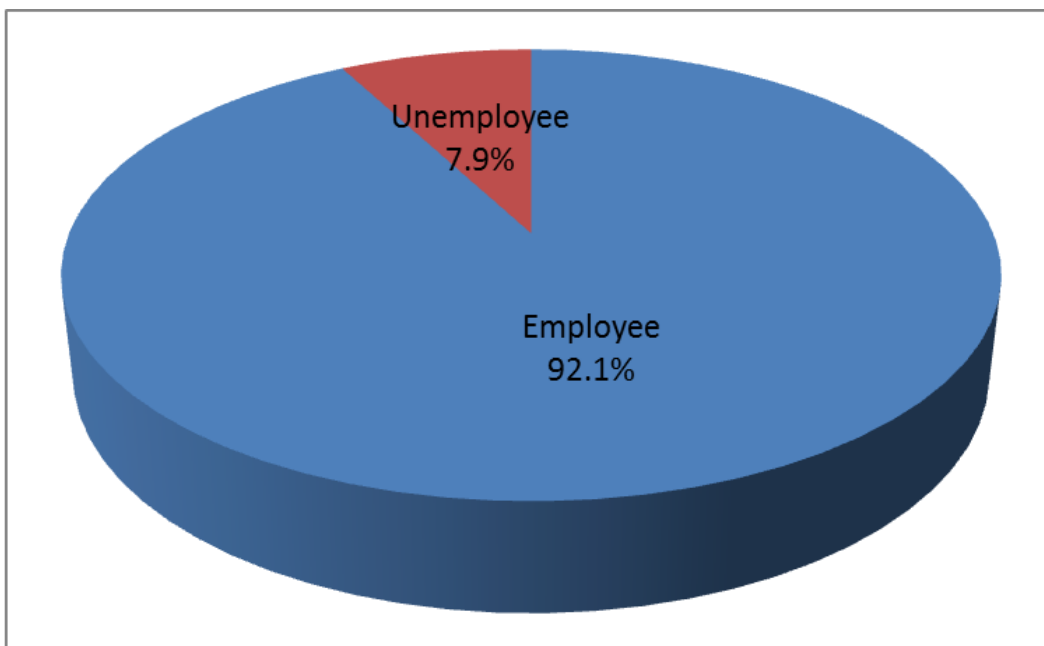
Figure 4. 4. Working status of respondents

4.1.5. Family's duration of living in the city

Table 4.1. Explains the time period that participants lived in the city. As it has shown that out of total 380 participants, 35.8% of them lived more than 16 years in the same city and this is the highest range among the groups. While the two other groups were those who have lived less than 8 years and those who lived 8-16 years were compromising 33.4% and 30.8% respectively. Furthermore, the outcome accounted 13.85 for the average year lived in town.

Table 4. 1. Duration of living in the city

Living time in city (years)	Frequency	Percentage
<8 year	127	33.4
8-16 year	117	30.8
>16 year	136	35.8
Total	380	100.0
Average year lives in town	13.85	

4.1.6. Classification of respondent by income group

According to Table 4.2, in terms of income, 30.3% of the participant has income less than 900000 Iraqi Dinars (IQD). Also, 34.7% of the respondent is earned between 900000-1300000 IQD, and the remained 35% of the respondent has income more than 1300000 IQD. Moreover, the finding accounted 1225793.42 IQD for the average income.

Table 4. 2. Classification of respondent by income group

Income group (IQD)	Frequency	Percentage
<900000	115	30.3
900000-1300000	132	34.7
>1300000	133	35.0
Total	380	100.0
Average income	1225793.42	

4.2. Household expenditure by income groups

In this study, in order to analyze all the statistical parameters, the household income has been divided into three groups (low-income household, middle-income household and high-income household). There is a strong relationship between food expenditures and income. As it is shown in table 4.3, total expenditure varies across the income groups where lower-income households spend approximately 685915,2 IQD of total income on expenditure; middle-income households spend 905018,9 IQD and higher-income households spend 1164086,5 IQD. Therefore, it has been suggested the actual amount spent on various expenditure may rise because lower-income households may make a change in the composition structure of their consumption brunch as their income increases. On the other hand, the total food expenses will increase from 259897,8 IQD to 392146,6 IQD when the income increase. Also, the rental cost will increase from 23556,5 IQD for lower-income households to 82030,1 IQD for higher income households. And the expenditure for clothing will increase from 70043,5 IQD to 112706,8 IQD when the income increases. While the telephone/ internet expense increases from 46069,6 to 68496,2 because of the income increment. Therefore, that there is a significant difference among all income groups in northern Iraq because of the P values, which are less than 0.05 at all levels. Of all households, income groups are represented in Table 4.3.

Household consumption expenditures by type of expenditures and their ratios in total income are given in Table 4.4. Food expenditures in households' total revenues are ranked first with 34.98%. While the share of smoking expenditures in total income was approximately 1.85%, the share of rent expenditures was approximately 5.62%. The share of education expenditures among respondents was approximately 2.19%, also share of clothes expenditures 10.04%. The total shares of health expenditures were 8.31%, also a total share of electricity and water expenditures is approximately 4.71%. While the total share of liquid fuel/oil/gas expenditures is approximately 7.92%, but the share of telephone/internet/cable product's expenditures approximately was 6.29%. And the share of transportation/travel expenditures was approximately 13.66. Therefore, it is suggested the actual amount spent on food may rise because lower-income households may make a change in the composition of their food bunch as their income increases. However, the total food lower-income household will decrease from 37,89% to 33,69% when the higher-income household income decreases. While the education expenditure will increase from 1,18% to 2,87% when the income increase. According to the study by Akbay and Boz,

(2005) show of food expenditure on the total household income was 28.6%. The total education expenditure share is 8.4%, while the share of expenditure on clothing is 5.3%.

Table 4. 3. Description of household expenditure by income groups (IQD)

Income Groups	Total food	Smoking	Rent	Education	Clothes	Health	Electricity and water	Liquid fuel/oil/ gas	Telephone/ internet	Transportation/travel	Other	Total Expenditure
Lower-income household	259897,8	9200,0	23556,5	8087,0	70043,5	62000,0	35452,2	58147,8	46069,6	83608,7	29852,2	685915,2
Middle-income household	314412,9	19212,1	47310,6	17878,8	94090,9	75871,2	43901,5	76931,8	59053,0	118053,0	38303,0	905018,9
Higher-income household	392146,6	22060,2	82030,1	33458,6	112706,8	91879,7	50789,5	83571,4	68496,2	173195,5	53751,9	1164086,5
Average	325121,7	17178,9	52273,7	20368,4	93328,9	77276,3	43755,3	73571,1	58428,9	126928,9	41152,6	929384,9
F-test (P-value)	48.81 (0.000)	8.52 (0.000)	10.06 (0.000)	16.58 (0.000)	50.67 (0.000)	25.18 (0.000)	42.56 (0.000)	29.13 (0.000)	48.03 (0.000)	71.52 (0.000)	11.35 (0.000)	159.24 (0.000

Table 4. 4. Household expenditure by income group

Income Groups	Total food	Smoking	Rent	Education	Clothes	Health	Electricity and water	Liquid fuel/oil/gas	Telephone /internet	Transportation/travel	Other	Total expenditure
Lower-income household	37,89	1,34	3,43	1,18	10,21	9,04	5,17	8,48	6,72	12,19	4,35	100,00
Middle income household	34,74	2,12	5,23	1,98	10,40	8,38	4,85	8,50	6,53	13,04	4,23	100,00
Higher-income household	33,69	1,90	7,05	2,87	9,68	7,89	4,36	7,18	5,88	14,88	4,62	100,00
Average	34,98	1,85	5,62	2,19	10,04	8,31	4,71	7,92	6,29	13,66	4,43	100,00
F-test (P-value)	41.64 (0.000)	8.52 (0.000)	10.06 (0.000)	16.58 (0.000)	50.67 (0.000)	25.18 (0.000)	42.56 (0.000)	29.13 (0.000)	48.03 (0.000)	71.52 (0.000)	11.35 (0.000)	-

4.3. Household food and fast food consumption expenditure by income group

Table 4.5 shows household total monthly income, total expenditure and food consumption expenditures by income groups for northern Region of Iraq. Based on the results there is a positive relationship between income and total expenditure and food expenditure. The share of the total household expenditure on household income dropped from 91,52% of income among the poorest quintile to 67,23% among the richest income group. Outcomes revealed that lower-income households spent the higher share of their household income compared to higher-income households. Different results were found in another study by Gül et al., (2007). They found that lower-income household spend 48.5% of their income while higher income households spent 44.7% of their incomes. According to result by Akbay (2006), the share of the total household income spent on all expenditures fell from 124.7% of income among the poorest quintile to 58.0% among the wealthiest income group. Results showed that poorest household spent more than their household income.

Nonetheless, there is a strong relationship between food expenditures and income. Therefore, it is suggested that the actual amount spent on food may rise because lower-income households may make a change in the composition of their food bunch as their income increases. According to results, the food expenditure averages in northern Iraq is 25989,83 IQD to 392146,62 IQD from the lowest to highest income quintile. The share of the total food expenditure in the total expenditure is about 29.59%. However, food consumption falls as a percentage of income as income increases. On the other hand, can be stated that the poorer households in the Northern Region of Iraq area spend a larger proportion of their expenditure on food peaking. The share of food expenditure in total income will decrease from 34,86% for the lower-income household to 22,72% for higher-income households.

According to the results, the fast food expenditure averages in northern Iraq is 71906,52 IQD to 137695,49 IQD from the lowest to highest income quintile. There is a positive relationship between household income and fast food consumption ($p < 0.01$). However, the share of fast food expenditure in total food expenditure increase when the income level increase, which increases from 27,16% to 32,38% from lowest to richest income, a marginally significant difference. There is a significant difference among all income groups in northern Iraq region ($p < 0.05$).

According to result by Gül et al., (2007), the share of food away from home expenditure in total food expenditure is 21.7% for the lowest income households, 20.3% for medium-income household and, 21.7% for higher-income households. In the other hand, the study by French et al. (2010) differs the result in USA national consumer expenditure 2004-2005 survey data show that low-income households spend 26% of their food dollars on eating out, compared with 47% among high-income households. The present study found that higher-income households spent 37% of their total food dollars eating out, compared with 27% among lower-income households, a marginally significant difference.

Table 4. 5. The household total income group, expenditure, food and fast food consumption expenditure by income in Northern Iraq

Income Groups	Total Income (IQD)	Total Expenditure (IQD)	Total Food expenditure (IQD)	Share of expenditure in total income (%)	Share of food in total expenditure (%)	Share of food expenditure in total income (%)
Lower-income household	750552,17	685915,22	259897,83	91,52	38,19	34,86
Middle income household	1086969,70	905018,94	314412,88	83,89	34,65	29,12
Higher-income household	1774496,24	1164086,47	392146,62	67,23	33,73	22,72
Average	1225793,42	929384,87	325121,71	80,37	35,40	28,61
F-test (P-value)	277.88 (0.000)	141.07 (0.000)	41.64 (0.000)	122.94 (0.000)	15.26 (0.000)	77.23 (0.000)

Table 4.6. Food and fast food consumption expenditure share by income groups

Income Groups	Total Expenditure (IQD)	Total Food expenditure (IQD)	Total Fast Food expenditure (IQD)	Share of fast food in total food expenditure (%)
Lower-income household	685915,22	259897,83	71906,52	27,16
Middle income household	905018,94	314412,88	95473,48	28,91
Higher-income household	1164086,47	392146,62	137695,49	32,38
Average	929384,87	325121,71	103119,08	29,59
F-test (P-value)	141.070 (0.000)	41.646 (0.000)	17.914 (0.000)	9.298 (0.000)

4.4. Household fast food consumption expenditure

The empirical findings in Table 4.7 revealed that there is a significant difference between the household expenditure on the fast food consumer products according to the income group in Northern Iraq. In the other words, the expenditure of the kebab in lower to higher-income increased from 27739,13 IQD to 46037,59 IQD. When income increases kebap, pizza and fast food from fried chicken consumption are incresing significantly (p<0,001).

According to the results, Table 4.8 represents that a single individual share of each fast food group reports a significant difference based on income strata in northern Iraq. The share of pizza for lower-income households is 26,28% and rises to 31,36% for higher-income households, while the share of fried chicken in lowest income is 11,07% it increased to 19,46% in highest income. However, an increase in income does not affect of share of some fast food consumption product, for example, the share of kebab in lowest income is 38,58% but it decreased to 33,43% in highest income, while the share of shawarma in lowest income is 12,19% but it decreased to 7,05% in highest income, also the share of burger in lowest income 5,50% but it decreased to 4,12% in highest income. The reason for this result that the share of kebab decreased when the income increases, could be explained that when the income increased then the household may consume another fast food consumption product such as a pizza, and fried chicken. In the case of pizza, fried chicken, and other fast food consumer products, especially in north Iraq when the income increased, there are no significant changes could be seen in the per capita share of expenditure on current products. According to result by Prabhavathi et al. (2014), 45% of the respondents preferred Sandwich followed by Pizzas 30% and Burgers 23%. In another hand, the study by Sserunkuuma et al. (2012) differs the result that the types of fast-food mainly consumed by people in Kampala district. These included; deep fried chicken, pizzas, kebabs, hamburgers. Results show that deep fried chicken (14.5%), Pizzas (6.7%), Kebabs (4.4%), and hamburgers (1.1%) were the main fast-food consumed.

Table 4. 7. Household fast food consumption expenditure by income strata in Northern Iraq

Income Groups	Kebab	Shawarma	Falafel	Meat mixture	Pizza	Burger	fried chicken	Total Fast food
Lower-income household	27739,13	8765,22	2965,22	1628,26	18895,65	3956,52	7956,52	71906,52
Middle income household	32522,73	7886,36	5227,27	1916,67	32098,48	5094,70	10727,27	95473,48
Higher-income household	46037,59	9714,29	3165,41	3124,06	43180,45	5676,69	26796,99	137695,48
Average	35805,26	8792,11	3821,05	2251,97	31981,58	4953,95	15513,16	103119,07
F-test (P-value)	5.92 (0.000)	0.56 (0.570)	1.68 (0.180)	20.83 (0.060)	6.36 (0.000)	1.90 (0.150)	35.35 (0.000)	17.91 (0.000)

Table 4. 8. Fast food consumption expenditure share (%)

Income Groups	Kebab	Shawarma	Falafel	Meat mixture	Pizza	Burger	fried chicken	Fast food (%)
Lower-income household	38,58	12,19	4,12	2,26	26,28	5,50	11,07	100,00
Middle income household	34,06	8,26	5,48	2,01	33,62	5,34	11,24	100,00
Higher-income household	33,43	7,05	2,30	2,27	31,36	4,12	19,46	100,00
Average	34,72	8,53	3,71	2,18	31,01	4,80	15,04	100,00
F-test (P-value)	5.92 (0.000)	0.56 (0.57)	1.68 (0.18)	20.83 (0.06)	6.36 (0.000)	1.90 (0.15)	35.35 (0.000)	-

4. 5. The relationship between the socio-demographic characteristic of household and fast food consumption expenditure

As shown in Table 4.9 that indicates a statistically significant relationship between the size of household and fast food consumption expenditure (F-test= 17.323; P= 0.000). In another hand, household size with less than three individuals, (84823.53), have less consumption of fast food than household size with more than four individuals (153685.98. It means that fast food consumption increased when the households increased.

According to the size that there was a significant relationship between age of the respondent and fast food consumption expenditure (F-test= 12.556; P= 0.000). Moreover, as the result is mean= 76961.95. Of age man with less than 30 years, have less fast food expenditure than men with age of above 30 to 35. That is increased mean= 129041.15.

The finding showed a significant relationship between age of the woman and fast food consumption expenditure (F-test= 15.49; P = 0.000). Also, mean= 78279.27, of the age of a woman under 28 years have less participation of eating fast food than women with age more than 38 which increased to mean= 145812.50.

In addition, if the result indicates, there was no significant relationship between the education level of man and fast food consumption expenditure (F-test= 1.331; P= 0.264). Therefore, mean= 91095.24, men with diploma level of education have participated less than lower levels of education that increased to mean= 111670.73, for high school level education for men. The output represented that there is no significant relationship between educations level of a woman and fast food consumption expenditure (F-test= 1.559; P= 0.199).

Furthermore, as it is obvious the mean= 114915.41, literate level education for a woman is greater than the High school degree holders that are decreased to mean= 90738.10, high school level education for a woman. The finding showed that there was a significant relationship between income level and fast food consumption expenditure (F-test =17.941; P= 0.000). Although the mean= 71906.52, for the families with income level less than 900 IQD who participated in having fast food, but increased to mean= 137695.48, for families with income more than 1300 IQD. It shows that whenever income is higher, the fast food consumption is higher.

Table 4. 9. Fast food consumption expenditure by sosyo-demographic groups

Factor		Mean	S.D	F-test (P-value)
Size of household	<3	84823.53	39122.46	17.323* (0.000)
	3-4	91484.69	69610.84	
	>4	153685.98	150809.11	
Age father	<30	76961.95	32020.70	12.556* (0.000)
	30-35	88241.93	40545.39	
	>35	129041.15	129082.54	
Age mother	<28	78279.27	30781.21	15.491* (0.000)
	28-38	96505.64	68329.74	
	>38	145812.50	149804.83	
Education level father	Literate	91379.03	40984.87	1.331 (0.264)
	High school	111670.73	136589.57	
	Diploma	91095.24	62632.10	
	University	109939.14	90584.88	
Education level mother	Literate	114915.41	125475.93	1.559 (0.199)
	High school	90738.10	71014.96	
	Diploma	94263.64	48632.68	
	University	105626.44	71703.00	
Household income (IQD)	<900000	71906.52	31075.67	17.941* (0.000)
	900000-1300000	95473.48	70498.93	
	>1300000	137695.48	128287.96	

 * indicates significance levels at 1%.

4. 6. Types of fast food/ consumption by respondents and household

Table 4.10 explains consumed food type and the prevalence of several food type consumption during defined periods. For instance, most of the participants responded with expending more on eating Kebab with the share of 96.84% of them spent their money on kebab while 20.53% of the participants ordered meat dough. In another hand, families visits a restaurant for eating fast food 53.26% of respondents ordered kebab when they had their families with them, but consuming the burger recorded 20.24% as the lowest fast food requesting. The respondents who consumed falafel lonely accounted 61.15% and portrayed 8.46% of respondents was alone when selected pizza for eating. Also, it has been found

that 34.42% of the respondents ate fried chicken when they were with their wife, and 21.50% of respondents consumed shawarma with their wife. In addition, the percentage of respondents who consumed kebab with their children dropped from 11.14% to 2.56% in having meat dough.

In addition, weekdays consumption of fast foods, 90.79% of the participants responded with eating falafel on weekdays, while 64.21% ordered pizza. Also, at weekends, 23.95% of respondents consume fried chicken, and 13.16% of respondents chosen weekends for having a burger. This result is different from obtained previously by Yardimci et al. (2012) different than the 43.8% go to a fast-food restaurant both on weekdays and weekends, 20.8% on the week, 35.4% during the weekend. Further, the finding indicates that ordered falafel by respondents for lunch recorded 87.86%, and showed 50.78% of respondents chosen pizza. While for dinner 52.60% of respondents consumed fried chicken and 17.95%, the respondent's request meat dough. Moreover, the percentage of respondents who consumed kebab for night dropped from 5.98% to 2.73% after having shawarma. In another hand by Prabhavathi et al. (2014) differ the result that 81% of participants expressed their views that evening is their favorite time to eat fast food, 4% of them revealed their preference is afternoon time. And 15% of them revealed their preference is morning time.

Results indicated that 20.38% and 95.54% of respondents consumed kebab and fried chicken in the mall respectively. Also, 34.47% of respondents asked for falafel outside the mall, while 94.61% of respondents requested burger inside the mall. The outcome of the previous study by Yardimci et al. (2012) is different from this study as it showed that 15.5% of the participant eats pizza, 19.5% of the respondent eat meat dough, 21.4% eats the kebab, 35.2% eats the burger and 22.2% eats chicken. In the other research, by Jekanowski et al. (1997) in agree with this research, the result out lies that agglomeration is an important determinant of consumption of most types of Food-Away-From-Home. This, we can attribute to an expansion in the supply of accommodation to the customer, which lowers the expense of obtaining the produce i.e.- the access cost. We also found that fast food consumption is largely driven by the fast food hamburger market, to which are important consumers.

Table 4. 10. Fast food consumption behaviour of household by fast food type

Fast food	Percentage of consumers consume sast food (%)	With family (%)	Single (%)	With wife (%)	With children (%)	Lunch (%)	Dinner (%)	Night (%)	Weekdays (%)	Weekend (%)	The mall (%)	Outside the mall (%)
Kebab	96.84	53.26	8.42	27.17	11.14	51.36	42.66	5.98	47.63	52.37	20.38	79.62
Shawarma	76.84	21.16	49.49	21.50	7.85	85.67	11.26	3.07	78.95	21.05	5.82	94.18
Falafel	36.84	21.58	61.15	11.51	5.76	87.86	10.00	2.14	90.79	9.21	65.53	34.47
Meat dough	20.53	30.77	37.18	29.49	2.56	82.05	17.95	0.00	94.74	5.26	100.00	0.00
Pizza	83.95	44.83	8.46	33.86	12.85	50.78	35.42	13.79	64.21	35.79	37.93	62.07
Burger	43.95	20.24	48.81	22.62	8.33	77.11	16.87	6.02	86.84	13.16	5.39	94.61
fried chicken	40.53	39.61	14.94	34.42	11.04	24.03	52.60	23.38	76.05	23.95	95.54	4.46
Average	57.068	36.21	27.70	29.39	11.53	62.44	28.99	8.10	70.73	29.26	30.23	64.50

4.7. Health Problems and Obesity in the Household

4.7.1. Obesity

Obesity can be defined as an excess of greasy muscle to induce a significant increase in health risks. The instrument currently used to assess the relationship between weight and stature in the household is the body mass index (BMI) which is calculated by dividing weight 'in Kg' by height squared high in meters (Gallagher et al., 2000).

According to Table 4.11, the result of the collected data that shows that 59.5% of the participants were normal weight while 35% and 5.5 % were accounted for overweight and obese respectively. The result is different from the previous study conducted in Seoul by Seo et al. (2011) as they showed that the majority of the respondent had 93% was the normal body weight, while 5.6% was obese and 1.4% was overweight.

Table 4. 11. Clasification of respondent, according to their Body Mass Index

Clasification	BMI (kg/m^2)	Frequency	Percentage
Normal weight	18.5-24.9	226	59.5
Overweight	25-29.9	133	35.0
Obesity	>30	21	5.5
Total		380	100.0
Average BMI	24.89		

4.7.2. Dieting in families

According to the dieting within the participants, the obtained answer shows that 33.7% was on diets while 66.3% of the participants were not dieting (Figure 4. 5).
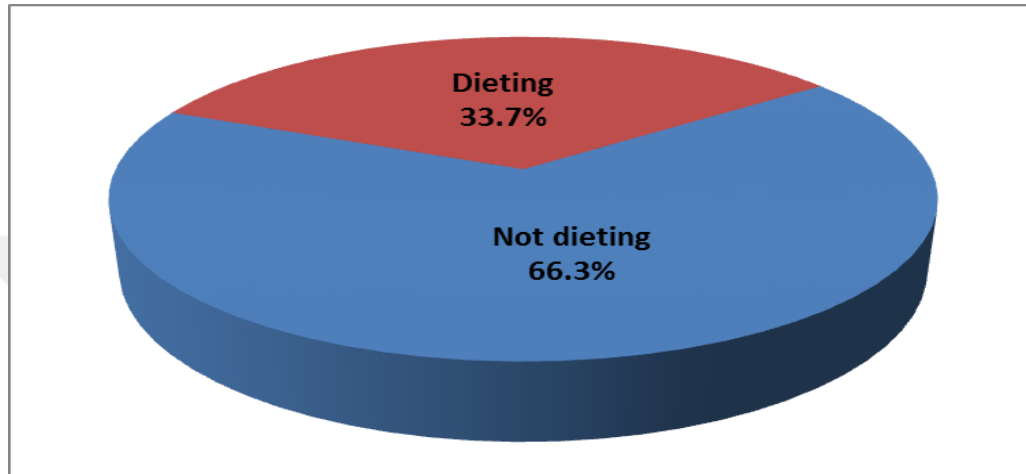
Figure 4. 5. Dieting in families

4.8. Fast food consumption behavior of households

4.8.1. Food cooked at home

As we can see from the Figure 4. 6, 95% of the respondents cooked at home, and only 5% of them don't cook at home.
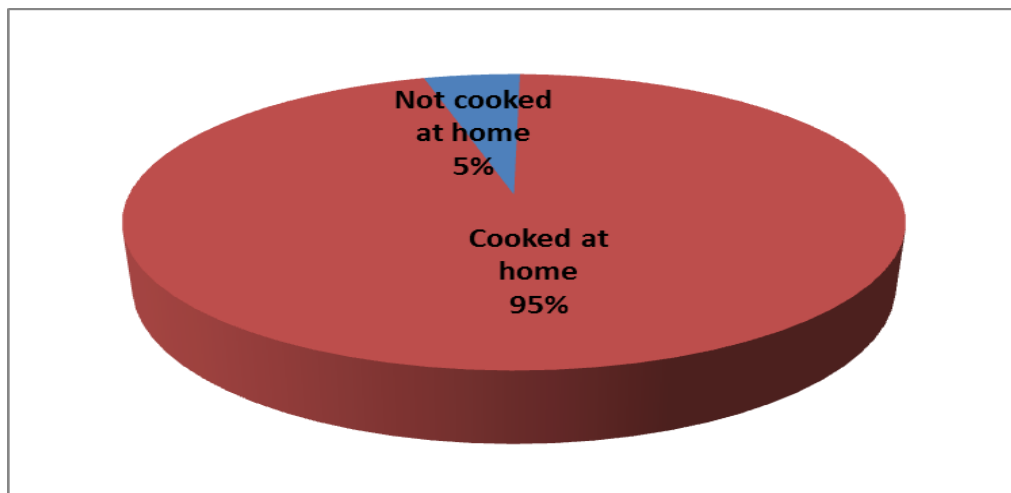
Figure 4. 6. Food cooked at home

4.8.2. Reason for not eating fast food

In figure 4.7, the reasons for not eating outside has been outlined and the participants were suffering from different illness such as diabetes, stomach illness, high blood pressure and others that are corresponding to 2%, 13 %, 80% and 5% of the total participants respectively.
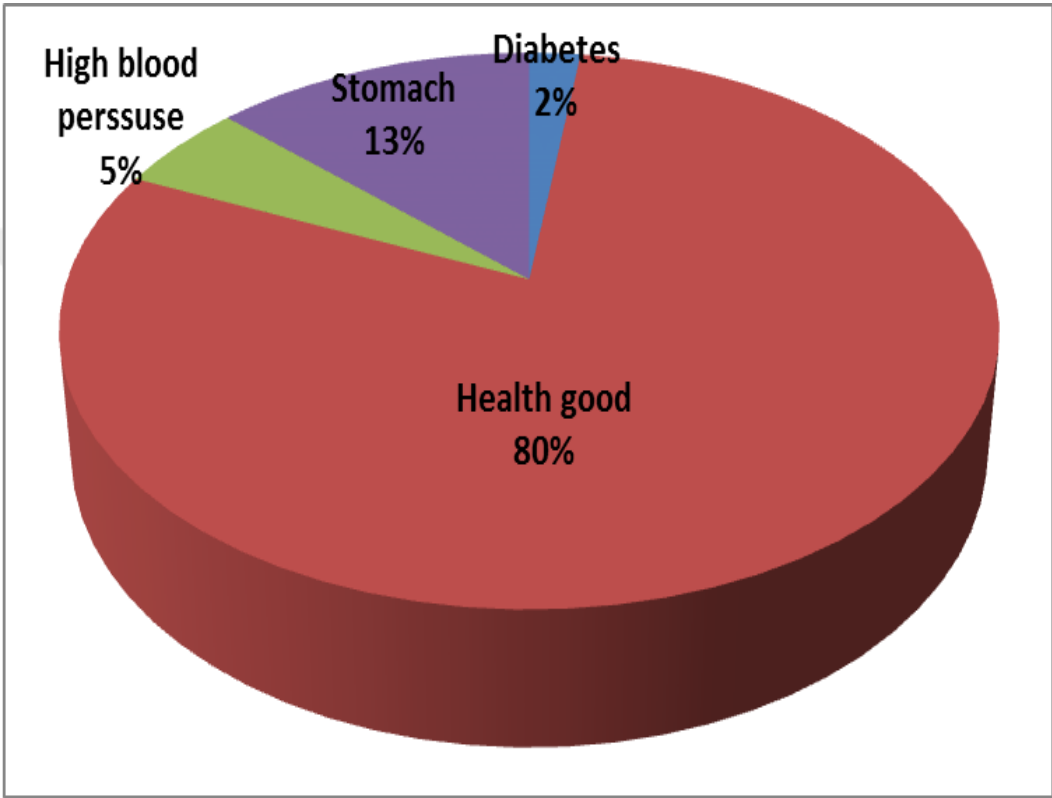
Figure 4. 7. Reasons why respondents don't eat fast food

4.8.3. Consumption of national and international foods

Consuming the food type is usually vary between individuals. For instance, in this study, the number of participants who were eating nationals foods, including meat dough, shawarma, kebab was 52.4 % of total participants, while those who were eating international foods like fried chicken, Burger, Pizza were compromising 47.6 % (Figure 4. 8).
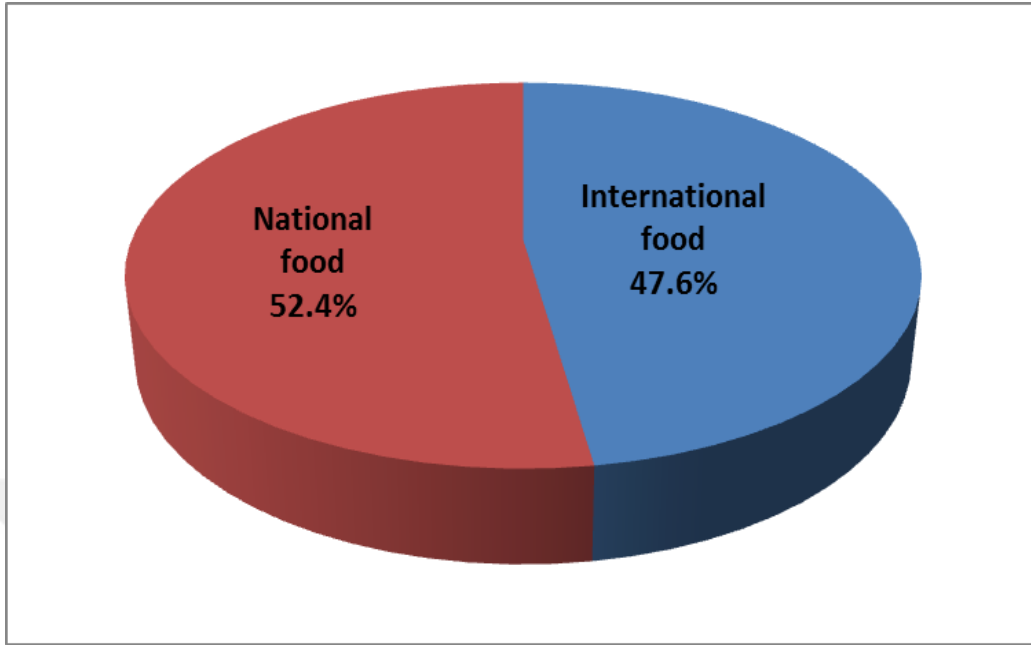
Figure 4. 8. Consumption of national and international foods

4.8.4. Eating in the workplace

Although the outcome represented that the share of the people who have meals at their workplaces, were 42.6% and who haven't meal at their workplaces, were 57.4% (Figure 4. 9).
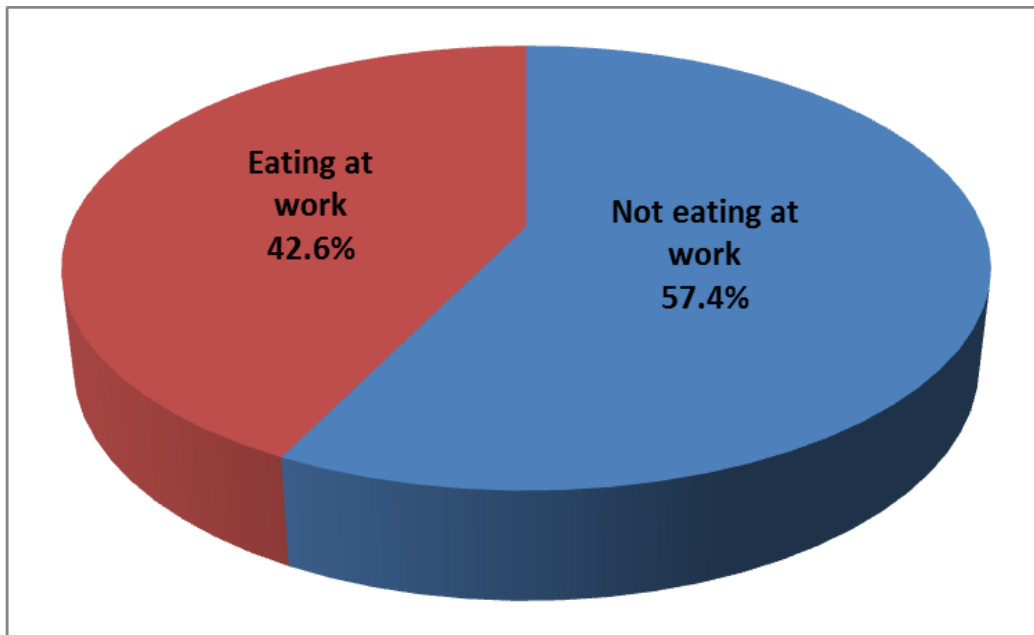
Figure 4. 9. Eat in the workplace

4.8.5. Fast food consumption frequency

The consumption of fast foods in the restaurants differ between the participants as the results of this study showed that high percentage are likely to eat food several times in a month and this was 51.1 % of the total participants. Whereas, those who were eating fast food every day were lowest and compromised 6.3%, while equal shares responded with eating the fast food several times a week or in a year, as they both compromised 21.3% each (Figure 4. 10). As found in the outcome by Akbay et al. (2007) approximately 55% of consumers claimed to consume fast food as a way of diversified their diets. According, to their study, in the total sample, 45.3% indicated that they never consumed fast food in last one-month period, 21.4% fast ate food once or twice a month, 20.5% consumed once a week and a surprisingly only 12.8% consumed fast food on a daily basis.
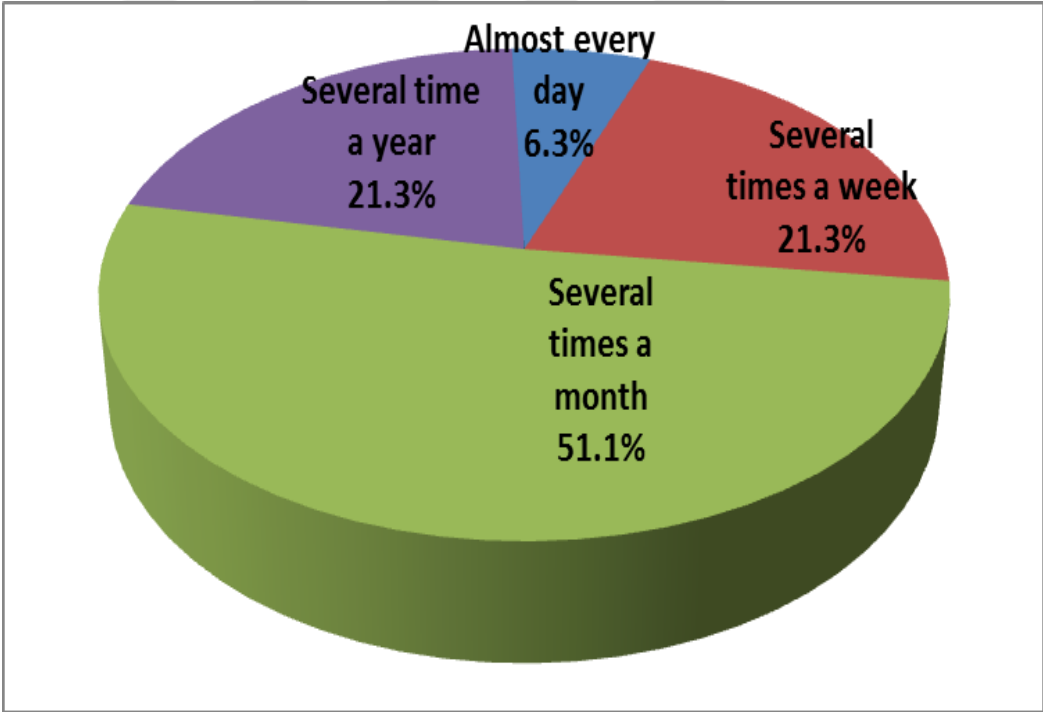
Figure 4. 10. Fast food consumption frequency

4.8.6. Reasons for eating outside

Several reasons has been outlined for people to eat outside, thus we have outlined the participants according to reasons for eating outside including taste, saving time, social events, children preferring, food diversity, not having food at home, guests treat and other factors. The shares of participants were corresponding to 16.1%, 21.2%, 7.1%, 19%, 14.5%, 1.1, 9% and

12 % respectively. The most important figure is found to be sample the time. 21.2% of consumers eat fast food became of their scarce time.

Table 4. 12. Primary cognitive and affective outcome beliefs regarding frequent fast food consumption

Variable	Frequency	Percentage
Taste	61	16.1
Saving the time	81	21.2
Social event	27	7.1
Children preferring	72	19.0
Diversity food	55	14.5
Other factors	46	12.0
Not food at home	4	1.1
When guests arrive	34	9.0
Total	380	100.0

4.8.7. Frequency of food away from home consumption

Regarding our question on the frequency visited the restaurant in the last month. The result of our questioner showed that 10.5%, of the participants, visited the restaurant once in a month while those who have visited restaurants for 2,3,4,5 and 6 times were 21.1, 31.8, 19.5, 12.1, and 5 % respectively (Figure 4. 11).
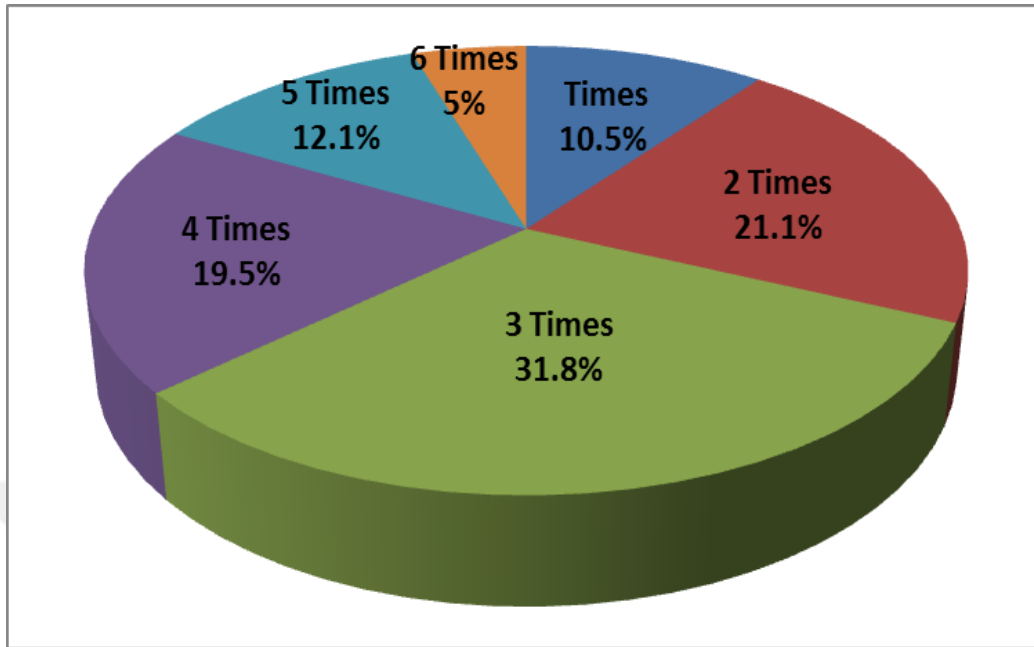
Figure 4. 11. Frequency of food away from home consumption

4.8.8. Eating outside the home in the last one month

The result showed that the people who have a meal outside their workplace in last month divided into five-categories respectively. Include, 31.3% one-time, 39.7%, two times, 18.7% three times, 5.3% fourth times and finally, 5% fifth times (Figure 4. 12).
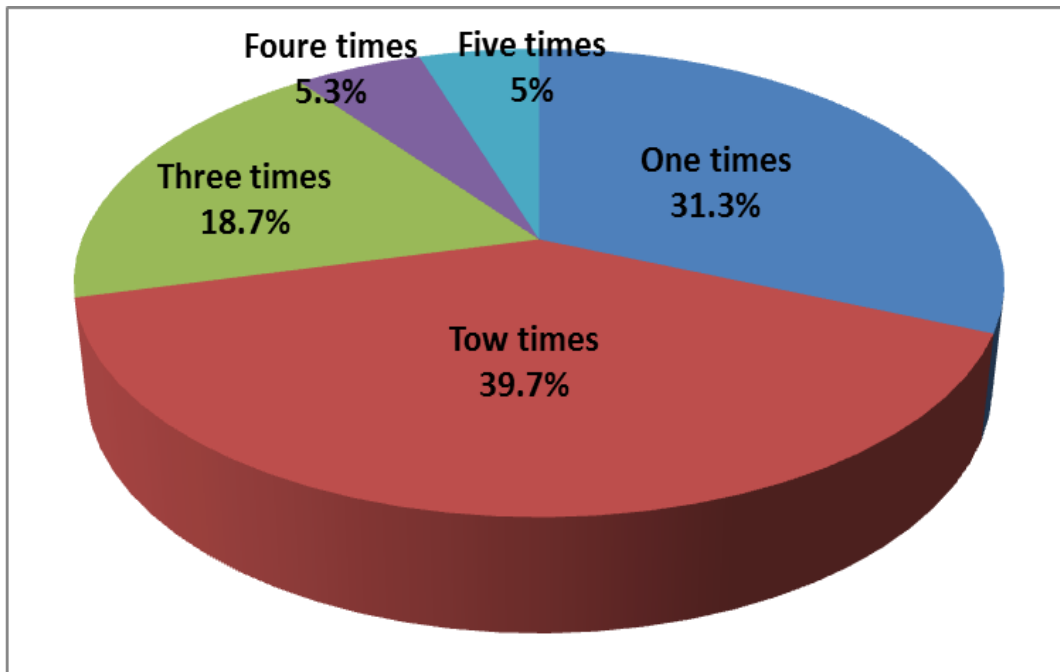
Figure 4. 12. Eat outside the home in the last month

4.8.9. Eating dinner with someone

According to the result of which are portrayed in Figure 4. 13, about alone going out for dinner upon are 29%, and with the wife going out to dinner were 13%, but going out with children for dinner is 7%, and with himself and wife going out for dinner is 45%. And finally, 6% is going out with the others for dinner. In another study by Ozcelik et al. (2007) different result found that 63.5% of the participants are going to a fast-food restaurant with their friends and 48.3% of them go both on weekend and weekdays days.
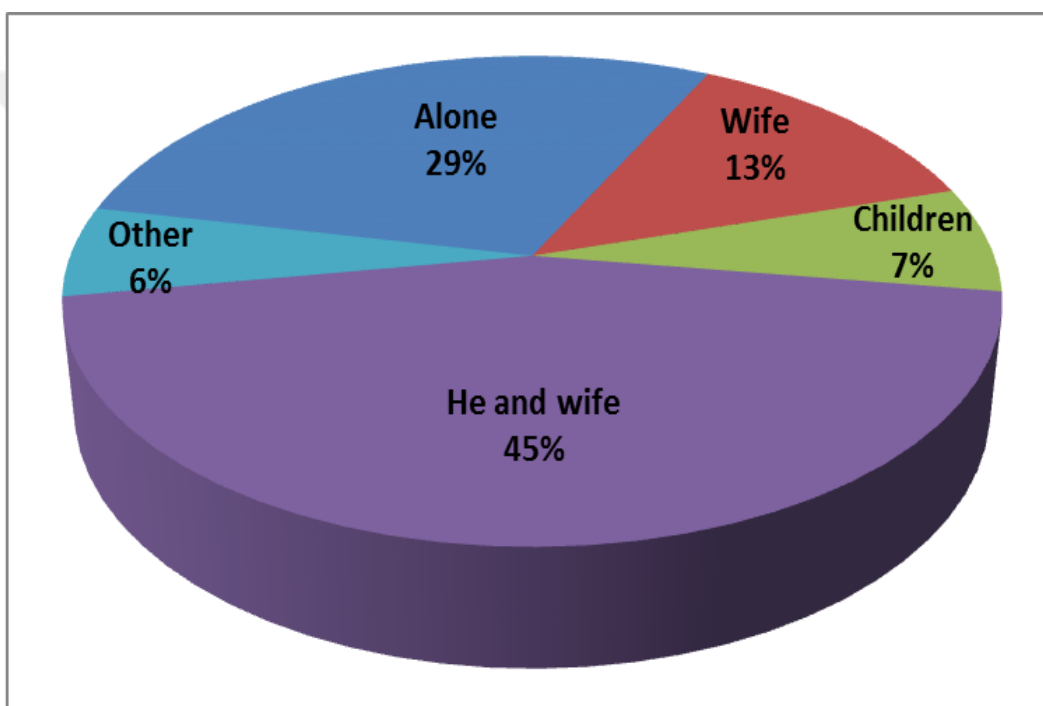
Figure 4. 6. Encourage of eating fast food

4.8.10. Season consumed more fast food

The finding of consuming fast food in different seasons indicates that the percent of the participants that have fast food in the spring was 24.5%. While 18.9% of the participants accounted to have fast food in the summer, and 37.9%, of the participants, selected winter for consuming more fast food. Finally, it has been recorded that 18.7% of respondent has more fast food in autumn, as portrayed in Figure 4. 14.
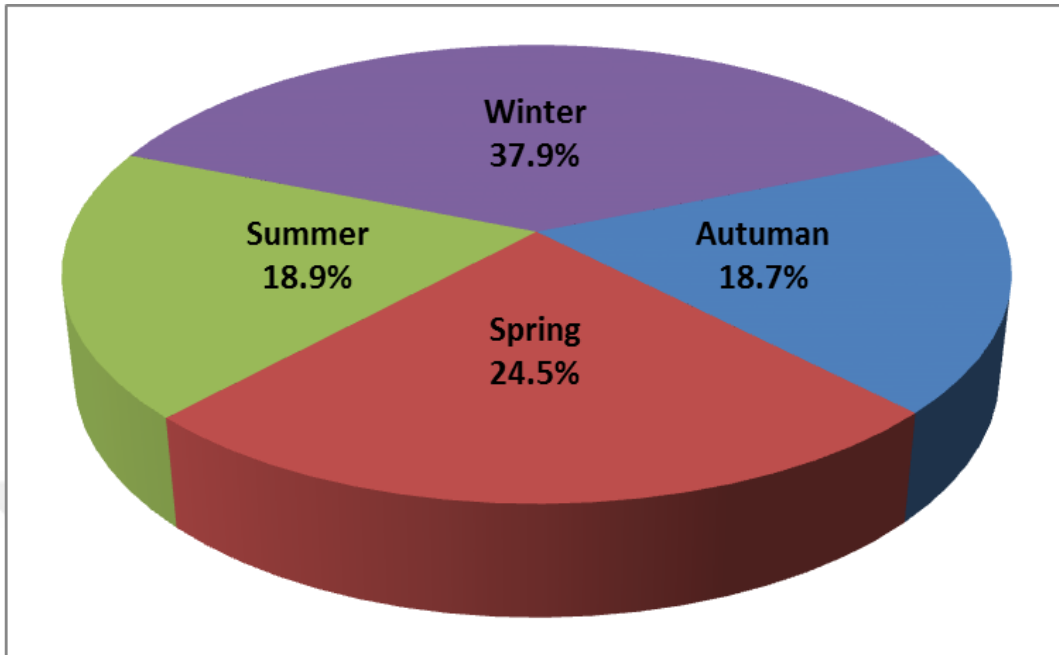
Figure 4. 7. Season to consumed more fast food

4.8.11. Spending time at a restaurant

Moreover, the result portrayed that those who stayed at the restaurant for less than 15 minutes were 11.6%, but 31.6% was lasting 30 minutes and 56.8% respondents have stayed for one hour or more (Figure 4. 15).
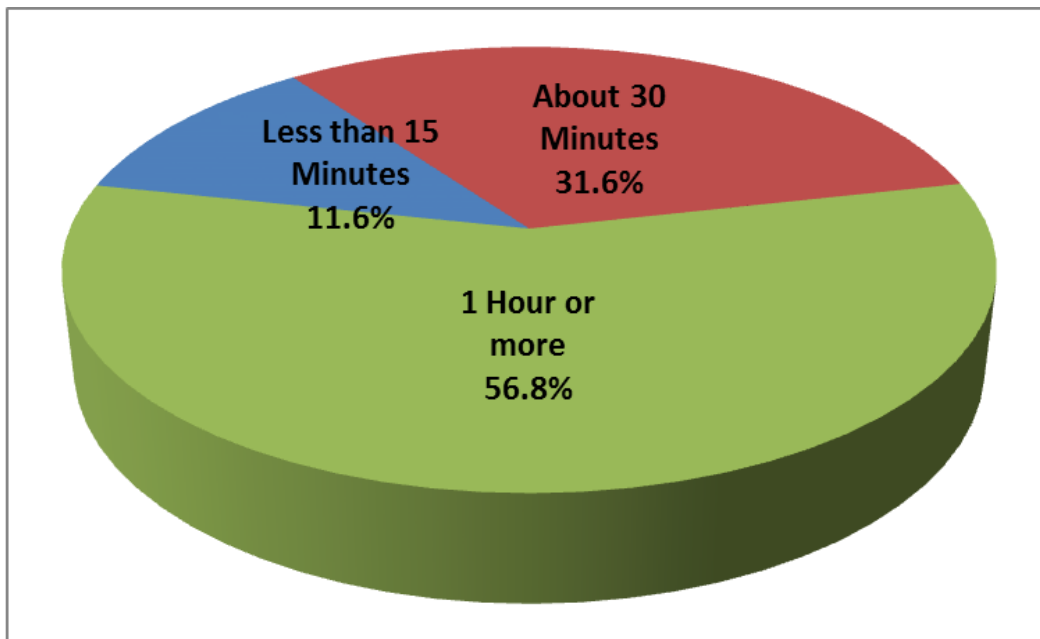
Figure 4. 8. Spending time at a restaurant

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4.8.12. Distance from restaurant

Distance always has effects on the frequency of eating at a special restaurant. The amounts of time spent to reach the restaurant between participants were accounted on 5, 10, 15 and 25 minutes which correspond to the share of 53.2, 28.7, 15.8 and 2.4 % respectively of the total participants (Figure 4. 16).
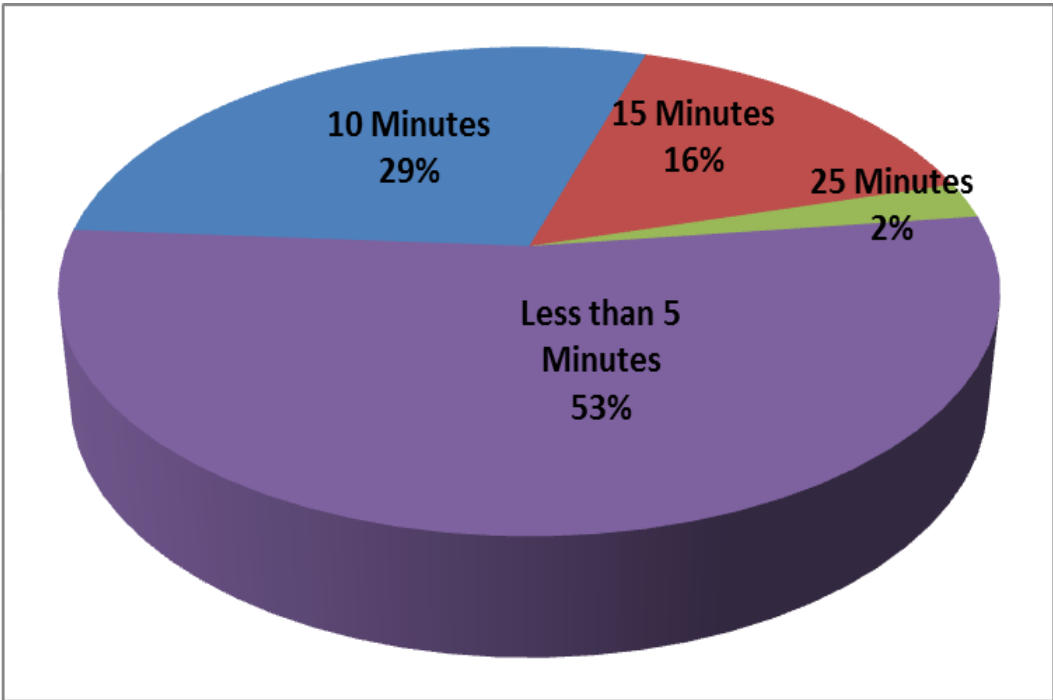
Figure 4. 9. Distance from restaurant

4.8.13. Frequency of drinking with fast food consumption

It is a common behavior that buying fast food comes with a drink of customer's choice. The results of this questioner concluded that those who prefer Pepsi with their fast food are 39.5 % of total participants. While, those who drink nescafe, buttermilk, fruit juice, soda, Coca-cola and Fanta are 31.6, 67.4, 32.6, 45.8, 42.1 and 41% of total participants respectively (Table 4.13).

Table 4. 13. Frequency of drinking with fast food consumption

Drink	Frequency	Percentage
Pepsi	150	39.5
Nescafe tea	120	31.6
Buttermilk	256	67.4
Fruit juices	124	32.6
Soda	174	45.8
Coca-Cola	160	42.1
Fanta	156	41.0
Total	380	100.0

4.9. Food at home and behavioure of consumption

4.9.1. The fast food consumption behavioures of respondents

Table 4.14 explains the evaluation of food by participants and when asked about regularity in cooking at home, we found that high percentage (84.7%) of the participants agreed while this percentage decreased to 9.5% and 5.8% responding to disagree and somewhat agree respectively. Furthermore, buying foods from the same place where usually shopping is another task we have asked the participants and found that 5.5% of the respondents selected disagree while this increased to 72.1% agreement. Thus the highest percentage of the participants (73.2%) responded that they pay attention to the food they eat. This number decreased to 16.6% somewhat agree and 10.3% of disagreements.

In another hand, when the food values for protein and vitamins enrichment asked the participants, the highest percentage (67.9%) agreed with consuming foods rich in proteins and vitamins and this decreased to 23.4% somewhat agreements and 8.7% disagreed. Drinking water varies between individuals, it also depends on the season and environmental effects. Participants responded with 62.6% of them agreed to the necessity of drinking at least 2.5-litre

water per day, while this rate decreased 24.2% with disagreement. Eating healthy foods are always in concern of human's health Cholesterol level in the food is increased worry in the recent years among people, so when we asked participants about their view on this matter, 16.3% of them disagreed while this rate increased to 57.9% agreements.

In another hand, eating white meat and red meat is usually dependent on the individuals, thus when the participants asked about their preferable type of meat, this study found that highest percentage of the participant (49.2%) prefer to have white meats (chicken and fish). This decreased to 33.7% of them somehow like it while 17.1% disagreed with it. In another section of questionnaire high percentages (38.2%) of the participants are trying to spend less money than those who are spending more than 24.7%. While from the total participants only 37.1% of the participants were somehow trying to spend less.

Moreover, balance in food variety is another factor that this study focused on. When the participants asked about it they responded with 25.8% disagree and 33.9% agreed. Eating fruit is one of the most useful things to humans being, thus when participants asked about eating at least five fruits per day, they responded with 33.2% of disagree and 39.2% agree. Moreover, the result reflected that 39.7% of the fast food consumption selected disagree and decreased to 26.6% agree about the participants thinking if the foods consumed outside are healthier ingredients. Foods that are rich in diet value are usually found to be expensive, 46.3% of respondents disagreed with this while this decreased to 25.8% agree.

Eating outside is not always useful. Thus, when the participants were asked about wasteful of money and time to eat outside, the highest response (56.3%) disagreed with that while this percentage decreased to 22.1% of agreement and 21.6% of somewhat agreement. When it comes to the costs of cooking, the high percentage of the participants (65.5%) responded with disagreement on the eating outside are cheaper than home. This decreased to around 17.4% agreements with it while around 17.1% felts it's somehow right. 71.8% of the participants responded with disagreement to constant consumption of fast food does not harm health, decreased to 15% agreements and 13.2% of somewhat agreements.

Table 4.14. General evaluation the fast food consumption characteristic of the families of respondents

Variable		Frequency	Percentage	Mean	S. D
The food is cooked at home regularly.	Disagree	36	9.5	2.75	0.614
	Somewhat agree	22	5.8		
	Agree	322	84.7		
I usually get from where it is most appropriate price in all kinds of shopping.	Disagree	21	5.5	2.67	0.578
	Somewhat agree	85	22.4		
	Agree	274	72.1		
The food I eat should be healthy (I pay attention to it).	Disagree	39	10.3	2.63	0.663
	Somewhat agree	63	16.6		
	Agree	278	73.2		
I choose foods that contain protein, vitamins and energy values.	Disagree	33	8.7	2.59	0.645
	Somewhat agree	89	23.4		
	Agree	258	67.9		
I drink at least 2.5 liters of water a day.	Disagree	50	13.2	2.49	0.717
	Somewhat agree	92	24.2		
	Agree	238	62.6		
I prefer low-cholesterol foods.	Disagree	62	16.3	2.42	0.755
	Somewhat agree	98	25.8		
	Agree	220	57.9		
I prefer the white meat (chicken or fish) when I go outside for eating.	Disagree	65	17.1	2.32	0.749
	Somewhat agree	128	33.7		
	Agree	187	49.2		
I try to do a little Provident (austerity) each month.	Disagree	94	24.7	2.13	0.783
	Somewhat agree	141	37.1		
	Agree	145	38.2		
To eat a balanced diet, meaty foods should be eaten.	Disagree	98	25.8	2.08	0.770
	Somewhat agree	153	40.3		
	Agree	129	33.9		
I eat at least 5 servings of fruits and vegetables a day.	Disagree	126	33.2	1.94	0.779
	Somewhat agree	149	39.2		
	Agree	105	27.6		
I think the food made from the healthy ingredients that I eat outside.	Disagree	151	39.7	1.81	0.805
	Somewhat agree	128	33.7		
	Agree	101	26.6		
Expensive foods are healthier.	Disagree	176	46.3	1.79	0.825
	Somewhat agree	106	27.9		
	Agree	98	25.8		
I think it is "wasteful" to eat at outside.	Disagree	214	56.3	1.66	0.818
	Somewhat agree	82	21.6		
	Agree	84	22.1		
Eating outside is generally less costly than cooking at home.	Disagree	249	65.5	1.52	0.774
	Somewhat agree	65	17.1		
	Agree	66	17.4		
There is no harm to the health of constant consumption of fast food.	Disagree	273	71.8	1.43	0.73
	Somewhat agree	50	13.2		
	Agree	57	15		

4.9.2. Reasons of fast food consumption and choosing restaurants

Table 4.15 explains consuming fast food by customers and their behavior to about fast food. The comfort of the environment within the fast food restaurant has been agreed by 66.8% of the participants while 8.9% disagreed. The result of respondents that most of the consuming have a good understanding of their eating with the last revision. In addition, 7.4% of the fast food consumers selected disagree and increased to 61.1% agree about finding and eating their favorite dish. Furthermore, 65.3% of the participants were chosen they agree in eating in different environments while this rate decreased to 12.6% of disagreeing. According to this result, this is realized that showing respect and appreciating fast food consumption is the key to produce a better quality consuming. Moreover, 12.9% of the chosen participants disagree while increased to 56.1% agree about noticing the quality difference. In the term of fast food delivery service by phone, 22.4% disagree and this rate increase to 50.5% agree. Promotions have a great impact on customers choice for the foods, 44.7% of the participants agreed that they prefer food that has been promoted while this rate decreased to 17.6% of disagreeing. Moreover, 21.8% of the respondents disagree and 40.5% agree with the places where fast foods are located and if there is difficulty in reaching them.

In addition, the presence of children playground is convenient to the parents. This has been agreed with 47.1% of the participants while 39.7% disagreed. Furthermore, the result reflected that 38.9% of fast food consumers disagree and increased 44.5% agreed that eating outside is based on the child's request. Also, going to the fast foods with friends to talk or meeting up has been disagreed by 33.4% of the participants while this increased to 37.9% of agree. Moreover, 27.4% of the respondents did not find that using local meats in the fast foods are more tasteful while 30.8% agreed. It indicates that to some extent, fast food consumers are more happy to consume local meats in their fast foods. In addition, 31.6% of the fast food consumers have chosen to disagree and decreased to 29.5% agreed about how they have been served quickly. Although 30.0% disagree and decrease 26.8% agree concerning the quality of service they have been served with.

In addition, 33.4% of the fast food consumers selected disagree and decreased to 27.9% agree on the term of satisfactory with the products according to the amount of payment. Moreover, 39.5% of the respondents selected disagree and decreased to 30.5% agree about the waiting time is less at checkout. Also, 52.6% of the fast food consumers have chosen disagree in the

term of the price that fast foods are more expensive than other restaurants while and decreased to 24.2% agrees. Furthermore, 52.4% of the consumption (consumers) have chosen disagree, and decreased to 22.6% agree regarding their findings if it was the high nutritional value of proffered foods.

Table 4. 15. Reasons of choosing fast food restaurants

Variable		Frequency	Percentage	Mean	S.D
I like the environment (atmosphere).	Disagree	34	8.9	2.58	0.651
	Somewhat agree	92	24.2		
	Agree	254	66.8		
I find the food in accordance with the type of palate (my own palate)	Disagree	28	7.4	2.54	0.630
	Somewhat agree	120	31.6		
	Agree	232	61.1		
I like to eat in different environments	Disagree	48	12.6	2.53	0.709
	Somewhat agree	84	22.1		
	Agree	248	65.3		
I always find the same quality	Disagree	49	12.9	2.43	0.710
	Somewhat agree	118	31.1		
	Agree	213	56.1		
I am pleased with the easiness of ordering by phone	Disagree	85	22.4	2.28	0.807
	Somewhat agree	103	27.1		
	Agree	192	50.5		
I usually prefer promotional products	Disagree	67	17.7	2.27	0.743
	Somewhat agree	143	37.6		
	Agree	170	44.7		
I think they are not easily reachable places	Disagree	83	21.8	2.19	0.768
	Somewhat agree	143	37.6		
	Agree	154	40.5		
I find it convenient to have play areas for children	Disagree	151	39.7	2.07	0.930
	Somewhat agree	50	13.2		
	Agree	179	47.1		
I am going because children prefer	Disagree	148	38.9	2.06	0.913
	Somewhat agree	63	16.6		
	Agree	169	44.5		
I am going there in order to meet and talk with my friends	Disagree	127	33.4	2.04	0.844
	Somewhat agree	109	28.7		
	Agree	144	37.9		
I think that the meat products in local fast-food restaurants are more reliable	Disagree	104	27.4	2.03	0.763
	Somewhat agree	159	41.8		
	Agree	117	30.8		
I see the service is fast	Disagree	120	31.6	1.98	0.782
	Somewhat agree	148	38.9		
	Agree	112	29.5		
I don't like the quality of service	Disagree	114	30	1.97	0.754
	Somewhat agree	164	43.2		
	Agree	102	26.8		

I think the products are not satisfactory according to the fees I paid	Disagree	127	33.4	1.94	0.782
	Somewhat agree	147	38.7		
	Agree	106	27.9		
The waiting time is less at checkout	Disagree	150	39.5	1.91	0.833
	Somewhat agree	114	30		
	Agree	116	30.5		
Prices are more expensive than other restaurants	Disagree	200	52.6	1.72	0.830
	Somewhat agree	88	23.2		
	Agree	92	24.2		
I think it was the high nutritional value of preferred foods	Disagree	199	52.4	1.70	0.814
	Somewhat agree	95	25		
	Agree	86	22.6		

4.9.3. Reasons for not preferring meals outside of home

Table 4.16 outlines the reasons for not eating outside rather than home. Also, 18.2% the respondents disagree and increased to 59.2% agree on they do not have enough time to visit restaurants. Eating healthy foods are in concern of so many people, thus 50.5% of the participants found it's not healthy to eat outside while this rate decreased to 18.4% of disagreeing. Price of foods outside are usually higher than home, thus 25.5% of the fast food consumers have chosen disagree and increased to 50% agree.

According to the result that 20.3% of the respondents disagree and increased to 44.5% agree on the limited time each customer has to sit in the restaurant. Participants responded to their like about the restaurant atmosphere with 26.8% disagree and 40.3% agree. Also, 26.6% of the respondents selected disagree with be used to have foods outside while this increased to 37.9% agree. Some fast foods are providing self-service facility, which is a different response between the participants as 33.2% didn't agree with discomfort in self-service facility while 38.2% agreed.

Moreover, 29.7% of the fast food consumers have chosen disagree and increased to 36.1% agrees about customers visiting fast food restaurants. Moreover, 24.7% of the fast food consumption selected disagree and increased to 31.6% agree in the term of qualified service. Income usually affects on the personal visit to restaurants this has been disagreed by 39.5% of the respondents and decreased to 31.6% agree. In addition, health problem also affects the normal visit to restaurants the result reflected 22.9% of the fast food consumption disagree and increased to 54.5% agree.

Table 4. 16. Reasons for not preferring meals outside of home

Variable		Frequency	Percentage	Mean	S. D
I don't have enough time	Disagree	69	18.2	2.41	0.779
	Somewhat agree	86	22.6		
	Agree	225	59.2		
I have doubts about that healthy	Disagree	70	18.4	2.32	0.767
	Somewhat agree	118	31.1		
	Agree	192	50.5		
Prices are very high compared to food cooked home	Disagree	97	25.5	2.24	0.835
	Somewhat agree	93	24.5		
	Agree	190	50		
There is no opportunity to sit for a long time	Disagree	77	20.3	2.24	0.768
	Somewhat agree	134	35.3		
	Agree	169	44.5		
I don't like the environment (atmosphere)	Disagree	105	26.8	2.13	0.809
	Somewhat agree	125	32.9		
	Agree	153	40.3		
I have no habits	Disagree	101	26.6	2.11	0.796
	Somewhat agree	135	35.5		
	Agree	144	37.9		
I see the service is inadequate (disqualify)	Disagree	94	24.7	2.07	0.748
	Somewhat agree	166	43.7		
	Agree	120	31.6		
I don't like their customers	Disagree	113	29.7	2.06	0.810
	Somewhat agree	130	34.2		
	Agree	137	36.1		
I don't like self-service	Disagree	126	33.2	2.05	0.844
	Somewhat agree	109	28.7		
	Agree	145	38.2		
My income is inadequate	Disagree	150	39.5	1.92	
	Somewhat agree	110	28.9		
	Agree	120	31.6		
Having health problems	Disagree	87	22.9	1.92	0.840
	Somewhat agree	86	22.6		
	Agree	207	54.5		

4.10. Results of Multiple Linear Regression

Descriptions of the variables used in the model are given in Table 4.17. In Multiple Linear Regression Model, continuous variables fast food consumption expenditure, age and income enter the model as logarithmic form.

Table 4. 17. Descriptive statistics of variables in the model

Variable	Definition	Mean	Standard devision
Ln FFOOD	Fast food consumption expenditure of respondents	11.3723	0.5238
DEDU2	1: Graduated from primary school or secondary school 0: other	0.3158	0.4654
DEDU3	1: Graduated from high school 0: other	0.221	0.4155
DEDU4	1: University graduated respondents 0: other	0.4000	0.49054
DHHS2	1: Household size between 3 and 4 individual 0: other	0.5158	0.50041
DHHS3	1: Household size more than four individual 0: other	0.2158	0.41191
Ln age	Age of respondents	3.5600	0.22468
Ln income	Household income	13.9410	0.37992
FF_frequeny	Except the workplace cafeteria how many times did you eat outside the home in the last month	2.13	1.071

According to the correlation analysis, there is no multicollinearity between independent variables. In order to see whether the model error terms have a normal distribution or not, the Kolmogorov-Smirnov test is used and the null hypothesis (H_0: Error

terms are normally distributed) this hypothesis could not be rejected at a significance level of 0.05. According, to these results, this regression model satisfies the classical regression model assumptions. The coefficient of determination, R^2 which does not only indicate the goodness of fit, but can also be interpreted as the amount of variation of the dependent variable was explained by the regression equation, shows that 0.352 of the variation in the dependent variable was explained by independent variables. For a model estimated with cross-section data, this R^2 values not unusual because of the large degree of stochastic variation in survey data. The F-value of the regression model is 25.20 and the level of significance of the data is p-value < 0.00, which is smaller than 0.05, meaning that regression models can be used to predict the dependent variable.

The first variable represents the constant. This is the predicted value of a degree when all other variables are 0. This estimated values of 2.068 are found to be statistically significant (P= 0.024). In addition, as the result of the statistically significant coefficient, "size of household more than four individual" has a positive effect on the fast food consumption expenditure (p < 0.05). According to results from the model, when the number of household size increases, fast food consumption expenditure of respondents will increase too. According to the finding of Akbay et al. (2007), a decreasing affinity to eat fast food as size household increases, as well as the results, smaller households are more frequently consume fast food products than greater households.

Moreover, the finding of statistically significant effect showed that "Age of respondents" has a positive effect on the fast food consumption expenditure. On the other hand, the results showed that the t-values (2.799) and P-values (0.005), as well as to the results from the model when the age of respondents increases by 1%, the fast food consumption will increase by 0.338%. In a similar study, Uzunoz et al. (2009) found different results and show that as the age of respondents increases, the ratio of consuming food away from home decreases. Household income statistically affects the fast food consumption expenditure positively (P<0.01). The coefficient values of income are equal to 0.557, that's mean when the income increasing by 1% the amount of fast food consumption expenditure will increase by 0.557%. According to results of Sserunkuuma et al. (2012), disposable monthly income had the negative and significant effects on fast food expenditure.

The output of the statistically significant coefficient represents "Except the workplace cafeteria how many times did you eat outside the home in the last month" show positive effects on fast food consumption ($P<0.01$). On the other hand, education level of respondents have positive effects on fast food consumption expenditure, but the results were not found to be statistically significant ($P>0.10$).

Table 4. 18. Multiple regression results for fast food consumption expenditure

Variables	Coefficients	Std. Error	t-values	P-values
(Constant)	2.068	0.912	2.266	0.024
DEDU2	0.169	0.097	1.750	0.081
DEDU3	0.142	0.103	1.384	0.167
DEDU4	0.141	0.101	1.399	0.163
DHHS2	0.003	0.053	0.059	0.953
DHHS3	0.262	0.074	3.556	0.000
Lnage	0.338	0.121	2.799	0.005
Lnincome	0.557	0.069	8.062	0.000
FF_frequeny	0.067	0.021	3.160	0.002
R^2 : 0.352 F-test : 25.203 P value: 0.000				

5. CONCLUSION AND RECOMMENDATIONS

Fast food is a kind of mass-produced food that is prepared and served very quickly. The purpose of the research was to investigate the fast food consumption behavior of consumers in North-Iraq and the effect of Sociodemographic fast food consumption expenditure on the household. We have conducted the survey through 380 families' respondents who are the representative of North-Iraq population. This survey especially focused on the family of North-Iraq people because fast food consumption is popular among groups. During the survey, the respondents were asked to vote to agree/disagree with several statements and clarify the extent of their agreement/ disagreement. Descriptive statistics such as frequencies and percentages were used to answer the research questions. The study for analyzing the data collection focuses on using F-test and multiple linear regressions. The SPSS was used to run all the analyses for the study.

According to the result of the multiple linear regression relationships between the dependent variable and independent variable, also same variables are significant coefficient. From the finding of the survey, we have found that there is the employee (92.1%) are likely to consume fast food than unemployed (7.9%). There are three main demographic hypotheses testing followed by the twenty-two sub-hypotheses testing about fast food consumption behavior of consumers. Then, the outcomes of testing the relationship between demographic variables and consumer behavior have shown that there is a relationship between the size of household, age, education, employee and fast food consumption. Firstly, the medium family which the families with an extent between 3-4 person was high responded than small and big family to consume fast food. Then, the age more than thirty-five years old consume more fast food than other age. Also, there is the relationship between education level, as people have a bachelor degree to the higher level and non-literate was low-level of consuming fast food. The employee people usually eat fast food more than unemployed people as they don't have time to prepare meals. In addition, families with three to four members buy fast food also because of lack time. Moreover, people aged 35 and above take fast food more than less aged due to their business and the working time. Other users of fast food are students, especially undergraduate students, they consume fast food most of the time because they want to study and do their homework instead to spend time prepare meals. Therefore, the users of fast food arise due to a large number of people who have fast food. When the size of household increases by 1%, the

participants of fast food consumption expenditure will increase by 0.262%. Moreover, depending on results the "Ln Age of respondents" has a statistically significant positive effect on the fast food consumption expenditure. In addition, the model results fast-food consumption will increase by 1% when increased by 0.338%, age of the respondent. The result of statistically significant coefficient showed that "Ln income" has a positive affection on the fast food consumption expenditure. That's mean when the income increasing by 1% the amount of fast food consumption expenditure will increase by 0.557%.

Consumers are priced sensitive who purchase low price, but they are willing to pay extra for improvement in intrinsic cues such as ingredient and taste, but not for extrinsic cues like the packaging. Health concerns have been found to be adversely related to the consumption of convenience foods. A qualitative study (focus groups) that was performed prior to the quantitative one in this study, revealed that consumers criticize convenience foods primarily for their high content of additives and preservatives. This was a common comment on convenience food products from the consumers who participate.

Planning and implementing socio-ecological models of health promotion in an organization. This is beneficial to improve office workers' health behavior. The socio-ecological model provides a comprehensive framework for understanding and modifying the range of social and environmental factors that have an effect on fast food consumption behavior. Often, the likelihood of adopting courses of action to address the health threat is determined by a cost-benefit ratio made by the individuals. A concern of this study was that people not willing to be involved may have had different views on the topics discussed than those who attended the meetings. The views of food stamp clients that have never participated in any nutrition-related event or program must also be determined.

The development and evaluation of nutrition education programs should be a continual process to ensure that the changing needs and interests of the target audience are being addressed. The insight into the perceived and real needs of food stamp clients gained from this study should be used in further research to evaluate existing programs serving this population. Furthermore, additional assessment studies are needed to build on the current understanding of the attitudes and practices of food stamp recipient.

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APPENDIX

<p align="center">SURVEY</p>

Fast food consumption behavior of consumer in Northern region of Iraq

Q1- Including yourself, how many people live in your home? ....

Q1A-marital status of the person   a) Married   b) Single

individual	age	Gender*	Education**	Work(actually work)	Kilo (kg)	Height (cm)
himself						
wife						
Child 1						
Child 2						
Child 3						
Child 4						
Child 5						
Other 1….						
Other 2….						
Other 3….						

*Female: 0, Male: 1

**Non-Literate: 1,   Literate: 2,   first –Secondaryschool:3,   High school:4, Bachelor degree:5,   Post-graduate:6

Q2- Have obese and overweight individuals in your family?   A: No   B: Yes

Q3- How many years have you lived in the town?............... year/years

Q4- Is there someone else providing income for the family except the head of the family?

A: No   B: Yes

Q5- If your answer is "Yes" how many people other than the head of the family? ....people

Q6- What's you are total household monthly income? …….IDQ

Q7- What is the monthly expenses of your family (approximately)?

Food Expenditures ……………IDQ (vegetable, fruit, red and white meat, fish, bread, flour, legumes, milk dairy products, food expenditures of outside the home, oils and drinks etc.).

Smoking and alcohol consumption (spending)………..….IDQ

Rent+Duse: ………………..IDQ

Education: ………………..IDQ

Clothes: ……………......IDQ

Health: ………………..IDQ

Electricity and water: ………………..IDQ

Heating: ………………...IDQ

Telephone/internet/cable broadcast: ………………...IDQ

Transportation/Travel/liquid fuel: …………………IDQ

Cleaning and materials: ………………..IDQ

Others: ….……………...IDQ (bottled gas, kitchen utensils, gift, …..etc.)

Saving (provident) :   …………………...IDQ

Q8- Do you eat meals outside the home? (Restaurant, turnspit, or such as the cafeteria)   A: No   B: Yes

Q9- If the answer is yes which type of food you eat.

A) International food.

B) National food.

Q10. How often are you going to fast food restaurants?   a) Almost every day b) Several times a week

c) Several times a month   d) Several times a year

e) Never

Q11. If you go to fast food restaurant about how much time do you spend there? ....hours

Q12. In which season you consume more fast food? ....

Q13. Do you have any health problems that prevent you from food consumption outside the home?

A: No   B: Yes

Q14. If you answer is Yes, what it is? ....

Q15. Are you dieting?   A: No   B: Yes

Q16. If you answer is "Yes", what is your purpose in your diet? …………………………..

Q17. Please rank the top three reasons to eat outside the home?

…………..a)   I love the taste

…………..b)   Saving from the time.

…………..c)   It is a social event.

…………..d)   Because my children prefer that.

…………..e)   Because it's very diversity.

…………..f)   Because there is no food at home.

…………..g)   When guests arrive.

…………..h)   Other……………..

Q18. Dos the food is cooked at home regularly?   A: No   B: Yes

Q19. Do you eat in the workplace refectory (cafeteria)   A: No   B: Yes

Q20. Except the workplace cafeteria how many times did you eat outside the home in the last month? ……………….

Q21. How many times day you go to fast food restaurants in the last month? ....

Q22. You are going out to dinner upon whose request?

a) Himself / Herself   b) Wife   c) Children   d) He and wife

e) Other…………

Q23. What is the average price you pay for every meal you eat outside the home? …………………….IDQ

Q24. Non-home food outgoing accounted for what percentage of the total food expenses? ....%

Q25. Please fill in the following table about the food consumption outside the home in the last 1 month? (INCLUDE PACKEAGE ORDERS)

Spending group	Going frequency (monthly)				The total amount of spending IDQ/monthly	The most preferred time		The Mall/outside the mall
	With family	Single	With wife	With children		Weekdays/weekend	Time Range	
Kebab								
Showrma								
Falafel								
Meat mixture								
Pizza								
Burger								
fried chicken								

Q26.General evaluation.   1: Disagree   2: Somewhat agree   3: Agree

The food is cooked at home regularly.	1	2	3
I try to do a little provident (austerity) each month.	1	2	3
Eating outside is generally less costly than cooking at home.	1	2	3
I prefer the white meat (chicken or fish) when I go outside for eating.	1	2	3
I think it is "wasteful" to eat at outside.	1	2	3
There is no harm to the health of constant consumption of fast food.	1	2	3
The food I eat should be healthy. (I pay attention to it).	1	2	3
I choose a food that contains protein, vitamins and energy values.	1	2	3
To eat a balanced diet, meaty foods should be eaten.	1	2	3
I prefer low-cholesterol foods.	1	2	3
I usually get from where it is most appropriate price in all kinds of shopping.	1	2	3
I drink at least 2.5 liters of water a day.	1	2	3
I eat at least 5 servings of fruits and vegetables a day.	1	2	3
Expensive foods are healthier.	1	2	3
I think the food made from the healthy ingredients that I eat outside.	1	2	3

Q27. Which of fast food drinks you consume the most?

(Begin the most preferred and enumerate as 1, 2, 3)

Pepsi	Nescafe/ tea….	Buttermilk drinks (Arian)…..	soda
Fresh fruits juices	Coca cola	Fanta	

Q28. Explain your views about the fast-food restaurant in accordance with the following expression.

1: disagree   2: somewhat agree   3: agree

I usually prefer promotional products.	1	2	3
I always find the same quality.	1	2	3
I find the food in accordance with the type of palate (my own palate).	1	2	3
I am going because children prefer.	1	2	3
We are going because gifts given to children.	1	2	3
I find it convenient to have play areas for children.	1	2	3
I think that the meat products in local fast-food restaurants are more reliable.	1	2	3
I like the environment (atmosphere).	1	2	3
I am pleased with the easiness of ordering bye phone.	1	2	3
I see the service is fast.	1	2	3
The waiting time is less at checkout.	1	2	3
I like to eat in difference environments.	1	2	3
I am going to there in order to meet and talk with my friends.	1	2	3
I think the products are not satisfactory according to the fees I paid.	1	2	3
I don't like the quality of service.	1	2	3
I think it was high nutritional value of proffered foods.	1	2	3
I think they are not in easily reachable places.	1	2	3
Prices are more expensive than other restaurants.	1	2	3

Q29. Reasons for not preferring meals outside of home?

1: Disagree   2: Somewhat agree   3: Agree

Prices are very high compared too food cooked home.	1	2	3
I have no habits.	1	2	3
I have doubts about that healthy.	1	2	3
I don't like the environment (atmosphere).	1	2	3
I don't like self-service.	1	2	3
I don't like there customers.	1	2	3
There is no opportunity to sit for a long time.	1	2	3
I see the service is inadequate (disqualify).	1	2	3
My income is inadequate.	1	2	3
I have health problems.	1	2	3
I don't have enough time.	1	2	3

Q30. How many kilometers is your home away from spending center? …………..time/times

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