# LEVEL OF KNOWLEDGE AND ATTITUDE TOWARDS DIABETES MELLITUS (TYPE II) AMONG SELECTED BUSINESS PROCESS OUTSOURCING (BPOS) EMPLOYEES IN MAKATI

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# Level of Knowledge and Attitude towards Diabetes Mellitus (Type II) among selected Business Process Outsourcing (BPOs) Employees in Makati

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## ABSTRACT

The Department of Health desires to promote good health and wellbeing by addressing employees. Increasing number of patients with diabetes who work in call centers most of them are incapacitated by obesity and other contrasting lifestyle-related issues. This Comparative-Correlation study aims to test the level of knowledge and attitude towards diabetes among selected BPO Companies. Using Stratified sampling, the researchers gathered their 334 respondents from Makati. Data gathered from the adapted survey-questionnaire of Garcia (2001) and Evans (2010) were treated using ANOVA, Chi-Square and Pearson Correlation. Their level of knowledge is approaching proficiency (50%) and was also found out that there is a significant difference in their responses based on their age (p-value=0.41). Their attitude towards diabetes is moderately positive (77.8%) and shows that there is a significant difference based on their daily work hours (p-value=.012) and employment status (p-value=.006). The two variables are significantly correlated categorically ($x2=22.634$) and has significant low positive correlation (0.01 level of significance, r=.270). These proves that they are at risk of having diabetes but with the strong desire of the employers and the government to do information dissemination, massive campaign, and policy making, there is a hope to minimize the cases.

Keywords—BPO Employees, Diabetes, Health and Wellness, Sociology.

## I. INTRODUCTION

According to Philippine Daily Inquirer (2018), Philippines is a diabetes hotspot over the western pacific region with at least 6 million Filipinos have been diagnosed with diabetes. Diabetes is reaching epidemic proportions and the government knows it. Just this year 2018, the government increase the tax on sugary drinks, this is one-step that the government is doing to fight the epidemic that is killing people every day. The United Nation Sustainable Goals: to promote good health and well-being, desires to address the needs of the BPO employees prone to suffer various diseases by educating them how to take care of their health. In the western side of the pacific, the third world country, Philippines being fifth in the over-all ranking when it comes to people diagnosed with diabetes. Preventing diabetes and diagnosing it is one way. Filipinos are known for their hardworking attitude and sometimes they often sacrifice their health just for their job. Those are the things that concern the researchers thus making a study about diabetes to workers.

Nowadays, most of Filipino call center agents are being diagnosed with diabetes that can be considered as a chronic disease. In the Philippines, call center agents are highly exposed in different diet that made them highly active in the environment they are in. Also, some of the family members of the researchers have a history of diabetes. DOH stated that BPO employees are now becoming a big contributor to the workforce of the Philippines as of today, thus it is vital to spread awareness of the health risks that they are facing with their everyday lives. Lack of sleep, job –

related stress and other unhealthy practices or lifestyle can lead to serious health conditions, and one of this condition is diabetes (Ubial, 2016).

Having said that, the researchers adhered to the UN Strategic Framework of the 2030 Sustainable Developmental Goals. In line with this, the researchers looked through the perspective of the acclimatization of promoting the good health and well-being of an individual of all ages. Here fore, through this research, it comprehends to supplementary knowledge of the public to be properly informed through preventions and possible treatments.

## A. Statement of the Problem

The primary purpose of this study is to identify the level of knowledge and attitude of BPO Employees toward Diabetes Mellitus II. Specifically, it sought to answer the following questions:

1. What is the demographic profile of the respondents?
   a. Gender
   b. Age in years
   c. Civil Status
   d. Years in BPO Industry
   e. Daily work hours
   f. Employment Status
2. What is the difference in the level of knowledge toward Diabetes Mellitus of BPO employees based on their demographic profile?
3. What is the difference in the attitude toward diabetes of BPO employees based on their demographic profile?
4. What is the relationship between the level of knowledge and attitude toward diabetes of BPO employees?

## B. Scope and Delimitation

The researchers performed a survey consisting different questions that were consulted to medical practitioners (Doctor of Medicine/ Applied Health Science). The researchers started gathering information on September and conducted the survey in the mid-October of 2018.

The study intended to determine the awareness of BPO Employees specifically, call center agents on having this kind of chronic disease and also their attitude about it. The survey will not be limited to a certain age, for as long as the respondent is a call center agent. The researcher chose the call center agents because they are highly exposed to different kinds of stress and workloads of task, they are also known for night shift and also, they usually drink a lot of coffee and sugary drinks.

The researchers will not include the lifestyle of the respondents, including the family background of the respondents, and their health status in the past 6 months.

## II. METHODOLOGY

## A. Research Design

The study is a descriptive type of study, (Shuttleworth, 2008) this type of design is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. It identified and compared the current status and the relationship between the level of knowledge and attitude among selected BPO in Makati

### B. Research Locale

The researchers chose BPOs in Makati because it is known as the center of business here in the Philippines. It was also named as the Makati CBD or Makati Central Business District where the leading financial and central business are found. Philamlife tower Makati, Teleperformance Makati, Telus International Philippines and Convergys Makati, companies that accommodated the researchers, were used as the locale

### C. Sampling Design

The method used in the study is Purposive sampling. Etikan et.al. (2016) stated that purposive sampling deals with the need of the researcher even without underlying theories behind it. The researchers chose call center agents, specifically in BPOs in Makati. First the researchers identified the different BPO in Makati. The researchers decided to survey a total of 400 call center agents working in different BPO companies, but with several uncontrolled circumstances, the number of survey questionnaires was decreased to 334.

### D. Instrumentation

Questionnaires were gathered by the researchers for the mentioned studies, which was validated by Lezzie F. Baes M.D. and Pinky Marie Nilo R.N. from Lyceum of the Philippines University-Manila. Questions were about the level of knowledge and attitude towards diabetes. It is composed of 57 total items and are all in Likert scale. The first part of the questionnaire is the demographics, consisting the respondent's gender, age, civil status, years rendered in the BPO industry, daily work hours and employment status. The first part of the questionnaire is about the level of knowledge, consisting 24 items with a score range of 1 (Yes), 1 (No), and 0 (I don't know), adapted from Garcia A. A., Villagomez, E.T., et al (2001)

On the other hand, the next part of the questionnaire is about the attitude towards diabetes consisting 33 questions with scores ranging 5 (Strongly agree), 4 (Agree), 3 (Neutral), 2 (Disagree), 1 (Strongly disagree) from Evans (2019).

### E. Data Gathering Procedure

The researchers called different BPO companies located in Makati and sent a letter to conduct a thesis survey. Upon approval, the researchers went on with their study. They visited offices located in Makati, with the help and assistance of their family and teachers, the researchers were enable too conduct the survey and had some conversation with some of the employees and head.

### F. Statistical Treatment

The researchers used Pearson R Moment Correlation. According to David M. Lane (n.d.), it is a process to measure the relationship between two variables. If the relationship is not linear, then it does not sufficiently represent the strength of the relationship between the two variables. The study use two main variables, specifically, the level of knowledge and attitude towards diabetes among selected BPO companies in Makati. The researchers will analyze the data gathered and identify if there is a significant relationship between the mentioned subjects.

There are four sections in the questionnaire: Section A: Demographic Profile · Section B: Level of Knowledge · Section C: Diabetes Attitude Survey Section D:  The Correlation.

In the questionnaire about the employee's level of knowledge, there are only two answers that may be considered as correct or wrong, yes or no. The scoring used for testing the level of knowledge of the employees if there answer is correct is equivalent to 1, while 0 if it is wrong or if they answered I don't know. It was tallied by adding the sum of the scores of the respondents and through this the researchers were able to determine the 5 most correct answers and the 5 most

wrong answers from them. This part of the test will determine if they have already enough knowledge about diabetes or they lack knowledge about it.

The second part of the questionnaire is about the employee's level of attitude towards diabetes, wherein there is a flip scoring to further analyze their attitude about it since some of the questions can be seen are tricky. Those questions with negative statements had a reverse scoring. Instead of a 5 (Strongly agree), 4 (Agree), 3 (Neutral), 2 (Disagree), 1 (Strongly disagree), the least was interchanged to score the highest, which will turn out to be 5 (Strongly Disagree), 4 (Disagree), 3 (Neutral), 2 (Agree), 1 (Strongly Agree), due to the reason that it gives the correct answer if the respondent disagrees with the negative attitude indicated in the question. In order for the researchers to know the question with the highest positive score of the respondents, they had computed their scores and discovered the results by checking the weighted mean of it.

Table 1 interprets the level of knowledge based on numerical rating and its verbal interpretation; while table 2 interprets the level of attitude with specific range and its verbal interpretation.

*Table 1 Verbal Interpretation Based on Their Level of Knowledge*

| Numerical Rating | | | Verbal Interpretation (Knowledge ) |
|---|---|---|---|
| 0.00 | - | 5.99 | Beginner |
| 6.00 | - | 11.99 | Developing |
| 12.00 | - | 17.99 | Approaching Proficiency |
| 18.00 | - | 23.99 | Proficient |
| 24.00 | - | 29.00 | Advanced |

*Table 2 Verbal Interpretation Based on Their Level of Attitude*

| Range | | | Verbal Interpretation (Attitude) |
|---|---|---|---|
| 1 | - | 1.8 | Extremely Negative Attitude |
| 1.81 | - | 2.6 | Moderate Negative Attitude |
| 2.61 | - | 3.4 | Neutral |
| 3.41 | - | 4.2 | Moderate Positive Attitude |
| 4.21 | - | 5 | Extremely Positive Attitude |

## III. RESULTS AND ANALYSIS

### A. Demographic Profile

The researchers prepared four hundred survey questionnaires and only three hundred thirty-four (334) came back. There is a total of 186 (55.7%) female respondents and 148 (44.3%) male respondents. Call center agents aged from 18 to 62 years old, with the majority being 25 as 36 (10.8%) respondents were at this age followed by 22 years old (9.3%) and 24 years old (8.4%). Two hundred seventy (270) of the respondents were single, while twenty-six (26) are married. Two hundred four (204) have worked for eight (8) hours a day, while one hundred five (105) answered that they have nine (9) hours of working time. The respondent's year in BPO industry ranges between 1-3 years with a percentage of 14.7. Although there are also years that gain a lot of answers the respondents' answers varies from 1 year, 6 years and above. The employment status of each respondents varies from contractual, probationary and regular. Two hundred sixty-four (264) are regular workers, thirty-nine (39) are contractual and thirty-one (31) are still under probationary.

*B.  Level of Knowledge on Diabetes Milletus II*

Call center agents working in Makati have "Approaching proficiency" level of knowledge when it comes to diabetes. One hundred sixty-seven (167) of the respondents are on this level while eighty-five (85) of them are on "Proficient" and sixty-two (62) on "Developing" level of knowledge. Only fourteen (14) got in "Advance" level and only six (6) are identified as beginners when it comes to the knowledge they have on diabetes.

Based on Table 3, question number 1 got the highest correct answer wherein two hundred ninety-five (295) or 88.3% of call center agents answered it right. This shows that the respondents are aware that one cause of diabetes is eating too much sugar or other sweet products. On the other hand, the statement that got the lowest correct answer is "Shaking and Sweating are signs of high blood sugar," with 21.6% or seventy-two (72) of the respondents who got it right.  This is concretized by Eisenstat (2006), that diabetes mellitus is really a group of diseases, and that it is a general knowledge that someone has diabetes if the level of sugar (glucose) in one's bloodstream is elevated. This happen when the body does not produce enough insulin, when the body does not properly utilize the insulin it produces, or both. Diabetes is a disease that causes one's blood sugar to increase compare to the normal blood sugar level. It can be acquired through genetics and also through unhealthy lifestyle (ADA, n.d.).

The p-value of .099 (p>0.05) shows that there is no significant difference in the level of knowledge on diabetes among BPO employees in Makati based on their gender. Gender and Type 2 Diabetes is closely related to one another. According to Diapedia (n.d.), women have higher prevalence towards diabetes compared to men. This learning lead to another study that is contradictory to the previous research which proves that sedentary life making it one of the risk factors for diabetes despite the gender of a person. It is said that there is no sex differences in risk factors for diabetes, as observed from those who had lost body weight (Perreault.et.al, 2008). Body weight yields a great reduction in risk factors for both men and women.

The p-value of .041 (p<0.05) shows that there is a significant difference in the level of knowledge on diabetes among BPO employees in Makati based on their age. This supports the statement of Diabetes UK (n.d.)  that age is a factor of why diabetes can have a great effect to the risks of diabetes. It also added that the higher the age the risky it becomes on becoming directly proportional to it. A person who is white and aged over 40 is at higher risk while an African – Caribbean , Black African, or South Asian over 25 will be at higher risk ( Heart Matters,  2019)

The p-value of .737 (p>0.05) shows that there is no significant difference in the level of knowledge on diabetes among BPO employees in Makati based on their civil status. In a study conducted by Rashedi et. al (2017) on the relation of Type 2 Diabetes Mellitus with gender, education and marital status in an Iranian urban population, it was fond out that with the use of binary logistic regression, marital status and other subjects related to civil status were not significantly related to the risk of acquiring Type 2 diabetes. Unfavorable changes in lifestyle practices, adiposity and diet are the main factors that affects a relationship or civil status that makes a man or a woman acquire diabetes (Rahmanian et.al, 2013).

The p-value of .241 (p>0.05) shows that there is no significant difference in the level of knowledge on diabetes among BPO employees in Makati based on their daily work hours. Simmon (2007) attest to this by stating in his article that learning is the best investment of our time that we can make. Furthermore, Western research also shown the same idea that working long hours have detrimental effect on health (Wu, et. al. 2019).

The p-value of .167 (p>0.05), this shows that there is no significant difference in the level of knowledge on diabetes among BPO employees in Makati based on their years in BPO industry. Rapaport (2018) supports this and stated that work hours had no influence with the risk of diabetes in men, unlike to women who is more prone to diabetes by working for at least 45 hours a week.

63% of women are more likely to have diabetes than those who only work for 30 to 40 hours weekly. Gilbert-Ouimet (2018) elaborated and stated that long work hours does not increase the risk of men developing from diabetes.

The p-value of .058 (p>0.05) shows that there is no significant difference in the level of knowledge on diabetes among BPO employees in Makati based on their employment status. According to American Diabetes Association (n.d.), agreed and stated that diabetes has no connection and relation on an individual's ability to work and do a particular job and an employer himself might not even know if one has diabetes while continually working. As of 2007, there is an estimated value of 23.6 million Americans who have diabetes. Thus, it is stated that a person who may have type 1 or type 2 diabetes should still be qualified and eligible for any employment. (Disability Benefits Help, 2019).

*Table 3 Respondents Knowledge based on Individual Item*

| Code | Statements | SUM | % |
|---|---|---|---|
| LOK1 | Eating too much sugar and other sweet foods is a cause of Diabetes. | 295 | 88.3 |
| LOK2 | The usual cause of Diabetes is lack of effective insulin in the body | 240 | 71.9 |
| LOK3 | Diabetes is caused by failure of the kidneys to keep sugar out of the urine | 99 | 29.6 |
| LOK4 | Kidneys produce insulin | 111 | 33.2 |
| LOK5 | In untreated Diabetes, the amount of sugar in the blood usually increases | 260 | 77.8 |
| LOK6 | If I am diabetic, my children have a higher chance of being diabetic | 264 | 79.0 |
| LOK7 | Diabetes can be cured. | 143 | 42.8 |
| LOK8 | A fasting blood sugar level of 210 is too high. | 203 | 60.8 |
| LOK9 | The best way to check my Diabetes is by testing my urine. | 149 | 44.6 |
| LOK10 | Regular exercise will increase the need for insulin or other Diabetic medication | 119 | 35.6 |
| LOK11 | Regular exercise will increase the need for insulin or other Diabetic medication | 203 | 60.8 |
| LOK12 | An insulin reaction is caused by too much food | 98 | 29.3 |
| LOK13 | Medication is more important than diet and exercise to control my diabetes. | 210 | 62.9 |
| LOK14 | Diabetes often causes poor circulation. | 211 | 63.2 |
| LOK15 | Cuts and abrasions on diabetes heal more slowly | 270 | 80.8 |
| LOK16 | Diabetics should take extra care when cutting their toenails | 237 | 71.0 |
| LOK17 | A person with Diabetes should cleanse a cut with iodine and alcohol. | 177 | 53.0 |
| LOK18 | The way I prepare my food is as important as the foods I eat. | 272 | 81.4 |
| LOK19 | Diabetes can damage my kidneys. | 237 | 71.0 |
| LOK20 | Diabetes can cause loss of feeling in my hands, fingers and feet. | 204 | 61.1 |
| LOK21 | Shaking and sweating are signs of high blood sugar | 72 | 21.6 |
| LOK22 | Frequent urination and thirst are signs of low blood sugar. | 87 | 26.0 |
| LOK23 | Tight elastic hose or socks are not bad for Diabetics. | 85 | 25.4 |
| LOK24 | A Diabetic diet consists mostly of special foods | 95 | 28.4 |

## C. Attitude Towards Diabetes Milletus II

The study reveals the attitude of call center agents who answered the survey got a "Moderately Positive" with two hundred sixty (260) or 77.8 %.. While, neutral and extremely positive resulted to 13.2 % and 9.0 % respectively. This proves the journal written by M. Dhanya (2016) wherein she states that people who have the lifestyle which is not healthy, can acquire diabetes. Thus, people working in the BPO companies often have unhealthy lifestyle. Type 2 diabetes has several causes: genetics and lifestyle are the most important ones. A combination of these factors can cause insulin resistance, when your body doesn't use insulin as well as it should. Genes do play a role in type 2 diabetes, but lifestyle choices are also important. (Leontis et. al. 2019)

It is notable in Table 4 statements with verbal interpretation of "Extremely Positive". In statement #1 (Health care professionals who treat people with Diabetes should be trained to communicate well with their patients) and statement #33 (Support from family and friends is important in dealing with Diabetes.), the highest mean values of 4.65 and 4.63 respectively. The lowest mean value with the verbal interpretation of 'Neutral" refers to statement #2 (People who do not need to take insulin to treat their Diabetes have a pretty mild disease.) and statement #26 (Tight control is too much work.) each acquiring 2.50 and 2.58.

*Table 4 Respondents Knowledge based on Individual Item*

| Code | Statement | Weighted Mean | Verbal Interpretation |
|---|---|---|---|
| DAS1 | Health care professionals who treat people with Diabetes should be trained to communicate well with their patients | 4.65 | Extremely Positive |
| DASN2 | People who do not need to take insulin to treat their Diabetes have a pretty mild disease. | 2.50 | Moderately Negative |
| DASN3 | There is not much use in trying to have good blood sugar control because the complications of Diabetes will happen anyway. | 3.31 | Neutral |
| DAS4 | Diabetes affects almost every part of a Diabetic person's life. | 4.09 | Moderately Positive |
| DAS5 | The important decisions regarding daily Diabetes care should be made by the person with Diabetes | 3.91 | Moderately Positive |
| DAS6 | Health care professionals should be taught how daily diabetes care affects patients' lives. | 4.41 | Extremely Positive |
| DASN7 | Older people with Type 2 Diabetes do not usually get complications. | 3.10 | Neutral |
| DAS8 | Keeping the blood sugar close to normal can help to prevent the complications of Diabetes. | 4.13 | Moderately Positive |
| DAS9 | Health care professionals should help patients make informed choices about their care plans. | 4.44 | Extremely Positive |
| DAS10 | It is important for the nurses and dietitians who teach people with diabetes to learn counseling skills. | 4.43 | Extremely Positive |
| DASN11 | People whose diabetes is treated by just a diet do not have to worry about getting many long-term complications. | 2.77 | Neutral |
| DAS12 | Almost everyone with diabetes should do whatever it takes to keep their blood sugar close to normal. | 4.34 | Extremely Positive |
| DASN13 | The emotional effects of Diabetes are pretty small. | 3.23 | Neutral |
| DASN14 | People with Diabetes should have the final say in setting their blood glucose goals. | 2.72 | Neutral |
| DASN15 | Blood sugar testing is not needed for people with Type 2 Diabetes | 3.24 | Neutral |
| DAS16 | Low blood sugar reactions make tight control too risky for most people. | 3.62 | Moderately Positive |
| DAS17 | Health care professionals should learn how to set goals with patients, not just tell them what to do. | 4.43 | Extremely Positive |
| DAS18 | Diabetes is hard because you never get a break from it. | 3.88 | Moderately Positive |
| DAS19 | The person with Diabetes is the most important member of the Diabetes care team. | 3.97 | Moderately Positive |
| DAS20 | To do a good job, Diabetes educators should learn a lot about being teachers. | 4.03 | Moderately Positive |
| DAS21 | Type 2 Diabetes is a very serious disease. | 3.95 | Moderately Positive |
| DAS22 | Having diabetes changes a person's outlook on life. | 4.00 | Moderately Positive |
| DAS23 | People who have Type 2 Diabetes will probably not get much payoff from tight control of their blood sugars. | 3.48 | Moderately Positive |
| DAS24 | People with Diabetes should learn a lot about the disease so that they can be in charge of their own diabetes care. | 4.22 | Extremely Positive |
| DAS25 | Type 2 is as serious as Type 1 Diabetes. | 3.81 | Moderately Positive |
| DASN26 | Tight control is too much work. | 2.58 | Moderately Negative |
| DAS27 | What the patient does has more effect on the outcome of Diabetes care than anything a health professional does. | 3.98 | Moderately Positive |
| DASN28 | Tight control of blood sugar makes sense only for people with type 1 Diabetes. | 2.68 | Neutral |
| DAS29 | It is frustrating for people with Diabetes to take care of their Disease. | 3.59 | Moderately Positive |
| DAS30 | People with Diabetes have a right to decide how hard they will work to control their blood sugar. | 3.73 | Moderately Positive |
| DAS31 | People who take diabetes pills should be as concerned about their blood sugar as people who take insulin | 4.07 | Moderately Positive |
| DASN32 | People with Diabetes have the right not to take good care of their Diabetes. | 2.91 | Neutral |
| DAS33 | Support from family and friends is important in dealing with Diabetes. | 4.63 | Extremely Positive |

## D. Correlation Between Level of Knowledge and Attitude towards Diabetes Mellitus II

Using Chi-Square with p-value of .004 shows that there is a significant correlation between the level of knowledge and the attitude towards diabetes, categorically, among selected BPO Employees in Makati while after Using Pearson R at 0.05 level of significance with r-value of .270 shows that there is a significant low positive correlation between the variables under study.

Health is wealth but when money talks, it speaks bills not wellness. Finally, level of education could be a key determinant of knowledge of the disease and its transmission, as well as attitudes and practices. The Department of Health cited a study at 2017, conducted by the International Labor Organization Asia-Pacific: "Business Process Outsourcing in the Philippines: Challenges for Decent Work" showing the concern of the government to the worsening health condition of the BPO sector. This is because of the stress and environment they're working at which they try to counteract with their unhealthy lifestyle (Ubial., 2017). In a report done by the Manila Bulletin at 2017 they state that because of the different risk factors that the BPO employee may have, the DOH will be partnering with J&J in solving the health challenges of call center agents, which include their lifestyle.

## IV. DISCUSSION

### A. Conclusions

Philippines is a hotspot for BPO companies for it is just the start of the Philippine's birth to the industry. These companies provide opportunities for Filipinos to be employed which might affect their health and lifestyles. This study concludes that:

1. Call center agents have a habit of eating and drinking coffee before and after their job. They also have a lifestyle that can affect their way of living. Eating too much sugar can lead to cause diabetes and sugar consumption can have a remarkable association with diabetes.

2. Gender does not affect who may acquire diabetes, it does not matter whether it is a man or a woman. Anyone can have diabetes.

3. As a person gets older, the risk of type 2 diabetes becomes greater. It increases the chances of having diabetes, particularly when unhealthy lifestyle is still being practiced by an individual.

4. Civil status does not affect a person's risk of having diabetes. A person can prevent the risk of it by taking steps in doing a proper diet, staying physically active and managing one's weight.

5. Daily work hours affects call center agents' health with a higher risk towards diabetes. Overtime in work can have an adverse effect on a person's health since longer working hours mean less time spent in doing physical activities. This can also increase chronic stress to an individual.

6. An employee who is considered a regular employee has more chances to earn money, therefore, one has higher chances to consume food and spend longer hours of working that can lead to a higher risk of type 2 diabetes.

7. The reason why the respondents are knowledgeable about this health concern is because of the definition of diabetes. There are two major types of diabetes, type 1 and 2 that are differently but equally advised to take Insulin injections as prescription.

8. Diabetes are caused by both specific genetic issues and environmental factors.

9. The current condition of the country regarding social issues tend set Filipinos to apply for a job where it will provide an above average type of salary. Although some of the respondents have an idea on diabetes some still does not care, regardless the growing number of patients being diagnosed with diabetes.

10.     The level of knowledge of call center agents and their attitude towards diabetes is significant low positive correlation. This means that the wider the knowledge on diabetes the more positive their attitude is, leading a better outlook on how it can be prevented and controlled.


*B. Recommendations*

1. In as early as years in the academe, students should be given proper education on diabetes for them to fully understand and develop awareness of the bad effects it can cause. It will also educate them an early age about its cause, prevention and the right things to do in case one will be diagnosed with diabetes to improve a healthier lifestyle.

2. Family members should be encouraged to attend health seminars pertaining to diabetes for them to become more knowledgeable, enough to educate their child about the cause and effect of diabetes. They should be the first ones who should guide their family towards healthy living.

3. Employers should come up with a more interactive way of discussing serious matters relating to diabetes in order for the employees to help ease their anxieties and misinterpretations pertaining to diabetes. They should also cooperate with the the company Human Resource Department/ Health Officer for them to easily monitor employees' health situation.

4. The government should provide free medications to those people who have diabetes, especially, the ones who are not financially stable. They should offer free check-ups for diabetes and free consultation from doctors for at least once a month. They should provide the needs of the

people who have diabetes and conduct seminars for the proper education on prevention and control, mostly for those who are unaware of its risks.

5.  NGO's must provide different kinds of seminars to BPO companies, due to the increase of call center agents acquiring this disease. Non-government organizations should promote good health and well-being to these people. They should be an influence in order for other call center agents to follow practicing a healthy lifestyle.

6.  The United Nation should continue to enhance their skills in making the world a better place by promoting good health and wellbeing. By continuously supporting endeavors through partnerships to address larger groups to an improved and broader audience.

7.  Future studies can be conducted to know more on the relationship or correlation of a person's knowledge and attitude towards diabetes include the lifestyle of the respondents, including the family background of the respondents, and their health routines and practices.

8.  Future researchers may continue the study and enhance it by choosing a larger group of respondents and from different locale. They can make it as an avenue to promote good health and well-being for people who ignore the health risks of diabetes.

9.  Health care providers and doctors must prepare all the necessary medications they need to help in giving aid to diabetes. They must know the current situation of call center agents in BPO companies, specifically in Makati. They should visit some companies and provide check-ups for the employees.

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