Journal of Midwifery and Nursing, 6(1) (2024) pp. 255-262

Published by: IOCSCIENCE

Journal of Midwifery and Nursing

Journal homepage: www.iocscience.org/ejournal/index.php/JMN

The relationship between diet and the incidence of diabetes mellitus in the working area of the Medan Sunggal Health Centre

Mona Hastuti[1], Rinawati Tarigan[2]

[1,2]D3 Keperawatan, STIKes Malahayati Medan, Jl. Cendrawasih No.161, Medan, 20123, Indonesia.

ARTICLE INFO

Article history:

Received Jan 05, 2024
Revised Jan 19, 2024
Accepted Jan 20, 2024

Keywords:

Diabetes Mellitus;
Diet;
Health Centre;
Lifestyle.

ABSTRACT

Diabetes is a disease caused by disturbances in the absorption of blood sugar by the body, thus making its levels in the blood high. Indonesia ranks 4th largest in the number of people with Diabetes Mellitus in the world. In 2019 there were around 5.6 million Indonesians with diabetes and was the sixth cause of death in Indonesia in the non-communicable disease category. This study aims to determine the relationship between lifestyle and the occurrence of diabetes mellitus. This research is a type of research using random sampling method. This research was conducted at Medan Sunggal Health Centre and the research time was in October 2022. The population in this study were all patients who sought treatment at the Puskesmas as many as 62 people and the sample size in this study was 54 people. The sampling technique used non-random sampling by accidental sampling. This study uses primary data and secondary data. The results of this study indicate that there is a relationship between diet and diabetes mellitus disease where the pvalue of diet = 0.008 (> 0.05). Based on the results of the study it can be concluded that there is a relationship between diet and the incidence of diabetes mellitus. It is recommended that respondents continue to strive to increase knowledge about diet, increase compliance in living a healthy life.

Corresponding Author:

Mona Hastuti,
D3 Keperawatan,
STIKes Malahayati Medan,
Jl. Cendrawasih No.161, Medan, Sumatera Utara, 20123, Indonesia.
Email: monahastuti77@gmail.com

1. Introduction

According to WHO Global Report (Roglic, 2016) Diabetes Mellitus is a chronic disease in which the pancreas does not produce enough insulin (a hormone that regulates blood sugar or glucose levels), or the body cannot effectively use the insulin it does produce. Diabetes is an important public health problem, being one of the four priority non-communicable diseases targeted for action by world leaders. The number of DM cases with diabetes prevalence has been steadily increasing over the past few decades (Arokiasamy et al., 2021; Rathmann & Giani, 2004; Rowley et al., 2017). According to WHO (Lovic et al., 2020) Approximately 422 million adults in the world suffer from diabetes mellitus (DM) and is expected to continue to increase. Meanwhile, according to IDF (Iskandar et al., 2018; Sinthania, 2021) Indonesia ranks 7th as the country with the highest number of people with diabetes mellitus in the world, with 10 million sufferers and is expected to increase to 16.2 million sufferers by 2040. More than 90% of DM cases

are type 2 DM which is commonly found in adults. Genetic factors and environmental factors and their interaction are the causes of the development of type 2 DM (Bener et al., 2005; Murea et al., 2012; Zarkasi et al., 2022). According to the International Diabetes Federation (IDF), the prevalence of Diabetes Mellitus in the world is 1.9% and has made DM the seventh leading cause of death in the world while in 2012 the incidence of diabetes mellitus in the world was 371 million people where the proportion of type 2 diabetes mellitus was 95% of the world's population suffering from diabetes mellitus (Sandu et al., 2016).

According to Basic Health Research (Riskesdas) data, the prevalence of DM in Indonesia based on doctor's diagnosis in the population aged ≥ 15 years has increased, in 2013 it was 6.9% and increased in 2018 to 10.9% (Azam et al., 2022). The highest prevalence of DM was in DKI Jakarta province at 3.4% while the lowest prevalence of DM was in NTT province at 0.9%. The number of people with type 2 DM in Indonesia is estimated to increase to 21.3 million by 2030. The higher number of DM sufferers has led Indonesia to be ranked fourth in the world. Based on age, the prevalence of Diabetes Mellitus is highest at the age of 55-64 years (6.3%), and more women (1.8%) than men (1.2%) and occurs more in urban areas (1.9%) than rural areas (1.0%) (Kemenkes, 2018). The prevalence of diabetes mellitus in East Java province is among the top five highest in Indonesia. According to Riskesdas data in 2013, the incidence of DM disease was 2.1%, while in 2018 the prevalence of DM according to doctor's diagnosis in the population aged ≥15 years has increased to 2.6%. Where the highest prevalence rate of diabetes mellitus in East Java province in 2018 was in Madiun City with a prevalence rate of 4.22% according to doctor's diagnosis in the population of all ages (Prihandari & Ayuningtyas, 2021).

Based on data from the Medan City Health Office, the number of Diabetes Mellitus patients in 2015 was 9,202 cases. Where DM sufferers are in sixth place out of 10 disease trends served at puskesmas in the Medan City area. Whereas in 2020 DM disease is in third place out of 10 disease trends with a total number of DM disease sufferers of 15,034 cases. In 2021, the number of people with DM disease was 17,055 cases. This shows that from year to year the number of DM patients in Medan City has increased every year (Purba et al., 2023; Rochmawati & Anggraini, 2022).

Medan City has 6 Puskesmas, one of which is Sunggal Puskesmas. Puskesmas Medan Sunggal is one of the Puskesmas in Medan City with a high number of diabetes patients. In 2020 the incidence of DM was 1850 cases. Meanwhile, in 2021 the incidence of DM cases was 4701. Then during 2022, 3072 cases of diabetes mellitus were recorded in the last three months. Where the total number of people with diabetes mellitus from 2020 to 2022 is 6721 cases spread throughout the Sunggal Puskesmas area. In diabetes mellitus there is absolute or relative insulin deficiency and impaired insulin function. Diabetes mellitus is classified into type 1 DM, type 2 DM, other types of DM, and DM in pregnancy. Diabetes mellitus (DM) is a group of metabolic diseases characterised by hyperglycaemia, caused by abnormalities in insulin secretion, insulin action or both.

Ninety per cent of diabetes cases are DM characterised by impaired insulin sensitivity and/or impaired insulin secretion. Clinically, DM occurs when the body is no longer able to produce enough insulin to compensate for the increase in insulin resistance. DM is becoming a global health problem as the prevalence and incidence of the disease continues to increase, both in industrialised and developing countries, including Indonesia. DM is a growing epidemic, resulting in individual suffering and tremendous economic losses (Lovic et al., 2020; Susan van et al., 2010).

In diabetes mellitus (DM) there are metabolic abnormalities due to insulin resistance that affect metabolism in the body including changes in the process of production and disposal of plasma lipoproteins. In fat tissue there is a decrease in the effect of insulin so that lipogenesis is reduced and lipolysis increases. This will trigger glucotoxicity accompanied by lipotoxicity which causes an increase in LDL cholesterol levels (Kumar et al., 2015; López-Acosta et al., 2023; Mota et al., 2016).

Increased cholesterol can occur if a person has other risk factors such as DM, resulting in a condition where cholesterol accumulates in the walls of arterial blood vessels (atherosclerosis). LDL cholesterol is a type of cholesterol that is atherosclerotic. The higher this cholesterol is, the greater the risk of it accumulating in the walls of blood vessels. On the other hand, HDL cholesterol is a good type of cholesterol transporter because it is able to sweep away cholesterol in the blood vessel wall. HDL

transports cholesterol and is taken to the liver to be processed and converted into bile salts (Miller, 1990; Norum et al., 1983).

One of the efforts to control Diabetes Mellitus is by treatment and counselling about non-communicable diseases, especially Diabetes Mellitus. Based on the above background, researchers are interested in conducting research on the relationship between diet and the incidence of DM in the Medan Sunggal Health Centre Working Area.

2. Method

Population, sample and data collection

The type of research is observational. This study aims to determine the relationship between diet and the incidence of diabetes mellitus in the Medan Sunggal Health Centre working area in 2022. The research design used cross sectional because the research data (independent variables and dependent variables) were measured at the same time. Based on the data processing used.

This research was conducted at the Medan Sunggal Health Centre. The author took this research location on the grounds that the population and sample were sufficient for research and obtained research permission from the Medan Sunggal Health Centre. This research was conducted in October 2022.

The sample is part of the overall object under study and is considered representative of the entire population (Zehnalová & Kubátová, 2019). The sample obtained by the researcher was 54 patients. The sampling technique in this study used the random sampling method.

The sample used in this study were some hypertension patients at the Medan Sunggal Health Center. Determination of the number of samples is determined using the Slovin formula, the Slovin formula is as follows:

$$n = \frac{N}{1+N\,(d)^2} \quad (1)$$

In determining the number of samples to be selected, the researcher uses an error rate of 5%. The total population used is 54 respondents.

Data Collection Methods

The data used in this study are primary data and secondary data, primary data is data obtained from respondents by means of researchers asking respondents to fill out a questionnaire and giving 30 minutes to each respondent then collected back for processing and analysis. Secondary data is data obtained from Medan Sunggal Health Center about the number of clients who seek outpatient treatment at the internal medicine clinic.

Variables and Operational Definitions

Table 1.
Variables and operational definitions

Variable	Operational Definition	Parameter	Measurement Tool	Scale	Outcome Measure
Eating Patterns	Eating habits of the patient before the diagnosis of DM	1. Type of food 2. Food frequency 3. Amount of food	Questionnaire	Ordinal	1. Good (Code 1) 2. Bad (Code 2)
DM	Collection of glucose in the patient's body at the time of blood sugar measurement	Intermittent plasma glucose test ≥200 mg/dl	Questionnaire	Ordinal	1. high blood suga (Code 1) 2. Normal (Code 2)

Measurement Aspect

The tool used in this study is a questionnaire with questions that have been structured based on the research objectives, namely to determine the relationship between diet and the occurrence of diabetes mellitus.

Univariate Analysis

Univariate analysis is carried out on each variable studied where each variable will be made a description of the distribution and percentage. The data is displayed in the form of a frequency table.

Bivariate Analysis

Bivariate analysis was performed to determine the relationship between the independent variable and the dependent variable using the Chi- Square Test on the SPSS program. Chi Square test with a degree of significance (⍰) 0.05 where if p <0.05 then Ho is rejected and Ha is accepted indicating that there is a relationship between the independent variable and the dependent variable while if p>0.5 then Ho is accepted and Ha is rejected indicating that there is no relationship between the independent variable and the dependent variable. Then the research results are continued in tabular form and discussed using existing theories and literature.

3. Results and Analysis

The results of the research conducted on the relationship between diet and the occurrence of diabetes mellitus are as follows:

Characteristics of Respondents Based on Age

The characteristics of respondents based on the age of diabetes mellitus patients at the Medan Sunggal Health Center are as follows:

Table 2.
Distribution of Frequency Characteristics Based on Age

No	Age	Frequency	Percentage
1	≤40	19	35.2%
2	41-50	27	50.0%
3	≥51	8	14.8%
	Total	54	100%

Source: Primary data, respondent questionnaires at Medan Sunggal Health Center

Based on table 2, the characteristics of respondents based on age at the Medan Sunggal Health Center are mostly 41-50 years old with a percentage of 27 people (50.0%).

Characteristics of Respondents Based on Gender

The characteristics of respondents based on the age of hypertensive patients at the Medan Sunggal Health Center are as follows:

Table 3.
Distribution of Frequency Characteristics Based on Gender

No	Gender	Frequency	Percentage
1	Male	25	46.3%
2	Female	29	53.7%
	Total	54	100%

Source: Primary data, respondent questionnaires at Medan Sunggal Health Center

Based on table 3, the characteristics of respondents based on gender at the Medan Sunggal Health Center are mostly female with a percentage of 29 people (53.7%).

Characterization of Respondents Based on Education Level

The characteristics of respondents based on education at the Medan Sunggal Health Center are as follows:

Table 4.
Distribution of Frequency Characteristics Based on Education

No	Education	Frequency	Percentage
1	Elementary	4	7.4%
2	Junior high	18	33.3%
3	High school	20	37.0%
4	College	12	22.2%
	Total	54	100%

Source: Primary data, respondent questionnaires at Medan Sunggal Health Center

Based on table 4 above, it can be seen that most of the parents' education, most of the respondents have a high school education with a percentage of 20 people (37.0%).

Characteristics of Respondents Based on Occupation

The characteristics of respondents based on the occupation of hypertension patients at the Medan Sunggal Health Center are as follows :

Table 5.
Distribution of Frequency Characteristics of Respondents Based on Occupation

No	Jobs	Frequency	Percentage
1	Other	19	35.2%
2	Civil servant	9	16.7%
3	Not working	5	9.3%
4	Retired	5	9.3%
5	Private	16	29.6%
	Total	54	100%

Source: Primary data, respondent questionnaires at Medan Sunggal Health Center

Based on table 5 above, it can be concluded that most of the occupations of respondents of hypertension patients at the Medan Sunggal Health Center are others as many as 19 people (35.2%).

Analisis Univariat

Table 6.
Frequency Distribution of Respondents Based on Diet

No	Eating Patterns	Respondent Characteristics			
		Bad		Good	
		N	%	N	%
1	Case	24	72.7%	9	27.3%
2	Control	19	90.5%	2	9.5%
	Total	43	79.6%	11	20.4%

Source: Primary Data Research 2022

Based on the table above, it can be seen that in the case group more respondents had a poor diet as many as 43 people (79.6%), compared to respondents who had a good diet as many as 11 people (20.4%).

Bivariate Analysis

Bivariate analysis aims to test or determine the relationship between the independent variable and the dependent variable which is analyzed using statistical tests. The statistical test used is the Chi-Square test and the determination of the Odds Ratio (OR) with a significance level of α = 0.05. The following are the results of bivariate analysis of research using statistical data processing applications:

Tabel 7.
Cross Tabulation Table of the Relationship between Diet and DM Incidence

No	Eating Patterns	Incidence of DM				*P value*
		Case		Control		
		N	%	N	%	
1	Bad	24	72.7%	9	27.3%	0,008
2	Good	19	90.5%	2	9.5%	
	Total	43	79.6%	11	20.4%	

Source: Primary Data Research 2022

Based on the table above, it can be seen that respondents who had a bad diet in the case group were 24 people (72.7%), greater than the control group, namely 9 people (27.3%). While respondents who had a good diet in the case group were 19 people (90.5%), smaller when compared to the control group, namely 11 people (20.4%). So the proportion of respondents in the case group was more in respondents whose diet was poor (79.6%) compared to respondents whose diet was good (20.4%). The results of data processing using the Chi-Square test show that the p value = 0.008 < α = 0.05 So it can be concluded statistically that there is a relationship between diet and the incidence of Diabetes Mellitus in the Medan Sunggal Health Center Working Area.

Discussion

Relationship between Diet in Medan Sunggal Health Centre Area.

Based on the study, it can be seen that in the case group more respondents had a poor diet as many as 43 people (79.6%), compared to respondents who had a good diet as many as 11 people (20.4%).

Diet is a variety of information that provides an overview of the type, amount, even food eaten every day by one person and is characteristic of a particular community group. A person's diet can be influenced by several factors such as economic, socio-cultural, educational, environmental, and eating habits (Yuniarwati & Fitriasari, 2022).

This study is in accordance with WHO recommendations, which recommend glucose intake of no more than 30% of total energy intake per day. This is equivalent to 50 grams of sugar per day, if the total energy requirement per day is 2000 calories, it is equivalent to 4 tablespoons of sugar per day. Excessive consumption of glucose will lead to weight gain, and over a long period of time will directly increase blood sugar levels and lead to type 2 diabetes, and indirectly contribute to diseases such as osteoporosis, heart

disease and cancer. This is because glucose stays in the digestive system relatively longer than protein and fat (Ministry of Health 2014).

Based on interviews using a semi-quantitative Food Frequency Questionnaire (FFQ), that high-carbohydrate foods consumed by people in Posbindu come from glucose such as white rice, and instant noodles, cassava, potatoes and sugar. Food ingredients that are high in carbohydrates, if the processing is not considered, can affect the glucose content.

The Relationship of Diet with the Incidence of Diabetes Mellitus in the Medan Sunggal Health Center Working Area

The results of this study indicate that most have a poor diet with the incidence of diabetes as much as (79.6%) compared to respondents whose diet is good (20.4%). This is supported by the results of Chi-Square by reading Continuity Correction, because it has an expected value> 5 and the number of cells < 20% which shows that the p value = 0.008 < α = 0.05. This proves that there is a relationship between diet and the incidence of diabetes mellitus in the Medan Sunggal Health Center working area. So that pre-elderly people with a bad diet have a 6.500 times greater risk of experiencing an increase in diabetes mellitus compared to pre-elderly people who have a good diet.

The results of this study are in line with research conducted by Abidah Nur, et al (2016) that there is a relationship between consumption patterns and diabetes mellitus with a p.value = 0.024 (p < α = 0.05). This research is also in line with the research of Febri Yusnanda, et al (2017) which states the results of the study obtained p.value = 0.001 (p < α = 0.05) so that there is a relationship between habits and the incidence of Diabeles Miletus in Pre-Elderly at BLUD RSUD Meuraxa Banda Aceh City.

Based on the theory that diabetics only have to make dietary adjustments, so that their diabetes does not get worse and trigger complications. This regulation is related to regulating the amount of carbohydrate consumption so that it is not excessive. Thus, the amount of insulin, which is very limited in diabetics, can help carbohydrates to metabolize and convert them as a source of energy. The incidence of diabetes is mostly triggered by foods that contain carbohydrates. There are two types of carbohydrates, namely simplex carbohydrates (simple) and complex carbohydrates (Yusnanda et al., 2017).

WHO recommends glucose intake of no more than 30% of total energy intake per day. This is equivalent to 50 grams of sugar per day, if the total energy requirement per day is 2000 calories, it is equivalent to 4 tablespoons of sugar per day. Consuming too much glucose will lead to weight gain, and if done over a long period of time will directly increase blood sugar levels and lead to type-2 diabetes, and even indirectly contribute to diseases such as osteoporosis, heart disease and cancer. This is because glucose stays in the digestive system relatively longer than protein and fat (Ministry of Health, 2014).

4. Conclusions

Based on the results of research and discussion of the relationship between diet and cholesterol levels with the incidence of diabetes mellitus in the Medan Sunggal Health Center Working Area, the following conclusions can be drawn: (a). Most of the respondents in the Medan Sunggal Health Center Working Area had a poor diet, in the case group as much as 72.7%. (b). There is a significant relationship between diet and the incidence of diabetes mellitus in the Medan Sunggal Health Center Working Area (P Value = 0.008). To develop further research, a more in-depth analysis of specific dietary factors that may influence the risk of diabetes mellitus could be conducted. It is also necessary to consider other factors such as physical activity, genetics, and overall lifestyle to understand more comprehensively the relationship between eating habits and diabetes mellitus in this population. Furthermore, research could involve public health interventions to increase awareness of healthy eating and diabetes prevention efforts at the community level.

References

Arokiasamy, P., Salvi, S., & Selvamani, Y. (2021). Global burden of diabetes mellitus: prevalence, pattern, and trends.

Handbook of Global Health, 495–538.
Azam, M., Sakinah, L. F., Kartasurya, M. I., Fibriana, A. I., Minuljo, T. T., & Aljunid, S. M. (2022). Prevalence and determinants of obesity among individuals with diabetes in Indonesia. *F1000Research*, *11*.
Bener, A., Zirie, M., & Al-Rikabi, A. (2005). Genetics, obesity, and environmental risk factors associated with type 2 diabetes. *Croat Med J*, *46*(2), 302–307.
Iskandar, I., Dharmajaya, R., & Ariani, Y. (2018). INCREASING FOOT CIRCULATION WITH ELECTRICAL STIMULATION IN PATIENTS WITH DIABETES MELLITUS. *Belitung Nursing Journal*, *4*(3), 343–349.
Kemenkes, R. I. (2018). Hasil utama RISKESDAS 2018. *Jakarta: Kemenkes RI*.
Kumar, B., Kowluru, A., & Kowluru, R. A. (2015). Lipotoxicity augments glucotoxicity-induced mitochondrial damage in the development of diabetic retinopathy. *Investigative Ophthalmology & Visual Science*, *56*(5), 2985–2992.
López-Acosta, O., Ruiz-Ramírez, A., Barrios-Maya, M.-Á., Alarcon-Aguilar, J., Alarcon-Enos, J., Acuña, C. L. C., & El-Hafidi, M. (2023). Lipotoxicity, glucotoxicity and some strategies to protect vascular smooth muscle cell against proliferative phenotype in metabolic syndrome. *Food and Chemical Toxicology*, *172*, 113546.
Lovic, D., Piperidou, A., Zografou, I., Grassos, H., Pittaras, A., & Manolis, A. (2020). The growing epidemic of diabetes mellitus. *Current Vascular Pharmacology*, *18*(2), 104–109.
Miller, N. E. (1990). HDL metabolism and its role in lipid transport. *European Heart Journal*, *11*(suppl_H), 1–3.
Mota, M., Banini, B. A., Cazanave, S. C., & Sanyal, A. J. (2016). Molecular mechanisms of lipotoxicity and glucotoxicity in nonalcoholic fatty liver disease. *Metabolism*, *65*(8), 1049–1061.
Murea, M., Ma, L., & Freedman, B. I. (2012). Genetic and environmental factors associated with type 2 diabetes and diabetic vascular complications. *The Review of Diabetic Studies: RDS*, *9*(1), 6.
Norum, K. R., Berg, T., Helgerud, P., & Drevon, C. A. (1983). Transport of cholesterol. *Physiological Reviews*, *63*(4), 1343–1419.
Prihandari, L., & Ayuningtyas, D. (2021). Pemanfaatan Pelayanan Kesehatan Imunisasi Dasar Berdasarkan Kepemilikan Buku Kia Di Jawa Timur (Riskesdas 2018). *Syntax*, *3*(1).
Purba, S. H., Yustina, I., & Sudaryati, E. (2023). Factors Related to the Participation of Mothers' Toddlers in the Stunting Prevention Program at Sicanang Health Center Medan City. *Randwick International of Social Science Journal*, *4*(2), 317–326.
Rathmann, W., & Giani, G. (2004). Global Prevalence of Diabetes: Estimates for the Year 2000 and Projections for 2030: Response to Wild et al. *Diabetes Care*, *27*(10), 2568–2569.
Rochmawati, A., & Anggraini, D. (2022). Effect of Health Education Regarding Awareness Examination as Early Detection of Breast Cancer on the Knowledge and Attitude of Adolescent Women at the Medan Tuntungan Health Center. *International Journal of Clinical Inventions and Medical Sciences (IJCIMS)*, *4*(1), 6–10.
Roglic, G. (2016). WHO Global report on diabetes: A summary. *International Journal of Noncommunicable Diseases*, *1*(1), 3–8.
Rowley, W. R., Bezold, C., Arikan, Y., Byrne, E., & Krohe, S. (2017). Diabetes 2030: insights from yesterday, today, and future trends. *Population Health Management*, *20*(1), 6–12.
Sandu, M.-M., Prostasiewicz, D. C., Firănescu, A. G., Lăcătușu, E. C., Bîcu, M. L., & Moța, M. (2016). Data regarding the prevalence and incidence of diabetes mellitus and prediabetes. *Romanian Journal of Diabetes Nutrition and Metabolic Diseases*, *23*(1), 95–103.
Sinthania, D. (2021). Factors Associated With Diabetes Mellitus Incidence. *1st International Conference on Sport Sciences, Health and Tourism (ICSSHT 2019)*, 140–144.
Susan van, D., Beulens, J. W. J., Yvonne T. van der, S., Grobbee, D. E., & Nealb, B. (2010). The global burden of diabetes and its complications: an emerging pandemic. *European Journal of Cardiovascular Prevention & Rehabilitation*, *17*(1_suppl), s3–s8.
Yuniarwati, N. P., & Fitriasari, B. (2022). Analysis of Eating Patterns and Pregnancy Distance with the Incidence of Anemia in Pregnant Women in Macanan Village, Loceret Public Health Center, Nganjuk Regency. *Open Access Health Scientific Journal*, *3*(1), 27–33.
Yusnanda, F., Rochadi, R. K., & Maas, L. T. (2017). Pengaruh kebiasaan makan terhadap kejadian diabetes mellitus pada pra lansia di BLUD RSU Meuraxa Kota Banda Aceh. *Jurnal Muara Sains, Teknologi, Kedokteran Dan Ilmu Kesehatan*, *1*(2), 153–158.
Zarkasi, K. A., Abdul Murad, N. A., Ahmad, N., Jamal, R., & Abdullah, N. (2022). Coronary heart disease in type 2 diabetes mellitus: genetic factors and their mechanisms, gene-gene, and gene-environment interactions in the asian populations. *International Journal of Environmental Research and Public Health*, *19*(2), 647.
Zehnalová, J., & Kubátová, H. (2019). From a target population to representative samples of translations and translators. *The Translator*, *25*(2), 87–100.