



A guide for improving physical activity in preventing Diabetes Mellitus type two among adult Somali women in Helsinki

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The purpose of this study was to produce a guide for improving physical activity in preventing diabetic type 2 among adult Somali women in Helsinki and the aim of was to improve physical activity among Somali women. The guide was written in Somali, Finnish, and English languages. The goal was to benefit adult Somali women in Helsinki and can also be beneficial to all Somalians residing in Finland particularly Helsinki metropolitan region. The data used to draft the guide were obtained from world health organization (WHO) and Finnish institute for health and welfare (THL) webpages. The people who participated in the guide training session gave voluntary and anonymous feedback at the end of the event.

The aim of the feedback was to know how beneficial the guide was and for future development. The authors of this thesis recommended that care givers should promote mobility intervention among Somali women who resides in Helsinki such as walking, exercise training, dancing, and swimming in helping to prevent type 2 diabetes. Mobility intervention must make up of personal or group commitment and health education

Keywords: Type 2 diabetes, Somali community in Finland, Diabetes Mellitus type two among Somali community and physical activity

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1 Introduction

Diabetes is a chronic disease that happens when the pancreas is unable to produce enough insulin or when the body cannot actively use the insulin it produces. Insulin is a hormone that controls the blood sugar or elevated blood sugar, side effect of unattended diabetes may lead to precarious impairment to the main organs of the body system, particularly the nerves and blood vessels (WHO 2020).

In 2014, it was estimated that 8.5% of adult aged 18 years and above had diabetes, while in 2016 diabetes was a direct cause of 1.6 million deaths and in 2012 high blood glucose was the cause of another 2.2 million deaths (WHO 2020). In addition, between 2000 and 2016 there was a 5% increase in premature mortality resulting from diabetes. In high- income countries, premature mortality rate was low because diabetes decreased from 2000 to 2010, and later increased again in 2010 to 2016, while in middle-income countries, the premature mortality rate was high because diabetes increased in both periods (WHO 2020). Deaths from diabetes has been shown to increase by 70 percent globally between 2000-2019 and WHO stressed the need of preventing and treating cardiovascular disease, diabetes, cancer, and chronic respiratory diseases (WHO 2009.) Type 2 diabetes is common among Somali communities and obesity is common among Somali women (THL 2019.)

Physical activity prevents non-communicable diseases such as type 2 diabetes, hypertension, and heart diseases and physical activity preserve healthy body weight. Physical activity also increases the wellbeing, quality of life of a person and increases thinking, judgmental abilities as well as learning capabilities. In addition, it decreases depression, anxiety and promote general wellbeing of a person (WHO 2020). Finnish institute for welfare and health (2019) states that immigrant men do physical exercise as same as their Finnish counterpart do, while women from Africa and Middle East do rare physical activity.

Somali territory occupies large part of horn Africa. After start of civil war 1980s and totally collapse of Somalia government in 1991, the Somali people spread all over the world such as Canada, United States of America, South Africa, Middle East, and UK (Heather Marie Akou 2011, 5,). According to Finnish statics office (2019) there was 21940 Somali population in Finland. The purpose of this bachelor thesis was to develop guide material written in Somali, Finnish, and English Languages about the importance of physical activity in preventing type 2 diabetes. The aim of this work is to encourage physical activity among Somali women in Helsinki.

2 Theoretical framework

2.1 Type 2 diabetes

Generally, diabetes mellitus type 2 (DM2) is a chronic metabolic disorder characterized by defect in insulin secretion resulting in abnormally high level of blood glucose. A healthy person fasting plasma glucose value (fP-Gluk) is between 4.0 and 6.0mmol/l (HUS lab 2017). Elevated or too little blood glucose level in circulation are closely connected to different diabetic complications. Hypoglycemia defines low glucose level in blood. It is rarely seen in type 2 diabetes and presents blood glucose level of far less than four mmol/l. Prediabetes is considered when fasting blood sugar level is from 6.0 mml/l -7.0 mml/l. This result is sometimes called impaired fasting glucose. A fasting blood sugar level of 7.0 mmol/L or higher indicates type 2 diabetes (Ilanne-Parikka 2015, 378). Long-term hyperglycemic condition is associated with many complications including damage, dysfunction, and failure of some organs - blood vessels, eyes, heart nerves and kidneys (ADA 2014.) Diabetes mellitus is classified into four major categories: type 1 diabetes, type 2 diabetes, gestational diabetes mellitus and specific types of diabetes due to other causes (WHO 2016; ADA 2017a.)

Diabetes prevalence has eclipsed to an epidemic level globally. Diabetes type 2 is the most common type of diabetes and it classified as a worldwide epidemic problem. Type 2 diabetes is becoming increasingly around the world and makes massive strain on public health and socioeconomic development of all nations (Bi et al. 2012).

2.1.1 Symptoms and causes of type 2 diabetes

Type 2 diabetes often develops gradually, and many people do not notice the classic symptoms. It is typical for type 2 diabetes that the symptoms are hidden or asymptomatic, and this is the reason why type 2 diabetes usually go undiagnosed for several years (WHO 2016). The classic symptoms of diabetes type 2 are frequent urination, excessive thirst, weight loss, blurred vision, difficult or slow wound healing and frequent itching on genital area (IDF 2015.) Impaired fasting glucose and impaired glucose tolerance are intermediate forms between normal glucose levels and diabetes (WHO 2016.)

The main cause of diabetes type 2 is insulin resistance. Insulin is produced by the Bcells of pancreatic islet of Langerhans, but the target cells do not seem to recognize it anymore. Type 2 diabetes may also be because of inadequate (low or no) production of insulin by the pancreas (ADA 2017a; IDF 2015). Excess abdominal fat is another cause, in addition to genetics and lifestyle. Common risk factors of non-insulin dependent diabetes are overweight, unhealthy diet, immobility or lack of physical exercise, smoking, age, genetic, racial/ethnic subgroup, and women with prior history of gestational diabetes Miletus (ADA 2017a).

2.1.2 Prevention of type 2 diabetes

Prevention is possible by maintaining healthy habits. Healthy diet including fruits, vegetables, and whole grains are recommended. These are low fat, high-fiber food. It is also advisable to reduce sweets, refined carbohydrates, and animal products. Low-glycemic index foods are also good for those with type 2 diabetes. Light alternating exercise for example walking, swimming, sports, and other physical activities is recommended. Counseling of the community is also seen as a major prevention method of diabetes type 2 (CDC 2017).

One of the keyways to prevent diabetes is to adopt and sustain healthy lifestyle changes. One study by Finish diabetes prevention group DPS that measured such as losing weight by 5 percent or more, reducing dietary fat by 30 percent of total energy consumption, increasing dietary fiber intake, reducing saturated fat by 10 percent of total energy consumed and increasing physical activity 30 minutes per day can markedly reduce the risk of diabetes (THL 2019).

2.2 Somali community and type 2 diabetes among Somali community in Finland

In 2019, the foreign backgrounds living in Finland were 423,494, which accounts about 8 percent of the total population living in Finland. Åland region has the highest foreign background, which is 15.9 percent, then Helsinki metropolitan region 14.2 percent, whereas South Ostrobothnia region lives the smallest share of foreign background immigrants, which is 2.4 percent of the population. More than half of the foreigner background community in Finland lives in Helsinki Metropolitan region (Tilastokeskus 2020).

The first Somalis arrived in Finland in late 1990, after Somali civil war started in 1990 and most of them came through Russia to Finland. Those who arrived in 1990, most of them were educated and those who came after that they were not educated (Somaliliitto N.D). According to Finnish statistics office (2019), there was 21940 Somali population in Finland.

Type 2 diabetes is common disease among Somali people and obesity is prevalence among Somali women (THL 2019). The laboratory findings that suggesting diabetic disease are high among Somali Community (E Castaneda et al. 2012.) Finnish institute for health and welfare recommended health care workers should give attention on preventing of type two diabetes and of prevention of obesity in the Somali community. Also, their blood sugar level is high so there is need to focus on screening their blood sugar level (THL 2019).

2.3 Physical activity and it is advantages.

WHO explained physical activity as any movement of the body that produced by skeletal muscles and needs energy consumption. Movements such as free time movement, movement to and from places, walking, wheeling, playing and active leisure time are considered physical

activities (WHO 2020). Active people generally live longer and are less prone to serious health problems like type 2 diabetes, heart diseases, obesity. For people that lives with chronic diseases, physical activity can help manage the complications that is caused by chronic diseases (CDC 2021).

It is proven that regular physical activity to help prevent and manage non-communicable diseases such as diabetes, heart diseases, hypertension, and stroke. Physical activity preserves healthy body weight, increases mental health, quality of life and wellbeing. It has significant health effects on the hearts, body, and the mind. It decreases depression and anxiety and increases thinking, judgement skills and learning (WHO 2020). Any exercise that increases energy consumption such as housework and daily activities has health effects. When physical activity increases the physical condition improves and good physical fitness has many health benefits (THL 2020).

2.4 Recommended physical activity

According to WHO, one in four adults does not meet recommended levels of physical activity. Around 5 million of deaths could be prevented from chronic diseases such as diabetes if population live more active life. Those who are not active have 20 percent to 30 percent increased risk of death relative to those who are active. The World Health Organization has issued useful guidelines and recommendations for necessary levels physical activities per week, for different age groups within specific populations. WHO recommends decreasing sedentary life and argued adults to do more than recommended levels of physical activity (WHO 2020). Adults should do light aerobic exercise such as running, walking, swimming, cycling, dancing at least 2 and 30 minutes per week or 1 hour and 15 minutes of effective aerobic physical activity per week (THL 2020.)

3 Purpose and aim of the research.

The purpose of this study is to produce guide written in Somali, Finnish, and English language about the importance of physical activity in preventing type 2 diabetes.

The aim of the guide is to promote physical activity among adult Somali women who live in Helsinki. The importance of the guide was to create awareness about the importance of physical activity in preventing type two diabetes among adult Somali women. Adult Somali women who live in Helsinki and who does not speak Finnish or English will specially benefit from guide.

4 Methodology

Methodology defines what and how the researcher did his or her work, this pave way for readers to ascertain the reliability and validity of the research work. A good research methodology includes type of research, how data was collected, how it was analyzed, tools and materials used in the research work and reason for using these methods (Mc Combes 2019).

Cooperation involves the collaboration in a systematic way of conversation, active participation in event and feedback, while participation was based on rather than separation and competition, it is based on the idea that everybody has equal participation and equal representation. Equality and mutual respect were observed among all participants. Co-production means research for new information, all participant in the research worked together to find new knowledge and all members of the research group are represented equally and have equal stake in the research (Introduction to co-production N.D).

Functional thesis method was used in this research paper for the sole purpose of producing a guide material to help to improve physical activity to prevent type two diabetes among Somali women in Helsinki. The guide was done in cooperation with Somali community in Helsinki.

4.1 Guide

According to law on patient rights (17.8.1992/785) provides health care professionals the tools to give patient plain and simple explanation about his or her health, which help patient to take part in decision making about own health. Proper guide on patient care will enable patient for self-determination. Patient are supported as well as given opportunity to decide on their personal centered care by giving patient information, guidance, and education. (Kassara etc. 2004, 41 - 42; Lauri 2007, 9, cited in Marian 2011, 12).

Communication can be either verbal or nonverbal and it is considered important because it has different meanings across different cultures. Communication is an important tool in administering and getting health, because it makes it easy and smooth transition in everyday life (Stanhope & Lancaster, 2000, 150-151, cited in Marian 2011, 13). There are a lot of information about type 2 diabetes in other languages, but there is little information about type 2 diabetes in Somali language (Marian 2011.)

The guide was clear, simple, and evidence-based knowledge. The guide was written in Somali, Finnish, and English languages and provided information about the importance of physical activity in preventing type 2 diabetes. In this guide, it is combined information, practical knowledge, and evidence-based knowledge from WHO and THL.

Content of the guide	Sources of the guideline
What is physical activity	Physical activity, https://www.who.int/news-room/fact-sheets/detail/physical-activity
Benefits of physical activity and effects on health and wellbeing.	https://www.who.int/news-room/fact-sheets/detail/physical-activity
Prevention of type two diabetes	https://thl.fi/en/web/chronic-diseases/diabetes/type-2-diabetes https://thl.fi/en/web/lifestyles-and-nutrition/physical-exercise
Recommendation of daily or weekly exercise	Physical activity, https://www.who.int/news-room/fact-sheets/detail/physical-activity https://thl.fi/en/web/lifestyles-and-nutrition/physical-exercise
Effects of not doing exercise.	https://www.who.int/news-room/fact-sheets/detail/physical-activity
Steps to start physical activity for beginners.	https://www.who.int/news-room/fact-sheets/detail/physical-activity

Table 1 content and the sources of the guide

4.2 Planning and implementation

This guide consists of different phases. In the first phase was labelled as assessment phase, the researchers gathered, structured, and synthesized information from world health organization and Finnish institute for health and welfare to produce the purpose and aim of this guide. In the second phase of this guide the acquired data were translated into Somali language since the target group are Somali speakers. In the third phase, the Somali and Finnish version were sent to Somali Community leaders for assessment and feedback to know if the guide is suitable for the community, while the English version was sent to the supervising teacher for this thesis. In the fourth phase amendments were made based on feedbacks from Somali community leaders and advisor teacher. In the fifth phase, all details were carried out and the final manuscript for this guide was produced. Schedule was made for the health awareness event and the final version of the manuscript was distributed to the participants for the event and take home for self-consumption. At the end of the event, feedback was collected through feedback form and was analyzed anonymously. This guide was also given to Somali community leaders as a reference material in future events and future consumption.

The implementation of this guide was a bit challenging due to corona virus safety regulations recommended by Finnish institute for health and welfare. It was difficult to have physical meetings for our thesis members, however, we did most of our work through zoom meetings and we gave each other feedback while we were doing this guide. Somali community leaders were very cooperative providing information that were beneficial to us. Their recommendations help us to create a short, easy, and clear guide.

Due to corona safety regulations recommended by Finnish institute for health and welfare it was difficult for all participants to come at the same time, so the participants were invited to come in to three different schedules to follow the corona virus guidelines. The participants were given information about type 2 diabetes and important of physical activity in preventing type 2 diabetes. It was also discussed with them how they can do physical activity and the importance of physical activity. Participants also received explanations on the causes of the type 2 diabetes, its symptoms and how DM2 can be prevented. At the end of event, the guide was distributed to the participants for the future use.

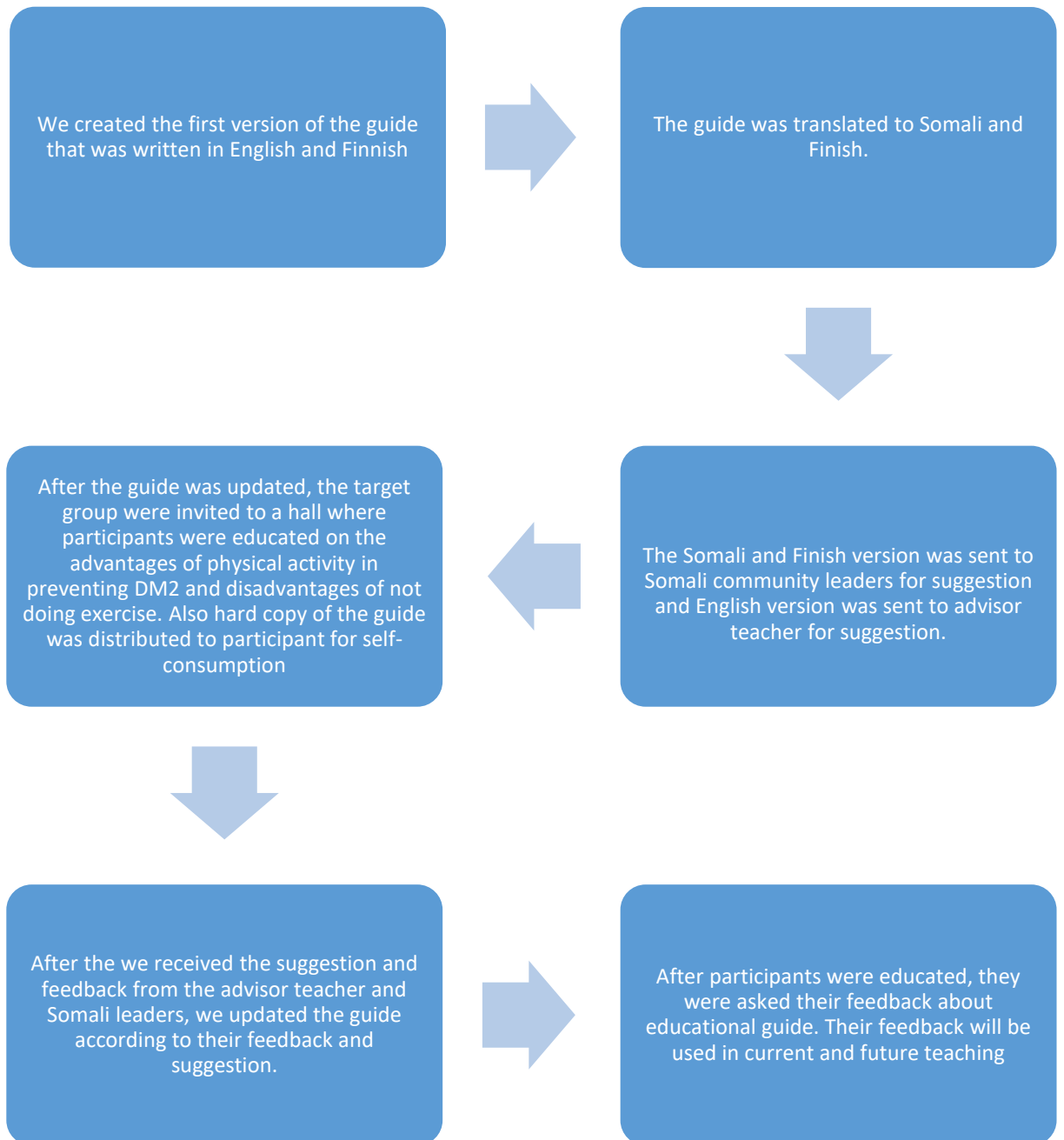


Figure 1, Development process of the guide

4.3 Feedback and evaluation

To get feedback and evaluation from the participants about the guide, anonymous feedback form was prepared (Appendix 1, 2). After the event, after the event we collected feedbacks from participants via feedback forms. This was anonymously used to evaluate the importance of the guide and how it was beneficial to them.

The feedback was voluntary, and the participants were told that feedback was voluntary. The feedback forms were written in Somali and English languages, and we made sure that it is easy and understandable. The participants used the Somali language version of the feedback form. The feedback form was formulated as follows.

- Was this information provided useful?
- Was this guideline useful?
- Did you learn anything new?
- Will you recommend doing such events in the future?
- What suggestions would you like to give us for improvement of this guide?
- Is there suggestions or information that you would like to add in this guide

A total of 35 participants participated in the event and 30 of them returned the feedback form. The health awareness event was held three separate times due to corona virus safety regulations. Some of the feedback suggestions we got from participants are summarized below.

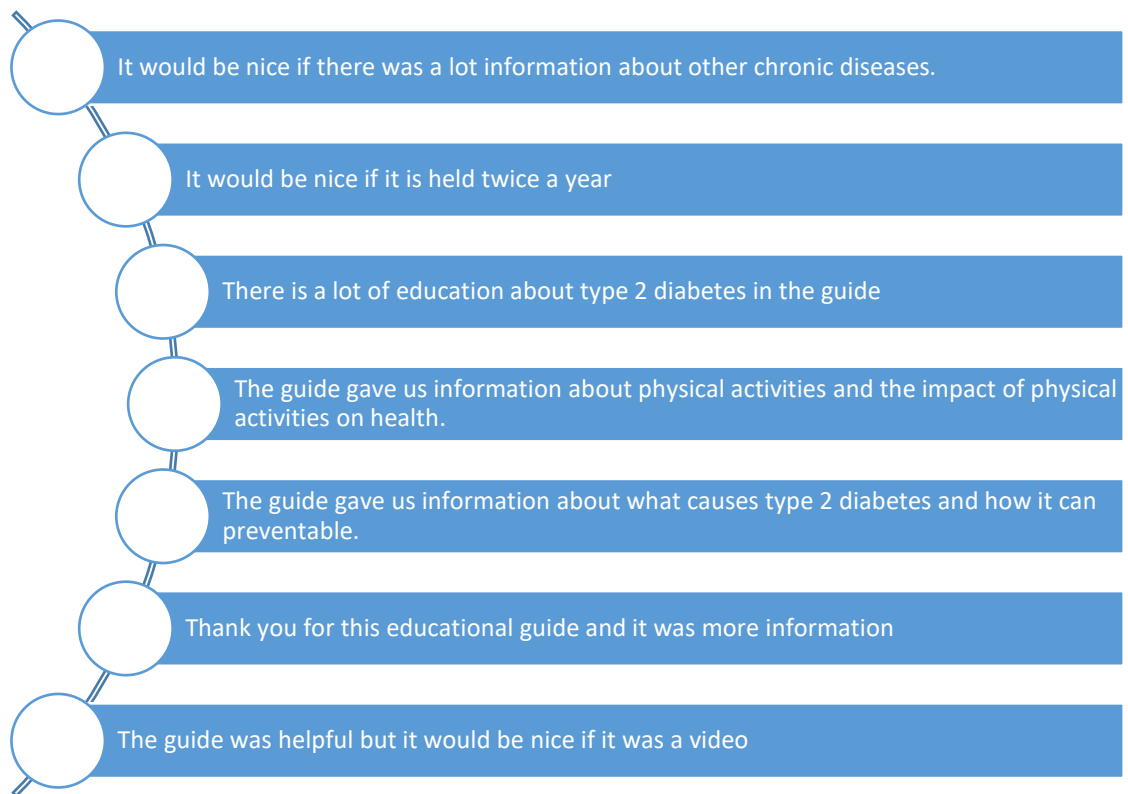


Figure 2, feedback from participants.

All participants were happy, and they said this guide was good and it is full of information about the important of physical activity. Majority suggested that, in the future, more of such kind of events would be good to held in the future.

5 Discussions

The purpose of this thesis was to produce guide material written in Somali, Finnish, and English languages about the importance of physical activity in preventing type 2 diabetes. The aim of this guide was to improve physical activity among adult Somali women who live in Helsinki. Feedback from the participants of the event disclosed that most of them lacked information about the importance of physical activity in preventing type two diabetes, type diabetes and causes and prevention of the type 2 diabetes. The result also showed that they have less motivation to do physical exercise. During the event information where shared, discussion was also held, personal opinions where shared and education and advice was given.

During the event researchers tried to measure the amount of information adult Somali women have regarding the prevention of type two diabetes by doing more of physical exercise. Measurement showed that most women do not exercise and live less active life. The important of physical activity in preventing type 2 diabetes was discussed deeply together with the participants. We focus more on educating the importance of physical activity in preventing type 2 diabetes. Physical activity is movement of the body that produced by skeletal muscles and needs energy consumption (WHO 2020.) Participants of the event were told that all body movement that body makes such as walking, swimming, playing, dancing, riding bicycle, housework and daily activities are physical activities. Studies conducted in Finland and elsewhere have proven that changing lifestyle such regular exercise, weight management and health diet are key elements to prevent the development of type 2 diabetes (THL 2020.) Together with the participants discussion were made that small change of lifestyle such as regular exercise has more significant on health like it decrease depression, anxiety and increases thinking and can prevent type 2 diabetes.

We also found out that most of the participant knew nothing about the kind of physical activities they can do to help prevent type two diabetes. The result also showed that most of the women were keen to get more information about the subject and how they can be active in a group or individually. One in four adults in the world do not make recommended physical activities and this causes around 5 million deaths around the globe every year (WHO 2020.) This information was given to the participants in the event, and we also shaded lights on the point that, if recommended physical activities were followed, these 5 million deaths could have been prevented. This shows the importance of physical activities on health. The number of recommended physical activities needed for good health per week were also discussed. People aged 18-64 years do physical activity at least 150-300 minutes of ordinary aerobic exercise per week (WHO 2020.) Participants highlighted that they lacked information about type 2 diabetes in general and that type 2 diabetes is common among Somali communities. Participants were given information about type 2 diabetes, impacts on health, the important

of insulin, how insulin works and what happens when the body does not produce enough insulin.

Participants of the event were happy, they were able to express how they feel about the topic, and they said they got more information about the importance of physical activities on health. Recommendations were made and advice were given. Some of the participants also wanted the event to be held in two different time of the year if possible and a video version of the event would have been good to have. Somali women need guidance about the importance of physical activities in preventing type 2 diabetes, because they are lacking knowledge about the importance of physical activities. The guide gave them information about the importance of physical activities, how it impacts on health and wellbeing, prevention of type 2 diabetes, daily or weekly recommendation of physical activity to do and consequences of sedentary life. We have deepened our knowledge on the importance of physical activities, causes, care and prevention of type 2 diabetes, Somali Community and we have grown as a professional during this process.

5.1 Limitations

This guide is limited in several ways. First, this guide is limited to Finland and may be some western countries. Secondly this guide is not applicable to Somali women who live in Somalia, because we do not have information about those women in Somalia.

5.2 Ethical consideration and reliability

The term research ethics is concept that is covers all ethical perspectives and evaluations that are related or connected to science and research. Before research starts, research permit is needed and all participants within the research agree on researchers' rights, responsibilities, obligations, concept of authorship, questions concerning archiving and accessing data. In the research principles of integrity, accuracy in conducting research, carefulness, recording, presenting and assessment of the research is needed to abide by. Researchers must refrain from all research related evaluation and decision-making circumstances if there is suspicion of conflict of interest. If there are, conflicts of interest must mention in the research. The researcher considers other researchers work by citing their work appropriately (Finish national board of ethics 2012). In research, following ethical guidelines is important and, in our thesis, we did follow it including the guidelines of ethics given by finish national board of ethics.

There was a cooperation with the Somali community leaders in Helsinki when we were doing this guide. All participants were asked their consent and was told their rights, responsibilities, and obligations. The participants were told that feedback was voluntary and

identifying information was not collected. Feedback from participants was analysed anonymously and information and feedback were not disclosed to outsiders.

6 Conclusion and Recommendation

The purpose of this thesis was to produce a guide material written in Somali, English, and Finnish language about the importance of physical activity in preventing type 2 diabetes. The result from the guide event was good. Some of the participants were of the opinion that they received vital information that was not known to them before and was very useful about the effect of preventing type two diabetes. They also said that it would be good if this kind of event is done at least twice in a year, however they agreed that the guide carried lots of information regarding type two diabetes, the important of physical activities and benefit of it. Participants also received information about the cause of type 2 diabetes and how it can be prevented.

Some of the participant also said that it would have been nice to have a video version of the guide. The implication of the result of this guide was that further development is needed and a video version of this kind of guide would be appreciated. Above all, the guide was impactful to the targeted group and awareness of the importance of physical exercise in preventing type two diabetes was relayed.

Care givers should strive to promote mobility intervention in preventing type 2 diabetes. A Mobility intervention must made up of personal or group commitment and health education regarding preventing type diabetes as well as intervention in focusing on social habits such as social support and networking. These recommendations and interventions are targeted to patient who live sedentary life and does not do exercise or not motivated to do exercise as recommended by health care professionals. Interventions such as health awareness sessions about physical activity, exercise training, walking, dancing, and other form of Zumba should be encouraged either individually or in groups. Nurses should be encouraged to promote frameworks that adopt a steady reduction of sedentary and adopt a more efficient framework for active way of life. However, more study should be done regarding prevention of type 2 diabetes among adult Somali women in Finland.

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Figure 2. Feedback from participants.

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Appendix 2: Feedback form English version

Appendix 3: Physical activity guide, Somali Version.

Appendix 4: Physical activity guide, Finish version.

Appendix 5: Physical activity guide, English version.

Appendix 1: Feedback form Somali version

Foomka qiimaynta.

Macluumaadkan muu ahaa mid waxtar leh?

Haa___ Maya___

Macluumaadkan miyuu ahaa mid faaiido leh?

Haa___ Maya___

Wax cusub maka baratay macluumaadkan?

Haa___ Maya___

Maku talinaysaa in macluumaadkan oo kale mustqablka la idin siiyo?

Haa___ Maya ___

Talo nooc ee ah ayad jeceshahay inaad naga siiso hagaajinta macluumaadkan?

Ma jiraan talo bixinno aad jeclaan lahayd inaad ku darto macluumaadkan ?

Haa_____ Maya_____, haday jawaabtu tahay Haa,

Maxay noqon lahayd _____

Appendix 2: Feedback form English version

Feedback form

Was this information provided useful?

Yes___ No___

Was this guideline useful?

Yes___ No___

Did you learn anything new?

Yes___ No___

Will you recommend doing such events in the future?

Yes___ No___

What suggestions would you like to give us for improvement of this guide?

Is there suggestions or information that you would like to add in this guide

Yes_____ No_____, if your answer is yes,

What would be _____

Appendix 3: Physical activity guide Somali version

Waa maxay jimicsiga jidhka?

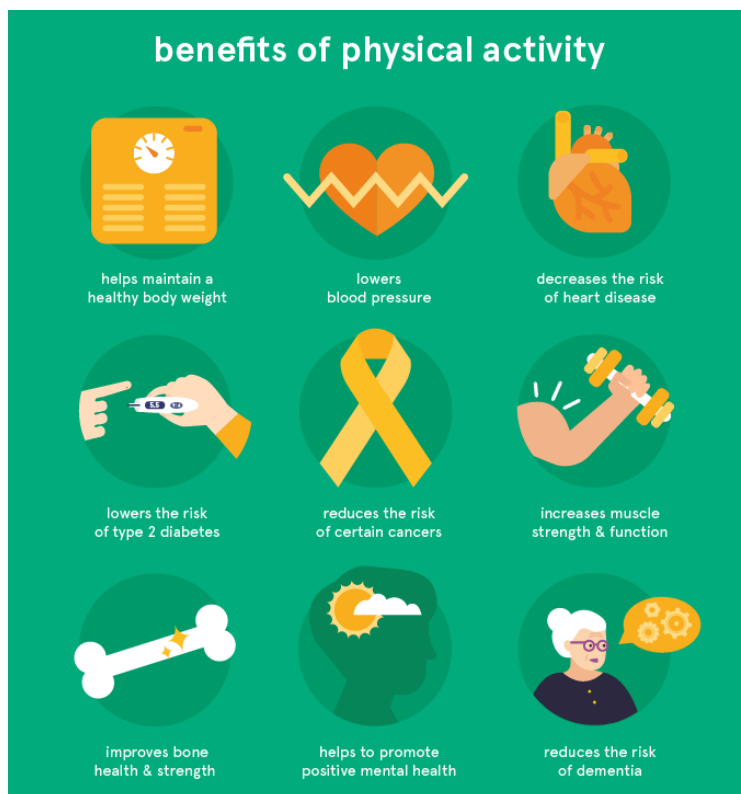
Sida ay haayada caafimadka aduunka ku qeexday (WHO) jimicsiga jidhka, jimicsiga jidhka waa dhaqdhaqaaqa ee ay sameeyaan muruqyada lafaha ee u baahan isticmaalka tamarta. Dhamaan dhaqdhaqaaqyada la sameeyo xiliga firaaqada, xiliga shaqada, iyo dhamaan dhaqdhaqaaqyada jidhka sameeyo oo dhan ayaa noqon karo jimicsi.



<https://putnamridge.com/physical-activity-health-report-2018/>

Faaiidooyinka jimicsiga laga helo iyo sida jimicsiga uu faaiido ugu leeyahay caafimaadka

- Jimicsiga Jidhka wuxuu faaiido caafimaad oo muhiim ah u leeyahy jidhka, maskaxda iyo wadnaha.
- Jimicsiga jidhka wuxuu gacan ka gaystaa ka hortaga iyo xakamaynta cudurada aan faafin sida cudurada ku dhaca wadnaha, kansarka iyo cudurka macaanka.
- Jimicsiga jidhka wuxuu yareeyaa walwalka iyo murugada
- Jimicsiga jidhka wuxuu xoojiyaa fikirka iyo barashada
- Jimicsiga jidhka wuxuu xoojiyaa caafimaadka guud ee jidhka iyo horumarka dhalinyarada
- Dadka aan jimicsan waxay khatarta dhimashadooda ka saraysaa 20% ilaa 30% marka la barbardhiga kuwa jimicsida sida ya xaqiijisay hayada caafimaadk aduunka (WHO).



<https://www.eufic.org/en/healthy-living/article/9-proven-benefits-of-physical-activity>

Kahortaga nooca 2aad ee cudurka macaanka

Sida ay qoraysa daraasadaha haayada caafimaadka aduunka (WHO) iyo daraasada ka hortago cudurka macaanka ama sonkorowga ee lagu sameeyay wadanka Finland, waxyaabaha ugu muhiimsan ee looga hortago cudurka 2aad ee macaanka ama sonkorowga ay ah isbadal nololeed oo joogto ah. Isbadalka nololeed ay ku taliyeen si loo yareeyo halista cudurkan waxaa ka mid.

- Misaanka jidhka oo la iska yareeyo ama la dhimo
- Jimicsiga jidhka ee la sameeyo
- Dhaqdhaqaaqa ama socodka oo la badsado
- Maalin walba inaad socotid 30 daqiiqo iyo wax ka badan.
- Maalin walba inaad socotid 30 daqiiqo iyo wax ka badan.



On Your Way to Preventing
Type 2 Diabetes



<https://www.cdc.gov/diabetes/prevent-type-2/guide-prevent-type2-diabetes.html>

Talobixin maalinleh ama toddobaadleh oo ku saabsan jimicsiga jidhka ee la sameeyo

- Dadka waawayn waa inay sameeyaan jimicsi dhaxdhaxaad ah oo aan cuslayn
- Jimicsiga sida socodka, orodka, baaskiilka ama dabaasha waa in la sameeyaa usbuucii ama toddobaadkii 2 saac iyo 30 daqiiqo, ama jimicsi xoog ah 1 saac iyo 15 daqiiqo toddobaadkii.
- Waa in la sameeyaa toddobaadkii ugu yaraan 150-300 oo daqiiqo oo jimicsi dhaxdhaxaad ah.
- Toddobaadkii ugu yaraan 2 jeer waa in la sameeyaa jimicsiga jidhka ee dhisa murqaha.

How much activity do I need?

Moderate-intensity aerobic activity
Anything that gets your heart beating faster counts.

at least
150
minutes
a week



AND

Muscle-strengthening activity
Do activities that make your muscles work harder than usual.

at least
2
days
a week



Tight on time this week? **Start with just 5 minutes.** It all adds up!

<https://www.cdc.gov/physicalactivity/basics/adults/index.htm>

Caafimaad darada ka dhalata jimicsi la,aanta

- Cudurada ay ka mid yihiin wadna xanuunka kansarka iyo cudurka macaanka ama sonkorowga noociisa 2aad.
- Cudurka Dhiigkarka
- Cudurka faaliga
- Miisaanka jidhka oo kordha ama cayil badan.
- Caafimaadka wadnaha oo xumaada.
- Saacadaha hurdada la seexo oo yaraada

Health Hazards Associated with Sedentary Lifestyle

- High Blood Pressure
- Increased risk of Chest pain & Heart attack at younger age
- Risk of getting Diabetes mellitus at early age
- Weight gain and Obesity
- Increased risk of certain cancers like
1. Breast Cancer 2. Cancer of large intestine 3. Lung cancer 4. Ovarian Cancer
- Depression
- Inflammation (Aches and pains in the body)
- Dysfunction of Immune system
- Weak Bones and increased risk of Fractures
- Decrease in muscle mass and strength
- Physical Disability

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<https://www.healthonics.healthcare/negative-health-consequences-sedentary-lifestyle/>

Sida jimicsiga jidhka loo bilaabo

- Si tartiib ah u bilaw ama aayar aayar u bilaw jimicsiga
- Waa in la sameeyaa ugu yaraan 150-300 daqiiqo oo socod ah ama jimcsi fudud ah.
- Toddobaadkii ugu yaraan 2 jeer waa in la sameeyaa jimicsiga jidhka ee dhisa murqaha.
- Samee jimicsiga jidhka oo xoogan 300 ama 150 daqiiqo isbuucii ama todobaadkii.
- Iska yaree fadhiga badan



MAKE EVERY MOVE COUNT

When you Move More every day, you can reach some pretty big goals over time. Small steps can add up to huge strides — in your physical health, mental health, stress levels, sleep, productivity, relationships and more. Let movement take you places you never thought possible!



Source: purdue.edu/walktothemoon/activities.html

<https://www.heart.org/en/healthy-living/fitness/fitness-basics/make-every-move-count-infographic>

Appendix 4: Physical activity guide Finish version

Mikä on fyysinen aktiivisuus?

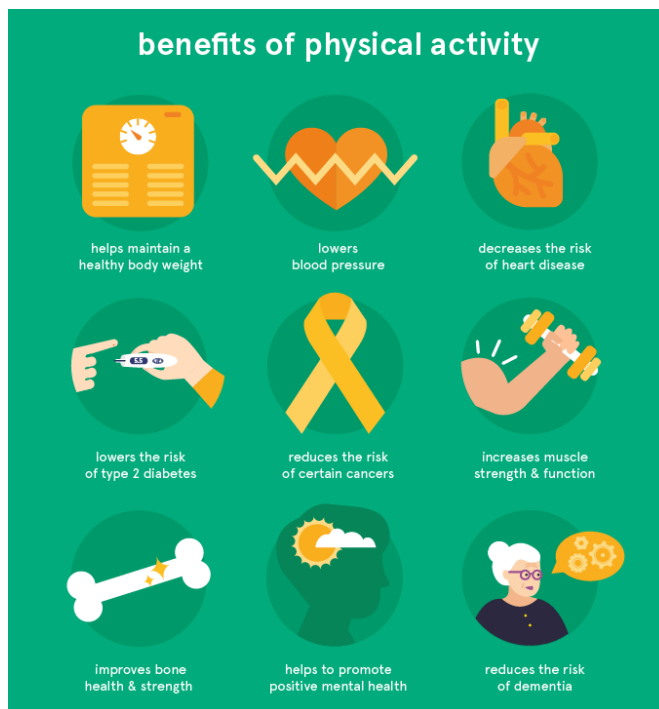
WHO: n mukaan liikunta tai liikunta on luuston lihasten tekemää kehon liikettä, joka tarvitsee energiankulutusta. Kaikki vapaa-ajan, työn, liikkuminen paikasta toiseen palatsiin tekemät liikkeet ovat kaikki fyysistä toimintaa.



<https://putnamridge.com/physical-activity-health-report-2018/>

Liikunnan merkitys ja miten se vaikuttaa terveyteen ja hyvinvointiin

- Liikunnalla on merkittäviä terveyshyötyjä sydämille, keholle ja mielille
- Fyysinen aktiivisuus auttaa ehkäisemään ja hoitamaan tarttumattomia sairauksia, kuten sydän- ja verisuonitauteja, syöpää ja diabetesta
- Liikunta vähentää masennuksen ja ahdistuksen oireita
- Fyysinen aktiivisuus parantaa ajattelua, oppimista ja arvostelukykä
- Liikunta varmistaa nuorten terveen kasvun ja kehityksen
- Liikunta parantaa yleistä hyvinvointia
- Ihmisillä, jotka eivät ole riittävän aktiivisia, on 20-30% suurempi kuolemanriski verrattuna riittävän aktiivisiin ihmisiin



<https://www.eufic.org/en/healthy-living/article/9-proven-benefits-of-physical-activity>

Päivittäinen tai viikoittainen suositus liikuntaan. Fyysisen liikunnan suositukset

- Aikuisten tulisi harjoittaa kohtalaisen rasittavaa aerobista liikuntaa
- Esimerkiksi kävely, juoksu, pyöräily, uinti tai tanssi vähintään 2 tuntia 30 minuuttia viikossa tai voimakas aerobinen liikunta vähintään 1 tunti 15 minuuttia viikossa.
- Pitäisi suorittaa vähintään 150-300 minuuttia kohtalaista intensiivistä aerobista liikuntaa.
- Lihasten kuntoa ja moottorin hallintaa tukevaa liikuntaa tulisi harjoittaa vähintään 2 kertaa viikossa
- Iäkkäiden tulisi käyttää lihaskuntoaan, tasapainoa ja joustavuutta

How much activity do I need?

Moderate-intensity aerobic activity

Anything that gets your heart beating faster counts.









AND

Muscle-strengthening activity

Do activities that make your muscles work harder than usual.






Tight on time this week? **Start with just 5 minutes.** It all adds up!

<https://www.cdc.gov/physicalactivity/basics/adults/index.htm>

Fyysisen toiminnan tai istumattoman elämän tekemättä jättämisen seuraukset

- Sydän- ja verisuonitautien, syövän ja tyypin 2 diabeteksen ilmaantuvuus.
- Lisääntynyt rasvaisuus (painonnousu)
- Heikompi kardiometabolinen terveys, kunto, käyttäytymiskäyttäytyminen / sosiaalista käyttäytymistä
- Lyhyempi unen kesto

Health Hazards Associated with Sedentary Lifestyle

- High Blood Pressure
- Increased risk of Chest pain & Heart attack at younger age
- Risk of getting Diabetes mellitus at early age
- Weight gain and Obesity
- Increased risk of certain cancers like
1. Breast Cancer 2. Cancer of large intestine 3. Lung cancer 4. Ovarian Cancer
- Depression
- Inflammation (Aches and pains in the body)
- Dysfunction of Immune system
- Weak Bones and increased risk of Fractures
- Decrease in muscle mass and strength
- Physical Disability

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<https://www.healthonics.healthcare/negative-health-consequences-sedentary-lifestyle/>

Kuinka fyysinen aktiivisuus voidaan aloittaa aloittelijoille

- Aloittaa hitaasti
 - Pitäisi suorittaa vähintään 150-300 minuuttia kohtuullisen voimakasta aerobista fyysistä toimintaa
 - Pitäisi myös tehdä lihaksia vahvistavia aktiviteetteja kohtuullisella tai suuremmalla voimalla, johon kaikki tärkeimmät lihasryhmät osallistuvat vähintään kahdella päivällä viikossa, koska ne tarjoavat lisäetuja terveydelle.
 - Voi lisätä kohtalaisen voimakasta aerobista liikuntaa yli 300 minuuttiin; tai tehdä yli 150 minuutin voimakasta aerobista fyysistä toimintaa; tai vastaava yhdistelmä kohtalaista ja voimakasta intensiteettiä koko viikon ajan lisäetuja terveydelle.
-
- Pitäisi rajoittaa istumiseen kulumista. Istumattoman ajan korvaaminen minkä tahansa intensiteetin fyysisellä aktiivisuudella (mukaan lukien valon voimakkuus) tuottaa terveyshyötyä



<https://www.heart.org/en/healthy-living/fitness/fitness-basics/make-every-move-count-infographic>

Appendix 5: Physical activity English version.

What is physical activity?

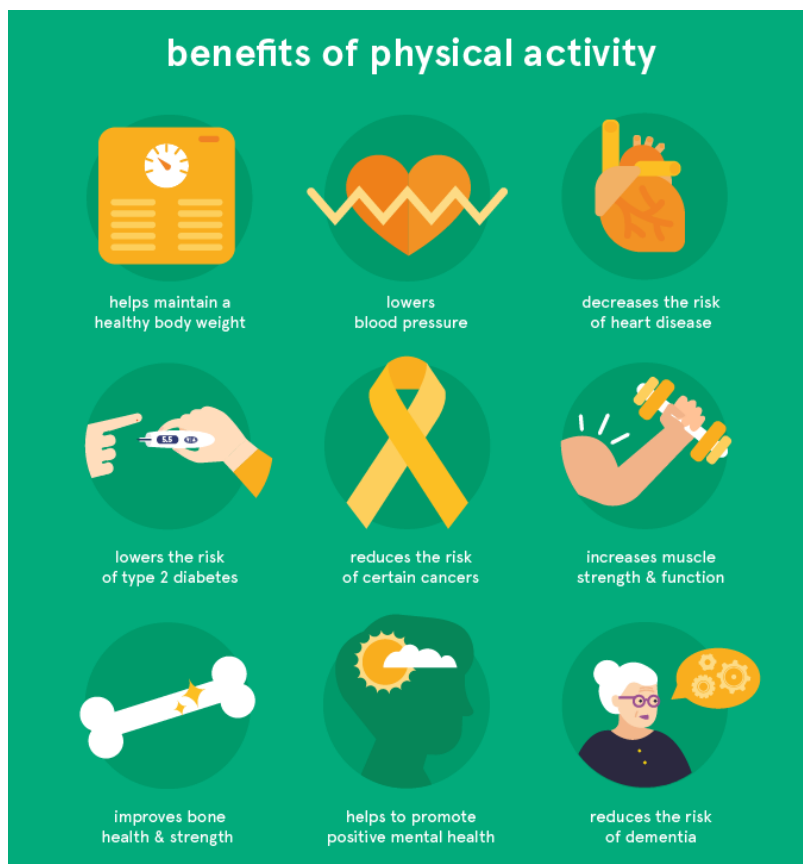
According to WHO, exercise or physical activity is body movement made by skeletal muscles that needs energy consumption. All movement that are done during leisure time, work, moving from one place to other palace are all physical activities.



<https://putnamridge.com/physical-activity-health-report-2018/>

Benefits of physical activity and effects on health and wellbeing

- Physical activity benefits body organs like heart, body, and mind greatly.
- Physical activity helps to prevent and control effect of diabetic type two and cardiovascular diseases
- Physical activity helps to fight depression and anxiety
- Physical activity improves judgmental skills and learning
- Physical activity promotes good health and development in adult as well as in young people.
- Physical activity generally enhances overall well-being of a person.
- Those who do not exercise have 20 percent to 30 percent risk of fatality compared to those who exercise regularly.



<https://www.eufic.org/en/healthy-living/article/9-proven-benefits-of-physical-activity>

Prevention of type 2 diabetes

Change of lifestyle is a militating factor in preventing type two diabetes among adults. The Finnish Diabetes Prevention Study DPS aim is to achieve five set goals in the race to reduce the effect of type two diabetes, goals include:

- Patient should strive to lose weight
- Weight loss of up to five percent
- Start doing physical activity
- Walking for at least 30 minutes in a day.



On Your Way to Preventing
Type 2 Diabetes



<https://www.cdc.gov/diabetes/prevent-type-2/guide-prevent-type2-diabetes.html>

Recommendation of daily or weekly exercise

- It is advised that adult should practice average stressful aerobic exercise.
- Exercises such as running, swimming, dancing, or cycling for at least 2 hours and 30 minutes in a week or perform a vigorous aerobic exercise for at least 1 hour and 15 minutes in a week.
- Moderate-intensity aerobic physical activity that last for at least 150 minutes to 300 minutes
- Fitness Exercises that strengthen the muscles and motor controls should be done for at least twice in a week.
- Exercise that strengthens fitness, balance, and flexibility are encouraged for the elderly to do.

How much activity do I need?

Moderate-intensity aerobic activity
Anything that gets your heart beating faster counts.

at least
150
minutes
a week



AND

Muscle-strengthening activity
Do activities that make your muscles work harder than usual.

at least
2
days
a week



Tight on time this week? **Start with just 5 minutes.** It all adds up!

<https://www.cdc.gov/physicalactivity/basics/adults/index.htm>

Effects of not doing exercise.

- Diseases such as type 2 diabetes, cancer and cardiovascular diseases can occur
- Elevated weight
- Can lead to low cardio metabolism, low physical fitness, and poor conduct
- Impaired sleep time

Health Hazards Associated with Sedentary Lifestyle

- High Blood Pressure
- Increased risk of Chest pain & Heart attack at younger age
- Risk of getting Diabetes mellitus at early age
- Weight gain and Obesity
- Increased risk of certain cancers like
1. Breast Cancer 2. Cancer of large intestine 3. Lung cancer 4. Ovarian Cancer
- Depression
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- Physical Disability

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<https://www.healthonics.healthcare/negative-health-consequences-sedentary-lifestyle/>

Steps to start exercise for beginners.

- Start gradually
- Perform at least 100 to 300 minutes of average weight aerobic exercise
- Perform muscle-strengthening exercise at conservative level to or vigorous speed that can affect main muscles on two or fewer days in a week because it is beneficial to the body system.
- Elevated average aerobic exercise above 300 minutes or perform 150 minutes of high-level aerobic exercise or combination of both for a period of one week for maximum health benefits.
- Reducing sedentary lifestyle and live active lifestyle by doing low and high level of physical activity that gives health benefits.
-



MAKE EVERY MOVE COUNT

When you Move More every day, you can reach some pretty big goals over time. Small steps can add up to huge strides — in your physical health, mental health, stress levels, sleep, productivity, relationships and more. Let movement take you places you never thought possible!



Source: purdue.edu/walktothemoon/activities.html

<https://www.heart.org/en/healthy-living/fitness/fitness-basics/make-every-move-count-infographic>

