

RESEARCH REPORT

On

Quality of Life of People with Type 2 Diabetes

By Dr Chhorvoin Om

Abstract

Introduction: People living with NCD conditions such as diabetes experience hardship in their daily life because they are facing several challenges such as diabetic complications and glycaemic control. This paper assesses their health-related quality of life (HRQOL) by using EQ-5D-5L tool.

Methods: A cross-sectional study was conducted with 151 patients living with type 2 diabetes mellitus (T2DM) who were using care and treatment services in the hypertension and diabetes clinic of a provincial hospital in the northern part of Cambodia. The collected data cover the EQ-5D-5L descriptive system and the EQ Visual Analogue scale (EQ VAS). Included in the questionnaire were demographic information and three items that assess the impact of COVID-19 impact on the patients.

Findings

There were 151 T2DM patients who participated in the survey including 95 female patients. The HRQOL of the patients was measured using the five dimensions of the EQ-5D-5L: mobility, self-care, usual activities, pain / discomfort and anxiety /depression. Up to 96 (63%) patients reported problem of pain/discomfort with 17% and 10% being moderate and severe or extreme problem. Similarly, 96 (65%) of them reported problem of anxiety/depression with almost 20% being severe or extreme problem. Less patients reported problem for mobility, self-care and usual activities. The mean EQ VAS score is 57 (SD=18, 95% CI: 54-60). Patients with T2DM who have additional diseases have significantly lower mean VAS score than those without additional disease (57 vs 67; $t= 2.78$, $P=0.006$). The mean EQ VAS scores is higher among T2DM patients who exercise at least 30 mins a day compared to the score of the patients who exercise less than 30 mins a day (61 vs 54; $t=2.09$, $P=0.039$). COVID-19 had an impact on some patients related to their diabetes management, access to medicines and visit to the hospital.

Conclusion

The HRQOL of patients living with diabetes is just above average on 0-100 EQ VAS score scale. Pain/discomfort and anxiety/depression are common complaints. COVID-19 pandemic has some impact on their healthcare access. Many patients suffer from diabetic complications.

1. BACKGROUND

Noncommunicable diseases (NCDs) includes such conditions as heart disease, stroke, cancer, diabetes and chronic lung disease. These conditions are driven by primarily four major risk factors: tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets. NCDs are collectively responsible for almost 70% of all deaths worldwide and almost three quarters of all NCD deaths occur in low- and middle-income countries.¹

In Cambodia, NCDs are on the rise and contributes to 64% of annual deaths. The results of the last STEP survey in 2016 revealed that the prevalence of hypertension ($\geq 140/90$ mmHg) and diabetes was 14.2% and 9.6%, respectively. Among those who were diagnosed with hypertension, only 33% received treatment from healthcare providers. Almost half of people never had their raised blood pressure measured or diagnosed with hypertension. Similarly, about 77% of respondents in the survey reported that they never had their raised blood sugar checked while only 39% received medication for their raised blood glucose. The survey also found that about 24% of adults aged 40-69 years were living with cardiovascular disease (CVD) condition or had $\geq 30\%$ of 10-year cardiovascular disease (CVD) risk; but only 11% of them received treatment and counselling to prevent heart attack and stroke.

With supports from the Health Equity and Quality Improvement Project (HEQIP), the Department of Preventive Medicine (PMD) of the Ministry of Health (MOH) is expanding integrated NCD services (diabetes, hypertension and cervical cancer screening and treatment) into primary health care (PHC) services through an implementation of the WHO's Package of essential non-communicable disease interventions for primary health care (WHO-PEN package). Currently, there are only 130 health centers (out of 1250) and 31 diabetes clinics in 31 referral hospitals (RHs) out of 112 RHs that are able to provide hypertension and diabetes services via WHO-PEN package. Unfortunately, NCD services at primary healthcare level are in their infancy stage and the planned expansion of NCDs services to primary healthcare level has been severely affected by the COVID-19 pandemic, undoubtedly leaving many NCD patients without access to proper continuum of care.

¹ Noncommunicable diseases: Key Factsheet, WHO - <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>

NCDs poses devastating health consequences for individuals, families and communities, and threatens to overwhelm health systems. People living with NCD conditions such as diabetes experience hardship in their daily life due to, e.g., glycaemic control requiring daily medication and changes in dietary habits and in lifestyle. Studies show that they suffer from physical health, social discrimination and exclusion and psychological complications such as depression and emotional distress.^{2,3} Their life becomes even more fragile in the context of Covid-19 pandemic that has already causes social disruption and individual/household catastrophe. Studies found that patients with Covid-19 infection increase severe health conditions or even death if they are suffering underlying NCD conditions such as diabetes.^{4,5,6} A modelling study published in the Lancet Global Health suggests that one in five people worldwide are at an increased risk of severe COVID-19 should they become infected, mostly as a result of underlying NCDs.⁷ The pandemic has shifted resources to COVID-19 patients who overloaded the healthcare system, which has resulted in one or more disruptions to essential health services.⁸ A study to evaluate the global impact of COVID-19 on routine care for chronic diseases that involved 202 healthcare professionals from 47 countries reported that diabetes, chronic obstructive pulmonary disease, and hypertension were the most impacted conditions due to reduction in access to care.⁹ An assessment by UNICEF on COVID-19 socio-economic impact on households using high-frequency phone survey between August 2020 and March 2021 found that 63%-80% of Cambodian households experienced income loss. This has caused financial crisis among many households, which finally pushed them into extreme poverty.¹⁰ The assessment also reported a reduction in access to healthcare services with the majority (83%) of households reasoning fears of COVID-19 infection. These problems undoubtedly have deteriorated all people living with chronic conditions including diabetes, who need continued care and treatment.

² Anderson R. J., Freedland K. E., Clouse R. E., Lustman P. J. The prevalence of comorbid depression in adults with diabetes: a meta-analysis. *Diabetes Care*. 2001;24(6):1069–1078. doi: 10.2337/diacare.24.6.1069.

³ Measuring the Quality of Life in Diabetic Patients: A Scoping Review; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7261342/#B2>

⁴ Diabetes, hypertension, body mass index, smoking and COVID-19-related mortality: a systematic review and meta-analysis of observational studies - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8557249/>

⁵ Increased Risk of Hospitalization and Death in Patients with COVID-19 and Pre-existing Noncommunicable Diseases and Modifiable Risk Factors in Mexico - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7375298/>

⁶ Risk factors for hospitalization among persons with COVID-19—Colorado - <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256917>

⁷ The Lancet – COVID-19: a new lens for non-communicable diseases

⁸ <https://www.un.org/africarenewal/news/sustainable-development-report-shows-devastating-impact-covid-ahead-%E2%80%98critical%E2%80%99-new-phase>

⁹ Impact of COVID-19 on routine care for chronic diseases: A global survey of views from healthcare professionals - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7308780/>

¹⁰ UNICEF: Covid-19 Socio-economic Impact Assessment – Aug, 2020 – Mar, 2021

Unfortunately, knowledge about health-related quality of live (HRQoL) among people living with NCD conditions is lacking in Cambodia as there was no study to explore this particular issue. This is the first ever study to look into this issue to bridge the knowledge gap. The results will contribute to policy development and improve NDC program in the country and more importantly to ensure that people living with NCD conditions are able to enjoy HRQoL and mitigate suffers or even prevent unnecessary death, in particular in an event of public health emergency such as the current COVID-19 pandemic.

2. Purpose

The purpose of this research is to assess HRQoL among people living with type 2 diabetes mellitus (T2DM) under current care and treatment in public hospitals.

3. Research questions

- What is the HRQoL of people living with T2DM who are receiving continued treatment and care from public hospitals in the country?
- What were impacts of COVID-19 on them?

4. Methods

Study setting and population

This research is a cross sectional study to assess HRQoL of people living with T2DM. The patients are currently receiving care and treatment from 16th January Provincial Hospital of Preah Vihear province.

Sample size

There are currently approximately 350 people living with T2DM who are routinely receiving care and treatment services from diabetes and hypertension clinic in the hospital. By using the Yamane (1967:886)¹¹ simplified formula below, the estimated sample size with a 95% confidence level and ±5% precision is 156.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision.

¹¹ University of Florida: Determining Sample Size

Study tool

The EQ-5D-5L instrument developed by the EuroQol Research Foundation was used to collect data on HRQoL. EQ-5D-5L instrument comprises a short descriptive system questionnaire and a visual analogue scale (EQ VAS) that required only a few minutes to complete. The questionnaire provides a simple descriptive profile of a respondent's health state. Included in the questionnaire was demographic profile and three questions related to the impact of COVID-19 pandemic on their diabetic care. The EQ VAS is a 0 – 100 scale where patients were asked to indicate their overall health on the day of questionnaire completion. Each patient was explained to score their health based on the EQ VAS 0-100 scale score. A score of 100 means they have best health they could imagine while a score of 0 means their health condition was the worst they could imagine. The existing Khmer version of the EQ-5D-5L instrument was requested and field-tested to validate their usability and practicality before they are used for data collection. The questionnaire was later on designed onto the template of Kobo Humanitarian for data collection.

Patient recruitment and data collection

All patients with T2DM who visited the diabetic and hypertension clinic in the hospital on the days of data collection were invited to an interview. After explanation of the interview purpose and informed consent, data collectors started to interview them face-to-face. Tablet or mobile phone uploaded with questionnaire on open-source template (Kobo humanitarian) was used for questionnaire completion.

Data analysis

Socio-demographic and disease characteristics of the patients are summarized using descriptive statistics. Percentages and frequencies are used for the categorical variables, while mean is calculated for the continuous variables. Association of socio-demographic and clinical factors on HRQoL are assessed using chi-square test where EQ-5D-5L health states are dichotomized (problem and no problem). A p-value less than 0.05 is considered as statistically significant. All analyses are carried out using SPSS Statistics version 23.

FIDINGS

Demographic profile

There were 151 participants including 92 females who participated in the survey from August to October, 2022. They were T2DM patients who were receiving care and treatment services in the diabetes and hypertension clinic of the 16th January hospital (Preah Vihear provincial hospital). The mean age of the patients is 57 years (35-77 years) and mean age for male and female patients are similar (Male: 56 years vs Female: 58 years). Most (121, 80%) of the patients are married and living with their partners while 30 (20%) of them are widows/widowers. Up to 64% of participants had no or primary education. Farmers represent the largest occupation (53, 36%), followed by housewife (36, 25%), staff/civil servants (30, 21%), retired staff (19, 13%) and seller (8, 5%). The majority (112, 74%) of the patients are covered by a health insurance with 58 (52%) of them under HEF coverage and 53 (47%) under the national social security fund (NSSF). The table below provides further demographic information of the patients selected for the survey.

Demographic profile	Number (%)
Gender <ul style="list-style-type: none">• Male• Female• Unknown	59 (39%) 92 (61%)
Family status <ul style="list-style-type: none">• Married• Divorced• Single	122 (80%) 30 (20%)
Education <ul style="list-style-type: none">• No education• Primary education• Junior high school• High school• University• Other education	33 (22%) 64 (42%) 30 (20%) 8 (5%) 15 (10%) 1 (1%)
Occupation	

<ul style="list-style-type: none"> • Farmer • Staff • Housewife • Seller • Retired staff • Other 	<p>53 (35%)</p> <p>30 (20%)</p> <p>36 (24%)</p> <p>8 (5%)</p> <p>19 (13%)</p> <p>5 (3%)</p>
<p>Tobacco use</p> <ul style="list-style-type: none"> • Current user • Ex user • Never use 	<p>38 (25%)</p> <p>48 (32%)</p> <p>65 (43%)</p>
<p>Alcohol use</p> <ul style="list-style-type: none"> • Yes • No 	<p>39 (26%)</p> <p>112 (74%)</p>
<p>Health Insurance card</p> <ul style="list-style-type: none"> • Yes • No 	<p>112 (74%)</p> <p>39 (26%)</p>
<p>History of diabetes among household member</p> <ul style="list-style-type: none"> • Yes • No • Don't know 	<p>50 (33%)</p> <p>93 (62%)</p> <p>8 (5%)</p>
<p>Eating vegetable and fruit</p> <ul style="list-style-type: none"> • Less than 3 times/week • Between 3 times and 5 times/week • More than 5 times/week 	<p>25 (17%)</p> <p>47 (31%)</p> <p>79 (52%)</p>
<p>Number of years diagnosed with diabetes</p> <ul style="list-style-type: none"> • 5 years or left • 6 – 10 years • More than 10 years 	<p>101 (67%)</p> <p>31 (21%)</p> <p>19 (13%)</p>

The majority (101, 67%) of the patients had T2DM five year or less and 50 (33%) of them had the disease 6 years or more. Fifty (33%) patients reported that they had family members who had T2DM, 93 (62%) reported that they did not have their family members have T2DM

while 8 (5%) said they did know about the T2DM in family members. The majority of the patients reported that they have other disease conditions in addition to their T2DM. Among those who have additional diseases, 108 (84%) of them had hypertension followed by cardiovascular condition (31, 24%). Regarding the number of medications, 96 (64%) of them were on two types of medication while 45 (35%) on a single medication to lower their blood sugar. The majority (121, 80%) of them reported they did not have glucometer to measure their blood glucose at home. Only 30 (20%) reported that they have blood glucose meter at home but only 20 of them used it regularly to check their blood glucose.

The majority (123, 82%) of the patients exercised. Among those who reported exercise, 97 (79%) exercised at least 5 days per week and 83 (68%) of them exercised at least 30 minutes per day. Up to 138 (94%) of the patients reported that they used life style and antidiabetic medicines to manage their T2DM. Only 7 (5%) combined lifestyle and insulins. They reported to take medicine regularly (141, 93%). The majority (107, 71%) of them reported the diabetic complications. Among those who report the diabetic complications, 40 (37%) reported only one complication, 19 (18%) reported two complications, 18 (17%) reported three complications, 19 (18%) reported four complication. The most common diabetic complications reported by the patients were increased blood sugar greater than 250 mg/dL (66, 61%), followed by sight (59, 55%) and diabetic feet (46, 43%). Almost half (65, 43%) of the patients reported that they were admitted to hospital due to diabetic complications; and the majority of them (60, 92%) were admitted to hospital three times or less.

Health related quality of life (HRQoL)

The HRQoL of life of the patients was measured using the five dimensions of the EQ-5D-5L: mobility, self-care, usual activities, pain / discomfort and anxiety /depression. Each dimension has five response levels: no problems, slight problems, moderate problems, severe problems, unable to /extreme problems. The table below presents a descriptive health profile of the T2DM patients based on the level of problem of the five dimensions.

Dimension	Mobility n (%)*	Self-care n (%)	Usual activities n (%)	Pain/ Discomfort n (%)	Anxiety / Depression n (%)
Level 1 (No problems)	111 (74%)	138 (91%)	115 (76%)	55 (36%)	55 (36%)
Level 2 (Slight problems)	19 (13%)	4 (3%)	21 (14%)	55 (36%)	43 (29%)

Level 3 (Moderate problems)	12 (8%)	5 (3%)	8 (5%)	26 (17%)	25 (17%)
Level 4 (Severe problems)	8 (5%)	2 (1%)	5 (3%)	14 (9%)	27 (18%)
Level 5 (Extreme problems/ unable to do)	1 (1%)	2 (1%)	2 (1%)	1 (1%)	1 (1%)
*Percentage is round up and down					

From the table, the majority of the patients reported 'no problem' for mobility, self-care and usual activities dimensions while many of them and report problem for pain/discomfort and anxiety/depression dimensions. It is noteworthy that up to 96 (63%) patients reported problem of pain/discomfort with 17% and 10% being moderate and severe or extreme problem. Similarly, 96 (65%) of them reported problem of anxiety/depression with almost 20% being severe or extreme problem.

Visual analogue scale (EQ VAS)

The EQ VAS is a 0 - 100 scale and it was used to allow the patients to assess their overall health on the day of questionnaire completion i.e. visit to the diabetes and hypertension clinic in the hospital. Each patient was explained how to score their general health status by using EQ VAS printed on an A4 paper. There were 151 patients who gave a self-assessment of their health based on this tool and the score data are approximately distributed based on normality test. The mean VAS score is 57 (SD=18, 95% CI: 54-60). There is no difference in the mean VAS score between male and female patients (61 vs 55). Similarly, the mean VAS scores are not significantly different between T2DM patients aged under and over 60 years (58 vs 57). But the mean VAS score of T2DM patients without additional diseases is significantly higher than those of T2DM patients with additional disease (67 vs 57; $t= 2.78$, $P=0.006$). The mean VAS scores of T2DM patients who exercise five days a week is not significantly different from those of patients who did not exercise five day a week; but the score is higher among T2DM patients who exercise at least 30 mns a day compared to the score of the patients who exercise less than 30 mns a day (61 vs 54; $t=2.09$, $P=0.039$).

Impact of COVID-19 on access to healthcare

Three items were included in the questionnaire to assess healthcare access and patients' management of their T2DM during the COVID-19 pandemic last year (2021-2022). The findings are presented in the table below:

	Manage their T2DM n (%)*	Receiving medicines for their T2DM n (%)	Visit to hospital according appointment n (%)
Level 1 (No problems)	113 (75%)	124 (82%)	120 (80%)
Level 2 (Slight problems)	22 (15%)	20 (13%)	15 (10%)
Level 3 (Moderate problems)	11 (7%)	2 (1%)	7 (5%)
Level 4 (Severe problems)	5 (3%)	5 (3%)	5 (3%)
Level 5 (Extreme problems/ unable to do)	0	0	4 (3%)

From the table, 25%, 26% and 21% of T2DM patients had problem with managing their diabetes, receiving diabetic medication and visiting the hospital, respectively, during COVID-19 pandemic while the majority of them reported no impact from COVID-19 pandemic.

Discussion

This is the first ever study in Cambodia trying to assess HRQoL of patients with T2DM in a provincial hospital in a northern province of the country. During the survey, there were approximately 350 T2DM patients who were receiving care and treatment services from diabetes and hypertension clinic in the hospital and 151 of them including 92 females were surveyed. The HRQoL of patients with T2DM is measured by five dimensions: mobility, self-care, usual physical activities, pain/discomfort and anxiety/depression. Our findings showed that the majority of patients suffer from pain/discomfort and anxiety/depression while minority of them had problem with mobility, self-care and usual activities. This is similar to other studies outside the country. A national survey in Iran to assess HRQoL in patients with T2DM reported "some or extreme problems" most frequently in pain/discomfort (69.3%) and anxiety/depression (56.6%) dimensions.¹² Pain and depression were reported to be the major complaints among the diabetic patients surveyed in Norway that involved 1,000 individuals

¹² Health related quality of life in patients with type 2 diabetes mellitus in Iran: a national survey - doi: 10.1371/journal.pone.0044526

with diabetes type 1 and 2.¹³ Pain and mobility were the most important complaints of diabetic patients reported in a study conducted with 220 patients with type 2 diabetes mellitus on the day of their visit to a hospital in Saitama Prefecture in Japan.¹⁴ Pain/discomfort was reported by 47.5% of the patients with T2DM in a study in Hong Kong, China, followed by mobility (26.4%), usual activities (26.0%), and anxiety/depression (23.5%).¹⁵ Our findings in this study are in parallel with these studies as the majority of patients were complaining from moderate to severe problems in pain/discomfort, anxiety/depression, pain and mobility dimensions.

The EQ VAS mean score in our study is 57 (SD=18, 95% CI: 54-60). The patients without additional diseases has a significant higher mean EQ VAS score than those of T2DM patients with additional disease (67 vs 57; $t= 2.78$, $P=0.006$). Similarly, a study in Birjand, Iran, reported that patients with diabetic complications such as neuropathy and nephropathy had a significantly lower EQ VAS mean score than those living without diabetic complications.¹⁶ A study in Ethiopia also reported that patients with diabetic complications had lower VAS score than individuals without complications.¹⁷ Our study did not find any significant difference in the EQ VAS score between male and female patients with T2DM. This is in contrast with other studies that found differences. A study in India reported that women scored significantly higher for EQ VAS than men while other studies reported lower EQ VAS score in female patients.

COVID-19 pandemic had an impact on some patients. A quarter of the patients had problem of managing their diabetes, 17% had problem of receiving antidiabetic medicines and 21% had problem with appointment during the COVID-19 pandemic.

¹³ Health-related quality of life in diabetes: The associations of complications with EQ-5D scores - DOI: 10.1186/1477-7525-8-18

¹⁴ Measurement of HRQL using EQ-5D in patients with type 2 diabetes mellitus in Japan - [10.1111/j.1524-4733.2006.00080.x](https://doi.org/10.1111/j.1524-4733.2006.00080.x)

¹⁵ Measurement of health-related quality of life in patients with diabetes mellitus using EQ-5D-5L in Hong Kong, China. - <https://doi.org/10.1007/s11136-020-02462-0>

¹⁶ The quality of life of the patients with diabetes type 2 using EQ-5D-5 L in Birjand - <https://doi.org/10.1186/s12955-020-1277-8>

¹⁷ Health-Related Quality of Life Using EQ-5D-3L Utility Score Among Type 2 Diabetes Patients: Experiences from Tigray Region, Northern Ethiopia - <https://doi.org/10.2147/PPA.S324586>

Conclusion

The health-related quality of life of patients living with diabetes who access to healthcare services is just above average based on their own assessment. Pain/discomfort and anxiety/depression are common complaints. COVID-19 pandemic has some impact on their healthcare access. Many patients suffer from diabetic complications.

ANNEX



**កម្រងសំណួរសម្រាប់ការសិក្សាស្រាវជ្រាវអំពីគុណភាពជីវិត
របស់អ្នកជំងឺទឹកនោមផ្អែមប្រភេទ២**

RESEARCH QUESTIONNAIRE

Health-related Quality of Life of People living with Type 2 Diabetes Mellitus

កាលបរិច្ឆេទ (Date):.....

ឈ្មោះមន្ទីរពេទ្យ (Name of Hospital):.....

ផ្នែក (Department):

អ្នកប្រមូលទិន្នន័យ (Data collector):

កម្រងសំណួរលេខ (Questionnaire Number):

Annex

ព័ត៌មានសម្រាប់សិក្ខាកាម

១. សាវតា

ជំងឺមិនឆ្លងកំពុងតែកើនឡើង និងរួមចំណែកចំនួន ៦៤% ដល់ការស្លាប់ទាំងអស់ប្រចាំឆ្នាំនៅប្រទេសកម្ពុជា។ អ្នកដែលមានជំងឺមិនឆ្លងដូចជាជំងឺទឹកនោមផ្អែមជាដើមមានការលំបាកនៅក្នុងជីវិតប្រចាំថ្ងៃរបស់ពួកគេ។ ប៉ុន្តែ ការយល់ដឹងអំពីគុណភាពជីវិតរបស់ពួកគេគឺនៅមានការខ្វះខាតនៅឡើយ។ ការសិក្សានេះគឺជាការសិក្សាលើកដំបូងដើម្បីពិនិត្យមើលនិងស្វែងយល់អំពីបញ្ហានេះ។

២. ហានិភ័យ

មិនមានហានិភ័យអ្វីឡើយក្នុងការចូលរួមនៅក្នុងការសិក្សានេះ ក្រៅពីពេលវេលាដែលអ្នកបានចំណាយចូលរួមសម្ភាសន៍ជាមួយពួកយើង។

៣. ផលប្រយោជន៍

អ្នកនឹងមិនទទួលបានថវិកាពីការចូលរួមសម្ភាសន៍នេះទេ។ ប៉ុន្តែ ចម្លើយរបស់អ្នកនឹងជួយពួកយើងឲ្យយល់បានអំពីស្ថានភាពសុខភាពរបស់អ្នក។ ការយល់ដឹងរបស់ពួកយើងនឹងនាំឲ្យមានការកែលម្អសេវាពិនិត្យនិងព្យាបាលជំងឺរបស់អ្នក ដែលនឹងផ្តល់ផលប្រយោជន៍ដល់សុខភាពរបស់អ្នកនៅពេលអនាគត។

៤. តម្លៃ

អ្នកនឹងមិនបង់ថ្លៃអ្វីទាំងអស់នៅពេលអ្នកចូលរួមក្នុងការសិក្សានេះ។

៥. ការសម្ងាត់របស់អ្នក

យើងនឹងមិនកត់ឈ្មោះរបស់អ្នកនៅលើឯកសាររបស់យើងទេ ដូច្នេះគ្មាននរណាម្នាក់អាចដឹងចម្លើយរបស់អ្នកទេ ក្រៅពីអ្នកសម្ភាសន៍។ ដូច្នេះ អត្តសញ្ញាណរបស់ត្រូវបានបិទបាំង។ ចម្លើយរបស់អ្នកនឹងត្រូវរក្សាទុកនៅក្នុងនៅទីកន្លែងមានសុវត្ថិភាព។

៦. ការប្រើប្រាស់លទ្ធផលនៃការសិក្សា

លទ្ធផលនៃការសិក្សានឹងរួមចំណែកដល់ការបង្កើតគោលនយោបាយ និងការធ្វើអន្តរាគមន៍ដើម្បីកែលម្អកម្មវិធីជំងឺមិនឆ្លងនៅក្នុងប្រទេស និងសំខាន់ជាងនេះទៀតដើម្បីធានាថាអ្នកជំងឺទឹកនោមផ្អែមអាចរស់នៅក្នុងជីវិតដែលមានគុណភាពនិងកាត់បន្ថយការឈឺចាប់ ឬការស្លាប់ដែលអាចបង្កបាន។

៧. ការឈប់ចូលរួម

ការចូលរួមក្នុងការសិក្សានេះគឺជាការស្ម័គ្រចិត្ត ហើយអ្នកអាចសម្រេចចិត្តឈប់ចូលរួមនៅពេលណាក៏បាន។ បើអ្នកមានចម្ងល់ឬសំណួរអ្វីមួយ អ្នកអាចសាកសួរអ្នកសម្របសម្រួលដែលមានវត្តមាននៅជាមួយអ្នក ឬអាចទូរស័ព្ទទៅកាន់ **វេជ្ជ. កុល ហេរ៉ូ** ជាប្រធាននាយកដ្ឋានការពារសុខភាពនៃក្រសួងសុខាភិបាល តាមទូរស័ព្ទលេខ ០១៧ ៩៩៩ ៥៨៦ ឬ បណ្ឌិត អ៊ី ឆាន់ ទូរស័ព្ទលេខ ០៩២៤២២២៥៥។

៨. តើអ្នកមានសំណួរទេ?

ANNEX

ការស្ម័គ្រចិត្តចូលរួមក្នុងការសិក្សា

នាយកដ្ឋានការពារសុខភាពនៃក្រសួងសុខាភិបាលកំពុងពង្រឹងនិងពង្រីកសេវាជំងឺទឹកនោមផ្អែមទូទាំងប្រទេស។ នាយកដ្ឋានមានគោលបំណងធ្វើឲ្យគុណភាពជីវិតរបស់អ្នកជំងឺទឹកនោមផ្អែមបានប្រសើរឡើង។

ខ្ញុំសូមបញ្ជាក់ថាខ្ញុំយល់រាល់ព័ត៌មានដែលបានបង្ហាញដល់ខ្ញុំ ហើយខ្ញុំមានឱកាសសាកសួរសំណួរ និងទទួលបានការបកស្រាយបញ្ជាក់។ ហត្ថលេខារបស់ខ្ញុំខាងក្រោមបញ្ជាក់ថាខ្ញុំយល់ព្រមចូលរួមក្នុងការឆ្លើយសំណួរនេះដោយស្ម័គ្រចិត្ត។

ឈ្មោះ និង ហត្ថលេខាអ្នកចូលរួម៖ _____

ឈ្មោះ និង ហត្ថលេខាអ្នកសម្ភាស៖ _____

កាលបរិច្ឆេទ: _____

VOLUNTEER AGREEMENT

The Department of Preventive Medicine (PMD) of the Ministry of Health is strengthening and expanding diabetes services throughout the country. PMD aims to improve quality of life of people with diabetes.

I confirm that I understand the information presented to me and that I have been given opportunities to ask questions and for clarification. My signature below confirms that I agree to participate in this survey.

Participant's Signature _____

Interviewer's name and signature _____

Date _____

ការណែនាំក្នុងការឆ្លើយសំណួរ

លោក លោកស្រីជាទីគោរពរាប់អាន!

យើងខ្ញុំទាំងអស់គ្នាជាអ្នកដឹកនាំការសិក្សានេះ សូមសម្តែងនូវអំណរគុណយ៉ាងក្រៃលែងចំពោះលោក លោកស្រីដែលបានលះបង់ពេលវេលាដ៏មានតម្លៃដើម្បីចូលរួមក្នុងការសិក្សាដ៏មានសារៈសំខាន់មួយនេះ។ ខាងក្រោមនេះគឺជា ការណែនាំអំពីរបៀបឆ្លើយសំណួរ ។

កម្រងសំណួរនេះ ចែកចេញជា៤ផ្នែកធំៗគឺផ្នែកសំណួរទូទៅ ផ្នែកស្ថានភាពជំងឺរបស់អ្នក ផ្នែកសំណួរអំពីគុណភាពជីវិតរបស់អ្នក និងផ្នែកផលប៉ះពាល់ពីជំងឺកូវីដ១៩លើស្ថានភាពជំងឺរបស់អ្នក។ សំណួរទាក់ទងនឹងគុណភាពជីវិតនីមួយៗមានចម្លើយសម្រាប់ជ្រើសរើសពី លេខ១ ដល់លេខ ៥ និងតម្រូវឱ្យជ្រើសរើសចម្លើយបានតែមួយប៉ុណ្ណោះ។ ចំណែកឯសំណួរខ្លះទៀត លោក លោកស្រីអាចជ្រើសរើសចម្លើយលើសពីមួយ។ ក្នុងករណីជ្រើសរើសយកចម្លើយណាមួយ សូមលោក លោកស្រី មេត្តាគូសរង្វង់ជុំវិញលេខរបស់ចម្លើយដែលលោក លោកស្រីជ្រើសរើស។ សូមមេត្តាពិនិត្យមើលឧទាហរណ៍ខាងក្រោម៖

ការដេករបស់អ្នកពីយប់មិញ

ការធ្វើចលនា	
១. ខ្ញុំគ្មានបញ្ហាក្នុងការដេកទេ	<input type="checkbox"/>
២. ខ្ញុំមានបញ្ហាតិចតួចក្នុងការដេក	<input checked="" type="checkbox"/>
៣. ខ្ញុំមានបញ្ហាមធ្យម/ល្មមក្នុងការដេក	<input type="checkbox"/>
៤. ខ្ញុំមានបញ្ហាធ្ងន់ធ្ងរក្នុងការដេក	<input type="checkbox"/>
៥. ខ្ញុំមិនអាចដេកទេ	<input type="checkbox"/>

រយៈពេលសរុបក្នុងការឆ្លើយសំណួរទាំងអស់គឺប្រហែល ១៥-២០នាទី។ ដើម្បីឱ្យការសិក្សានេះទទួលបានលទ្ធផលដែលមានគុណភាព សូមមេត្តាលោក លោកស្រីឆ្លើយឱ្យបានគ្រប់សំណួរ ទៅតាមការយល់ឃើញផ្ទាល់ខ្លួន។ ចម្លើយរបស់លោក លោកស្រីគ្មាននរណាម្នាក់ដឹងទេ ក្រៅតែពីខ្ញុំជាអ្នកសម្ភាសន៍។

សូមលោក លោកស្រីមេត្តាទទួលនូវការគោរពដ៏ខ្ពង់ខ្ពស់អំពីយើងខ្ញុំ។



- (១៨) តើអ្នកលេប ឬចាក់ថ្នាំទៀងទាត់ទេ? ១. បាទ/ចាស ២. ទេ
- (១៩) តើអ្នកធ្លាប់មានជំងឺផ្សេងៗណាមួយបណ្តាលមកពីជំងឺទឹកនោមផ្អែមរបស់អ្នកឬទេ?
 - ១. ជំងឺបាតភ្នែក
 - ២. លើសជាតិស្ករក្នុងឈាម(លើស 250mg/dl)
 - ៣. ជំងឺសសៃប្រាសាទបណ្តាលមកពីជំងឺទឹកនោមផ្អែម
 - ៤. ជំងឺបេះដូង សសៃឈាម
 - ៥. ជំងឺជើងបង្ករដោយជំងឺទឹកនោមផ្អែម
 - ៦. ជំងឺគ្រុធនោម
 - ៧. ចុះជាតិស្ករក្នុងឈាមជ្រុល (តិចជាង 70mg/dl)
 - ៨. ជំងឺសសៃឈាមខ្យល់
- (២០) តើអ្នកធ្លាប់ ចូលសម្រាកមន្ទីរពេទ្យដោយសារផលវិបាកជំងឺទឹកនោមផ្អែមឬទេ?
 - ១. បាទ/ចាស ២. ទេ
- (២១) បើបាទ/ចាស តើអ្នកធ្លាប់ចូលប៉ុន្មានដងមកហើយ?.....ដង

ផ្នែកទី ៣

កម្រងសំណួរអំពីសុខភាព
កំណែជាភាសាខ្មែរសម្រាប់ប្រទេសកម្ពុជា
(Khmer version for Cambodia)
កំណែសម្រាប់ការសួរដោយអ្នកសម្ភាសន៍

កំណត់ចំណាំសម្រាប់អ្នកសម្ភាសន៍៖ នោះបើមានការអនុញ្ញាតឱ្យអ្នកសម្ភាសន៍និយាយតាមបែបផ្ទាល់ លំខ្លួនរបស់ពួកគេក៏ដោយ អ្នកសម្ភាសន៍គួរតែប្រើប្រាស់យោងទៅតាមពាក្យពេជ្រ ឬឃ្លានៃការណែនាំរបស់ កម្រងសំណួរឱ្យបានដិតដល់តាមដែលអាចធ្វើទៅបាន។ ក្នុងករណីប្រព័ន្ធពណ័នា EQ-5D-5L នៅទំព័រទី 2 នៃកម្រងសំណួរ អ្នកសម្ភាសន៍ត្រូវយោងទៅតាមពាក្យ ឬឃ្លាឱ្យបានជាក់លាក់។

បើសិនជាអ្នកឆ្លើយមានការពិបាកក្នុងការជ្រើសរើសចម្លើយ ឬសុំការបំភ្លឺបន្ថែម អ្នកសម្ភាសន៍គួរតែអាន សំណួរឡើងវិញដោយមិនប្តូរពាក្យ ហើយស្នើអ្នកឆ្លើយឱ្យឆ្លើយតាមរបៀបមួយដែលប្រហាក់ប្រហែលនឹង គំនិតរបស់គាត់ អំពីសុខភាពរបស់គាត់នាពេលបច្ចុប្បន្ននេះ។

ការណែនាំ
 (កំណត់ចំណាំសម្រាប់អ្នកសម្ភាសន៍៖ សូមអានចំណុចខាងក្រោមនេះទៅកាន់អ្នកឆ្លើយ។)
យើងកំពុងព្យាយាមស្វែងយល់ថា តើអ្នកគិតយ៉ាងណាដែរចំពោះសុខភាពរបស់អ្នក។ ខ្ញុំនឹងពន្យល់ពីអ្វី ដែលត្រូវធ្វើ នៅពេលយើងចាប់ផ្តើម ប៉ុន្តែសូមបង្អាក់ខ្ញុំ បើសិនអ្នកមិនយល់អ្វីមួយ ឬបើមានអ្វីមិនច្បាស់ សម្រាប់អ្នក។ មិនមានចម្លើយត្រូវ ឬខុសទេ។ យើងចាប់អារម្មណ៍តែលើទស្សនៈផ្ទាល់ខ្លួនរបស់អ្នក ប៉ុណ្ណោះ។

ដំបូងបំផុត ខ្ញុំនឹងអានព្យួនសំណួរមួយចំនួន។ សំណួរនីមួយៗមានជម្រើសនៃចម្លើយចំនួនប្រាំ។ សូម ប្រាប់ខ្ញុំថា តើចម្លើយមួយណាដែលពិពណ៌នាត្រូវបំផុតអំពីសុខភាពរបស់អ្នកនៅថ្ងៃនេះ។

សូមកុំជ្រើសរើសចម្លើយច្រើនជាងមួយនៅក្នុងក្រុមនៃសំណួរនីមួយៗ។

(កំណត់ចំណាំសម្រាប់អ្នកសម្ភាសន៍៖ ដំបូង សូមអានជម្រើសទាំងប្រាំសម្រាប់សំណួរនីមួយៗ។ បន្ទាប់មក សុំឱ្យអ្នកឆ្លើយជ្រើសរើសជម្រើសមួយណា ដែលត្រូវនឹងខ្លួនគាត់។ អានសំណួរ និងជម្រើសម្តងទៀត បើសិនជាចាំបាច់។ គូសសម្គាល់លើប្រអប់មួយដែលសមស្រប នៅក្រោមចំណងជើងនីមួយៗ។ អ្នកអាចនឹងត្រូវរំលឹកប្រាប់អ្នកឆ្លើយជារឿយៗថា អំឡុងពេលគឺថ្ងៃនេះ។)

ប្រព័ន្ធពិពណ៌នា EQ-5D

ដំបូង ខ្ញុំចង់សួរអ្នកអំពីលទ្ធភាពក្នុងការដើរឬផ្លាស់ទី។ តើអ្នកនឹងនិយាយថា៖

1. អ្នកគ្មានបញ្ហាចំពោះការដើរទេ?
2. អ្នកមានបញ្ហាតិចតួចក្នុងការដើរ?
3. អ្នកមានបញ្ហាក្នុងការដើរកម្រិតមធ្យម?
4. អ្នកមានបញ្ហាធ្ងន់ធ្ងរក្នុងការដើរ?
5. អ្នកដើរមិនរួចទាល់តែសោះ?

បន្ទាប់មកទៀត ខ្ញុំចង់សួរអ្នកអំពីការថែទាំខ្លួនឯង។ តើអ្នកនឹងនិយាយថា៖

1. អ្នកគ្មានបញ្ហាចំពោះការដូតទឹក ឬស្លៀកពាក់ដោយខ្លួនឯងទេ?
2. អ្នកមានបញ្ហាតិចតួចចំពោះការដូតទឹក ឬស្លៀកពាក់ដោយខ្លួនឯង?
3. អ្នកមានបញ្ហាមធ្យមចំពោះការដូតទឹក ឬស្លៀកពាក់ដោយខ្លួនឯងទេ?
4. អ្នកមានបញ្ហាធ្ងន់ធ្ងរចំពោះការដូតទឹក ឬស្លៀកពាក់ដោយខ្លួនឯង?
5. អ្នកមិនអាចសម្អាតខ្លួន ឬស្លៀកពាក់ដោយខ្លួនឯងបានទេ?

បន្ទាប់មកទៀត ខ្ញុំចង់សួរអ្នកអំពី សកម្មភាពធម្មតា ឧទាហរណ៍៖ ការងារ ការសិក្សា ការងារផ្ទះ គ្រួសារ ឬការលំហែ។ តើអ្នកនឹងនិយាយថា៖

1. អ្នកគ្មានបញ្ហាក្នុងការធ្វើសកម្មភាពធម្មតារបស់អ្នកទេ?
2. អ្នកមានបញ្ហាបន្តិចបន្តួចក្នុងការធ្វើសកម្មភាពធម្មតារបស់អ្នក?
3. អ្នកមានបញ្ហាកម្រិតមធ្យមក្នុងការធ្វើសកម្មភាពធម្មតារបស់អ្នក?
4. អ្នកមានបញ្ហាធ្ងន់ធ្ងរក្នុងការធ្វើសកម្មភាពធម្មតារបស់អ្នក?
5. អ្នកមិនអាចធ្វើសកម្មភាពធម្មតារបស់អ្នកបាន ទាល់តែសោះ?

បន្ទាប់មកទៀត ខ្ញុំចង់សួរអ្នកអំពី ការឈឺចាប់ / ភាពមិនស្រួលក្នុងខ្លួន។ តើអ្នកនឹងនិយាយថា៖

1. អ្នកគ្មានការឈឺចាប់ ឬមិនស្រួលក្នុងខ្លួនទេ?
2. អ្នកមានការឈឺចាប់ ឬមិនស្រួលក្នុងខ្លួនតិចតួច?
3. អ្នកមានការឈឺចាប់ ឬមិនស្រួលក្នុងខ្លួនកម្រិតមធ្យម?
4. អ្នកមានការឈឺចាប់ ឬមិនស្រួលក្នុងខ្លួនធ្ងន់ធ្ងរ?
5. អ្នកមានការឈឺចាប់ ឬមិនស្រួលក្នុងខ្លួនធ្ងន់ធ្ងរយ៉ាងខ្លាំង?

ជាចុងក្រោយ ខ្ញុំចង់សួរអ្នកអំពីជំងឺខ្លាញ់ខ្លួនអន្តរៈអន្តេង / ជំងឺធ្លាក់ទឹកចិត្ត។ តើអ្នកនឹងនិយាយថា៖

1. អ្នកគ្មានជំងឺខ្លាញ់ខ្លួនអន្តរៈអន្តេង ឬគ្មានជំងឺធ្លាក់ទឹកចិត្តទេ?
2. អ្នកមានជំងឺខ្លាញ់ខ្លួនអន្តរៈអន្តេង ឬមានជំងឺធ្លាក់ទឹកចិត្តតិចតួច?
3. អ្នកមានជំងឺខ្លាញ់ខ្លួនអន្តរៈអន្តេង ឬមានជំងឺធ្លាក់ទឹកចិត្តកម្រិតមធ្យម?
4. អ្នកមានជំងឺខ្លាញ់ខ្លួនអន្តរៈអន្តេង ឬមានជំងឺធ្លាក់ទឹកចិត្តធ្ងន់ធ្ងរ?
5. អ្នកមានជំងឺខ្លាញ់ខ្លួនអន្តរៈអន្តេងឬមានជំងឺធ្លាក់ទឹកចិត្ត ធ្ងន់ធ្ងរខ្លាំងណាស់?

សុខភាពដែល
អ្នកគិតថាល្អ
បំផុត

EQ-5D VAS

- ឥឡូវនេះ ខ្ញុំចង់ឱ្យអ្នកនិយាយថា សុខភាពរបស់អ្នកថ្ងៃនេះ ល្អ ឬ មិនល្អកម្រិតណា។
- ខ្ញុំចង់ឱ្យអ្នកស្រមៃគិតពីបន្ទាត់បញ្ឈរដែលមានពីលេខ 0 ទៅ 100។ (កំណត់ចំណាំសម្រាប់អ្នកសម្ភាសន៍៖ បើសិនជាអ្នកធ្វើការសម្ភាសន៍ទល់មុខគ្នា សូមបង្ហាញអ្នកឆ្លើយនូវបន្ទាត់ VAS។)
- **100 នៅផ្នែកខាងលើនៃបន្ទាត់មានន័យថាសុខភាពដែលអ្នកគិតថាល្អបំផុត។**
0 នៅខាងក្រោមបន្ទាត់មានន័យថាសុខភាពដែលអ្នកគិតថាអន់បំផុត។
- ឥឡូវនេះ ខ្ញុំចង់ឱ្យអ្នកប្រាប់ខ្ញុំពីចំណុចនៅលើបន្ទាត់នេះ ដែលអ្នកគិតថាសុខភាពរបស់អ្នកនៅថ្ងៃនេះស្ថិតនៅ។ (កំណត់ចំណាំសម្រាប់អ្នកសម្ភាសន៍៖ សូមកូសសម្គាល់លើបន្ទាត់ នៅចំណុចដែលបង្ហាញពីសុខភាពរបស់អ្នកឆ្លើយតបថ្ងៃនេះ។ ឥឡូវនេះ សូមសរសេរលេខដែលអ្នកបានកូសសម្គាល់នៅលើបន្ទាត់ក្នុងប្រអប់ខាងក្រោម។)

សុខភាពរបស់អ្នកឆ្លើយតបនៅថ្ងៃនេះ =

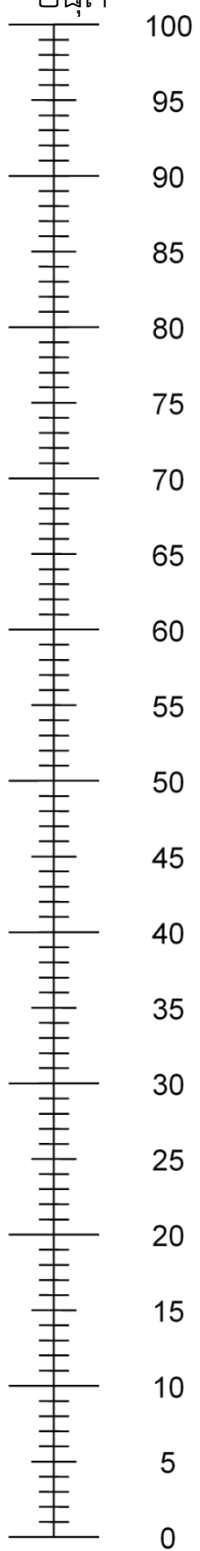
សូមអរគុណសម្រាប់ការចំណាយពេលឆ្លើយសំណួរទាំងនេះ។

ផលប៉ះពាល់របស់កូវីដ ១៩
IMPACT OF COVID-19

ផ្នែកទី ៤

សូមជ្រើសរើសយកប្រអប់មួយដែលស្របនឹងការយល់ឃើញរបស់អ្នកទាក់ទងនឹងផលប៉ះពាល់របស់ជំងឺ កូវីដ១៩ លើសុខភាពរបស់អ្នក

ការគ្រប់គ្រងជំងឺទឹកនោមផ្អែម		
ខ្ញុំគ្មានបញ្ហា ទេ	<input type="checkbox"/> ១	សុខភាពដែល
ខ្ញុំមានបញ្ហាកម្រិតតិចតួច	<input type="checkbox"/> ២	អ្នកគិតថាអន់
ខ្ញុំមានបញ្ហាកម្រិតមធ្យម	<input type="checkbox"/> ៣	បំផុត



ខ្ញុំមានបញ្ហាកម្រិតធ្ងន់ធ្ងរ	<input type="checkbox"/> ៤
ខ្ញុំមិនអាចគ្រប់គ្រងជំងឺទឹកនោមផ្អែមរបស់ខ្ញុំបានទេ	<input type="checkbox"/> ៥
ការទទួលបានថ្នាំព្យាបាលសម្រាប់ព្យាបាលជំងឺទឹកនោមផ្អែម	
ខ្ញុំគ្មានបញ្ហាទេ	<input type="checkbox"/> ១
ខ្ញុំមានបញ្ហាកម្រិតតិចតួច	<input type="checkbox"/> ២
ខ្ញុំមានបញ្ហាកម្រិតមធ្យម	<input type="checkbox"/> ៣
ខ្ញុំមានបញ្ហាកម្រិតធ្ងន់ធ្ងរ	<input type="checkbox"/> ៤
ខ្ញុំមិនបានទទួលថ្នាំសម្រាប់ព្យាបាលជំងឺទឹកនោមផ្អែមរបស់ខ្ញុំទេ	<input type="checkbox"/> ៥
ការទៅមន្ទីរពេទ្យតាមការណាត់ក្នុងពេលផ្ទះជំងឺកូវីដខ្លាំង	
ខ្ញុំគ្មានបញ្ហាទេ	<input type="checkbox"/> ១
ខ្ញុំមានបញ្ហាកម្រិតតិចតួច	<input type="checkbox"/> ២
ខ្ញុំមានបញ្ហាកម្រិតមធ្យម	<input type="checkbox"/> ៣
ខ្ញុំមានបញ្ហាកម្រិតធ្ងន់ធ្ងរ	<input type="checkbox"/> ៤
ខ្ញុំមិនបានទៅមន្ទីរពេទ្យទេ	<input type="checkbox"/> ៥