

Diabetes Prevention Project Madi 2018



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Jysk landsbyudvikling i Nepal

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Introduction

The Diabetes Prevention Project Madi is an ongoing collaboration between the Danish non-governmental organization, *Jysk landsbyudvikling i Nepal*, and the local health post in Ayodhyapuri in Madi Municipality in Chitwan District of Nepal. The Diabetes Prevention Project Madi is aimed at improving the diabetes prevention in Madi Municipality. The project was initiated in 2018.

The initial step of the project; The Diabetes Prevention Project 2018, was to map the health situation regarding health promotion and prevention concerning diabetes among the citizens in Madi Municipality through interviews with citizens and meetings with health authorities.

Data was collected in November 2018 by Karin Espinosa, who is a physician, and Gitte Sofie Jakobsen, who holds a master in Public Health. This report states the volunteer work on the project.

Background

Type 2 diabetes, which once was thought to be a health issue in developed countries, now shows to be a significantly rising problem in developing countries. In Nepal, the prevalence of type 2 diabetes is estimated to range between 6.3 and 8.5% (1). Urbanization leading to lifestyle changes, less physical activity, and inappropriate diet with large intake of calories (mainly in form of carbohydrates) in combination with lack of knowledge and poor focus on prevention makes type 2 diabetes a growing burden in the Nepal as for the Nepalese health care system.

Shiva Subedi, the municipality office representative in Madi Municipality (former head of the health post in Ayodhyapuri) expressed his wish to *Jysk landsbyudvikling i Nepal*, to help bringing type 2 diabetes into focus in Madi Municipality. For this new collaboration, the two partners formulated a letter of intent specifying the project elements (view appendix 1). The main objective of the project was to make a small survey, including interviews with citizens and health professionals and authorities in Madi and compile recommendations on further cooperation between *Jysk landsbyudvikling i Nepal* and the health post as on how to initiate or improve prevention of type 2 diabetes in Madi. The investigation focused on the latter and thus, secondary objectives were formulated as stated in the following.

Objectives

The primary purpose of the health survey was to compile recommendations on how to initiate or improve the prevention of type 2 diabetes in Madi Municipality. To do so the following objectives were formulated:

1. To investigate if health organizations and professionals in Madi focus on preventing type 2 diabetes, if any prevention on type 2 diabetes is present, and if so, how type 2 diabetes is prevented in Madi Municipality.
2. To investigate health authorities and health professionals' estimation of the extension and severity of type 2 diabetes in Madi Municipality, as well as their suggestions on how to initiate or improve prevention of type 2 diabetes.
3. To investigate citizens' knowledge on health regarding lifestyle and type 2 diabetes, including risk factors, the disease itself and knowledge gaps related hereto.
4. To investigate where citizens seek information and help regarding their health, symptoms, and illness to find out where and how the diabetes prevention or an intervention should take place in order to be most appropriate and effective.



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Type 2 Diabetes

Short description of type 2 diabetes

Diabetes is a disease, that occurs when the blood sugar (glucose) level is too high. Glucose is the main energy source for the cells. Glucose from food get into the cells with assistance from insulin, that is a hormone produced by the pancreas. When the body fails to produce enough insulin or does not use it appropriately, glucose stays in the blood and cannot reach the cells. This leads to elevated blood sugar. Over time, high blood sugar can cause health problems like cardio-vascular diseases (i.e. hypertension or stroke) kidney disease, eye, dental, and foot problems, and nerve damage (2,3).

Risk factors

The risk factors for type 2 diabetes are typically divided into non-modifiable and modifiable. The non-modifiable factors are not possible to change by the individual, whereas the modifiable risk factors can be adjusted according to diet, physical activity etc. The individual can therefore influence some of the risk factors and thus, lower the risk of developing type 2 diabetes. The most common known risk factors are listed below.

Non-modifiable

- Ethnicity
- Age 45 or older
- Family history of diabetes

Modifiable

- Overweight and obesity
- Physical inactivity
- Unhealthy diet
- Other health problems such as high blood pressure, heart disease, or stroke

Thus, the individual can influence his or her risk of diabetes by reducing the modifiable risk factors according to the following:

- Holding standard weight and BMI below 23 kg/m² (4)
- Being physically active as for instance walking and biking every day (5, 6, 7)
- Eating a healthy diet including wholegrain, solid amounts of vegetables, and little amounts of sugar and fat e.g. by following the 'healthy eating plate' model, that recommends that vegetables constitute half of the plate, one fourth of whole grains and healthy proteins on the final fourth (8)
- Abstaining from smoking and minimize the use of an indoor fire when cooking (7)

By following the above mentioned advice, the individual will also reduce the risk of others health problems as elevated blood pressure, elevated cholesterol, COPD, etc.



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Methods

The survey comprises interviews with citizens in Madi and interviews/meetings with health professionals and authorities in Madi-8 and Basantapur.

Interviews with citizens

Data was collected through semi-structured (focus) group interviews with 1-3 respondents. The duration of each interview was approximately 40 to 75 minutes. Present at the interviews were the two researchers (educated in public health and a physician, respectively) representing the Danish organization, *Jysk landsbyudvikling i Nepal*, and a Nepalese health worker who assisted in translating to and from English and Nepali.

The respondents were recruited either randomly at the health post in Ayodhyapuri (visitors at the health post, bypassing citizens, and citizens living close by the health post) or with the help from an FCHV, whom recruited respondents in an area situated 45-60 minutes' walk from the health post (Ward 8).

The interviews took place either in the office at health post or outside citizens' houses.

Some interviews were recorded on camera with the acceptance of the respondents.

Interviews/meetings with health professionals and authorities

Separate meetings were held with Shiva Subedi, the municipality office representative (former head of health post) and Krishna Raj Adhikari, chairman of Ward 8.

Separate interviews were conducted with health post personnel (including the present head of health post), Female Community Health Volunteers (FCHVs), and health professionals at Basantapur Hospital.

All meetings and interviews took place at the health post in Madi, except for the meeting with the chairman, which was at the ward office. The meeting with the health professionals at Basantapur Hospital took place at the hospital.

The interview guides for the interviews with the health post personnel and hospital personnel appear in appendix 3 and 4, respectively.



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Results

The results are listed as according to the four objectives as stated in the introduction.

1. Prevention of Type 2 Diabetes in Madi

Objective: To investigate if health organizations and professionals in Madi focus on preventing type 2 diabetes, if any prevention on type 2 diabetes is present, and if so, how type 2 diabetes is prevented in Madi Municipality.

According to the interviewed health authorities and health professionals, no health promotion or prevention programs regarding diabetes or other lifestyle related diseases/non-communicable diseases (NCDs) exist in Madi. The respondents were not aware about any planned intervention or awareness programs for the near future nor for Madi or for the rest of Nepal.

However, Ayodhyapuri health post organized in 2017 a health event for the citizens in Madi focusing on lifestyle related diseases such as hypertension, diabetes, cancer, and heart diseases. The event took place at the governmental school in Kharkatta. Personnel at the health post estimated, that 3-400 citizens from Madi were attending the event that lasted approximately 2 hours. The event was initiated and funded by the municipality office. Since the health post in Ayodhyapuri has no available resources for these types of projects, external funding from sources as the municipality office or others is essential.

Physicians at Basantapur Hospital emphasized the need to focus on lifestyle related diseases in Nepal due to the rising prevalence and patient load with these types of diseases.

2. Health authorities and health professionals

Objective: To investigate health authorities and health professionals' estimation of the extension and severity of type 2 diabetes in Madi Municipality, as well as their suggestions on how to initiate or improve prevention of type 2 diabetes.

Health post personnel

At the health post in Ayodhyapuri, the main focus is still communicable diseases. The health post personnel seemed to be aware of the rising problem of diabetes, since they considered diabetes as being "highly prevalent". Unfortunately, patients can only get their blood sugar level measured against a fee at the health post. This might lead some persons in high risk of diabetes not to get their blood sugar tested. Thus, the health post personnel suggested that the blood sugar test should be free of cost. Patients with an increased blood sugar level are referred to the hospital in Basantapur or Bharatpur. It is not known whether patients in pre-diabetic condition or people at high risk of diabetes, but with a normal level of blood sugar get any counseling or any follow up, if necessary, at the health post.

FCHVs

The FCHVs receive 15 days of education before starting their voluntary work and one yearly complementary education day. The education focus on pregnancy and mother and child health. Thus, the FCHVs have no focus on lifestyle related diseases. They reported having poor or inexistent knowledge on lifestyle related diseases in general and thus, diabetes.

FCHVs are in frequent contact with most of the citizens in Madi and especially citizens from remote and/or deprived areas. They collaborate with health post and the hospital when people should be gathered for a health event and the like. Some citizens use the FCHVs as source of information or counseling, when sick.



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Hospital personnel

The hospital personnel are aware of the importance of the rising problem of lifestyle related diseases in Nepal, especially regarding hypertension and diabetes. The physicians estimated that lifestyle related diseases constitute approximately 50% of all consultations and the patient load is increasing. They experience citizens having misconceptions about diabetes and fixed opinions on the causes and treatment of diabetes. According to the physicians, the citizens in Madi are more concerned with being treated for type 2 diabetes than caring for preventing it since diabetes often is considered as an “invisible” disease. Allegedly, many citizens believe that type 2 diabetes can be treated with medication only and do not believe in nor understand the necessity of lifestyle changes both in regard to prevention and treatment.

One physician considered lifestyle related diseases as being “like an iceberg where we only see the top”. Due to the great patient burden, the physicians experienced lack of time for patient counseling regarding diabetes during consultations and therefore no time to break down the misconceptions.

The physicians considered lack of knowledge regarding diabetes as one of the most important factors to the rising diabetes prevalence. Therefore, their recommendations primarily focused on information to citizens, e.g. through awareness programs. Such programs could include education of the younger generation at school or a larger group of citizens at community level and moreover, written information in form of documents or pamphlets to citizens. After introducing such programs, a screening program might be relevant.

What is also relevant, is that it seems there is great variation in education and knowledge on diabetes among health professionals and health persons.

Brief sum up

Education considering lifestyle related diseases and below here, diabetes, varies among the health care professionals in Madi. Among the health post personnel and the FCHVs, it seems that supplemental education in lifestyle related diseases and maybe also consultation on this topic for the health post personnel, is essential in order to give them the opportunity to take part in preventing diabetes.

3. Interviewed citizens’ knowledge on health regarding lifestyle and diabetes

Objective: To investigate citizens’ knowledge on health regarding lifestyle and type 2 diabetes, including risk factors, the disease itself and knowledge gaps related hereto.

Ten interviews were conducted with 24 respondents; 17 females and 7 males altogether.

The main themes investigated in the interviews with Madi citizens were lifestyle, knowledge on diabetes and risk factors, and sources to information and help regarding health and illness (view appendix 2). The themes and appearing subthemes are described below in this and the following section, respectively.

Lifestyle

When questioned about the meaning/understanding of what healthy lifestyle is, nearly half the respondents mentioned organic and clean food and hygiene (11 respondents), while some mentioned fulfillment of basic needs and safe life (5 respondents). Few mentioned morning walks (4 respondents) while none mentioned the importance of the type of diet and other types of physical activity. In the following, the results from the interviews with citizens regarding their lifestyle are described.



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Physical activity

- Occupation: Farming appeared to be the primary occupation for 6 of the respondents, while 8 of the respondents were helping to harvest during the season (varying from 3 to 6 months). Farming included working in the field, harvesting, taking care of animals, grass cutting, and was described as hard physical activity often leading to sweating and thus, was estimated as physical activity of moderate to high intensity. Half of the respondents appeared to hold a job with activities of low intensity (e.g. school teacher, bus driver etc.).
- Walking: Several respondents mentioned walking as having an impact on health (9 respondents). However, only 3 respondents reported to walk several times a week for 30 minutes per day or more, either as a 'morning walk' or walking to the bus. These walks were evaluated as activity of moderate intensity. 6 respondents reported to walk short distances during the day e.g. to visit neighbors, accounting for activity of low intensity. One respondent mentioned that he would not walk more than one kilometer since it would seem like he is poor. One respondent reported to bike 30 minutes per day.
- Gardening: Nearly all respondents reported to have a kitchen garden (22 respondents). Several respondents further reported to work in the kitchen garden most days. Gardening was evaluated as a low intensity activity.

WHO recommends adults to be physically active for at least 150 minutes of moderate intensity or activity of high intensity for at least 75 minutes every week (5, 6). The researchers estimated that 10 of the respondents were physically active as corresponding to WHO's recommendations.

Diet

- Dal bhat: Nearly all the respondents reported to eat dal bhat (the Nepalese national dish) twice a day with portions consisting of 50% rice or more. 18 respondents reported to eat "big" portions. 8 respondents reported to eat one or two smaller meals in addition to the two daily dal bhat meals, typically consisting of deep-fried food, popcorn or other snacks.
- Tea with sugar: 22 respondents reported to drink at least one cup of tea with sugar daily. Hence, 6 respondents drink one cup a day, while 16 respondents drink at least two cups of tea with sugar per day. The amount of sugar added to the tea seems to vary.

There is no dietary guideline for Nepal, nevertheless there is an existing dietary guideline for Asians proclaiming that the daily diet should include a variety of foods, including plenty of vegetables and fruits, whole grain cereals, and nuts, among others. Furthermore, these guidelines recommend minimizing intake of sugar, especially in drinks (8). An article published by Kathmandu University Medical Journal recommends eating a healthy diet including wholegrain, solid amounts of vegetables, and little amounts of sugar and fat e.g. by following the 'healthy eating plate' model, that recommends that vegetables constitute half of the plate, one fourth of whole grains and healthy proteins on the final fourth (9). None of the respondents reported a such daily intake of vegetables and fruits or including whole grain foods in their diets. Moreover, most of the respondents seem to exceed the recommended amount of sugar intake.

Knowledge on diabetes and risk factors

The respondents were asked about their knowledge regarding type 2 diabetes. All respondents had heard the word "diabetes", but only one respondent reported to know what diabetes implies. This respondent described diabetes as being a disease with "sugar excess in the blood". No respondent was able to mention risk factors.



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Brief sum up

Physical activity and diet appeared to have a significant impact on the respondents' health. Common to all respondents, was the intake of large meals at least twice a day consisting of approximately 50% rice, and daily intake of tea with sugar. More than 50% of all respondents seemingly hold a sedentary lifestyle. However, 25% were considered as having an occupation of high or moderate physical activity while 16% walked approximately 30 min daily. The combination of two large daily meals with carbohydrate constituting the majority of the plate combined with low physical activity for most of the respondents increases the risk of overweight and thus, the risk of developing type 2 diabetes. Furthermore, there is a lack of knowledge when it comes to healthy lifestyle.

4. Sources to information and help regarding health and illness

Objective: To investigate where citizens seek information and help regarding their health, symptoms, and illness to find out where and how the diabetes prevention or an intervention should take place in order to be most appropriate and effective.

Sources to information

The main sources of information reported by the respondents were:

- Health post: 14 respondents reported to consult personnel at the health post for information on health. These respondents expressed to feel the guidance at health post was sufficient and likewise seemed to have trust in their competencies regarding health.
- Female Community Health Volunteers (FCHVs): 3 respondents reported to talk to an FCHV, living nearby their houses, when feeling sick or having symptoms. These respondents usually consulted an FCHVs when the FCHV visited the area about twice a month. They reported that the FCHV often suggested them to consult the health post or a physician. 8 other respondents reported to sometimes consult to the FCHVs about health, but for these respondents the FCHVs were not the primary source to health information and help.
- Family and friends: 14 respondents reported to talk to family or friends about health sometimes or often. Whereas some respondents reported to talk about health in general and not necessarily personal health problems, others reported to discuss personal health problems.
- Mothers' groups: 4 respondents reported to discuss health and problems related to health in the mothers' groups.

Sources to help

The main sources to help when feeling sick or having symptoms reported by the respondents were:

- Health Post: 14 respondents reported to visit health post as their first choice. For all these respondents, health post could be reached by walking in less than 45 minutes.
- Hospital: 4 respondents reported to go to the hospital as a first choice. Three of these respondents lived nearby the hospital, whereas the last respondents held a health insurance and therefore consulted hospital first.

Brief sum up

Distance to the possible sources of information and help was highly significant. For most respondents, the main source of information regarding disease and health as well as help and consultation when feeling sick was health post. Family and friends also seem to be an important source to information.



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Recommendations

The purpose of this survey was, through interviews with citizens and health personnel, to formulate recommendations useful for preventing type 2 diabetes in Madi. For now, the primary focus is prevention. Later, a screening program could be of interest.

Recommendations to Madi Municipality

According to the findings of the present survey, three initiatives are recommended to Madi Municipality. The recommendations are prioritized in order of importance. The first recommendation is assessed as being the most essential and effective initiative at this point. To have sufficient impact, all the listed recommendations should be initiated as soon as possible.

1. The health post staff should receive specific education in diabetes; below here on risk factors, cause of disease, symptoms, secondary complications, and consequences of the disease. The education could be managed by doctors at Basantapur Hospital or volunteers from *Jysk landsbyudvikling i Nepal*. Regarding prevention, the staff should also acquire knowledge on how to live and eat healthy (healthy lifestyle).

In order to prevent diabetes, the health post staff should communicate to patients and visitors at the health post. The health post staff should inform citizens about diabetes and how to live healthy. Moreover, the health post staff could also participate in mother's group's meetings two or more times, initially to inform about diabetes and how to live healthy. Here, the staff should make a presentation at the meeting on diabetes and how to live healthy in order to educate the citizens.

2. Madi Municipality should organize health events for citizens with the purpose of delivering information on how to live and eat healthy (healthy lifestyle) along with information on diabetes and risk factors to the citizens (view page 3). Furthermore, health events should focus on delivering health messages according to physical activity and diet as described in the following.

Recommendations on physical activity

It should be recommended to do physical activity of moderate intensity minimum 30 minutes a day and a least ten minutes at a time five days a week; i.e. activity that makes one sweat a little and makes one a little short of breath.

Examples on activities:

- Morning walk
- Walking to school/work
- Biking to school/work (not motorbike)
- Walking to visit friends/buy groceries
- Playing badminton
- Working in the field for at least 30 minutes
- High activity gardening for at least 30 minutes

Recommendations on diet

- Eat less white rice and if possible, replace 50 grams of white rice per day by wholegrain, as for example brown rice, whole wheat (atta), or millet
- Eat more vegetables
- Eat wholegrain
- Minimize the intake of sugar and drink maximum one cup of tea with sugar per day



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3. Compile a pamphlet with minimal written information easy to read and with many illustrations to citizens in risk of diabetes and patients with diabetes. The pamphlets should be handed out to citizens after consultation on health post or hospital. Here, it is important that the health staff explain how to read the pamphlet and inform about how to involve family members in new habits.

Content in the pamphlet could include:

- Risk factors of diabetes
- How to live healthy and below here, what is a healthy diet, what does it mean to be physically active, and how much is enough
- Cause of disease and what can be done to prevent diabetes
- Possible consequences of diabetes

Recommendations to Jysk landsbyudvikling i Nepal

According to the findings of the present survey, the following three initiatives are recommended for *Jysk landsbyudvikling i Nepal*. Here, the recommendations are also prioritized in the same manner as for Madi Municipality. To have sufficient impact all the listed recommendations should be initiated as soon as possible.

1. Educate health post staff in diabetes and healthy lifestyle. The education could be managed by volunteers through two (or four) workshops as listed below. The volunteers should have relevant expertise as for example dieticians, nurses, doctors, or hold an education in public health. Themes for the workshops could be:
 1. Diabetes: introducing risk factors, cause of disease, symptoms, secondary complications, and consequences (personal, economic, and health related)
 2. How to prevent diabetes: what is a healthy diet and the importance of physical activity (activities that makes one sweat)
2. Consider how to educate and activate FCHVs in preventing diabetes and promoting a healthy lifestyle. The FCHVs are in contact with citizens all over Madi Municipality on a regular basis and can reach the remote areas and less mobile and more vulnerable citizens. However, it should be noted, that the FCHVs are volunteering and therefore they do not get any form of payment for their work. They explained that their workload is already heavy. To give them extra training and responsibility could be a sensitive subject. Thus, if the organization (or municipality) would consider extra training for the FCHVs they should take this matter into consideration. It should be considered collaborate with Per Kallestrup or Bishal Gyawali from Aarhus University on this matter.
3. Consider how to educate children in how to live a healthy and active life. For example, this could be done by arranging some workshops with school teachers focusing on how to introduce the children to what a healthy lifestyle implies. This could involve active playing (e.g. introducing football or badminton), food pyramid guidance, and introducing the 'Y plate' etc.



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Conclusion

The aim of The Diabetes Prevention Project 2018 was to compile a list of recommendations to Madi Municipality and *Jysk landsbyudvikling i Nepal* in order to initiate or improve prevention of type 2 diabetes in Madi. In this study, 24 citizens in Madi district were interviewed and meetings were held with municipality officers, FCHVs, health post personnel, and health care professionals at Basantapur hospital.

This small survey underlined the rising problem of type 2 diabetes and other lifestyle related diseases, the lack of focus and prevention regarding type 2 diabetes as well as a lack of knowledge about healthy lifestyle and lifestyle related diseases among citizens.

In order to initiate prevention of type 2 diabetes in Madi, six recommendations were compiled. Different sites could be suitable for intervening, however, the health post in Ayodhyapuri might be the most favorable place to start since most citizens consult here and moreover, it seems that the workload and time at the disposal of the health care personnel to consult patients is not a barrier at the health post.

As a first step, the above-mentioned recommendations are focusing on education and information regarding lifestyle and lifestyle related diseases especially regarding type 2 diabetes. The recommendations are targeting citizens and taught by health care professionals. Health care professionals seem to have some knowledge about healthy lifestyle and lifestyle related disease, but this knowledge seem to be very varied. Therefore, it is essential that health care personnel receive supplemental education focusing on type 2 diabetes. Initiating an initiative focusing on health care professionals' knowledge and communication to patients should also benefit the citizens. However, information to healthy citizens as well as citizens in risk of diabetes is also highly important in order to prevent diabetes and other lifestyle related diseases.

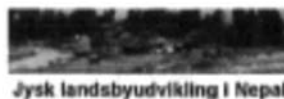
The following phase could include an intervention and/or a screening program. This would, however, imply extensive economic resources and manpower.

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Appendix 1: Letter of Intent

Ayodhyapuri Health Post
Madi -8



Ayodhyapuri Health Post (AHP)
Jysk Village Development in Madi, Health Team 8/2018 (JYSK)

LETTER OF INTENT (update)

Intended period of stay (working days) in Madi:

Team 1.1: Sunday 21st October – Friday 9th November 2018 (2 pax)

Team 1.2: Sunday 21st October – Wednesday 21st November 2018 (2 pax)

Coordinator Susanne Rystok: Sunday 21st October – Friday 26th October 2018

Team 2: Tuesday 13th November – Wednesday 21st November 2018 (2 pax)

Intended further stay in Bharatpur and Kathmandu of Team 2: 5 days (22-26.11.2018)

Team 1 – Projects:

- 1st stage of branding project: Initial awareness training of staff and FCHV focusing on internal and external impression of your health post, hygiene routines and communication with the patients.
- Conduct of the International Handwashing Day. JYSK will provide soap for the participants.
- Follow-up on the implementation of the Madi Dry Ecosan Toilet
- Continuation of the 'knitting project' introducing a team of 'super knitters'. JYSK will provide yarn and knitting pins.
- Providing of 180 pair of glasses with authorised documentation (power +1 to +3) for needy women, mainly elder knitters.
- Providing 2-3 health videos for presentation in the Waiting Hall of AHP.
- Prolaps and incontinence prevention training of staff, FCHV and female villagers will be introduced for the first time.
- Workshops focusing on the good life of the women and healthy childhood:
 - 2 days (11am-4 pm) workshop (Basic health care 1 & 2) in AHP
- together with all 11 FCHV + 1 staff of AHP
 - 2x (11 FCHV @ 400 NRP+1 staff @ 1000 NRP) = 10,800 NRP (+ tea/biscuit or fruit)
 - 4 local workshops (11am-4pm) together with 2 FCHV + 1 staff of AHP
 - 4x (2 FCHV @ 400 NRP, 1 staff @ 1000 NRP = 7,200 NRP) (+ tea/biscuit or fruit)These local workshops will be followed by at least 4 visits to local families (free of cost for JYSK)
 - 1 local workshop (11am-4pm) together with 3 FCHV + 1 staff of AHP
 - 3 FCHV @ 400 NRP, 1 staff @ 1000 NRP = 2,200 NRP (+1xtea/biscuit)This local workshop will be followed by at least 3 visits by FCHV and Danish health volunteers to local families (free of cost for JYSK)

Team 2 – Projects:

- In cooperation with Shiva Subedi, Team 2 will make a survey on the health situation in Madi focusing on Type 2 Diabetes and other lifestyle diseases.
- After agreement with Team 2, Shiva Subedi will facilitate/arrange relevant visits and meetings with health authorities in Nepal.
- Team 2 will participate in some the above-mentioned workshops and at least 3-4 of the family visits.
- Recommendations for the forward-looking effort on prevention and treatment of lifestyle diseases.

It is the intention of JYSK to provide at least 1 Nepalese assistant (health professionals) for each of the three teams.

Date and signature

13/9-2018

Date

Shiva Subedi (AHP)

Lone Petersen (JYSK)

Appendix 2: Interview guide for interviews with citizens

Method: Semi-structured (focus) group interviews

Duration: Approximately 60-90 minutes (including interpretation)

Setting: Health post in Madi/hospital in Basantapur

Participants: Karin and Gitte (interviewers), interpreter (Divya), and citizens

Introduction:

We are Karin Espinosa (physician) and Gitte Sofie Jakobsen (public health worker) and we come from Denmark.

We are happy to be here and pleased that you will help us.

We are working with the Health Post in Madi under Shiva Subedi, to investigate health in Madi. To do so we are interested in learning about how people live in Nepal, what you know about health and how you act around it. Therefore, we have some questions we would like to ask you.

It is important to us, that you tell us your opinion – there are no right or wrong answers.

Some questions we will ask to you one by one and others will lead to a discussion.

We would like to record the interview (using a video camera/Dictaphone), so that we later on will remember what we talked about today. Is that okay? Finally, the interview is voluntary.

Themes	Interview Questions
Introduction	Can you tell us your name, age, and what you do?
Lifestyle	Can you shortly describe a normal day in your life?
ONE BY ONE	- Do you have a job/go to school?
	- What is your job?
	- How do you get to school/work?
	- Do you walk/bike or do anything that makes you sweat during the day?
	- Do you have any spare time during the day/week?
	- What do you do in your spare time?
	- How many meals do you eat a day and what would you normally eat?
	- Dal bhat: How big a portion do you eat?
	- How many/much vegetables and rice do you eat?
	- Which vegetables do you eat?
- How often do you eat snacks, sweets, and drink soda?	
- Do you smoke? Do you cook indoors over a fire place?	
- How often do you drink alcohol? How much do you drink?	
DISCUSSION	- Can you describe to us in your own words: What does it mean to you to be/to live healthy?
(SMILEYS)	- Would you say you are healthy?
ONE BY ONE	- Do you want to change anything in your life related to health?
	- Have you ever tried to change anything in your life related to health? (If so, please describe)

Sources to information and help regarding health and perceptions	<p>If you feel sick, have symptoms, or feel bad, who would you talk to/go to? (Health post, doctor, FCHV, healer, or family/friends)</p> <p>Do you talk about health with your family or friends? What do you talk about?</p>
Knowledge on diabetes and risk factors DISCUSSION	<p>Diabetes is a disease. Have you heard about diabetes? What do you know about it?</p> <ul style="list-style-type: none"> - Do you know how a person gets diabetes? - How do you know about diabetes? - Do you know anybody with diabetes? - How did he/she get diabetes? - Do you know if he/she gets medicine? - Do you know if he/she did anything to be more healthy? - Do you know what can happen if you get diabetes?

Appendix 3: Interview guide for meeting with health post personnel

Method: Semi-structured interviews/conversations

Duration: Approximately 60 minutes

Setting: At the office of the health authority

Participants: Karin and Gitte (interviewers), (interpreter (Divya)), and the health authority persons

Introduction:

We are Karin Espinosa (physician) and Gitte Sofie Jakobsen (educated in public health) and we come from Denmark.

We represent the Danish association; *Jysk landsbyudvikling i Nepal*, that collaborates with the Health Post in Madi under Shiva Subedi, to make a small survey on the health situation in Madi focusing on diabetes. In order to do that, we are interested in learning about the health system, the structural health prevention and promotion regarding diabetes in Madi as well as Nepalese lifestyle and health related knowledge and perceptions.

It is important to us, that you tell us what you know and your opinion – there are no right or wrong answers.

Themes	Interview Questions (Health Post in Madi)
Introduction	Can you tell us about your profession and institution?
Knowledge on diabetes and prevalence	<p>Can you tell us about the health status among the citizens in Madi?</p> <p>Have you heard about diabetes? What do you know about it?</p> <ul style="list-style-type: none"> - Do you know how a person gets diabetes? - Have you any idea about how big a problem diabetes is in Madi? - What do you think/know is the problem? - How have you worked with diabetes earlier on and now, in Madi?
Health prevention/promotion	<p>In your health post, do you focus on preventing or treating diabetes? (compared to hypertension, heart diseases, COPD etc.)?</p> <p>If so...</p> <ul style="list-style-type: none"> - Can you please describe how you try to prevent diabetes? - Do you talk to patients about lifestyle? What do you talk about? - What would you do, if you diagnose a person with diabetes? <p>Do you cooperate with the FCHVs and how?</p> <p>Do you cooperate with the hospital in Basantapur and how?</p> <p>In your opinion, what should be done to prevent diabetes, now and in the future?</p> <p>Thank you for your time.</p>

Appendix 4: Interview guide for meeting with health personnel at Basantapur Hospital

Method: Semi-structured interviews/conversations

Duration: Approximately 60 minutes

Setting: At the office of the health authority

Participants: Karin and Gitte (interviewers), (interpreter (Divya)), Shiva Subedi, and health personnel

Introduction:

We are Karin Espinosa (physician) and Gitte Sofie Jakobsen (educated in public health) and we come from Denmark.

We represent the Danish association; *Jysk landsbyudvikling i Nepal*, that collaborates with the Health Post in Madi under Shiva Subedi, to make a small survey on the health situation in Madi focusing on diabetes. In order to do that, we are interested in learning about the health system, the structural health prevention and promotion regarding diabetes in Madi as well as Nepalese lifestyle and health related knowledge and perceptions.

We already decided the methods for the survey in cooperation with Lone and the organization and Shiva Subedi. We are in the initial phase of the study and we will be staying in Madi until November 24th to collect data for the survey.

We hope you can help us come a little closer to the core of this health issue. We have some questions we would like to ask you.

Themes	Interview Questions (Hospital in Basantapur)
Introduction	Can you tell us about your profession and institution?
Diabetes prevalence and prevention	<p>Have you any idea about how big a problem diabetes is in Madi?</p> <ul style="list-style-type: none"> - What do you think/know is the problem? - Have you earlier worked on preventing diabetes in Madi? - What do you do now? - And what do you expect to do in the future? <p>Regarding diabetes, who should have the responsibility for...</p> <ul style="list-style-type: none"> - Prevention - Diagnostics - Treatment <p>Where does the financial responsibility lie?</p>
Diabetes/health prevention/promotion	<p>Is there any Nepalese health prevention/promotion programmes regarding diabetes?</p> <p>If so...</p> <ul style="list-style-type: none"> - Can you describe them to us? - Can you tell us if the government/politicians focus on prevention of diabetes or other lifestyle related diseases? - Have you considered to do anything similar in Madi? <p>In your opinion, what should be done to prevent diabetes, now and in the future?</p> <p>Thank you for your time.</p>