“I Do Diet”: The Construction of a Cambodian ‘Diabetic Patient’ and the Management of Diabetes in Cambodia

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Figure 1: Peer mentor checking the blood glucose level of a patient

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Abstract

Affecting over 220 million people, diabetes has become a significant threat to the livelihoods of many. In order to address management practices for this chronic disease, there is a need to understand the cultural constructions of diabetes throughout developed and developing countries. In this work, I consider the Cambodian production of a diabetic patient and how the tools utilized by these patients construct the disease. In order to do this, ethnographic fieldwork was carried out with a Non-Governmental Organization based in Phnom Penh looking at the use of technology and self-management routines and how this shaped diabetes for impoverished Cambodians. While strategies for diabetes management appear to be crude and lacking in knowledge and resources, I will demonstrate that impoverished Cambodians are more than capable of dealing with their disease.

Acknowledgements

This fieldwork experience would not be possible without the help of many important people in my life. First off I would like to thank my family for supporting my endeavors to the United Kingdom to pursue my Medical Anthropology career, as well as funding some of the expenses for my time spent in Cambodia. Without their support I could never have completed the M.Sc. program at Brunel, let alone travel to Cambodia for fieldwork. Secondly, I would like to thank Brunel University and its faculty for the amazing experience and the chance to learn so much about such an amazing field. My time spent at Brunel was priceless and I feel I have gained so much as a person and anthropologist. Also, thanks to Brunel for the opportunity to work in Cambodia for my dissertation, something I am sure I would never have been able to do had I stayed in Canada. A very big thanks also goes to my supervisor Dr. Will Rollason, whom religiously edited my drafts from afar and was invaluable while writing this dissertation as well as guiding me during my time spent in Cambodia. And finally, but no less important, thanks goes to the Cambodian people and the NGO I spent time with while I was there. I would never have been able to learn so much about the Cambodian culture and diabetes had I not had support from the NGO and the people who I spent time with. I will always be indebted to the amazing people I met in Cambodia for putting up with me and making this experience truly unforgettable.

Introduction

The World Health Organization states that as a chronic disease, diabetes affects more than 220 millions people worldwide, 80% of deaths occurring in low and middle-income countries (http://www.who.int/mediacentre/factsheets/fs312/en/). Diabetes, a non-communicable disease, cannot be cured but can be managed through practicing good eating habits, exercising regularly, and taking insulin or other medication if it is required. There are two types of diabetes that people are diagnosed with, and the onset of the disease can occur differently depending on what type a person has. It can develop in children or adolescents for those with Type 1, or in adulthood for those with Type 2.

Diabetes is when the body cannot properly utilize the food you eat (Canadian Diabetes Association, 1994: 4). During digestion, the food that is eaten is broken down and turned into glucose (sugar) and used in the body's cells as energy for the body to function (Canadian Diabetes Association, 1994: 4). Insulin, a hormone that is produced in the pancreas, allows the glucose from food to enter the cells (Canadian Diabetes Association, 1994: 4). However, if a person has a dysfunctional pancreas that cannot make insulin, or not a sufficient amount, glucose will not be accepted into the cells and will stay in the blood and not be used as energy for everyday tasks (Canadian Diabetes Association, 1994: 4). The glucose levels in a person's blood will fluctuate whenever food is eaten and that person is diagnosed with diabetes. In order to live a healthy life, patients with diabetes ought to understand they will always have to be watchful of glucose levels.

At this time, it should be explained that throughout this work my use of Canadian diabetes patients, and the information referenced from Canadian organizations, is not to single them out from others living in what can de described as developed countries. However, in order to reveal the production of a Cambodian diabetic patient, as well as technology's role in managing diabetes in poor Cambodians, I will be using information from Canada as a foil. The reasons for this are two-fold. First, I am from Canada so it makes sense to state this as my frame of reference. And secondly, I have a member of my family who has been diabetic for six years. This has inspired me to work with diabetes for my future career, and is the main reason I chose to travel to Cambodia in order to work with diabetic patients who live in extreme forms of poverty. My knowledge, and personal experience with diabetes is invaluable as it provides a great deal of information regarding the price and type of medicine in Canada, for which it will be noted there are no references for.

Managing, and living with, diabetes creates what can be termed a 'diabetic patient'. This term can then be described as a label which has been placed upon those who have been diagnosed with the disease, and is widely recognized throughout the western world. Using Foucault's notion of the essence, defined as a label, or combination of labels, which become an identifier for an individual or group (Frank and Jones, 2003: 183), one can analyze patients with this particular disease. By being given an essence, the subject is placed into a lifestyle that comes with certain stipulations that they may choose to follow in order to embrace their ascribed identity (Frank and Jones, 2003: 182). In a similar way, diabetics are prescribed an essence, which comes with a lifetime program that they must follow in order to live a 'normal' and healthy life. The consequences of this are powerful. Once labeled as a diabetic patient, the individual in question will be judged based on their ability to follow the stipulations prescribed to them, perhaps being termed a ‘bad diabetic’ if they are non compliant.

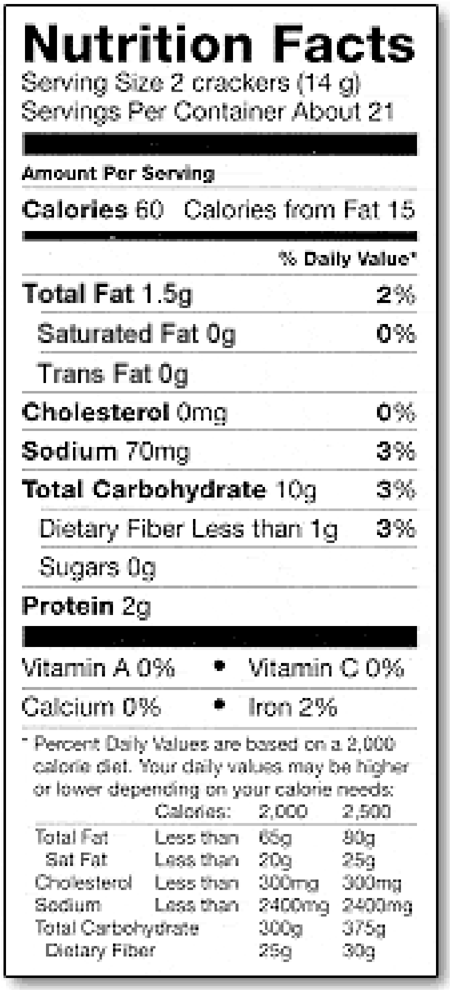
The term patient is one that will prove important for this work, as it was brought to my attention while in Cambodia that although the biomedical field acts as though patients are universally similar, in reality diabetes patients across the world are as unique as the cultures they come from. Throughout this dissertation, the concept of a diabetic patient will be discussed, using ethnographic experience and written work by anthropologist T.S. Harvey as well as Foucault in order to determine the differences and similarities between the technologies and management methods used by diabetics from different areas of the world and their effects in the production of patients of specific kinds.

Throughout this work, the management of diabetes by Cambodians through the use of technology and the relationships Cambodians have with their disease will be analyzed using the concept of Cyborg Anthropology. This construct can be described as concerned with the cultural production of human distinctiveness, studied through ethnographic studies of the relationship between humans and machines (Downey et al, 1995: 264). Looking at how individuals talk about science and technology through their personal cultural lens (Downey et al, 1995: 264), Cyborg Anthropology provides an interesting view on the construction of diabetes amongst poor Cambodians. Here one will be able to see how the difference in culture renders what are essentially the same machines (in terms of blood glucose meters or urine strips) to mean very different things. The concept of Cyborg Anthropology has proven to be very helpful as a frame of reference throughout my fieldwork.

In Canada, diabetic patients range in age from 12 to over 65, reaching 1,841,527 people in 2011 (Statistics Canada, 2011). Diabetes does not discriminate by race or gender biologically speaking and Type 1 diabetes can occur in anyone, and can be triggered by a number of things, genetics being one (http://www.diabetes.ca). Type 2 is generally caused by poor diet and lack of activity, but can also be due to other factors (http://www.diabetes.ca). While diabetes affects people irrespective of gender or race, there remains what can be termed the model, or exemplary, diabetic patient, especially in the case of Type 1 diabetes which is emphasized by the Diabetes Association of Canada due to the growing numbers of young adults being diagnosed (http://www.diabetes.ca/research/specialpopulations/).

As there are two types of diabetes, there should then be two types of diabetic patients. Type 1 diabetic patients in Canada are almost always pictured as individuals in their teens, injecting insulin via various methods. Type 2 diabetics on the other hand are usually older individuals, male or female, and tend to be on the larger side due to lack of exercise and poor diet. While some Type 2 diabetes patients can and do inject insulin, the majority of them take a variety of tablets such as Metformin (sold as Glucophage and Glumetza In Canada) to control their insulin levels (Canadian Diabetes Association, 2009/2010). When the term diabetic patient is heard, these two images are usually what has become the stereotype and visual image of the disease.

The visual image of diabetes in Canada is routed deeper into Canadian healthcare and politics and it is here that the ‘diabetic patient’ is produced. The Canadian diabetic patient is manufactured through a series of processes and is dependent upon many factors; many of which are not necessarily unique to Canada, but whose contrasts with those found in Cambodia are worth mentioning. The accessibility of health care is a crucial part of a diabetic's life as insulin and sugar monitors and other equipment required for management is very costly. Many Canadians have access to healthcare insurance supplied either through school or work which offset the large cost of drugs. In one month, a Type 1 Diabetic patient will spend around 300 – 400$ for insulin and supplies, a large portion of which will be reimbursed to those with health insurance. Secondly, supplies of insulin must be considerable enough to ensure all those in need are given enough. To run out of insulin would be deadly for an individual who requires it to live. And thirdly, the ability to choose an appropriate diet based upon knowledge of carbohydrate and caloric counts in food is invaluable for those with this illness. Most foods have labels on them with the macronutrient information supplied such as protein and carbohydrate counts which can be accessed by anyone, including diabetics so they are able to judge their insulin requirement. Given that the food one eats is labeled in such a way, it has become very transparent so one may know exactly what they are consuming at all times in order to track their food intake.



Nutrition Facts

Serving Size 2 crackers (14 g)
Servings Per Container About 21

Amount Per Serving

Calories 60 Calories from Fat 15

	% Daily Value*
Total Fat 1.5g	**2%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 70mg	**3%**
Total Carbohydrate 10g	**3%**
Dietary Fiber Less than 1g	**3%**
Sugars 0g	
Protein 2g	

Vitamin A 0% • Vitamin C 0%
Calcium 0% • Iron 2%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Figure 2: Example of a label found on most food sold in Canada.
(http://kidshealth.org/kid/stay_healthy/food/labels.html)

In Canada, one can see an availability of health coverage, specialized doctors with a great deal of knowledge of disease, magazines produced from various organizations in order to supply new information. These principal aids, along with diabetic cookbooks, which include low carbohydrate recipes and the invention of sugar replacements such as Splenda, make up the social environment that diabetics are immersed in. While this does not make the disease easy to live with and manage, it does allow for those with diabetes access to a support system where they may receive help and information in order to make their lives as effortless as possible.

Figure 3: Photo for the Canadian Juvenile Diabetes Research Foundation.

(http://www.jdrf.ca/)

Methods and Ethical Considerations

In order to look at the lives of those with diabetes in Cambodia, I spent approximately six weeks working with a Non-Governmental Organization (NGO) called MoPoTsyo in Phnom Penh. Participant observation was carried out at the main office in Phnom Penh and at various other locations throughout the city and surrounding areas. Time was also spent in the province of Takeo, about 60km away from the capital city.

While observing the interactions between patients of the organization and doctors or mentors working for the NGO, conversations between patients and members of the NGO were written down if they were in English, or translated to me, as I could not speak Khmer, the common language spoken in Cambodia. During times where diabetic patients were meeting with members of the organization, semi-structured interviews were conducted with the help of a translator hired for me by the organization. This translator served as my driver throughout the duration of my stay in order to be present as a translator wherever I went. It should be noted that excerpts from field notes are in the form they appear, as the exact wording of the interviewee was lost during translation. This poses a slight problem, as during translation the contextual meaning of certain words could have been lost. In order to combat this, extensive discussion about the Khmer versions of words such as *technology* and *carbohydrate* was done with translators and members of the organization in order to make certain that questions asked were accessible to Cambodians. Also, during times of confusion between the Khmer and the English language, or in order to understand exactly what interviewees meant by certain words, explanations were asked for which provided definitions according to the views of Cambodians.

During fieldwork in Cambodia, I was perceived very much as a wealthy outsider, being pale even by Canadian standards, which I was to learn, is highly prized in that part of the world. As many seemed uncertain of what I was there for, patients and some members of the NGO treated me as an expert in diabetes that I made clear was not true. For these reasons, peer mentors requested I paid them for taking their time to be interviewed by me. While at first it seemed unethical to me as I worried that paying informants may be incentive to lie or tell me only what they thought I wanted to hear (acknowledging that this is something to be concerned about regardless), after some thought I decided that the amount they were asking (2USD) was not too much for their time answering my questions. I do not believe the fact that I paid those whom I interviewed is a problem for my research for a number of reasons. The first is that time is very important to Cambodians. Since they work very hard for what little money they earn, any time spent talking with me was time they were not earning a salary. Secondly, by showing my appreciation through small payments, I earned the trust of a few mentors whom I acquired as key informants. This was very important to my work as I rarely saw the same patient more than once so peer mentors became the only way I could get more in-depth data.[1]

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[1] During my stay in Cambodia, I visited the homes of the peer educators every morning on rotation as each peer had a different meeting time with patients. While it is encouraged, patients may not come to the peers houses every week, and I recall only three occurrences where I saw the same patient twice. While the peer was taking measurements and talking with patients, I would observe, or speak with those waiting. After all the patients had left I would then have the opportunity to speak with the peer. Since I attempted to go every morning to a peer's house, the peers themselves became a way for me to gain more in-depth data as I could go back and ask for further explanations or find out what had happened since I had last been there. It is for this reason peers can be considered 'key informants' for my research.

Along with the payment of some of my informants, and the translation from Khmer to English, informed consent should also be addressed in this section of my work. Due to the illiteracy of many of those I spoke with, and my inability to speak or write Khmer, I chose not to get informed consent forms signed. Before each interview, my translator always asked permission to talk with patients, and they always had the option to stop answering questions if they felt uncomfortable. I actually experienced patients coming to me wanting to answer my questions and tell me about their lives so I could understand and take the information I was given home so others might understand how diabetics lived in Cambodia.

Summary of the Paper

Throughout this paper, I will demonstrate the resourcefulness of impoverished Cambodians while managing their diabetes. This will begin with a brief introduction into the NGO where I came into contact with doctors, patients, workers and peer mentors that worked together to ensure those living in poverty were given the resources they needed in order to manage their diabetes. Following this I will discuss the Cambodians themselves, with reference to how they feel about their diabetes. Peer mentors will then be introduced more thoroughly so one may understand MoPoTsyo's stance on the importance of patients having access to members of their own community for support. And technology and it's role in diabetes self-management will be discussed, explaining how patients use the technologies available in order to construct their diabetes as well as monitor their self-management practices. As diet is crucial to the management of diabetes, there will be a section discussing the role diet plays in Cambodian diabetic patient's lives; leading to the self-management practices of Cambodians with this disease. Finally, the Cambodian patient will be theoretically discussed as compared to the Canadian diabetic patient, leading to conclusions about the perceived lack of those living with diabetes in Cambodia and how in order to understand the nature of this disease in impoverished countries there needs to be more ethnographic work undertaken.

The NGO and the Cambodian People

The prevalence of diabetes is growing at an alarming rate in South-East Asia. Approximately 7% of the total population, or 58.7 million people had diabetes as of 2010 and this number is expected to rise to 8.4% in 2030 (http://www.idf.org/content/south-east-asia). In Cambodia, approximately 5% of those living in rural areas have diabetes, with the acknowledgement that more than this number do not know they have the disease, giving diabetes the name 'the silent killer' (http://www.mopotsyo.org/diabetesincambodia.html). The population of Cambodia is approximately 14, 701, 717 as of July 2011, with 1.519 million people living in the capital city of Phnom Penh in 2009 (https://www.cia.gov/library/publications/the-world-factbook/geos/cb.html). Of those who live in the Cambodia, many live in impoverished conditions and it is not uncommon to see people living and sleeping in shacks or on the streets. Due to this poverty level, and lack of government support for disease care, access to healthcare is difficult, and the country relies heavily on aid from NGO's such MoPoTsyo.

Figure 4: MoPoTsyo office in Phnom Penh

MoPoTsyo was started in 2004 by five Cambodians and a Dutch with the main goal being to provide practical aid to those suffering from diabetes (http://www.mopotsyo.org/introduction.html). Recognizing that diabetes management depends on much more than services provided by doctors and nurses, the creators of MoPoTsyo wanted to improve the access patients had to information and to facilitate self-management of the disease (van Pelt, 2011). It was with this in mind that the NGO devised a structure that allowed patients to gain access to information and become involved in the organization if they so wished. Organized in three levels, the head office, patient information centers (located at peer mentor's residences), and the poor community itself, the NGO uses top down approaches as well as integrating patients into the ranks of the organization in order to get information and help to those who desperately require it. In fact, many of the employees who work in the head office are diabetics, allowing for constant feedback to be given based on what diabetics themselves think of the program.

In order to supply medicine to those who require it, MoPoTsyo utilizes a revolving drug fund. In the beginning two pharmacies in the Phnom Penh area, one close to the office and one in Along Kangan, and later one pharmacy in the province of Takeo, were contracted to sell medicine for patients of MoPoTsyo at an agreed price which is cheaper than other pharmacies in order to stimulate registered patients to buy the organization's medicine. As of the end of 2010, MoPoTsyo reports that 17 pharmacies now sell medicine supplied to them through the NGO. The medicine that is supplied to the pharmacies is procured from various organizations throughout the world. For example insulin is supplied partly from Insulin for Life Australia, as well as Insulin for Life The Netherlands (van Pelt, 2011). The use of a revolving drug fund by the organization allows for medicines to be more efficiently distributed to patients by supplying pharmacies in areas where patients live and thus cutting down on the cost of traveling from their homes.

Along with supplying medicine to those in need, MoPoTsyo also gives patients a food pyramid poster and a self-management book to take with them. The self-management book contains all their information including their blood glucose, blood pressure, weight, Body Mass Index (BMI), and any other readings taken at peer meetings, or on their own, as well as any prescriptions they will get. This is required at all peer meetings, doctor appointments and as proof of prescription and MoPoTsyo membership at pharmacies in order to be sold the organization's medicine. The food pyramid is a guide for patients in order to assist them in choosing the proper foods for their disease. This will be discussed further in the paper.

MoPoTsyo boasts to be a unique organization in that it offers patients access to members of their community that have diabetes termed as peers. These peers are patients who have been trained to self-manage their diabetes in order to aid other patients to learn self-management skills (van Pelt, 2011). They also receive specialized training from MoPoTsyo on the biology of diabetes and practical skills consisting of how to test a patient's blood sugar, record results in the patient's self management book as well as in an NGO patient book, organize diabetes and hypertension and diabetes screening programs, organize access to medical doctors of consultations and laboratory access for more extensive testing, and educate patients on things like diet, exercise, medication and life with chronic illness. Many of those chosen as peers have had diabetes for a number of years and are able to self-manage their illness well, or have been recognized as a good candidate for the position of peer educator from the Peer Educator Manager or other members of the staff, either through excellent personal and teaching skills or as they set a good example of someone successfully living with diabetes. The use of peer mentors provides a great deal of support for those with diabetes and will be analyzed further in a later section of this work.

The patients that MoPoTsyo deals with represent a diverse group of people, some quite wealthy with good jobs, but the majority at a very low economic status. The organization deals with approximately 3252 registered patients, ranging in age from 14 to 91, the average age being 55. Of those in the slums within the city, some had various jobs and a form of income, while many were without an income at all unless it came from selling goods in the streets. In the countryside, many patients are farmers, or live with their children who own a farm. The majority of the people I spoke with were in their forties to sixties and therefore had already retired from pervious work if they had it, or were completely dependent upon children or spouses for support due to their illness or lack of employment.

The majority of the patients that came to MoPoTsyo for help were living in very poor conditions within the city, usually close to the peer's house in a visible slum. The slums where the weekly peer meetings would be held were usually in very poor areas; beside the railroad that went through the city, an area outside the city limits where people who once lived along an open sewer have been relocated; on side streets away from the river and the political and economic center of the city. While there were those who had what one could call a comfortable lifestyle (they had jobs and could afford to go to other clinics and travel to other countries for treatment if they so wished) many were part of the program because without the help from peers and the lower priced medicine they were sure they could not survive. One case describes the situation patients face while struggling to survive with a disease such as diabetes.

> *A woman in her 60's came to the peer's house in Borey Kei La today. This was the first time I had seen her even though I had been to the peer's house every Friday since I had arrived in Cambodia. She is very thin, and looks very ill. She was very quiet while she was getting her blood sugar tested. The peer suggested*

we talk to her and told us she was very sick. Since she was the last patient there, the peer, my translator and I sat around her and I asked her some basic questions with help from my translator as well as the peer. Along with diabetes she had tuberculosis, but she says that it is cured. She also has hepatitis and lung disease.

When she first had diabetes, her blood glucose was around 500 so she had to inject insulin; today it is 180 after her breakfast. The first time she went to a hospital in the city she was seriously ill and was told she must come back every month for medicine. They said it would cost her 10USD a month to get insulin and pay for a service charge, but since she is so poor they have lowered it to 5USD. However, she is formally unemployed, selling and collecting garbage in the streets to earn a bit of money and sometimes does not have the 5USD so even though she has appointments every month she cannot go. She has a daughter who also collects garbage for sale, and a son who is in the military stationed near the border who gives her money sometimes when he can but that is not often. Although she does not mind injecting insulin and is not afraid to tell people she has diabetes, she said she cannot always get the insulin if she does not have money and even if she misses one day her blood glucose will go up and she cannot walk or stand. She has heard of a poverty ID that will give her a special price for medicine and care at the hospital, but she does not think she can get one because she lives under a tree and has no address to tell the government. She is very fearful of her illnesses and wonders if her diabetes is affecting her lungs or other things.

At this point during the interview, she begins to cry. While I cannot understand her since she speaks Khmer and I only know what the translator has

> *told me she is saying, it is clear she is desperate. She tries to hide the fact that she is crying by focusing intensely on her hat in her hand. She says that her doctor is worried about her and told her she should get her whole body checked but it would cost 50USD and she cannot afford that. When I asked if there is anything she wishes she had she replies that she feels she has no hope for her diabetes...*

In order to show how patients in the countryside compare, consider this case from the countryside of Takeo Province.

K is in his 70's and has both diabetes and hypertension. He has had problems with his eyes for 10 years. But didn't recognize he had diabetes until 2007 when he was introduced to MoPoTsyo. He was screened by the peer and when he did a urine test the result was positive and it meant he had diabetes.

Since 2007 he hasn't taken any medication. He doesn't want to take any medicine but in the future he will if it is more serious. The doctor told him he can do exercise and have a good diet and that is ok.

Before he used to drink and now he stopped. Now he doesn't eat sweet fruit like mango and watermelon and he followed the food pyramid. He tries to eat a lot of green vegetables that have less sugar. He still smokes cigarettes but not much and he is trying to stop. He feels normal but sometimes when his sugar is low he feels dizy and can't walk. These kinds of symptoms only happen once in a while.

Every morning he exercises. He does house work like carrying water, and flooding the rice fields or digging. When he does not work he doesn't feel well so he tries to keep working.

He is very satisfied with MoPoTsyo and says that without them he would die because of his disease. MoPoTsyo helps him understand diabetes and how to manage his diabetes.

> *The peer in Takeo has been a peer since 2007. He says the rural areas are different and peers are busier with monitoring because they have to go to the patient's house a lot of the time. Patients live so far away from the peer's house, at least 20km, and some of them do not have transportation.*
>
> *In the rainy season, sometimes patients leave home to go to the rice fields and stay there so they cannot come to the peer's house for weekly meetings. He has to wait until they come back to see them and make sure they are ok. He finds it very hard to train rural patients because they can only come sometimes and remember what he tells them for a short time so he has to have short lessons. He tells them it is important to do exercise and have a good diet and take medicine. And they have to learn these first.*
>
> *He said he wants to keep being a peer in Takeo because the rural area is where he is from and the villagers know him and trust him. He is very happy he can help himself and the other villagers…*

These statements are not unusual from patients living with diabetes in Cambodia. There is a real sense of urgency at times when patients who live in such poverty are simply unable to afford the necessary treatment for their illness. There is little in the way of relief for diabetic patients from a disease that haunts them throughout their whole lives, and it is no surprise that the statement “I have no hope” was told over and over again to me.

Figure 5: Area near one of the peer mentor’s house, Phnom Penh

Peer Mentors

Extensive training is done in a classroom setting to ensure the peer educator is knowledgeable of the biology and physiology of diabetes and hypertension along with management of the diseases through medication, diet and exercise. For one week peer educators are housed in the main office of the NGO and taught by an employee from a series of written chapters which range from the cardiovascular system and the effect diabetes has on the body to the proper diet and need for exercise of those living with diabetes. They are monitored by the NGO to ensure they can effectively teach patients and answer questions they may have through a series of tests before they are permitted to take on an area, and also are assessed on their teaching abilities during annual patient evaluations given out that test a patient’s knowledge of their illness based on a series of questions about diabetes the peer educators should have provided answers to. If a peer educator’s patients respond knowledgeably, the peer will receive a reward for their good teaching. Alternatively, peers who are ineffective will either be replaced if another is available, or be known among the other peers as ineffective which will instill a certain amount of shame on that particular peer, hopefully inspiring them to work harder.

The organization of the Peer Educator Network at MoPoTsyo has allowed the NGO to spread its resources among five urban slums around Phnom Penh, as well as a rural area of Takeo province. As I was leaving Cambodia, work was underway to bring a peer educator to an area known as 7NG approximately 16km outside Phnom Penh, bringing a seventh area to MoPoTsyo’s resume. This network allows patients to gain access to educated people who represent the NGO in their community, and has been reported by the NGO as crucial to diabetes management in Cambodia as it leads to patients gaining self-management skills.

From an anthropological view, the Peer Educator Network utilized by MoPoTsyo allows knowledge of diabetes to be dispersed from doctors and health care professionals onto peers and then passed onto patients. This knowledge is something many of those with the disease may not have access to if they are too poor to afford medical treatment, or live far away from a clinic. However, it is not only the passing along of information which is important for the network's success. Knowledge is passed onto the patients in a trusting and secure manner by an individual they may know from their community which is quite different from a direct patient-doctor relationship. Peers use their house, or a rented one they may have moved from to hold weekly meetings with patients to measure blood pressure or blood glucose levels and talk about diet, medicine or any other questions patients may have. Through this, the peer educator becomes a trusted source of information, allowing for patients to get to know them over time and have access to someone with whom they can learn to manage their illness. On my many trips around Phnom Penh visiting the peer's houses it felt very different than from a clinic or hospital. Patients would chat with each other and the peer about work and their illness, on many occasions joking and laughing together. During visits to the district hospitals in Takeo and Phnom Penh, there was a noticeable difference than at gatherings held at peer's houses. Patients were only given a few minutes to speak with the doctors due to long lines and there was a clear difference in social status between patient and doctor, creating a power differential. Here one can see the peer educator is not perceived the same as a medical doctor, and the relationship between a patient and doctor is very different than the relationship between a diabetic peer mentor and their patient.

Peer educators are the main source of information for patients regarding their diabetes and how to properly manage their illness. By having meetings once a week to talk about diet and exercise, patients are constantly reminded of what to do in order to control their blood glucose and discuss the potential causes of their high sugar levels. One peer in particular stated that when a patient's blood glucose is high she always asks the patient what they have been eating to ensure the patient understands the connection between the food they eat and their blood sugar levels. While working with MoPoTsyo, I found that the Peer Education Network used by the NGO's may not only be useful in expanding resources to aid more people in poor conditions, but also providing a way of distributing knowledge to them. As a reference of further reading into the relationship between policy and practice in development, please see David Mosse's *Cultivating Development* (2005).

It can be conceived that MoPoTsyo's success with the PEN is due to the mutual respecting relationship patients have with the peers in their area. While all the patients I spoke to recognized that the peers were not doctors, they all said they trusted the information relayed by them and all were certain that without the weekly meetings and help from peers they would not be able to manage their illness on their own. The peer can be thought of as an intermediary between the doctors, NGO workers, and the patients; able to take the highly complicated biological and physiological information about diabetes and reproduce information the patients are able to understand.

During my stay in Cambodia, I became quite close with one of the peer mentors and visited her house every week to observe and talk with the patients who came to get their blood sugar tested. This is a brief account of her experience as a peer.

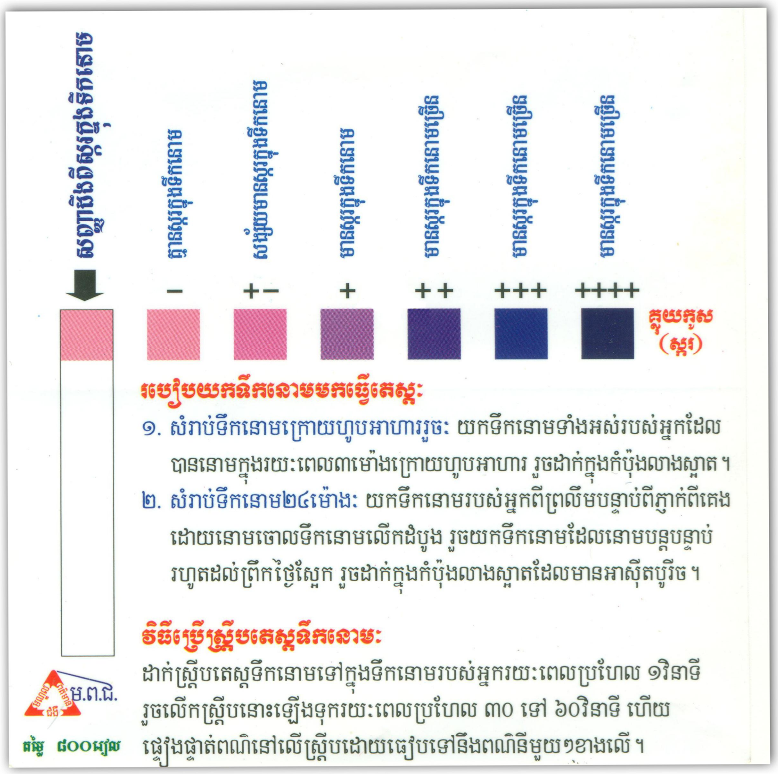
> *She has been a peer since 2007, and a diabetic patient since 2006. She became a peer because she was a good patient and could control her diabetes very well. At first she hesitated, but the old peer explained that she would get trained on how to control her diabetes from MoPoTsyo. Before she became a peer she was very thin and sick looking, and now she has gained some weight and feels better.*
>
> *She feels very proud of her patients, among 130 only 2 inject insulin. They do exercise every morning because they are near the Olympic Stadium.*
>
> *Before MoPoTsyo she was making clothes and had a bad diet and didn't do any exercise so now she makes sure to do it. Her husband is very happy that she is a peer because she feels better and learns more and he also has access to the machines so he can check his own blood glucose levels even though he is not diabetic. She is very thankful to MoPoTsyo for allowing her to become a peer and teaching her how to control her illness…*

Technology and Diabetes in Cambodia

As Cambodians do not have the access those in wealthier countries have to diabetes specialized products and medicine, their self-management strategies have to be slightly more inventive in order to achieve similar results demanded by the biomedical realm. While working with diabetic patients around Phnom Penh and Takeo, it was brought to my attention that many of the technologies used and taken for granted in Canada are treated much differently in Cambodia. Diabetics in Canada have access to a very large choice of blood glucose meters, insulin types and methods of injection, either via a ‘pen’, syringe or an insulin pump, and other technologies from which they can choose what suits them best. In Cambodia, there are very few who have the money to buy a meter, let alone choose from a variety of products. The following chapter will discuss the inventiveness and use of technology, in the form of urine strips as well as blood glucose machines, witnessed while working in Cambodia with MoPoTsyo.

The first piece of technology used by both the NGO, and by the patients themselves I became aware of is the urine strip. A fairly simple form of technology, the urine strip is used to determine the relative amount of glucose found in urine. In order to test for urine glucose, a sample of urine is collected and the strip is placed in the sample, changing color according to the relative amount of glucose present.

Urine strips have two main uses for those who are in the MoPoTsyo program. Firstly, they are used by the organization for screening purposes when they begin a program in a new area. Containers are given out for individuals to collect 24 hour urine samples and then Boric acid is placed into the containers to preserve the urine for testing. Colour changes are recorded in the patient’s self-management book to show NGO members. The use of urine strips in screening new areas is useful as it provides an inexpensive way to test a large population for potential diabetics. However, MoPoTsyo does not count the urine strip as the most accurate form of testing technology, and in order for an individual to be accepted into the program as a diabetic they must also have a blood test taken (van Pelt, 2011).



សញ្ញាដឹងពីស្ករក្នុងទឹកនោម

- – គ្មានស្ករក្នុងទឹកនោម
- +– សង្ស័យមានស្ករក្នុងទឹកនោម
- \+ មានស្ករក្នុងទឹកនោម
- ++ មានស្ករក្នុងទឹកនោមច្រើន
- +++ មានស្ករក្នុងទឹកនោមច្រើន
- ++++ មានស្ករក្នុងទឹកនោមច្រើន

គ្លុយកូស
(ស្ករ)

របៀបយកទឹកនោមមកធ្វើតេស្ត:

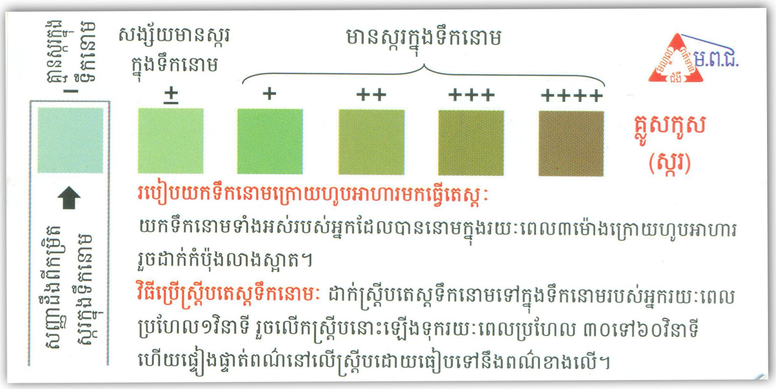
១. សំរាប់ទឹកនោមក្រោយហូបអាហាររួច: យកទឹកនោមទាំងអស់របស់អ្នកដែលបាននោមក្នុងរយៈពេល៣ម៉ោងក្រោយហូបអាហារ រួចដាក់ក្នុងកំប៉ុងលាងស្អាត។

២. សំរាប់ទឹកនោម២៤ម៉ោង: យកទឹកនោមរបស់អ្នកពីព្រលឹមបន្ទាប់ពីភ្ញាក់ពីគេង ដោយនោមចោលទឹកនោមលើកដំបូង រួចយកទឹកនោមដែលនោមបន្តបន្ទាប់ រហូតដល់ព្រឹកថ្ងៃស្អែក រួចដាក់ក្នុងកំប៉ុងលាងស្អាតដែលមានអាស៊ីតបូរិច។

វិធីប្រើស្ទ្រីបតេស្តទឹកនោម:

ដាក់ស្ទ្រីបតេស្តទឹកនោមទៅក្នុងទឹកនោមរបស់អ្នករយៈពេលប្រហែល ១វិនាទី រួចលើកស្ទ្រីបនោះឡើងទុករយៈពេលប្រហែល ៣០ ទៅ ៦០វិនាទី ហើយផ្ទៀងផ្ទាត់ពណ៌នៅលើស្ទ្រីបដោយធៀបទៅនឹងពណ៌នីមួយៗខាងលើ។

តម្លៃ ៨០០រៀល



- – គ្មានស្ករក្នុង ទឹកនោម
- ± សង្ស័យមានស្ករ ក្នុងទឹកនោម
- \+ ++ +++ ++++ មានស្ករក្នុងទឹកនោម

គ្លូសកូស
(ស្ករ)

សញ្ញាដឹងពីកម្រិត ស្ករក្នុងទឹកនោម

របៀបយកទឹកនោមក្រោយហូបអាហារមកធ្វើតេស្ត:
យកទឹកនោមទាំងអស់របស់អ្នកដែលបាននោមក្នុងរយៈពេល៣ម៉ោងក្រោយហូបអាហារ រួចដាក់កំប៉ុងលាងស្អាត។

វិធីប្រើស្ទ្រីបតេស្តទឹកនោម: ដាក់ស្ទ្រីបតេស្តទឹកនោមទៅក្នុងទឹកនោមរបស់អ្នករយៈពេលប្រហែល១វិនាទី រួចលើកស្ទ្រីបនោះឡើងទុករយៈពេលប្រហែល ៣០ទៅ៦០វិនាទី ហើយផ្ទៀងផ្ទាត់ពណ៌នៅលើស្ទ្រីបដោយធៀបទៅនឹងពណ៌ខាងលើ។

Figure 6: MoPoTsyo urine strip pages showing the color and symbols.

Patients, on the other hand, use urine strips slightly differently. They are given a free one each month, and have the option to buy more from their peer educator any time they wish for 120 Riel or 0.030 USD for one or 10 for 1200 Riel (0.30 USD). Inside their patient information books peers staple a urine strip chart which shows the different colors the strips may change to and the amount of glucose associated with each color, both in numerical form and showing -, -+, +, ++, +++ for differing levels of urine glucose. This is different from a blood glucose meter or machine for three reasons. The first is the urine strip gives a result based on the glucose levels in the urine and not the blood. This is important as it takes an amount of time for glucose levels to rise in the urine while the glucose levels in the blood can rise instantly after a meal. Secondly, the urine strips provide results in the form of a relative amount of glucose present, unlike the blood glucose machines which provide an exact number of glucose in mg/dL for those in the US (which MoPoTsyo also follows) and mmol/L for those in Canada. Lastly, there is a kidney threshold that must be accounted for which is defined as the concentration of sugar in the blood that must be reached, or exceeded, in order for sugar to be present in the urine (Mackay, 1927: 760). The threshold is dependent upon many things such as carbohydrate sensitivity and the rate of urine formation, and as such it is usually presented as a range (Mackay, 1927: 763). Due to the fact that this threshold is heavily debated, and may be very individualistic, the use of urine strips must be done with an understanding of this threshold and the discrepancies they may bring.

These urine strips are the simplest form of glucose testing technology available to Cambodians. It requires only a sample of urine taken at any time of the day, and the result chart in order to assess the relative amount of glucose in the urine. But what is more important about this form of diabetes technology is not necessarily the result of the strips, but their ability to give patients the confidence and the power to manage and control their illness.

Perhaps not as accurate as the Blood Glucose machines, or blood tests done in the laboratory at the MoPoTsyo office as they do not give an exact reading of the sugar levels in the body, the urine strips present a convenient and relatively cheap way to monitor glucose whenever one wishes. Patients have responded to questions regarding the urine strips as believing them to be reliable and useful as they can tell when their sugar is higher than normal. In one case, a man I interviewed told me that urine strips ‘keep him out of the hospital’, allowing him to test on his own terms, and avoiding having to spend more money on hospital visits.

While the use of urine strips remains problematic due to discrepancies on urine glucose threshold and results may vary from one patient to another, it becomes clear that this form of technology is invaluable tool to Cambodians. By providing visual proof of glucose levels, urine strips construct diabetes for Cambodians, manifesting their essence as diabetics and allowing them to say ‘I have diabetes because my glucose levels are high’. Here we begin to see the representation of a Cambodian diabetic patient, defined and created through the visualization of glucose levels from simple technologies such as the urine strip. The representation of diabetes in this way is important to Cambodians as it not only constitutes a disease which is not visible (one cannot simply look at someone and say ‘they are diabetic’), but also give them feedback on their management, stating whether they are within the normal glucose limits. Bringing this back to Foucault’s use of ‘technologies of the self’ and essences, the urine strip brings the concept of a diabetic patient into being and then stipulates how they must act and what they must do in order to live with their label. Displaying the level of glucose in the blood in a way accessible to those outside the biomedical realm, urine strips act as normalizing agents which measure the abilities of patients in terms of their glucose control (Foucault, 1977: 183).

When a diabetic's glucose levels rise, it is in response to something, and the visualization of the rise in glucose in the body may give patients clues to what is causing this rise in glucose levels. The use of a urine strips as evidence can be demonstrated in the case of a female patient who received a 'negative' result (meaning no colour change) and was worried that the strip was inaccurate (please see below for a portion of the interview). She was told by her peer educator that if her sugar is below 200 mg/dL it will result in a negative or low reading on the strip, therefore her sugar was not very high so she need not worry. However, the peer in Borei Kei La told me when a patient receives a high urine glucose result, peers always ask what they have been eating and remind them how to eat properly for their disease and to be more active in order to control their sugar levels and bring them down to a normal level. From this, it becomes clear that urine strips pose as a self-regulating tool used by Cambodians to prove to themselves that they do in fact have diabetes, as well as a method of learning how to keep sugar levels in the normal range.

In order to explicate the usefulness of urine strips, I will discuss the patient mentioned above who was worried about getting 'negative' results and tested the urine strips she used to ensure she was getting an accurate result.

> *While at the peer's house in Boeung Kak, I asked a patient that has had diabetes since 2005 if she used urine strips and she replied that she does use*

> *them, always before she eats, and whenever she does she gets a negative result. The last time she tested was before breakfast and then she kept collecting her urine for 24 hours to test again and the result was still negative. She told me her blood glucose levels were usually never higher than 200 when she comes to the peers house, although when I looked at her book there was one that was 314.*
>
> *I asked her what she thought the negative result meant, and she said that the negative result makes her wonder to ask the peer why the result is always negative. She told me she understood that a +++ result meant the sugar was high but didn't understand the negative result. When she asked the peer she was told that if her sugar was below 200 that the result would be negative, or no colour change.*
>
> *She then explained that she used a urine strip about 2-3 hours after lunch to see what it would show and the result was still negative so she tried drinking a lemon juice and sugar mix she bought from the market and used another one and it gave a + result so she knows it works sometimes. I asked her if she thought it was as reliable as the Blood Glucose machine and she said sometimes she worries that it doesn't work, and regardless of always getting a negative result from the urine strip she still always does her diet and exercise and believes how her body feels as well as the strips to control her diabetes…*

In particular, urine strips can be a self-management method and self-regulation tool when no other option seems to be available to patients. An area 16km outside Phnom Penh known as 7NG provides an example of how important even the simplest form of technology is to those who do not have access to medical help. The people of

7NG have been relocated from their homes near the Boeung Kak Lake to an area outside of the city for redevelopment purposes in 2009 and have suffered greatly since then. Many had made comments that they just recently received clean running water, and it has been much harder to get to work for those that have employment in the city. Those who did visit the peer educator near the lake no longer have access to one at all unless they travel to the city on the days they are available. Here it becomes clear that the ability to manage one's own diabetes is crucial for those living in poor areas of the city. Of those interviewed in 7NG, many wish they had access to a peer educator, and may hopefully be getting one soon if the NGO can find a suitable candidate, but since they do not they have stated they can manage their illness on their own through the use of urine strips they buy when they do go to the peer's house.

One case was that of an older woman who moved into the area in September of 2009. She had been going to the peer regularly before but since she was forced to stop once she had moved until January of 2011. During this time she was unable to get medicine as the only MoPoTsyo pharmacy was in the city, and she became seriously ill, unable to move half her body. She was forced to go to the hospital where they gave her some medicine. Since she has become stronger, she makes an effort to travel into Phnom Penh once a month to see the peer and get her medicine. Currently, these trips into the peer's house are the only times she can test her blood sugar or blood pressure, although she has used urine strips frequently to help manage her sugar levels. She stated that her urine glucose readings are always negative, which she is quite happy about and confirms this when she goes to the peer's house and finds her blood sugar readings are also normal.

Urine strips, as stated above, are one form of technology that is used by Cambodians in order to self-manage and give evidence to their diabetes. Providing a way for patients to establish new relations to their bodies and visualize their illness, urine strips construct and reinforce diabetes for Cambodians. The construction of diabetes is done by this type of technology when it is used as a screening tool for discovering new diabetics. Moreover, the production of diabetes in this way confers upon people a new social status as a diabetic, an essence given to those who display the biological symptoms of a disease. This status is in turn produced by the testing technology. While an individual may suspect that something is wrong, they are not considered diabetic until proven by a high glucose result – done first by the urine test followed by a blood glucose machine if they are available. It is this point that makes urine strips so crucial to many of those with diabetes in Cambodia. While they may not be considered the most accurate piece of technology for determining glucose levels in the body, they provide a clinical diagnosis for high glucose and produce ‘diabetic patients’ with the capacity to know their disease and act in relation to it.

The blood glucose meter or machine is also very important to Cambodians with diabetes. Much more costly than the urine strips, the blood glucose meter can measure the glucose levels in the blood at any given time and give a number reading in mg/dL or mmol/L depending on where it is from. MoPoTsyo provides meters to all the peers to use on the patients that visit, charging a small fee for a test in order to provide money for batteries needed to power the machines. The number given from the machine is recorded in patient’s self-management book so they can track their sugar levels. This form of technology is preferred by many MoPoTsyo patients because they are able to see exactly what their blood glucose number is at that moment. While many of them could not explain to me what this specific number meant in terms of the biology behind diabetes, I was told if they knew the normal glucose levels in the body they would know if their number was outside the normal levels, showing the need for the technology to determine the disease itself, as well as how well a patient manages their disease. For those I spoke with it only mattered that they knew their blood glucose number and if that was normal or not.

The Cambodian need for normal glucose levels can be described using Foucault's theories of punishment. In *Discipline and Punishment,* Foucault (1977: 179, 184) discusses non-conformance as being punishable as well as normalization being a great instrument of power. Foucault uses examples such as a pupil committing an offence by their inability to carry out the tasks given to them (1977: 179). Thus, there is a normalization that must be enforced, both artificially and naturally (Foucault, 1977: 179). Glucose measuring technologies can act as normalizing factors here, giving proof of patient's glucose control efforts and creating the 'order that the disciplinary punishments must enforce' (Foucault, 1977: 179, 183). While patients do not see the technologies they use in this way, it becomes apparent that Foucault's theory of normalizing is happening when patients use phrases such as 'my glucose is ok because it is in the range'.

Although many patients prefer the meter to other testing methods because of its accuracy, there are some issues with it that need to be addressed. The first is cost. The meters are quite expensive and therefore only those who can afford the meter, along with the strips and needles, which need to be changed after each test, are able to have them in poor countries like Cambodia. Almost all the patients whom I spoke with said they would like to have their own meter as it would save them from having to travel to the peer’s house or to the office, but unfortunately they are just too expensive. Secondly, the use of the meter is more complicated than that of the urine strips and the results are slightly more complicated as well. The meter requires an amount of blood, taken using a needle on a specialized strip which will be able to detect how much sugar is present. Once the test is done the meter will give a number using English numerals as a result. However, many of those who are patients of MoPoTsyo cannot read and cannot understand what the number is or what it means. For this reason, peers usually use the meters on patients and write down their number and either show them or tell them the number so they know if it is normal or not.

The Sweet, the Green, and the In-between

Urine strips and blood glucose meters in Cambodia have become a way for diabetic patients to monitor their glucose levels and as a way of measuring the success of their daily management methods, diet being perhaps the most important. In any diabetic’s life, diet is key to controlling glucose levels as insulin is either insufficient, or simply not made. And it should be no surprise that in Cambodia diet is as important. During conversations with patients at peer meetings as well as at the office, the statement that ‘medicine can only help 50% and the other 50% is diet and exercise’. Due to the fact that many patients can’t afford medicine, diet and exercise are the only options they have for managing their diabetes.

As mentioned previously, each patient is given a poster of a food pyramid when they are registered with MoPoTsyo. The food pyramid is designed specifically for diabetes patients, and symbolizing the red, yellow and green colours of a stop-light in order to show illiterate patients what they can and cannot eat. The pyramid has three tiers which represent good food, defined as foods that raise sugar slowly, food that should only be eaten on occasion, raising sugar levels moderately, and food that should not be eaten for diabetics as it raises sugar levels quickly. In each category of the pyramid, there are pictures of the different types of food so those who cannot read are able to understand the poster.

In the green and biggest part of the pyramid are vegetables like cucumbers, sour melons, and beans along with fruits that can be used as vegetables, such as green bananas, or apples. It also contains meats like chicken, pork and beef along with a variety of nuts, milk and vegetable oil, all of which the patients are told they can eat as much as they like. In the second part are some sweeter fruits like dragon fruit and potatoes, yams, corn and beer, along with ‘brown or whole grain rice’ – it should be noted that ‘brown rice’ in khmer is called ankor samroub as opposed to the ankor samret which is white rice. When I asked what the difference was, something similar to brown rice was described although my translator was unsure of this[2]. Patients are told to be careful how much of these they eat as they do contain sugar. In the top of the pyramid are foods that are deemed unhealthy for diabetes patients and they should not eat them. These include pineapple, watermelon, sweet mango, sugar cane, durian fruit, cookies, bread and white rice. Interestingly, cigarettes are also found in the red section.

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[2] In Cambodia, there are not the same differences in rice as in Canada, or presumably many western countries. While we have brown, whole grain, red, converted and many other kinds of rice there is only ankor samroub and ankor samret. For this reason I am still a bit unsure of what ankor samroub exactly is, except to note it is not white rice.

នេះគឺជាតារាងម្ហូបពីរ៉ាមីតសំរាប់អ្នកជំងឺទឹកនោមផ្អែមដែលមានគ្លុយកូស(ស្ករ)ខ្ពស់ពេក ប៉ុន្តែពុំមានកើតជំងឺ
ផ្សេងទៀតទេ ដូចជាកូលេស្តេរ៉ុលខ្ពស់ជាដើម ។ អ្នកត្រូវដឹងកំរិតគ្លុយកូសរបស់អ្នកដោយខ្លួនឯង និងគ្រប់គ្រង
អោយបានល្អ ។ ការហូបអាហារណាដែលមានសុខភាពល្អ ព្រមទាំងធ្វើលំហាត់ប្រាណ និងប្រើថ្នាំអោយបានត្រឹ
ត្រូវតាមវេជ្ជបញ្ជារបស់គ្រូពេទ្យនោះនឹងអាចធ្វើអោយកំរិតគ្លុយកូសឬស្កររបស់អ្នកមានលំនឹងបានល្អឡើងវិញ

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Figure 7: Food Pyramid for Diabetes Patients

This pyramid is probably one of the most important pieces of information that will be given to the patients and can be found everywhere patients meet and interact with members of the NGO, such as the peer houses and the office. It is through knowledge gained from this pyramid that patients are able to ‘do the diet’ necessary to manage their illness. However, the pyramid, although perhaps simple for those with an education to follow, has some problems associated with it. The first is the location of rice relative to the other foods. It is acknowledged that white rice has a very high carbohydrate content, and while it should be avoided or consumption regulated quite strictly, this may be a problem for those living in Cambodia and it becomes quite problematic to explain to Cambodians that they must restrict their intake of white rice when quite simply the country depends so heavily on its production. As in many Asian countries, rice is a staple food and can be found everywhere, and also is one of the largest crops grown in the country. Rice is readily available in the country and it is the main crop grown during the rainy season with about 65% of the population occupied as rice farmers (Mund, 2011: 11). Those in the countryside I stayed with usually tried to use food grown or raised on their land in order to save money (with the exception of beef as killing a cow produces more meat than can be eaten by one family and thus seems a waste when they can be used for work).

As a way to combat this reliance on rice for food, the consumption of whole grain, or white rice with the husk retained to varying degrees – ankor somroub – is encouraged by doctors and peer educators in order to ensure diabetics are eating properly for their disease. While it is acknowledged that ankor somroub raises sugar levels slower than ankor samret due to its lower glycemic index (http://www.glycemicindex.com/), it is not quite accepted yet in Cambodian society. It is a bit more expensive than ankor samret which poses a problem for those living in poverty. It has also been described to me as dirty and not good because it does not look the same and is a bit tougher than white rice, and since it does not have this white colour, it is seen as dirty and not viewed as having the same social and therefore nutritional value. The symbolism of ankor samret is very important for Cambodians and many as of yet have not accepted the ankor somroub as an acceptable alternative to a food which may be bad for their diabetes.

The symbolism of food can also be seen in other examples which highly affect how Cambodians chose to eat for their diabetic diet. One thing repeated by almost all those interviewed was the need to stay away from sweet fruit or food which was defined as containing a higher amount of sugar and therefore not ideal for a diabetes patient. Sweet food is described by patients as fruit like sweet mango, watermelon or green melons, pineapple, ripe or yellow bananas, and may even be used to depict potatoes, yams and rice since patients are aware that both of those contain a lot of sugar. It becomes evident that taste is very important in distinguishing food that is suitable for diabetics from food which is not. And one of the best ways to determine if a food is good for diabetes patients is to taste it and determine the sweetness of the food.

An interesting example, which had been frequently described to me, was the difference between sweet mango and green mango. When patients were asked what they should avoid eating due to their diabetes, they almost always included sweet mango among other types of high carbohydrate foods, distinguishing it from green mango. The difference between the two relates to something that can be found in many foods in

Cambodia. Sweet mango is ripe and thus has a sweet taste which would be thought of as a desert-type food. On the other hand, green mango is unripened mango and is harder and does not taste as sweet. Green mango can be used similar to a vegetable in a traditional mango salad, or alternatively cut up and served with chilies, sugar and salt. Neither the green mango salad, nor the cut chili mango would be considered sweet as they have a distinct sour taste, regardless of the fact that there is sugar present in the chili mango. Patients distinctly separate the two different types of mango when describing what they can and cannot eat; stating that the sweet mango is bad while the green mango is ok.

The same can be said for other types of food, green bananas are put on the grill and cooked similar to a vegetable, while ripe bananas are usually served as a desert or part of a fruit bowl. Rice as well can have dual roles, being a starch to be eaten with vegetables or meat, or used as sticky rice, usually a sweet desert. The distinction made by Cambodians about the different types of food is very important for the management of their diet and therefore diabetes. While in developed countries, diabetics have access to the exact carbohydrate counts in their food, such as labels found in grocery stores or glycemic indexes used to determine how quickly sugar is absorbed, in Cambodia, patients have to use their senses to determine if a food should be avoided. The carbohydrate difference between green mango and sweet mango may be insignificant; however, there is a perceived difference in sugar content due to the difference in taste. As one can expect, the higher the sugar content in a food, the sweeter it becomes. However, this can be problematic as confusion may happen in circumstances where there is an inconsistency between taste and sugar content. For example, someone may believe they may eat a lot of green mango, but their blood glucose still rises, leading to higher test results. At the same time as having the potential for confusion, the use of sense by Cambodians is an extraordinary way to manage one's illness.

The use of sense to determine the difference between sweet mango and green mango, as well as other fruits that could be used as either vegetables or fruits depending on their ripeness allows Cambodians to ultimately decide for themselves what is an appropriate food to be eating for their illness. The food pyramid acts as a guide for them, but it is their knowledge of their food which aids them in their management. When asked what they cannot eat, patients would usually list off the same things which would be expected as foods that are unhealthy for diabetics, however; the food pyramid lists a large quantity of food that patients may or may not come into contact with. The choice is up to the patients to determine what they believe works for their diabetes; aided by the food pyramid they are given by the peers.

Choosing what is the correct food to eat is often difficult, even when one knows in principal which foods are more appropriate for diabetics. It was not surprising then that many patients who specifically stated sweet mango as one of the foods they were supposed to stay away from later told me they had rice and sweet mango for breakfast before they came to the peer's house to get tested. In Cambodia, eating is considered a very social and important time, and as a result restaurants, street vendors and shops are very a popular and convenient way to socialize and eat throughout the day. Food is being sold constantly on the streets and in shops and markets which makes it easy for those without refrigerators to be able to buy and/or cook their own. However, as with most restaurants, choice can sometimes be limited to what is available and one cannot expect a selection geared towards those on a special diet for diabetes. With this in mind, I noted a slight discrepancy between what those I spoke with told me they were not allowed, and what they then later said they did eat. Although almost everyone knew the main foods to stay away from (sweet mango usually at the top of the list), I was always being told they ate them anyway. At first one might think this was simply a lack of importance given to the diet, but in reality those who told me they had sweet mango anyway were not necessarily being careless.

An example of the way one family handles their special diet will shed a light on the difficulties associated with dieting for diabetes.

> *A 46 year old woman and her husband came to the peer's house in Sras Chork, They are one of the wealthier families I have seen as both of them have jobs and they are on their way to work after they stop in at the peer's house. Her husband has hypertension and she has had diabetes since 1998. She found out she had diabetes when she got a very bad fever and was a bit cold. She tried to take medicine for the cold but it didn't work so she went to a private clinic where the doctor tested her blood and urine and told her she had diabetes. She has been a MoPoTsyo patient for two years and is very happy because now she knows more about exercise and diet, which the private clinic didn't explain well to her.*
>
> *I asked her if she finds that since she has been with MoPoTsyo she is able to manage her diabetes better. She replied yes because she can understand more, for example before MoPoTsyo she ate whatever she wanted and now she is more careful and feels better.*

> *I then ask her if she finds that diabetes affects her whole family and she says that there is a focus on food in her house now. Since she has diabetes they have to have two different dishes – her husband and son eat a different food than she does. She told me they cook once and divide when they eat because the others can add sugar to their dishes to make it sweeter but she cannot. Her meat consumption also had to change. Before she ate beef or pork but now she has to have fish and eats meat only sometimes and now she has to eat ankor somroup instead of ankor samret…*

From the example above, one can see how difficult it is for those living with diabetes to eat properly for their disease. I was told that to eat for a family of five it costs approximately 8 USD a day, which is a considerable amount for those living in poverty. For a family where one member is diabetic, this could be challenging as either all members of the family have to eat the special diet, or those with diabetes have special food only for them. As having a special meal just for a family member who has diabetes is costly, more often that not diabetics may have to sacrifice diet in order to eat food which may be available or within their price range. Here one can see how a patient's self-management practices are also affected by the social circles they live in. Patients may desire to eat foods which keep their glucose levels under control; however, the quality of their social lives may conflict with this, taking away many food choices that would have been made.

As mentioned before, food plays a large part in any diabetic's life, regardless of culture or country, and it is not surprising that one of the two statements people make about managing their illness has to do with their diet. Many people have said that since they have been diagnosed with diabetes they have to be much more careful about what they eat. And avoidance of high sugar foods such as sweet mango and white rice is one of the ways people suggest they do this. But the type of food is not all that matters to Cambodians. Timing is also important for patients with diabetes.

Many of those who were interviewed commented on their ability to know when they should and should not eat. As the blood glucose cannot be properly controlled, diabetics will experience highs and lows in their sugar which can be diagnosed using symptoms described to me such as frequent urination, dizziness or tiredness, a shock feeling in arms or legs, or trouble seeing. As diabetes does not present physical symptoms unless sugar is high or low, patients have stated that they know when their sugar levels are high or low and this will cause them to act accordingly. Many patients who complain about high glucose levels can explain to me that when they eat sweet foods it causes their blood glucose to rise, thus giving physical symptoms like not being able to see properly or feeling a shocking pain in their arms or legs. When this happens, I have been told various remedies patients have used in order to bring the glucose levels down to normal levels. One thing was exercise of some sort, a short walk or doing house work, as long as patients feel they are sweating they associate any physical work with exercise. A common solution, but perhaps not the best choice, was not eating anything (or in some cases just a bit of rice if one was very hungry), or just drinking water and waiting until the glucose levels came down on their own. While peers have said they tell patients this is not good, I have been told this may be the only thing that works as eating more will only make sugar levels rise higher.

Alternatively, when blood glucose levels are low, and patients feel dizzy and experience fatigue, they have different solutions which help to bring the levels back up. The most common was eating sweet fruit or food that contains sugar. Any patient who knew what foods contain higher amounts of sugar was able to ‘self-medicate’ themselves when they found their blood glucose was low and told me they eat sweet mango, or rice.

Self-Management of a Chronic Illness

The Cambodian diabetic patient, considered lacking as compared to that of a Canadian diabetic patient by organizations that deal in the biomedical realm, can be said to have the ability to manage their illness. In order to manage an illness such as diabetes which has been shown to affect every part of a person's life, Cambodians have adapted and manipulated various technologies and techniques used all over the world so they may learn to control and live with their disease.

Diabetes patients living in poverty in Cambodia deal with many difficulties as far as acquiring medication and being able to pay for hospital and doctor visits are concerned. While most of the patients encountered during research in varying areas in Cambodia cannot afford basic health care for their illness, they are able to perform basic and everyday chores in order to 'manage' or control their illness. The act of self-management can be defined as the actions and strategies taken by a patient to control a disease as well as its effects (Clark, 2003: 292). This can be done through self-regulation of a disease, which refers to the specific ways a patient can come to conclusions about managing their disease (Clark, 2003: 292). Patients who self-regulate and self-manage their diabetes, are able to do so through experiencing what works and does not work for controlling their blood glucose levels, as well as using information provided to them through medical professionals (Clark, 2003: 293). By learning how to self-manage, patients are able to discover ways to control their disease that fit with their socio-economic and daily lifestyle which is important for those in poverty in countries like Cambodia.

The self-management skills that diabetics in Cambodia are taught through the PEN program at MoPoTsyo allow patients to free themselves from the doctors and clinics they may have had to rely on for medication and information. By learning how to manipulate and control one's blood glucose levels, as well as when and how to take insulin or medication, patients are given the opportunity to gain knowledge about their illness as well as providing resources for them to become active participants in their illness. This is important to those I spoke to as many patients have reported that before MoPoTsyo they spent time and money going to clinics only to be given medicine for their diabetes and not told how they can control their sugar levels. With the proper information and guidance, patients can control their disease without recourse to expensive medicines.

The ability for Cambodians to self-manage their diabetes not only allows them to take on the role as active participant in their disease that diabetic patients in wealthier countries are, but it also allows them to learn how to modify their lives as they are capable in order to control their blood glucose levels. For many without the funds to visit the clinic as often as they may wish, or should, learning what works for self-management is crucial to coping with diabetes while remaining within their socio-economic niche.

The concept of self-management is something patients whom I spoke with were confident that they understood. During interviews many of them stated that they grasped how to self-manage their diabetes and they were comfortable in controlling their glucose levels. While some of the older and poorer patients rely heavily on the peers in their area to remind them of proper diet, and to aid in testing their glucose if they are illiterate, there is a recognition that the control of their illness lies in their own management skills. The statements “I do diet” and “medicine is only 50%” were repeatedly mentioned when I asked how patients controlled their diabetes. A large number of patients have not attended or completed any sort of formal education, and if they actually *do* the diet, it can be said that they begin to practice self-management aided by the peers they have weekly visits with.

Self-management as related to individual experiences with disease can be unpacked through applying Cyborg Anthropological theory. Occupied with how individuals experience science and technology and how they create discourses about these in order to make them meaningful, Cyborg Anthropology theorizes that individuals have the ability to take science into their own hands and thus become scientists themselves through the production of these discourses (Downey et al, 1995: 266). Essentially this is what self-management of diabetes, or any disease, is. Cambodians utilize the information given to them through doctors or NGO’s like MoPoTsyo and translate it into their own words in order to understand in order to manage their diabetes. The urine strips and blood glucose machines used by Cambodians are examples of this as they construct and provide proof of diabetes, as well as giving feedback to patients in the form of scientific data. This numerical data, while not necessarily meaningful to poor Cambodians in the same way it is to those immersed in the biomedical realm, allows them to visualize their diabetes and determine if what they are doing is working. In this way, technologies like blood glucose meters and urine strips, and the physical symptoms associated with high or low blood sugar allow each patient to become their own authority on their own terms. Technologies do this by giving them the information they need in order to manage their disease. For example, providing a numerical value of one’s glucose level that can be compared to an acceptable range. While most patients are not aware what a dL is, they are very quick to state that their blood glucose levels are normal since they are less than the accepted fasting limit of 126mg/dL or less than 180mg/dL about two hours after they have eaten.

Becoming a 'Diabetic Patient': Symptoms and the Category of 'Patient'

Becoming a diabetic patient in Cambodia begins with the diagnosis of the disease, usually through a urine or blood test to confirm high blood sugar. Depending on the individual's knowledge of disease, they may or may not suspect they have diabetes before they have been diagnosed. During conversations with peers and patients, many were not aware of their disease until they had been screened by the organization themselves, or have attended the doctor for a reason other than diabetes testing and been told they may have diabetes. One patient in particular discussed how they had fallen off their roof and hurt their leg and did not suspect diabetes was the cause of the slow recovery until they went to the doctor and was informed of their diagnosis. Alternatively, some go to the hospital or NGO office or peer suspicious they have diabetes because they have heard of the disease from a friend or relative, or have seen advertisements around the city. An example of the suspicion I mentioned happened while I was staying in Takeo province at the peer's house one day.

> *A woman, perhaps in her 60's, came to the peer's house to get her sugar tested, stating she was worried she may have diabetes because she felt dizzy and had pains in her arms and legs. She is a relative of the peer and lives behind his house so she walked there early in the morning anticipating that the peer would be holding his weekly meeting with all the patients (surprisingly I found out later that he didn't tell anyone to come that week and many of the patients were out in the fields because it was the rice growing season so we were the only ones there). The woman told us she wasn't sure what diabetes was, but in her village there are a few patients with the illness and one told her to get her glucose levels checked because*

> *she has the same symptoms that they did. Even though she is not sure exactly what diabetes is, she explained to my translator and myself that she is very worried because she used to see other patients who are very skinny and she doesn't know if it can be cured or not.*
>
> *She had used a urine strip in 2007 and the result was good so she was told she didn't have diabetes and for the last few months she said she went to meet the doctor at the health center and when he checked her blood glucose he told her it was lower than normal.*
>
> *She proceeded to tell us that when she drinks juice from a can she feels a shock in her arms and legs and this also happens when she drinks milk with sugar in it. She worries about her diet because sweet fruit or juice makes her feel unwell. She starts to get upset and says that she is sensitive towards her illness and when she thinks about having diabetes she cries.*
>
> *At this point the peer comes and tests her blood sugar, the woman is not crying anymore and he says it is ok, but gives her a food pyramid so that she may understand what she can and cannot eat now so that she can prevent diabetes from happening. He tells her that she can come back and test her blood glucose any time to make sure it is ok…*

Looking at this, one can see how the symptoms of diabetes are important in diagnosing someone as a diabetic patient. Of those with knowledge of the disease, experiencing symptoms can lead to suspicion, which will then motivate people to get tested. Those who seek testing for diabetes, either being urged by a friend or relative who has knowledge of the disease or from their own personal knowledge, state common complaints and symptoms found which can be said to be physical or physiological signs of diabetes. Many patients state that they have found they feel a pain in their limbs, described sometimes as pinching, a shock, or sometimes the loss of sensation, along with frequent urination, dizziness, and fatigue. Complaints about sight are also common among those interviewed. These symptoms, along with the knowledge of the existence of diabetes, despite any uncertainty of its definition, drives people to accept their category of potential diabetic patient and get tested so they may get diagnosed as such.

Although the physical symptoms of diabetes may be present in a person before they seek treatment, and sometimes after they have been patients with MoPoTsyo for some time, it remained very unclear at times whether people considered themselves to be patients. When asked they would always say they had diabetes, and most of them stated that they were comfortable discussing their illness with people, there was a bit of confusion if they thought they were 'sick'. During the majority of my interviews I asked patients what they thought diabetes was, and if they felt like they were sick. While many could not answer exactly what diabetes was, as I stated before they almost always mentioned that it was an incurable disease. However, there were times when people would say they only take their medicine when they feel sick. One patient in particular I met had left the NGO as she was too busy working. I met with her to discuss why she left and how she felt about her illness.

> *She lives about a 4 minute walk from the peer's house in Boeung Kak, that has a restaurant in the front and living quarters in the back. The patient looks to be very healthy, and is wearing jewelry.*

She said she was diagnosed as diabetic in 2001 when she went to a private clinic and became a MoPoTsyo patient in 2006 but left the program in 2007. She told us her reasoning for leaving MoPoTsyo was because she was too busy to go to the peer's house as she sells coffee and breakfast every morning.

I asked her what diabetes was and she said it cannot be cured but can be managed with exercise and a good diet. I then asked her if she felt well and she replied that she did at that point in time. She takes medicine every day that she bought from a pharmacy that is not associated with MoPoTyso. She told me if she bought medicine from MoPoTsyo she would have to ask for a receipt from the doctor and that takes too much time so she just goes to another pharmacy instead. She got her prescription for her medicine at the national hospital four years ago and this was the last time she has been to the doctor. She told me she has no plans to go to the doctor again because she feels well and when she buys her medicine the people at the pharmacy can advise her on managing her diabetes.

I asked her what she thought people with diabetes are not allowed to eat and she replied that she does not have a strict diet but that she does use a special sugar for diabetes patients (looked like a sweetener) and that before when she was sick she was more strict but now she is normal. She said when other people saw that she didn't have a strict diet they said she looks like she doesn't have diabetes because she eats normal, but she trusts herself that she has it. She admitted that when she feels well she seems to be ignorant of her illness…

In another example, a peer mentor explained to me that during times when patients feel well they tend to stop coming for weekly check-ups. I was told that when people check their sugar levels and they are not high and don't feel bad from anything else they may not think they are sick. This happens if they check more than once and the sugar levels are always low, however; the peer believes that they do not have a clear understanding of the disease. During our talks I was told *"Most Cambodians are not familiar with chronic illness so if they look and feel healthy then people don't believe they are actually sick. In Cambodia most people think patients can't work, walk, and just sleep all the time. You look normal so it doesn't seem like you are a patient. Most Cambodian people do not care about chronic disease because they can still work so they don't care. They don't bother to seek treatment.*

From these fieldwork excerpts, one can see that the distinction between being diabetic and actually being sick with an illness is slightly blurred. While diabetes has some physical symptoms (especially for type two diabetics), one can appear 'normal' as this patient has been told. As such, when blood glucose levels are within the normal range, and there are no adverse side effects and people may not think they are necessarily sick. This complicates matters greatly in defining the Cambodian diabetic.

In order to explicate the controversy of whether a diabetic is actually sick, the paper *"Actually, I Don't Feel That Bad": Managing Diabetes and the Clinical Encounter* by Anthropologist Steve Ferzacca will be used (2000). This work will provide a comparison of diabetes in North America (it is actually written from research conducted in the United States) in order to show that with chronic illnesses such as diabetes, the lines between sick and normal can be blurred. Ferzacca looked at the clinical encounters of men with diabetes that did not require insulin injections in order to analyze the perceived problem of compliance of those with the disease (2000: 28). He found that while some patients stated that they do not feel unwell, their blood glucose measurements told the opposite to clinicians, soliciting a non-compliance complaint against them (Ferzacca, 2000: 39). Like the patients I had contact with in Cambodia, the numerical data from blood glucose and blood pressure measurements defined and situated diabetes for patients. However, it wasn't until physical symptoms of disease produced themselves that patients in the US considered that they were sick (Ferzacca, 2000: 39). In many cases, the loss of symptoms once glucose levels reach normal levels may be the blame for the confusion of whether a diabetic is actually sick or not. Cambodians understood that they have a chronic illness, but without the visualization of this illness they may have been perceived as healthy by others or themselves. Perhaps in order to understand the confusion happening, one must look at the actual term of 'patient' a bit more.

The act of becoming a diabetic in Cambodia can be considered similar to that of those in Canada, however; as argued before, this does not necessarily guarantee that those who have been diagnosed with the disease become patients living with the disease for diabetes only exists inside the medical realm at this point. It is the patients themselves who accept their diagnosis that make diabetes real to them. Also, diagnosis does not guarantee that those who consider themselves to be coping with their diabetes believe themselves to actually be sick. In order to clarify this a bit more, Foucault's essences and Harvey's work on the category of the patient will be discussed.

The Cambodian diabetic patient can also be described using Foucault's concepts of essences as introduced in the beginning of this work. As an essence, the label of patient produces a 'technology of the self' where an individual is expected to work on their body within the systems of power and knowledge (in this case the biomedical realm) in order to achieve a desired healthy life (Lock and Nguyen, 2010: 27). Related to biopower in that these technologies of the self act upon individuals and transform them, with the intention of moving them toward the 'model man' (Foucault, 1973: 39-40), the diabetic patient is created when a person has a dysfunctional pancreas, a physical symptom. This physical symptom of diabetes then places the individual into a category, constructed by the biomedical realm that becomes a social label. Here again we see the difference between being an active patient and simply being diabetic. Power becomes important, as those who do not take an active role in their diabetes are labeled as non-compliant.

Harvey discusses the category and concept of the 'patient' within the biomedical and social science domain in his work *When There is no Patient: An Anthropological Treatment of a Biomedical Category* (2008). He believes the category of patient has been under-theorized as well as under-criticized, and attempts to denature the biomedical hold of the term patient as "principally acquired in biomedical clinical interactions" (2008: 578). The term patient is continually proving to be problematic, as it is shown with differing diabetic patients, as the cultural diversity of patients around the world are being highlighted, however; the universality of the category of a patient is not discussed (Harvey, 2008: 578). In stating this, Harvey shows the category of the patient has proven to be resistant to the diversity of the people that it describes. Looking at the notion of personhood within society, Harvey questions the category of a patient as a social role in life similar to that of a father or mother and if this category can in fact be considered universal (2008: 582).

Harvey theorizes the role of a patient in the Maussian sense as that of a social role being acted out, or as a ‘personhood’ (Harvey, 2008: 584). Therefore, it is not necessarily someone who defines a patient, but the act of being in and being affected upon by the biomedical system that defines a person as a patient, thus like any male can become a father as the role of father is social, any person has the potential to become a patient (Harvey, 2008: 584). Harvey’s view on becoming a patient in the biomedical system is very similar to that of diagnosis for diabetes in Cambodia and Canada. Patients first experience an illness through experience with symptoms which is then brought to a sickness through the diagnosing and medicalization of those symptoms and they are entered into the biomedical realm as patients of that disease (2008: 585). From this point on, at least to the biomedical realm and in the case of those in Cambodia, registration in the program for diabetes confirms status as a diabetic patient. Also, many Cambodians I spoke to consider themselves patients as they seek medical attention from the doctors and NGO, but it is how there is a distinction between the *Cambodian* patient and the *Canadian* patient which has proven important in this work and not necessarily simply that a dissimilarity exists.

The Cambodian 'Diabetic Patient'

From an outside perspective, the production of diabetic patient in Cambodia is a stark difference to that of the Canadian diabetic. Firstly, there is little knowledge of whether a person is Type 1 or Type 2; patients are not necessarily classified in this way. Secondly, the socio-economic status of the majority of patients potentially plays a larger role in their illness than those living in Canada. However, as I have shown in the pervious section, the difference between diabetic patients living in Canada and those living in Cambodia cannot be glossed over as simply due to 'lack'. Here, I will discuss the Cambodian 'diabetic patient' in further detail using experience and theory in order to diverge from the over-arching argument of lack when compared to Canadian diabetic patients, speaking from those living with the disease.

While there are no shortages of small clinics and hospitals in Phnom Penh, treatment is costly for many Cambodians. Only those who are given what is termed as a poor ID card issued from the government that grants the holder discounts for medicine and treatment along with people with jobs that allow them to save enough can usually afford to get treatment. And, even if a diabetic can afford treatment from a doctor, the quality of treatment cannot be guaranteed as many doctors and nurses may not have knowledge of the complications of the disease, and simply offer to inject insulin or prescribe medicine without consultation into diet. In the countryside in Takeo Province there is a district hospital which covers a large area of people, but reaching the hospital presents a challenge to many people who live in the area and during the rice growing season many need to stay in the fields for days at a time. As well as having to deal with monetary issues, supplies of insulin in the NGO I visited are not copious but good considering the cost and amount of work it takes to get the insulin, and since insulin must be kept cool finding adequate fridges or coolers presents another challenge to patients and pharmacies without access to electricity. This can be compared with the ease of finding diabetologists and large supplies of insulin in Canada, even in the small city where my family lives. Based on these transparent factors, it can be said that the production of a diabetic patient in Cambodia is mainly done through the lack of many amenities that Canadians have a great deal of access to. This will be further discussed in order to determine the definition of the diabetic patient in Cambodia.

The construction of different diabetic patients in this case can be analyzed by comparing Chandra Mohanty's work on 'Western' feminism and the production of third world women (1991). In this piece, she addresses the use and production of ethnocentric universalism as well as the creation of 'other' in analysis of feminist discourse (1991: 55). Mohanty argues that the classification of 'woman', and the universality that this category implies actually results in a category of the 'third world woman', leading a less satisfying, and potentially shortened, life due to their gender and being of the third world (1991: 56). This can also be translated onto diabetes throughout the world. Many times in writing about illness in other countries, or in advertisements and fact sheets about disease in other countries, the 'other' (in this case those living in poverty) is presented as a binary opposite to those of a high socio-economic status, going without, or in need of support in order to combat the disease. Although I am not arguing against supporting those in poverty, in the case of diabetes in Cambodia, there may be less 'going without' than one thinks. While a diabetic patient in Cambodia may be thought of as in need of help, and in many aspects they are such as supplying insulin, there needs to be the acknowledgement that Cambodians are capable of using the resources they have in order to manage their illness.

The third world woman is established based upon that of the Western woman, essentially producing an uneducated and victimized woman that is diametrically opposed to that of the strong, independent Western woman (Mohanty, 1991: 56). Similarly, diabetic patients in Cambodia are produced against those in the Western world. Diabetic patients in Cambodia are described as ‘lacking’, by themselves as well as MoPoTsyo, compared to those living in Canada: lacking money for medicine, resources for management, and knowledge of their illness. Due to the fact that income and supply are such a large part of Diabetes management, the lacking or shortage of these in Cambodia places it on the other side of the spectrum from those in Canada. It is here that one can see that there can be no Cambodian Diabetic patient without a definition of a Western patient to contrast it to.

As Mohanty (1991: 65) states, ‘there is no easy generalization in the direction of “women” in India or ‘women in the third world’…”. This can also be said for diabetic patients as well. In theory, the biology of the diabetes is the same across the world. Insulin is either required as it is not produced, or drugs are needed to stimulate production of insulin. However, in practice there is a perceived clear distinction between patients in the Western world and those in low-income countries such as Cambodia. Canadian diabetes patients, along with those in other wealthier countries, represent the taking of an active and provided for role as a patient with a chronic disease, rather than a passive and deficient role which permits their illness to control their lives. By understanding in specific detail the content of the food they eat, as well as understanding how their blood sugar levels depend on activity along with consumption of food and proper use of medication, those fortunate enough to live in wealthier countries are able to learn to control their illness, pay for any tools or medication they may need, and are still able to live normal lives. While on the other side of the coin, those living in poverty are thought of as lacking the monetary support, as well as control over their illness. These two types of patients are separated on an apparent have versus have-not basis. As mentioned before, it seems that on the surface Cambodian diabetes patients lack what those in Canada have. It is this lacking that defines many developing countries as such, assuming a need to develop to the same level to become ‘developed’.

Here the relationship between a diabetic patient defined as the act of being diagnosed with diabetes, and that of a person who lives with their diabetes needs to be conceptualized. The act of being a patient with diabetes and presenting a patient with diabetes are analytically different similar to Mohanty’s separation of women as subjects and the representation of women through discourse (1991: 53).

To be categorized as a diabetic patient, one must have the clinical symptoms of the disease such as the inability to produce insulin naturally. However, representing a diabetic patient requires acquisition of skills, knowledge, and resources to recognize, provide for, and manage their illness. This means that one can *be* a diabetic patient without *representing* or *living* as a diabetic patient. For example, someone who has diabetes but does not take their medicine or consider their carbohydrate counts when eating does not represent a person who *lives* with and manages their illness. As Cambodians do not have full access to all the resources Canadians do, they are not perceived as being of the same kind of patient. Cambodians may be diagnosed with diabetes, but they are not perceived to be the same diabetic patient that is found in Canada. Not surprisingly, many Canadians are startled to hear there is even a diabetes problem in Cambodia.

Looking at Mohanty's analysis of women in the western world versus women in the third world, one can see how the representation of an active and supported diabetic patient becomes problematic when applied to universal situations. The model does not address how diabetic patients in other countries are represented and how they live with and manage their illness, assuming that all diabetics in all countries have access to the same standard of living and medical care. It also does not address the notion that while compared to Canadians, those living in poverty in Cambodia may be thought of as lacking, but in actuality, diabetics in Cambodia have shown that they are capable of using the tools they have to manage their diabetes sufficiently.

While staying in Cambodia, with the knowledge and experience of the complicated life of a diabetic in Canada as my reference point, it was a pleasant surprise to find that while most Cambodians couldn't tell me the definition for diabetes, or had access to blood glucose meters, carbohydrate counts, weighing scales or other technologies which are used every day in Canada, they were (for the most part) perfectly happy with the management of their disease. This can be attributed to the ability of these patients to utilize what they have access to, as well as their understanding of diabetes being dependent on the tools that they have, those who have been exposed to one solution to a problem cannot have any idea that there are alternative solutions available if they do not have access to, or knowledge of them. Thus, Cambodians only know diabetes through the tools they use, like urine test strips and the experiences they have when they eat something sweet. Their knowledge of diabetes revolves around their specific experiences such as the differences between sweet and green mango, the range of acceptable glucose as measured by a meter, and the urine strips they were given when they first became introduced to the disease. While according to those in wealthier countries, Cambodians might suffer from a lack of access to diabetes care, those who have diabetes in Cambodia know of nothing else but the tools and access to knowledge they have, thus making their experience not about lack at all, but simply different from the experiences Canadian diabetics have.

The Need for More

During fieldwork in Cambodia with diabetic patients, it was brought to my attention that there is a need to learn more about how chronic diseases are constructed in impoverished countries. While the role of technology, in this case urine strips, in the production of Cambodian diabetes has been briefly described in this work, it is the belief of this author that more work must be done in order to fully understand chronic diseases such as diabetes, as well as how patients, and diseases, are constructed in developing countries.

The construction of a diabetic patient has been shown to be slightly different than what is perceived through the lens of the developed world. While living with a diabetic family member in Canada, and then spending time with diabetic patients in Cambodia, it has become clear that the different experiences with diabetes are not due to a lack of any sort, but simply the effect of cultural differences at work on the same biological disease. Diabetes means no less to Cambodians than it does to Canadians, it is just constituted in a different way using different technologies. With more ethnographic experience, it is possible that the relationship between developing and developed patients and biomedical models dealing with diabetes can be analyzed further. This work can then potentially be used to discover how cultural beliefs shape notions of disease as well as patient and lead to differing management protocol.

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