

How do the Santal tribes of Bolpur region in West Bengal India, use their resources in order to deal with type II diabetes?

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Introduction

According to the Diabetes Atlas of 2015, Diabetes is “one of the largest global health emergencies of the 21st century”. Currently, 415 million adults are estimated to have diabetes. In addition, 318 million adults have a glucose tolerance disability, which means they have a high risk of developing a disease in the future. The estimate for the number of diabetic patients in 2040 is of 642 million. When focusing on South East Asia (India, Bangladesh, Nepal, Sri Lanka, Mauritius, Bhutan and the Maldives), we see there are 78.3 million diabetics and the estimate for 2040 is of 140.2 million. Type II diabetes being a non-communicable disease, it can be prevented. Its' rapid progression is well known by healthcare professionals and governmental organizations. Unfortunately, low and middle incomes countries such as India are not properly equipped to face this challenge, even less so when it comes to the tribal (Adivasi) people. Thus we decided to study the resources of the Santal (Adivasi) tribes when facing type II diabetes. (Diabetes Atlas. International diabetes federation. 7th ed. Belgium: International diabetes Federation; 2015)

Objectives

The goal of this research was to study the resources the Santali population have in order to face diabetes. These resources include information, preventive action and therapeutic options. We also wanted to investigate the different risk factors present amongst the Santal people as well as their representation of illnesses most particularly diabetes.

Methodology

Before our departure, we proceeded with a literature review to confirm the relevance of our research question and to best prepare ourselves for the field. Once arrived, we conducted semi-structured interviews among the Santal population, three pharmacists, a group of nurses, an accredited social health activist (ASHA), a nutritionist, three allopathic doctors and two traditional healers (Ojah). We were able to go visit and spend some time in five different tribal (Adivasi) villages. A large part of our research was participative observation in order to immerse ourselves in local culture and give way to the unexpected. The largest part of our research and interviews took place in the Adivasi villages. Once in the field, we separated into different teams, each team having a translator, as we thought it would be more beneficial for our interviews to be in smaller groups. We would start our conversation by asking the people about their lives, their habits and then approach the question of nutrition and physical activities. Once we had established a good contact we started asking about diabetes. Every evening we had debriefing sessions where we were able to give a structured feedback of the information and observations we had collected. This allowed us to put into perspective the theory we had learned and the practical experience of the field. A great force of this project was being an interprofessional team, this allowed us to have different perspectives on the same goal giving us a more complete and rounded view of the issue at hand. After saturation of the data, it was analyzed and coded in order to elaborate different hypothesis.

Results

From the results we've gathered, it is seen that there is a low rate of type II diabetes among the Santal people in comparison to the rural West Bengal population with a prevalence between 3,5%- 5.7% (Rangadhar Pradhan, B. Dinesh Kumar and Analava Mitra, Some silent Points in Type 2 Diabetes Prevalence in Rural Bengal, Kamla-Raj 2009). We estimated the rate of diabetics among the Santals to be approximately 2%, this number being what we have observed in the villages and the information both the allopathic doctors and the pharmacists have given us. We believe that the Santals' resources which allow them to have such a low rate of diabetes are many. First of all, they have healthy eating habits, they eat mostly rice, potatoes, lentils, vegetables and when available eggs and meat. As they grow their own food, they spend a lot of time in the field meaning they have a high rate of physical activity and don't suffer from a sedentary lifestyle. Moreover, they have a difficult access to junk food as it is costly and is not sold close to the villages. This being said, we have observed a transition when it comes to eating habits among the younger Santals meaning they have adopted a diet where junk food is present. Although we see the food is healthy in the sense that it is low fat, we see that their diet is mostly based on carbohydrates, this being a

risk factor for diabetes. Other risk factors include the fact that the Santals have a low health education, most don't know the cause or symptoms of the illness. When meeting people surrounding Santal diabetic patients we have noticed that most of patients do not take their treatment, or do so for a short period of time only, and don't follow medical advice. They know which diet habits need to be changed but don't necessarily apply it, especially when it comes to special occasions. This is also influenced by the fact that Santals don't believe diabetes is an illness, they say: '*as long as I can work, I am not sick*'. Diabetes being a silent disease, it has a long asymptomatic phase which doesn't worry the Santals. This explains why compliance in treatment is low, and also why the people are diagnosed in the very late stages of the disease. The lateness in the diagnosis is also caused by the fact that there is no screening or prevention for non-communicable diseases in the villages. From the literature we have gathered we have observed a possible genetic vulnerability for developing diabetes; the 'Asian-Indian phenotype'. Lastly, looking at the healthcare services available, we see that governmental hospitals are free and so are the treatments dispensed by them. Unfortunately, these hospitals can be far away from the villages which makes it difficult for a Santal to get medical attention if needed.

Discussion

We have drawn several hypothesis' from our results. First of all, we will address the 'Iceberg theory' (Parks 2015). There is a high amount of undiagnosed diabetics due to poor screening, diagnosis and education in the villages where our research took place. Due to the epidemiological transition of non-communicable diseases, the importance of the 'Iceberg theory' will increase in the coming years. Secondly, we have observed a gap between younger and older populations when it comes to food habits, especially concerning junk food. One of the private doctors in Bolpur believed that in 15 years, the prevalence of diabetes in the Santal population will be the same as in the non-tribal people of India. Furthermore, we have observed a higher use of allopathic compared to traditional medicine amongst diabetics. As explained by a traditional healer, traditional medicine treats the root of the disease whereas allopathic medicine treats symptoms. We believe it is for this reason that Santals prefer to go to an allopathic doctor as they don't see diabetes as an illness and only seek help once symptoms start interfering with their lives. Lastly, when Santals are diagnosed with diabetes, healthcare professionals have the responsibility to inform them on the risks of their disease. The message is not necessarily the right one for the Santals. There is also a lack of time and initiative from health care professionals to go into villages and organise information distribution and screening opportunities. This comes back to explain the Iceberg theory previously stated.

From this hypothesis we suggest modifications which could lower the risk factors of type II diabetes among the Santals. We believe that as this epidemiological transition progresses it becomes increasingly important to have prevention and screening in the villages. As we have observed, many young Santals have mobile smart phones, an application could be implemented so that people could keep track of their treatments and medical consultations on their phones. Lastly, we think it would be very useful to have a mediator that could have a role of prevention when it comes to non-communicable diseases. As the concept of traditional medicine is to treat the root of the disease, it would be very useful to involve the traditional healer, who is already a crucial part of the village, as a mediator to deal with the silent 'Iceberg' of diabetes (according to WHO recommendation).

References

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Key Words

Type II diabetes; India ; Santals ; Resources

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Type 2 diabetes in Santal tribes of West Bengal: what are their resources?

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Methodology:

On arrival, we observed the village and its' people. We asked about their lives, their habits and then approached the question of nutrition and physical activity. Once a good contact was established, we talked about diabetes. Working with Indian social work students helped us to approach and interact with the tribal population.

We conducted semi-structured interviews with:

- Santal population
- Allopathic doctors, pharmacists, nutritionist
- Traditional healers

Context: Santal tribes (Adivasi)

One of the largest tribes in India

Village structure :

- 1) Headman
- 2) Assistant
- 3) Traditional healer
- 4) Priest

Have their own religion and language



Hypothesis:

Iceberg theory : high amount of undiagnosed diabetics due to poor screening, diagnosis and education.

Epidemiological transition: In 15 years the prevalence of diabetes in Santal populations will be the same as in the rest of India - allopathic doctor

Low use of traditional medicine in diabetes: traditional medicine treats the root of the disease whereas allopathic medicine treats symptoms -Traditional healer. Diabetes is not seen as a disease by the Santals but as symptoms hence the choice of allopathic medicine.

The message surrounding diabetes transmitted by healthcare professionals is not necessarily appropriate for the Santals.

There is a lack of time and initiative from healthcare professionals to go into villages and organise information and screening opportunities. - allopathic doctor

Results: Resources

•Healthy Food

• **High physical activity**
«I work in the fields all day» -Santal villager

• **Difficult access to 'Junk food'** (price, location)

• **Free access to health care services** (governmental hospitals)

• **Cohesion between traditional and allopathic medicine**

"The patients come with their bloodtest results then I give them medicine" - Traditional healer

Results: Risk Factors

• **High carbohydrate content in food**

• **Diet habits during special occasions:**
'I don't drink alcohol.' -Diabetic patient. During a festival we noticed that he was drinking rice beer'

• **Low health education**

• **No screening or prevention**

• **Possible genetics**
('Asian-Indian phenotype')

• **Pathology representation** (diabetes is not an illness) leading to late or no medical consultation
'As long as I can work, I am not sick' - Diabetic patient

• **Low compliance in treatment**
'I will take my treatment for a year, but I know that eventually I will stop' -Diabetic patient

• **Difficult access to health care services** (village location)

• **Silent disease**



Typical Santal meal plan

Morning: biscuits, tea

11am: rice, potato curry, dal (lentils)

8pm: rice, potato, vegetables (depending on availability) dal (lentils)

Fruits throughout the day

Rice beer (alcohol) during supper

Eggs and meat: once every two weeks depending on availability and financial situation



Limits to our research :

1. Too little time
2. Language: content lost during translation
3. Cultural differences
4. Difficult access to health care professionals
5. Biased replies due to our occidental status

Where can we go from here?

As this epidemiological transition progresses it becomes increasingly important to have more prevention and screening in the villages.

Many young Santals have smart phones. An application could be implemented so that people can keep track of their treatments and appointments.

Having a mediator whose role is to inform about non-communicable diseases would be beneficial. It would be most useful for the traditional healer to take on this role as he is already part of the village (according to WHO recommendation)

Interprofessionnal point of view:

Having the same objective but different disciplines allowed us to have different points of view on the same matter hence a more complete understanding of the issue.

Anthropologist student → contextual vision Medical student → biomedical vision Nursing student → peoples' mediator

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