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Risk Assessment of Non-Communicable Diseases (NCDs) in Rural Maharashtra, India

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Introduction

Last summer I got the chance to conduct risk assessment surveys in rural India as well as physiological tests to measure blood pressure (mmHg) and Random Blood Sugar (mg/dL) for a research paper I was writing in High School which is being continued in my first year of Medical School. The research question I addressed was - **"To what extent do socioeconomic factors influence the risk of developing lifestyle diseases such as Obesity, Hypertension and Type II Diabetes Mellitus in Rural and Urban Indian women aged 35-55 years?"** Alongside a nurse and doctor from a non-profit organization in India called the Family Planning Association of India, we gathered data from 50 rural women residing in the Kolvan Valley in Maharashtra. Having lived in the urban parts of India for the majority of my life, this opportunity exposed me to healthcare in rural India and language barriers due to the diversity of subindian cultures.

Key takeaways

The process of gathering qualitative and quantitative data from a rural population was a very enriching learning experience. One of the most important things I learnt was the unfortunate disparity that still exists in rural and urban India. A lack of resources and hygiene in public hospitals means that healthcare in rural areas is not a priority for those residing in the rural parts of India. Even the closest hospital for this village was 60km away. Moreover, although equipment and medicines were available, accessibility, in terms of distance and transportation seemed to be a major issue. We also noticed an association between food security and socioeconomic factors. For instance, a majority of the women were told to drop out of school after the 8th grade, get married and look after their family. They would cook food and distribute it to their family members and eat whatever was left in the pot, which is often the food with the least nourishment.

Some women even consumed smokeless tobacco because it acted as a meal substitute to fulfil their hunger. After speaking to the women, we understood that there was a common understanding amongst them that lower education levels are often associated with a lower status in their society which in turn affected their food intake and nourishment at home.

Challenges faced

As the coordinator of this project, I was leading a group of students from an international school. A challenge we came across was that neither of us spoke the local dialect of Marathi. This hindered the rapport building process which is essential in establishing a healthy doctor-patient relationship. We overcame this by employing gestures and displaying empathy by holding a lady's hand if she seemed worried or confused.

Moreover, we were expecting a larger group of women to show up to this free of cost health screening considering the population of the village. However, several of the women claimed that they did not see the objective of the check-up as they had not been experiencing any symptoms indicative of physical disease; however, this is a key aspect of a lifestyle disease. Non communicable diseases or lifestyle diseases are a result of the lifestyle habits employed throughout one's life and are often asymptomatic. They are very much preventable but having spoken to the women, we realised that most of the rural women sample did not see the need to go to the nearest public hospital without seeing any visible symptoms such as fever, hot flushes, bleeding, redness, etc.

Conclusion

Risk assessment in rural Maharashtra was an eye opening experience for me. Seeing a lack of doctors and resources in public hospitals, worrisome Body-Mass Indices, blood pressure and blood sugar readings first hand left me in awe. Malnutrition, whether it be anorexia or obesity, low or high blood sugar, is a major issue in all Low-Middle Income Countries, including India considering the vast difference in the development rate between its rural and urban parts. Some have access to more than required while others are struggling to access the bare minimum.

This research has also been incorporated in a project I am working on with Dr John O'Donoghue and Dr Patrick Henn at the ASSERT Center in University College Cork. Alongside other projects, we intend to do a comparative study with low and high income countries such as Malawi and Ireland respectively to see the applicability of the above mentioned risk factors in developing countries.