

## Review Article

# Diabetes in the Himalayas: Psychosocial barriers and solutions

Resham Raj Poudel, Bishwa Raj Adhikari

Department of Internal Medicine, Institute of Medicine, Kathmandu, Nepal

### ABSTRACT

Psychosocial problems are common in diabetic population. Apart from the common issues faced by the diabetics everywhere, the Himalayan population suffer unique psychosocial burden arising out of poor social infrastructures, low economy and education, and extreme bio-geographical disadvantages. The patients are deprived of modern state-of-art scientific health care and mostly depend on conventional medicine. Stress, hostility, and depression emerging out of this misery affect the health of diabetics through modified behaviors, lifestyles, and psychology. Studies have demonstrated that addressing psychosocial issues is unequivocally associated with better outcomes in diabetes management. The psychosocial support and education highlighted by the DAWN study can be rightly adopted to solve the psychosocial problems and improve the daily life of the diabetic people in general as well as in the Himalayas.

**Key words:** Conventional medicine, diabetes, Himalayas, psychosocial problems

## INTRODUCTION

Himalayas is a vast mountain range in Southern Asia, extending 2400 km from Kashmir eastwards to Assam. The Himalayas consist of a series of parallel ranges rising up from the Ganges basin to the Tibetan plateau, at over 3000 m above the sea level. The great Himalayas is the highest mountain range in the world, with several peaks rising to over 7700 m, the highest being the Mount Everest.<sup>[1]</sup> Nearly 40 million people inhabit the Himalayas.<sup>[2]</sup> At a local clinic in Himalayas, a lady in early 50s came with symptoms suggestive of chronic hyperglycemia. After appropriate clinical and laboratory evaluation, she was diagnosed to have Diabetes mellitus. The physician discussed with her about the disease and how to manage it; treatment was initiated with lifestyle modifications and single oral drug and scheduled follow-up visit after

2 weeks. She went to the drug store and purchased one tablet of the prescription drug. This is a true story and she never came back. What is the barrier? Is it psychosocial?

### Psychosocial barriers to health

The roots of 'psychosocial health' lies in the WHO's definition of health as 'a state of complete physical mental and social well-being, and not merely the absence of disease or infirmity'. We begin by defining what we mean by psychosocial barriers. 'Psychosocial' means pertaining to the influence of social factors on an individual's mind or behavior, and to the interrelations of behavioral and social factors.<sup>[3]</sup> A barrier is 'something immaterial that impedes or separates'.<sup>[4]</sup> Psychosocial issues are now considered much important in dealing with the daily demands of diabetes.<sup>[5]</sup> Although new and more efficacious diabetes medication and improved medication delivery systems have been developed, the majority of diabetic patients do not achieve optimal blood glucose control.<sup>[6]</sup> Lack of awareness, negative attitudes, coping difficulties, and psychosocial problems are common and can contribute to poor outcomes in any health-related issue. Psychosocial problems appear to be common among diabetic patients worldwide and addressing these problems may improve diabetes outcomes, but providers often lack critical resources for doing so, particularly skill, time, and adequate

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DOI:  
10.4103/2321-0656.115298

**Corresponding Author:** Dr. Resham Raj Poudel, Department of Internal Medicine, Institute of Medicine, Kathmandu, Nepal.  
E-mail: [poudelresham@gmail.com](mailto:poudelresham@gmail.com)

referral sources.<sup>[7]</sup> Figure 1 exhibits the interaction between psychosocial factors and social structure formation that affect biology and behavior, ultimately determining the health outcome.

### Psychosocial problems in Himalayas

Himalayas has always been challenge to the mankind, for both dwellers and trekkers. Diabetic trekkers are increasing in high altitude and mountain expedition.<sup>[8,9]</sup> Here we discuss only those psychosocial factors impeding diabetic care that are attributable to bio-geographical disadvantages of Himalayas: Health care facilities, extreme climate and geography, transportation, education, economy, awareness and health seeking behavior, health beliefs and practice of traditional medicine.

#### Extreme climate, geography, and transportation

Extreme climate is always associated with coping for daily activities. Proper hygiene may be difficult at high altitude because water sources may be either unavailable (due to total absence or subzero temperatures) or contaminated. Additionally, bathing may be largely precluded by low temperatures, whereas toilets may consist of a hole in the ground, if they exist at all. Finally, skin abrasions in the form of blisters are common during trips due to the prolonged periods of walking, especially for the trekkers.<sup>[10]</sup> Neither food supply nor food choices can be guaranteed in developing countries, and in remote locations or at altitude, the only food available is often that which is carried by the traveler or his/her trekking crew or local food with limited choices diabetic diet.<sup>[11]</sup> People need to be taught about the importance of food and nutrition, calorie counting, and blending the available food choices to approximate diabetic diet.

Trails and footpaths are the major route of transportation in the Himalayas. This sort of topographical hindrances impact several issues. During the need of higher level medical care and referrals, there is a significant delay in transport to a hospital because of nonaccessibility of helicopters, good roads, and in many developing countries, medical care may be days or even weeks away due to lack of transport (e.g., travel by foot or mule only).<sup>[10]</sup> Thus, a majority of Himalayan people lack easy access to modern medical centers, partly because of the absence of such

facilities in nearby locations and partly because of physical barrier posed by rugged terrain. People in this region, walk on average about half a day to get to basic level health facility such as a health post (in Nepal). Such a long walk is not only difficult (especially when the patient is sick and in need of medical attention), but it also means economic hardship for the majority who can barely afford absenteeism for the whole day from their daily work. As a result, an illness like Diabetes with few symptoms in the early stage goes unrecognized and untreated; and finally the patient succumbs to serious complications or even death. Construction and maintenance of routes to local health centers must be insured; and a provision of emergency vehicles (ambulances and helicopters) and communication with referral centers should be made for. Travelers should ensure that they have appropriate medical insurance, including emergency evacuation coverage, before any such trips.

#### Economy, education, and health-seeking behavior

The rural Himalayas suffer the disadvantage of poor economy and education. The economy of the Himalayas as a whole is poor with low per capita income. Most of the population is dependent on agriculture, primarily subsistence agriculture; modern industries are lacking. Lower economy and education is associated with poor or very poor health-seeking behavior and barrier to effective therapy from direct impact on health education.<sup>[10]</sup> Disease prevention and health promotion are quite dependent upon appropriate health knowledge, attitude, and skill development among the people. Lack of health education forbids individual to gain knowledge, develop attitudes and skills and thus cannot modify health-related behavior to attain health. People fail to utilize available health facilities and use of emergency medical care as and when needed. Grave complications of diabetes mellitus are never known. Lack of knowledge, attitude, and practice (KAP) has resulted in low screening, diagnosis, treatment, and compliance. Health education should be designed so as to increase awareness, develop interest, self-evaluate, put it into trial, and finally judge and adopt with full acknowledgement the importance of their health (AIETA).

#### Health care facility

In the Himalayas, particularly in developing countries, medical care facility not available in state-of-the-art hospitals, but rather is found in local clinics with limited resources.<sup>[10]</sup> The lower level health care facility (health posts in Nepal) in the Himalayas are mostly staffed by paramedical personnel, health aides, and other minimally trained community health workers. This basic level health facility in the absence of equipments and trained personnel fails to provide necessary services on a

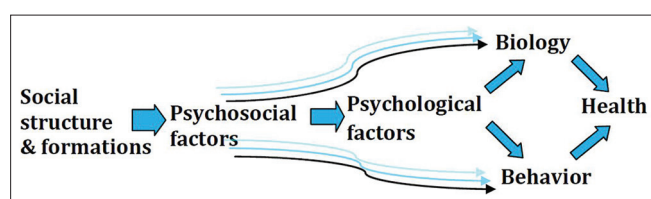


Figure 1: Schematic representation of psychosocial pathways

regular and consistent basis. The majority of such health institutions are barely functional because of inadequate funding, lack of trained staffs, absenteeism, chronic shortage of equipment, and medicines. To address these issues, a multistakeholder involvement including medical professionals, community health workers, local and central government support is needed at all levels to improve medical care facilities to the best possible.

#### *Health beliefs and practice of traditional medicine*

People in the Himalayas largely practice popular folk medical care, which relies on 'jhantri' (in rural Nepal; traditional folk who conducts rituals to satisfy good or evil souls who are believed for causing illness). The folk medicine is said to be derived from a large body of commonly held assumptions about magical and supernatural cause of illness. Sickness and deaths are often attributed to ghosts, demons, and evil spirits or they are thought to result from the evil eye, planetary influences, or the displeasures of the ancestors. Many precautions against these dangers are taken, including the wearing of charms or certain ornaments, the avoidance of certain foods and sights, and the propitiation of ghosts and gods with sacrificial gifts. When illness struck or an epidemic threatens, people often visit a *jhantri* for treatment. Such pseudomedical practices are ubiquitous in the Himalayas. Such practices bar people from seeking available health care; hence, in case of diabetes, people are likely to suffer acute coma complications from prolonged fasting.

The rural we go in any community, the prevalence of traditional herbal medicine (use of plant parts) practice increases. However, the large-scale emigration of the enterprising youth from the Nepal Himalayas for foreign army and other services resulted in the decline in the number of people professing traditional medical practices as well as people engaged in other professions and artisan skills because no enterprising youths are available to inherit the skills of the parents.<sup>[11]</sup> The deep-rooted belief in traditional healers and systems often bars people from seeking the available scientific health care facilities; however, this system may be beneficial in some aspect of diabetes care, rather than no care at all. It is because the traditional healers in rural communities have knowledge of background of people in their care. A traditional healer who is acquainted with the players and events in the community life is able to pick up on knowledge of people's social circumstances and utilize this to perform diagnosis and healing rituals.<sup>[12]</sup> This cannot meet the comprehensive diabetes care, however, particularly in emergency condition can barely help. While not going against the prevailing traditional system, but promoting them, it is imperative that the traditional healers be

provided with adequate knowledge and skills of modern health care system in diabetes management so that they can educate patients under their care and make appropriate referrals when needed.

Topographical hardships, poverty, low education, and inaccessibility to health care facilities has brought huge social disadvantage to the people in the Himalayas, which is undoubtedly associated with poor physical health and heightened psychosocial factors. Stress, hostility, feeling of worthlessness, loss of self-esteem, and depression affect the health of diabetics through direct psychological processes or through modified behaviors and lifestyles. A multidisciplinary, multi-stakeholder approach involving psychosocial intervention is required to improve the health of these disadvantaged.

#### **Heading toward psychosocial health**

Everywhere adverse psychosocial exposure or 'misery' is associated with poor health. This association may not be causal; rather it may reflect issues of reverse causation, reporting bias, and confounding by aspects of the material environment associated with misery. There is good evidence that both material disadvantage and misery are associated with objective health outcomes.<sup>[13,14]</sup> It is therefore necessary to develop and practice a system of addressing emotional problems regularly. It is a key health care intervention even if diabetes self-care is adequate, and all clinicians should be able to<sup>[15,16]</sup>

1. Identify patients who are suffering from diabetes-related distress
2. Apply effective treatments to relieve diabetes-related distress
3. Identify patients who are suffering from psychiatric disorders
4. Refer patients for specialized mental health care when appropriate.

The Diabetes Attitudes, Wishes and Needs (DAWN) Program is one of the largest psychosocial studies on diabetes which demonstrated that as many as 41% of patients had poor psychological well being, while only 10% of them received appropriate psychological care.<sup>[7]</sup> It has set goals and strategies of which, systematic implication will help in psychosocial problem solving.<sup>[17]</sup>

*Goals of the DAWN program* include promoting active self-management; enhancing psychological care; enhancing communications between people with diabetes and health care providers; promoting communication and coordination between health care professionals; and reducing barriers to effective therapy.

*Strategies to achieve DAWN goals* includes raising awareness and advocacy, educating and mobilizing people with diabetes and those at risk, training health care providers and enhancing their competencies, providing practical tools and systems, driving policy and health care systems change, and developing psychosocial research in diabetes.

Although DAWN goals and strategies were developed for overall general diabetic population, they are rightly applicable to Himalayan population as well. The Himalayan region and Nepal share similar cultural and socioeconomic expressions as India. Recommendations that are very much useful and applicable in this region are depicted in 'National recommendations: Psychosocial management of diabetes in India'<sup>[18]</sup> and 'Guidelines for ethno-centric management of diabetes mellitus in India: The north east consensus group statement'.<sup>[19]</sup> These studies epitomize, particularly in this region that beside the evidence-based medicine for diabetes, psychosocial treatment is integral to a holistic approach of managing diabetes; and it is key to realizing appropriate biomedical outcomes.

### Summary

Diabetes management can be difficult and frustrating for both patients and practitioners, particularly when heralded by huge psychosocial yoke. The extreme climatic condition and challenging topography has greatly hampered the day-to-day activities of people in Himalayas; including hygiene, sanitation, and travel for health care. Poor socioeconomic and educational deprivation have been associated with poor health-seeking behavior. Lack of knowledge, attitude, and practice has been a hindrance to effective therapy and compliance. Health care facilities in the Himalayas are available in the form of meagerly equipped health posts, with minimally trained paramedics, and are hardly functioning and barely utilized by people who are largely accustomed to practicing traditional medical care. This material disadvantage has upshot stress, frustrations, and psychological imbalances that have adversely affected the lifestyles, behaviors, and health of diabetic people. Information is needed about which barriers present the greatest obstacles for which types of patients, and from this, a practical, cost-effective interventions need to be developed with multistakeholder participation. The goals and strategies set by the DAWN program can be implemented to conquer the prevailing psychosocial barriers and facilitate the diabetes care in the Himalayas.

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**How to cite this article:** Poudel RR, Adhikari BR. Diabetes in the Himalayas: Psychosocial barriers and solutions. *J Soc Health Diabetes* 2013;1:66-9.

**Source of Support:** Nil. **Conflict of Interest:** None declared.