CHAPTER 6

'My Doctor Doesn't Understand Why I Use Them'

Herbal and Food Medicines amongst the Bangladeshi Community in West Yorkshire, U.K.

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Urban Ethnobotany

There has been a slow but gradual shift in ethnobotanical research during the last twenty years, from exploring exotic places and rainforests to investigating back yards and urban environments. Critics of ethnobotany have seen this change as the reaction of ethnobotanists to the increasing difficulties in negotiating permissions with regional and national authorities of developing countries (especially Meso-American) for conducting classical bioprospecting-based research. However, there has been a move away from access to classical funding routes, which in turn has resulted in a change in research aims from a mere documentation of plant uses to more complex, hypothesis-driven research.

In reality, change has been forthcoming since the late 1990s when North American ethnobotanists began to explore the plant uses by people migrating and settling in urban environments (Balick, Kronenberg and Ososki 2000), possibly driven by the increasing interest of a number of stakeholders in minority ethnic health and issues related to the use and perception of Traditional Medicine (TM) and Complementary and Alternative Medicine (CAM) within Western societies. Although this shift may have been initially the result of many undesirable contingencies, it is nowadays widely accepted within the scientific community that

'urban' ethnobotanical studies may offer the unique possibility of a better understanding of how ethnobotanical knowledge changes over space and time.

In recent years a number of ethnobotanical studies have highlighted interesting cases amongst minority ethnic communities in urban environments (Corlett, Dean and Grivetti 2003; Nguyen 2003; Waldstein 2006; Pieroni and Vandebroek 2007, and chapters therein). The growing interest of medical anthropologists and other social scientists in ethnicity and health studies in multicultural societies parallels an increasing awareness that the meaning of health is often broader and more complex than what is understood in classical Western biomedical terms. In order to understand human well-being we need to take into consideration emic or insiders' health perceptions, beliefs and practices, instead of focusing merely on the etic or outsiders' approach. Emic approaches to minority-ethnic health studies represent important turning points in public-health discourses aimed at improving interventions devoted to minority ethnic groups in Western countries.

Strengthening or Adapting Cultural Identities?

As highlighted in the introduction of the recently edited book *Traveling Cultures and Plants: The Ethnobiology and Ethnopharmacy of Human Migrations* (Pieroni and Vandebroek 2007), there are scientific questions which remain open for investigation in the field of migration and ethnobiology. These include:

- Do people who migrate still depend on their own healthcare strategies within the domestic domain, including the continued use of food and medicinal plants brought over from their home countries or purchased in local shops in the new society, for common, chronic and/or culturally important health conditions? If so, why is this?
- In what ways do minority ethnic healthcare-seeking strategies change over time, in response to 'internal' dynamics of identity and representation within the minority ethnic community, and to external environmental, cultural, social and political changes in the country to which they migrate, including public healthcare policies?
- What are the existing articulations between minority ethnic groups' own healthcare systems and the institutionalised biomedical system? To what extent are institutional health actors in their new country of residence aware of these strategies?

Biocultural adaptation, cultural negotiation and identity are key issues for anthropological discourses on displacement and migrations.

Research in culturally homogeneous and/or nonurban environments has shown that to follow the pattern of change in traditional knowledge and use of plants among people who migrate to a new country implies the analysis of acculturation processes (Nesheim, Dhillion and Stolen 2006). Acculturation has been discussed in communication sciences as being the result of two simultaneous processes: one involving deculturation from the original culture, and the other involving enculturation towards the adopted culture (Kim 2001). The old model of cultural adaptation is, however, quite problematic, since it is highly unlikely that a culture, after moving, simply 'adapts' to the new, autochthonous culture. There are reasons for this; adaptation does not represent a sort of 'destiny'. On the contrary, it is only one of many diverse possibilities that minority ethnic groups have in their interface with a new culture. Adaptation is, in fact, the result of cultural negotiations with a new environment, which is not always culturally homogeneous. Indeed, Western metropolitan milieus are never quite culturally homogeneous. Often people who have migrated may choose other strategies; for example, those aimed at strengthening their cultural identities in a process that is similar to what other scholars in ethnoecology define as 'resilience' at ecological and cultural edges (Turner, Davidson-Hunt and O'Flaherty 2003). Strengthening their own identities in the midst of autochthonous/new populations means that people who migrate to a new country may want to deliberately retain their traditional knowledge and practices, in order to affirm their distinct cultural identity. What minority ethnic groups do in reality probably lies somewhere in between the two. The exact location depends very much on the dynamics in the migrated groups' changing interface with their new cultural context. Moreover, since ethnicity is also the complex result of social processes (Barth 1969), and cultural boundaries are very dynamic and may even be seen as constructs that are created by our own processes of representation (Clifford and Marcus 1986; Marcus 1998), plant uses and especially their representations may change rapidly in response to continuously shifting cultural negotiations.

Migrants' Ethnobiology and Bangladeshis in the U.K.

Health policies in many European countries and in the U.K. have been based and are still largely based upon 'assimilationist' approaches, where the assumption is that inequalities among ethnic groups will disappear once newly migrated families adopt belief systems and practices of the 'new society'. Assimilationist ideas are based upon simplistic explanations (Mason 2000) and they do not take into account the variability of well-being and health beliefs and perceptions, which exist among diverse ethnic groups. Biologists and health specialists have paid attention to the

issue of the use and perception of TMs and other 'nonorthodox' practices of different medical systems among minority ethnic groups in Western European urban environments (Pieroni et al. 2005; Sandhu and Heinrich 2005; Ceuterick et al. 2007; Pieroni et al. 2007; Pieroni and Torry 2007; Pieroni et al. 2008) and even nonurban environments (Pieroni and Gray 2008), while other researchers have also analysed the dietary habits of people who have migrated (Jonsson, Hallberg and Gustafsson 2002; Burns 2004).

Too little is still known about the uses and perceptions of homemade herbal medicines and food in self-medication practices and the provision of healthcare within migrated populations' domestic arenas. Moreover, more research is needed to better understand how these practices among minority ethnic groups change over time. A deeper understanding of the patterns of use of TMs and of the non-Western healing strategies among people who migrate, and their dynamics, could be especially crucial for health practice and policies in Europe.

Studying Herbal and Food Medicines in Bangladeshi Communities in West Yorkshire

The primary aim of this study was to explore the range of TMs in use within the Bangladeshi community in West Yorkshire. We wanted to identify the purpose of their use and to capture how lay healthcare knowledge has changed over time.

This ethnobotanical study was undertaken between September and December 2007. Semi-structured interviews, focus groups and the free-list technique were used to collect data. The majority of data were qualitative; however, some data were converted into a quantitative form. Qualitative data were analysed using the Grounded Theory technique (Strauss and Corbin 1998), statistical data were analysed using SPSS and all graphs were produced in Microsoft Office Excel.

Research Participants

The U.K. 2001 National Census provides a useful insight into cultural diversity in England. In 2007 there were 324,000 people of Bangladeshi ethnic origin living in England, of which the majority (62 per cent) were aged between sixteen and sixty-four years; only 4 percent were aged sixty-five years and over (Self 2008). This minority ethnic group make up 0.6 per cent of the population of England (Phillpotts and Causer 2006: 102). The majority of families of Bangladeshi origin live in London. However, in Yorkshire and the Humber there were estimated to be 12,330 people living in the region (ONS 2001a); this represents just 0.2 per cent of people living

in Yorkshire. Figure 6.1 provides a visual snapshot of the distribution of the Bangladeshi population within the U.K.

In comparison to other minority ethnic groups, and excluding the white majority ethnic group (who make up 92.1 per cent of the total population in the U.K.), the Bangladeshi ethnic group makes up just 6.1 per cent of all minority ethnic groups (ONS 2001b). The 2001 national census in the U.K. indicates that South Asians are the largest minority ethnic group, including Indian (22.7 per cent) and Pakistani (16.1 per cent) people. There has been a past tendency to report upon the South Asian ethnic groups as one single ethnic group. Consequently, early investigations into the health of the nation failed to recognize important cultural differences between different South Asian groups, and subsequently the diversity within different groups. The specific needs of people of Bangladeshi ethnic origin, therefore, have not been identified until more recently. In this study we wanted to investigate only the Bangladeshi group.

Figure 6.1. Distribution of the Bangladeshi population in the U.K. *Source*: ONS 2001b

A report into the health perceptions of minority ethnic groups in the U.K. found that Bangladeshi men and women were three to four times more likely than the general population to rate their health as bad or very bad (White 2002: 14). This is not surprising given that the study also found that Bangladeshi men and women living in England were nearly six times more likely than the general population to report having diabetes (White 2002: 14). These latter figures are considerably higher than those for Indian men and women in general. The validity of studies which rely upon self-perception scales or self-reporting techniques has long been questionable; however, these particular findings do raise serious consequences for public health policies in the U.K. The annual report by the national statistician in 2007 found that the proportion of people who reported a longstanding illness or disability, including mental health problems, remained stable across the whole of the U.K. However, the highest rates reported were for Bangladeshi women; Bangladeshi men were second highest, just behind Pakistani men (Dunnell 2008).

Bangladeshi households were also found to be the largest in the U.K., with an average of 4.5 people per household (Self and Zealey 2007: 15). Of course, this does not mean that such families are living in larger houses; on the contrary it is quite possible that many larger families living in deprived communities are living in overcrowded conditions. Not surprisingly, therefore, a report by the Joseph Rowntree Foundation in 1998 entitled 'Ethnic Minorities in the Inner City', which analysed data collected from 5,196 people from minority ethnic groups, found that Bangladeshis were most likely to live in the most deprived areas within the U.K. (Dorsett 1998).

In 2005 Bangladeshi men were amongst a small number of minority ethnic groups who were least likely to be in professional careers in comparison to the majority ethnic groups or most other minority ethnic groups; no Bangladeshi women werereported to be in such employment. In fact, in 2004/05, 86 per cent of children in Pakistani/Bangladeshi households in the U.K. were in the bottom 40 per cent of households ranked by disposable income, compared with 49 per cent of all children (Self and Zealey 2007: 47). These statistics reveal a number of social factors known to contribute towards poor health in families.

Sampling Method

To best meet the aims of this study it was necessary to recruit participants with a good history of traditional knowledge of lay healthcare; thus the inclusive criteria was to engage older people of Bangladeshi origin who fell into the category of first- or second-generation migrants. This participant profile was selected because it could provide the greatest opportunity to explore original lay-healthcare practices with TM as well

as to obtain factual details about what information has been shared with younger generations within the Bangladeshi community.

Initially participant communities were randomly selected from four different towns in West Yorkshire, including Bradford, Leeds, Keighley and Halifax. Figure 6.2 is a map of the location of West Yorkshire within the U.K.

Members of these four Bangladeshi communities were approached on the basis of convenience and accessibility, and were invited to take part in the study. After initial participants were selected within each community a nonparametric snowball sampling method was used to recruit further members to the study. This snowball approach has the disadvantage that participants often recommend their friends or relatives to take part, who arguably share similar views and healthcare practices; this can introduce bias in the data and consequentially concerns about the validity of the

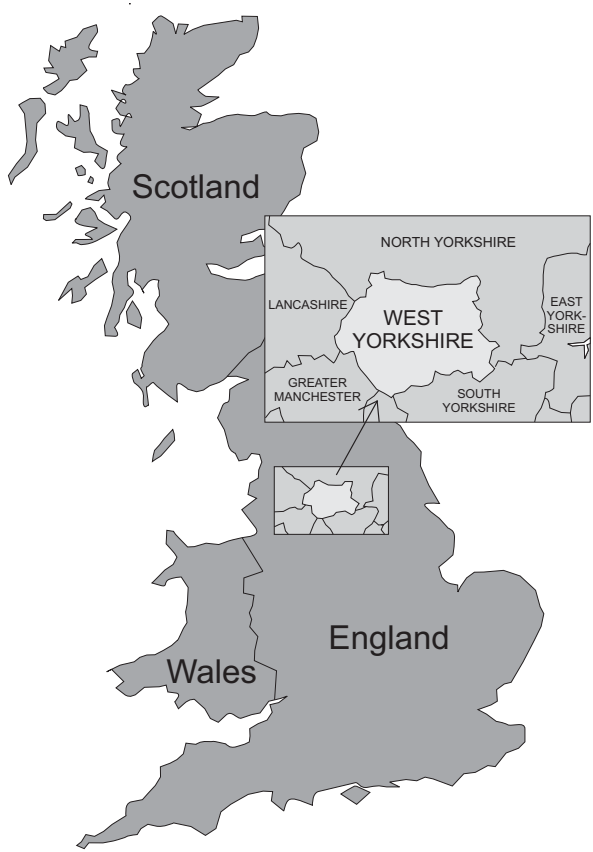

Figure 6.2. Location of West Yorkshire in Great Britain

results. However, in West Yorkshire the Bangladeshi communities are relatively small in comparison to other ethnic groups and so in reality it is possible that any method of participant recruitment could result in a degree of bias because of the strong likelihood that participants may know each other through friendship, relations or through shared community values. Children and young people were excluded from the study.

In total, seventy-nine participants were recruited; thirty-seven agreed to be interviewed and forty-two took part in the focus groups. To promote the most favourable setting and atmosphere during data collection, female participants were interviewed by female researchers and male participants interviewed by male researchers at a venue and time convenient to the participants; this also ensured strict Muslim beliefs regarding gender segregation could be respected in situations where participants engaged in religious practice. To reduce the risk of bias as a result of using different interviewers a fixed schedule of questions was used.

Ethical guidelines outlined by the American Anthropological Association (1998) and the International Society of Ethnobiology (2006) were observed throughout this study. We obtained ethics approval from Bradford University Ethics Committee. Informed consent was sought from participants in advance of signing them up to the study, and names and specific locations were made anonymous in order to preserve confidentiality. Permission was sought to use cameras and audio equipment.

Data Collection

In addition to a review of literature we used interviews, a free-listing method and focus groups to collect data.

Interviews and Free Listing

In total thirty-seven semistructured interviews were undertaken. Sessions were recorded. Participants were interviewed by two researchers; this ensured access to an interpreter because one researcher in each pair was fluent in South Asian languages. If a separate interpreter was required the researchers had access to family members. At the request of participants the interviews with men were always undertaken in a local mosque immediately after prayers, and interviews with women were undertaken either at home or in a Bangladeshi community centre around midday.

During interviews participants were invited to free-list plants, herbs, vegetables, spices, animal-derived products and ritual practices used for the maintenance of health. The free-list approach enabled the researchers to explore the participants' knowledge further as well as collect relevant botanical data; including names and parts of medicinal plants used

or known to them, range of uses for the plants, the preparation and administration of the plants, their origin, frequency of use and any observed effects when used for the treatment of health. In addition, demographic data were also collected, including age, gender, place of birth and self-perceived identity.

Waldstein (2006) suggests that listing a remedy is not a proof of the actual use of it; in fact, the cultural importance of the plant is more likely to be evident from the number of participants who list it. The analysis, therefore, took into account this quantitative data.

Focus Groups

Three separate focus groups were undertaken with forty-two women participants in different parts of West Yorkshire (eight, fifteen and nineteen participants). We used focus groups because it allowed a forum where participants could share commonalities and diversities in practice. We believed this setting to be the best to expose such differences.

Botanical Identification

Quoted plant items were collected and identified using a standard work on Bangladeshi medicinal flora (Ghani 2003) and *Mansfeld's Encyclopedia of Agricultural and Horticultural Crops (Except Ornamentals)* (Hanelt and IPK 2001). Voucher specimens of the recorded wild taxa only were collected and deposited at the Herbarium of the Laboratory of Pharmacognosy at the University of Bradford (PSGB).

Biomedicine versus Traditional Medicine

The majority of the participants prefer TMs instead of Western biomedicines. Figure 6.3 shows that over twice as many participants rely upon TM for the treatment of illness and the maintenance of health. A number of concerns and remarks about the Western biomedical approach were raised. Male participants appeared to lack knowledge in the use of TMs. Female participants offered useful comments, which could be analysed into the following three categories:

1. There appeared to be a failure by some Bangladeshis to find biomedical approaches helpful. This was coherently expressed by one participant: 'If I use modern medication, it just leads to another problem. It never cures the root problem; eventually I end up using traditional medicine to cure the root cause' (Female, 31 years old).
2. The biomedical system (National Health Service, NHS in the U.K.) was used, but if so only as a last resort. For example: 'I only go to my

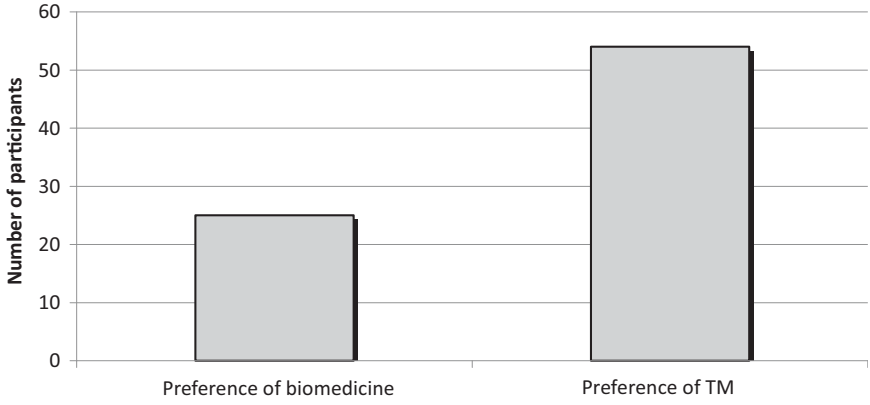

Figure 6.3. Participants' preference of TMs versus biomedical products

doctor when I'm very ill, and the TMs I have used have not helped me' (Female, 47 years old).

3. Communication problems between Bangladeshis and U.K. doctors appeared to raise two important issues:
   (i) It appeared to prevent healthcare staff from developing a greater understanding of healthcare behaviours and strategies used by minority ethnic families. One comment made suggested: 'My doctor doesn't understand why I use TMs and tells me just to take what he has given, without explaining how and why I need it. If I knew why I needed a certain medicine, I then could maybe find a traditional alternative' (Female, 53 years old).
   (ii) It appeared to act as a barrier to utilizing biomedical healthcare. For example: 'I have difficulty explaining myself to my doctor. I would like to know why I have [a] certain problem and what has caused it first and then be prescribed medication. I get frustrated because my English is not very good. (Female, 36 years old). 'Doctor doesn't care about patients. He doesn't spend enough time with me so I can't explain my problems' (Female, 61 years old).

Food-medicines

Participants in this study quoted approximately 150 preparations based on seventy-five folk taxa (sixty-one taxa were identified). Appendix 6.1 provides an outline of these findings. Most of these quoted remedies are still in use today within the U.K., whilst only a small number were said to have been prepared and used in the past in Bangladesh.

The data suggests that the majority of plants cited are used to treat only one or two minor ailments; for example, beet leaves are used to treat burns, and pineapple is used to cure threadworm. However, some plants have multiple uses; for example, mustard seeds and garlic are both used to treat up to seven different health problems, ranging from heart disease and arthritis (garlic) to eczema and constipation (mustard seeds). Neem leaves are found to treat up to six health disorders, including chicken pox and diabetes; and onion and olive oil are both used to treat up to five health problems.

We found that psyllium husk is commonly used in the treatment of constipation (n=45) and as a diuretic; garlic has a majority use as a general treatment for all illness (n=31); and bitter melon is popular for the treatment of diabetes (n=32). Other TMs included olive oil for the treatment of pain (n=23), rice to treat diarrhoea (n=22) and lemon to aid digestion.

Participants also listed thirteen other natural remedies, which are outlined in Appendix 6.2, and ritual practices for various illnesses based on chanting specific verses of the Qu'ran (see Appendix 6.3 for specific quotations).

Figure 6.4 shows the proportion of plant, animal and spiritual remedies used within TM by participants. Most of the quoted TMs were represented by food-medicines, whose natural ingredients are widely available in South Asian shops, but not so accessible in the U.K. The overlap between the food and medicine domains is well known in ethnobiology (Etkin 2006; Pieroni and Price 2006) and in urban ethnobotany as well (Pieroni et al. 2005; Sandhu and Heinrich 2005). However, it still appears that many health professionals are frequently unaware of minority ethnic medicinal perceptions of specific food items. A thorough and detailed knowledge

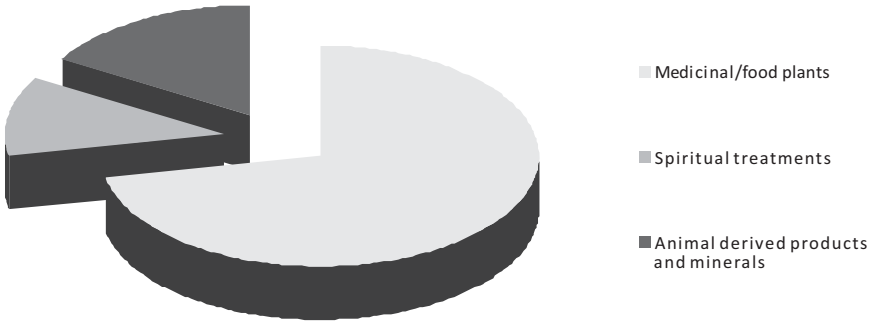

Figure 6.4. Proportion of plant, animal and spiritual remedies used within TM by participants

of traditional dietary patterns in South Asian households within the U.K. would certainly facilitate the design of therapeutic profiles for those patients affected by chronic and/or metabolic diseases (i.e. diabetes). The U.K. Government health policy white paper 'Saving Lives: Our Healthier Nation' resulted in the introduction of a range of initiatives to tackle health inequalities, including the '5 a Day' fruit and vegetables campaign, the introduction of Healthy Living Centres within deprived areas, and local Health Improvement Programmes (Department of Health 1999); central to the policy is the belief that diet is core to the maintenance of health throughout life. Research investigating the food and plant uses in health is therefore paramount if such initiatives are to be successful.

Availability of Ethnobotanicals

Although only a few participants raised this as an issue, the access to products and concern for the continuous availability of products was an interesting finding. Comments could be categorized into the following two themes:

1. There are limited numbers of products imported into the U.K. As participants point out: 'In the local Bangladeshi shops, herbs and products are only available to an extent. Some products are hard to import from Bangladesh' (Female, 47 years old). 'I can find most things that I need from either the local Bangladeshi shops or larger supermarkets, because I only use basic traditional food medicines. I don't think that there is any need to try to find foods that are not readily available here, it's just a big hassle' (Female, 24 years old).
2. Names of products are problematic when translated into English for sale in U.K. One interviewee summarizes the point: 'It is hard to try to explain to shopkeepers as to what exactly we are looking for, especially in the larger stores and especially since we do not know the English names of some products' (Female, 23 years old).

In Bangladesh healthcare services are considered scarce. Some Bangladeshis can access allopathic treatment, however. Alongside this exists the traditional system, which includes Ayurvedic (Kabiraji), Unani (Hakim), homeopathic and folk medicine. According to Akhter (2006) there are approximately six thousand registered and ten thousand unregistered practitioners (Kabirajis and Hakims). There are also approximately twenty-four registered herbal pharmaceuticals of which four of the big companies (Sadhana, Sakhti, Kundeshwari and Hamdard) are producing 80 per cent of traditional remedies (Akhter 2006). It is not surprising, therefore, that there continues to be a reliance upon TM use

by migrant populations within the U.K. A deeper understanding of the TMs in use, together with an understanding of how they complement other healthcare systems in the U.K., could help improve access to those remedies currently unobtainable within the U.K. market.

Use of Ethnobotanicals among Different Age Groups

The findings showed that middle-aged to older participants were able to identify and quote the use of TMs more reliably than younger participants (Figure 6.5). However, the average number of examples appeared to remarkably decrease for participants the longer they had lived in the U.K. (Figure 6.6).

The majority of older participants suggested that the 'younger generations seemed more reluctant to use TMs or to know how to prepare them'. There appeared to be three reasons for this:

1. Changing attitudes of younger generations.
   (i) Younger generations were reported to prefer to use Western biomedical healthcare. Comments suggested that: 'The younger generation are not interested, they prefer using conventional medicines' (Female, 61 years old). 'Traditional knowledge is decreasing, because our children want quick results when they are ill and so use modern medicines' (Female, 57 years old).

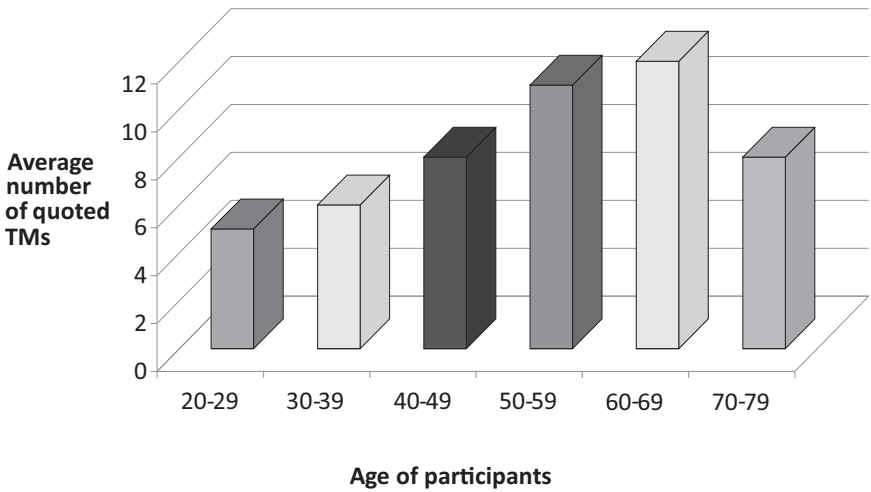

Figure 6.5. Average number of quoted TMs by different participant age groups

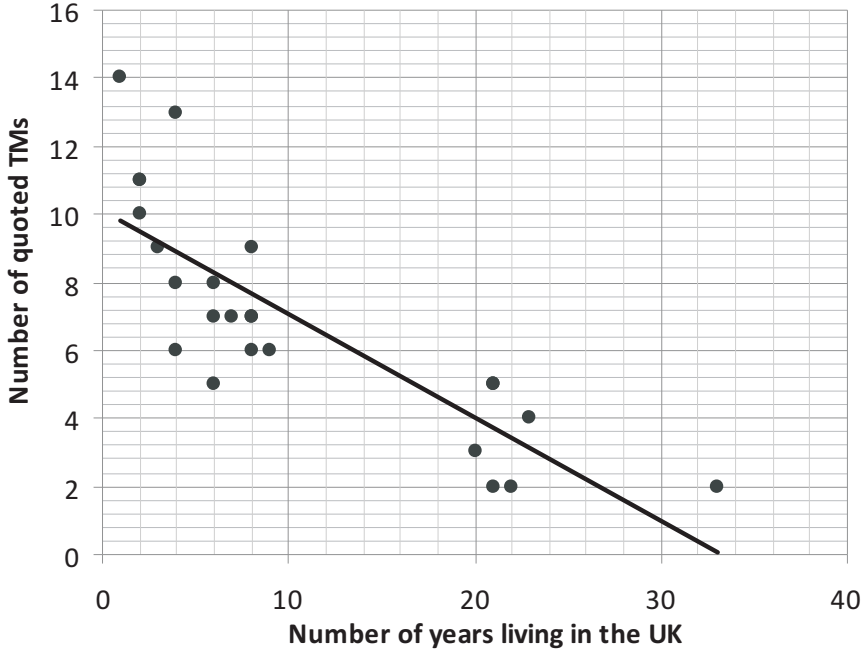

Figure 6.6. Number of quoted TMs versus the number of years participants have been living in the U.K.

(ii) It was reported that young people are not interested and do not understand TM. For example, respondents informed us: 'I have tried my best to tell my children about herbs and plants when cooking. However, they don't seem to very interested at times. They are too busy with watching the television or playing' (Female, 31 years old). 'Kids these days don't understand the importance of TMs; they don't understand the side-effects of modern medicines' (Female, 60 years old).

2. Knowledge is being lost within the home.
   (i) It seems that TM is no longer practised due to changing roles within the family: 'My knowledge has decreased because I do not cook as much as I did in Bangladesh. My daughters-in-law do most of the cooking' (Female, 75 years old).
   (ii) There appears to be a lack of time to educate the family: 'My children do seem to be interested in traditional knowledge. However, we never have the time to talk about it properly and educate them' (Female, 57 years old).
   (iii) It has been found to be difficult to practise the use of TM in a new country: 'Traditional knowledge is going to decrease if you move

away from your homeland, because now you try to adopt the ways of your new country' (Female, 32 years old).

3. Changing expectations from the younger generation.
   (i) A few younger participants did not appear to have high expectations about the depth and breadth of TM knowledge they planned to hand down to their children: 'I will be happy as long as my children know how to treat minor illnesses with traditional medicine, anything else they can visit the doctor' (Female, 22 years old).

Similar trends in the erosion of traditional ethnobotanical knowledge among people who have migrated has been observed in other minority ethnic groups in Europe (Pieroni et al. 2005 and Pieroni et al. 2008), although this process is not so much a case of being inevitable, but more likely the result of ongoing cultural negotiations (Pieroni and Gray 2008), in which a crucial role may be played by power relations between minority and dominant cultural groups and the fluctuating strength of the cultural identity of the minority group.

Diabetes and Public Health Issues

Participants were asked to identify common health problems being treated with TMs. Figure 6.7 shows the most important pathological conditions, for which participants mentioned using homemade TMs.

The management of diabetes with the use of TMs appears to be a popular, domestic health-seeking strategy within the Bangladeshi community in West Yorkshire. The data shows that seven different plants are in use for

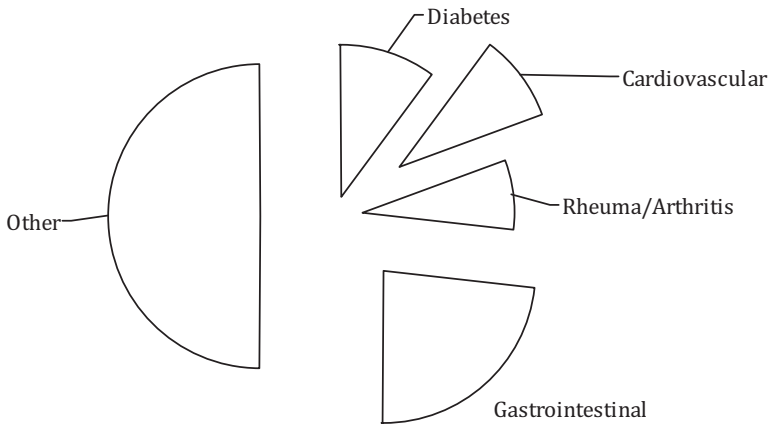

Figure 6.7. Most-quoted diseases treated by TMs

the treatment of diabetes; the most popular is bitter melon (n=32), and others include fenugreek leaves (n=7), white marudah bark (n=5), neem leaves (n=4), *sorrotha* leaves (not identified) (n=3), pointed gourd leaves (n=2) and Indian elm leaves (n=1). Specific details about their preparation are outlined in Appendix 6.1; all are prepared for ingestion as either liquid or food, and some are taken either in the morning or in the evening. Bitter melon has three different methods of preparation, including being taken as juice or in food.

The ethnobotany of Bangladeshis in Europe is completely unknown, although a few scholars in Bangladesh have paid attention in recent years to ethnobiological topics, especially concerning traditional knowledge on homegardens and medicinal plants in the home country (Alam 1992; Khan and Sen 2000; Millat-e-Mustafa, Teklehaimanot and Haruni 2002; Partha and Hossain 2007; Rahman, Uddin and Wilcock 007). The Bangladeshi community in the U.K. and its networks in Bangladesh, however, have been extensively studied in recent decades by diverse social scientists (Gardner 1993; Eade 1997; Phillipson, Ahmed and Latimer 2003; Gardner and Ahmed 2006). It has been widely reported that the Bangladeshi ethnic group has the poorest health status, especially considering the problems related to the high incidence of diabetes and its management (Kelleher and Islam 1996; Rhodes and Nocon 2003; Rhodes, Nocon and Wright 2003), and those connected to the practice of chewing betel nuts (Mannan, Boucher and Evans 2000; Prabhu et al. 2001).

The U.K. Government has published a National Service Framework for Diabetes in England and Wales (Department of Health 2001) which identifies specific national performance targets and actions that health professions are required to implement as a priority. Such targets include routine screening, access to information and education, and to work together with patients to an agreed care plan which involves regular health checks. The World Health Organisation has also identified diabetes as a significant cause for concern, estimating that 'diabetes deaths are likely to increase by more than 50 percent in the next 10 years without urgent action' (WHO 2008). Given the high relevance of this issue for public health policies in Europe, our data suggests that Bangladeshis in West Yorkshire have adopted their own strategies to attempt to manage this illness; this could have implications for their adherence as patients to biomedical care plans, if such plans fail to take into consideration lay health behaviours. It is quite possible that many health professionals involved in the management of diabetes among South Asians are not always aware of these practices.

Culturally sensitive approaches to South Asian patients affected by type 2 diabetes is more crucial than ever; studies using culturally sensitive methods have recently been documented for patients with type 2 diabetes from minority ethnic groups living in Glasgow (Baradaran et al. 2006), and

other studies have stressed the importance of using a culturally sensitive approach for South Asians (Ahmed and Lemkau 2000).

Conclusion

There were four key findings in the study.

1. The majority of participants prefer to use TM rather than seek healthcare from the State (NHS), which operates a biomedical model of healthcare.
2. Healthcare practices appear to fall within two specific health-belief models, as outlined in Holland and Hogg (2001): the 'naturalistic' model, where the majority of participants are actively involved in the use of botanical specimens for prevention, maintenance and cure of health and illness; and the 'personalistic' model, where participants use rituals, such as chanting, to ward off illness.
3. Access to some of the natural products used by the participants was reported to be problematic.
4. The knowledge and use of the botanical specimens identified in this study appears to be greater within the older age group. This appears to result from the gradual change in roles, attitudes and expectations within families.

Our data provide valuable insights into concepts and views surrounding the health-giving properties of foods in the traditional diet within the domestic arenas of Bangladeshis living in West Yorkshire. This information could be crucial to both understanding dietary habits and improving the provision of healthcare through dietary consultation that takes into account emic views and concepts regarding 'healthy foods'. This would be especially beneficial for patients with type 2 diabetes.

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Appendix 6.1. Plant-based TMs quoted by the participants (in brackets the number of participants who have quoted each specific remedy). Quoted disappeared uses, which were common in Bangladesh, are indicated by an asterisk

Abelmoschus esculentus (L.) Moench. (Malvaceae). Okra or lady's finger/*Bindi*. Fruit.
- Treatment for sore throat, coughs and hypoglycaemia. Cook as a vegetable and eat. (7)

Allium cepa L. (Alliaceae). Onion/*Payaaz*. Bulb.
- Used to relieve headache. Apply juice to forehead. (3)
- Helps to clear the eye in conjunctivitis. Bite onion and blow into eyes to produce tears. (7)
- Used for ear conditions in three ways: to treat earache (heat bulb and place in the ear), for its antiseptic properties, and after ear piercing. (3)
- Helps relieve phlegm in people suffering from chesty cough. Use bulbs and leaves in cooking. (14)
- Used to relieve/treat bruises. Cut onion in half and cover the surface in turmeric. Press it against the bruise for a couple of minutes. (4)

Allium sativum L. (Alliaceae). Garlic/*Roshun*. Bulb.
- Taken for heart diseases or hypertension. Eat raw garlic cloves in the morning. (9)
- Used in treatment of all illnesses. Use the bulb in curry or eat on its own. (31)
- Treatment for arthritis and rheumatism. Boil garlic in water and drink mixture. (3)
- To prevent nausea and sickness in pregnancy. Place cloves in a hot pan and blend with honey and sugar, and drink. (4)
- For relief of headache. Inhale the aroma from raw garlic cloves. (3)
- To treat sore throat. Crush the garlic and onion to make a paste, and swallow. (4)
- Used to treat stomach pain. Heat garlic and grate into hot water, and drink. (7)

Aloe barbadensis Mill. (Asphodelaceae). Aloe/*Kumari*. Gel and dried juice.
- Aloe is considered to be a powerful aphrodisiac. Mix the mucilaginous pulp of the leaf with sugar and make into a sweet preparation. (4)
- Used to treat eye irritations. Rub the dried juice that flows from the cut bases of the leaves onto the eyes. (8)

Amygdalus communis L. (Rosaceae). Almond/*Badham*. Kernel.
- Almond eaten raw is believed to help the brain. (22)

Ananas comosum (L.) Merrill (Bromeliaceae). Pineapple/*Anarosh*. Fruit.
- Pineapple is used to cure threadworm. Mix the juice of pineapple with '*chunah*' (calcium carbonate) and drink. (1)

Apium graveolens L. (Apiaceae). Celery/*Randhoni*. Root and fruit.
- Celery is good for tooth pain. Chew the root . (2)
- The fruit is believed to have antiseptic and sedative properties. (3)

Areca catechu L. (Arecaceae). Betel Nut/*Gua*. Nut.
- Used to aid digestion. Believed to promote relaxation. Can be taken for social reasons. Chew slices of the nut and lime inside betel (*Piper betle* L.) leaf. Spit out juice. Usually taken after meals. (2)
- Treatment for headache. Crush the nut, add honey and mix to form a paste. Place on forehead. (5)

Averrhoa carambola L. (Oxalidaceae). Starfruit/*Camranga*. Fruit.
- Used to heal sore throats. Cut fruit into small pieces and eat. (2)

Azadirachta indica Juss. (Meliaceae). Neem/*Neem patha*. Leaves.
- Treatment of indigestion. Cut leaves and boil in water to make herbal tea. (6)
- To treat diabetes. Grind and make into small balls and eat it on an empty stomach in the morning. (4)
- To relieve pain. Crush and make into a paste; make little balls out of it and apply to area of pain. (3)
- For skin infection. Blend leaves with turmeric and apply to infected areas. (5)
- To treat headaches and fever. Grind *neem patha* with garlic, onion and ginger and apply on head. (12)
- As a remedy for chicken pox. Boil neem in water, rub the solution on the body and bathe the child with the solution. (9)
- To cleanse skin and treat spots. Place the leaves in water, warm up the solution and apply to spots. (5)

Beta vulgaris L. (Chenopodiaceae). Beet/*Betsalang*. Leaves.
- Apply leaves to burns or bruises. (2)

Brassica sp. (Brassicaceae). Mustard/*Sureyo*. Seeds – Oil.
- Treatment of blocked nose. Mix fresh mustard paste and fresh garlic, add to boiled rice and eat. (2)
- To treat earache. Slightly heat the mustard oil and insert few drops into the ear. (8)
- For mouth ulcers. Gargle with mustard oil. (8)

- For dry lips and eczema. Apply mustard oil to affected area 3–4 times a day. (8)
- Used for the treatment of constipation. Roast *methi* (*Trigonella foenum-graecum* L.) seeds in mustard oil until black and rub in clockwise motion on stomach. (5)
- To treat a cough. Mix mustard oil with garlic and rub on chest. (1)
- A remedy for hypertension. Mix oil with water and pour onto head. (5)

Camellia sinensis (L.) Kuntze (Theaceae). Green tea/*Kava*. Leaves.
- Tea for treating coughs and colds. (3)

Carica papaya L. (Caricaceae). Papaya/*Khoyfol*. Fruit.
- To treat threadworm. Drink the juice of papaya. (1)

Citrus aurantifolia (Christm.) Swingle (Rutaceae). Green lime/*Adha lembu*. Fruit.
- Used to treat headaches and fever. Extract fruit juice and apply on forehead. Believed to bring down temperature. (8)

Citrus limon (L.) Burm. f. (Rutaceae). Lemon/*Lembu*. Fruit.
- Used for digestion. Drink lemon juice with meals, especially a diet of fish. (20)
- To treat stomach pains. Add lemon juice and salt to warm water and drink. (3)
- To prevent sickness. Breathe in the scent of a lemon or lemon leaves. (3)
- To cool down the body (reduce temperature). Massage lemon juice into the scalp. (8)

Citrus sinensis (L.) Osbeck (Rutaceae). Orange/*Zamir*. Fruit.
- For treating sore throat or indigestion or skin diseases. Eat fruit on its own. (7)

Cocos nucifera L. (Arecaceae). Coconut/*Naikol*. Nut – Oil.
- Used in the treatment of dry hair, the prevention of hair loss, and to treat chapped lips. Apply coconut oil to hair on a weekly basis. Apply externally to lips. (8)
- To treat a rash. Burn shellfish and mix ash with coconut milk and apply to rash. (2)*

Crocus sativus L. (Iridaceae). Saffron/*Zafraan*. Stamen.
- To aid the expulsion of trapped wind (carminative action). Use in cooking. (3)

- To ward off evil and help people afraid of the dark. Saffron can be added to a small amount of oil and rubbed on skin before going to bed. (3)

Cucumis sativus L. (Cucurbitaceae). Cucumber/*Khira*. Fruit.
- To treat eye inflammations. Cut into slices and place over eyes. (7)
- To promote weight gain for people who are anorexic. Eat together with dried dates (*Phoenix dactylifera* L. fruits). (4)

Cucurbita pepo L. (Cucurbitaceae). Courgette/*Toree*. Fruit.
- The vegetable is cooked and eaten to relieve stomach problems. (6)

Cuminum cyminum L. (Apiaceae). Cumin/*Jeera*. Fruits.
- Crush jeera, add to olive oil and massage on stomach to relieve stomach pain. (4)

Curcuma longa L. (Zingiberaceae). Turmeric/*Haldi*. Rhizome.
- To prevent stomach pains. Mix turmeric powder with milk and drink. (6)
- To prevent cough. Mix with honey and eat. (8)
- To heal bruises. Crush fresh turmeric rhizome and apply to skin. (7)
- To treat nausea in pregnancy. Add Rhizome to cooking. (19)

Daucus carota L. (Apiaceae). Carrot/*Gajor*. Root.
- Carrot is eaten raw to improve eyesight. (15)

Elettaria cardamomum (L.) Maton (Zingiberaceae). Cardamom/*Elaichi*. Seeds.
- Chew cardamom to treat toothache. (7)

Foeniculum vulgare Mill. (Apiaceae). Fennel/*Jamaain*. Fruits.
- To aid digestion. Chew fennel and drink with water. It can also be used to freshen the taste in the mouth. (13)
- To treat a sore throat. Chew fennel. (8)

Ficus carica L. (Moraceae). Fig/*Dumur*. Fruit.
- Used as a laxative. Eat raw or as dried fruit. (2)
- To remove 'gravels' (stones) in the kidney or bladder. Eat the fig. It is easily digested. (4)

Holoptelea integrifolia (Roxb.) Planch. (Ulmaceae). Indian Elm/*Naali*. Leaves.
- Used in the control of diabetes or for muscular pain. Cut the leaves and stems into small pieces, boil in water and drink/swallow. (1)

- As a treatment for chicken pox. Cut the leaves and stems into small pieces, boil in water, allow to cool down and then apply to the skin (spots/blisters). (1)

Hordeum vulgare L. (Poaceae). Barley/*Jau*. Fruits.
- Used to treat sickness and loss of appetite and to promote a healthy heart. Make into a soup and eat. (4)

Hymenaea courbaril L. (Fabaceae). Brazilian copal. *Jatoba*. Leaves.
- Crush and make into a paste and apply to cuts. (3)

Lawsonia inermis L. (Lythraceae). Henna/*Mehndi*. Powdered leaves.
- Used to reduce hypertension. Also used to maintain healthy hair and for hair colour. Mix powder with water to create a paste. Apply to head/hair. (16)
- Used in the treatment of mouth ulcers or skin burns. Also used to treat pain in general. Apply wet to mouth or skin. (3)

Lavandula sp. (Lamiaceae). Lavender/*Jusna ful*. Flowering tops – Essential oil.
- Apply oil around the nose and eyes, 2–3 times a day, to relieve a blocked nose. (1).

Lens culinaris Medik. (Fabaceae). Lentil/*Daal*. Seeds.
- To help clear skin, blend the lentils with lemon juice and turmeric and apply on the skin. (5)
- Consumed, it is used to help 'soften the heart', making one more sympathetic and caring. (2)

Lycopersicon esculentum Mill. (Solanaceae). Tomato/*Bangoin*. Fruit.
- Eat raw tomatoes to help circulation. (9)

Malus domestica Borkh. (Rosaceae). Apple/*Aifol*. Fruit.
- Eat on its own to treat indigestion and constipation. (8)

Mangifera indica L. (Anacardiaceae). Mango/*Aam*. Fruit.
- Use ready-made or homemade mango pickle and chew skin of mango until headache symptoms improve. (1)

Momordica charantia L. (Cucurbitaceae). Bitter Melon/*Karela*. Fruit.
- For diabetes. Drink a glass of raw *karela* juice every morning or afternoon. Take two small *karela*, blend and take out the seeds before drinking. (30)

- For diabetes. Eat the raw, green, outer part of the fruits every morning. Eat raw *karela* 1–2 times a week. (15)
- Used regularly for diabetics. Chop up and fry in oil to make curry. (32)

Musa x *paradisiaca* L. (Musaceae). Banana/*Khola*. Fruit.
- To treat diarrhoea. Eat raw green banana. (11)
- To treat diarrhoea. Boil banana with water and eat. (1)

Nicotiana tabacum L. (Solanaceae). Tobacco/*Gool*. Leaves.
- Used to cleanse teeth. Rub tobacco leaves on the teeth and spit out. (4)

Nigella sativa L. (Ranunculaceae). Kalhi/*Zeera*. Seeds – Oil.
- Good for health and heart; also good for stomach pains. Put a few seeds in the mouth and chew, and then drink water after; take every morning. Eat seeds raw. (6)
- To relieve a blocked nose. Roast the nigella seeds, place into a cloth and inhale. (3)
- To strengthen liver and stomach functions. Mix the oil with honey then drink. (1)
- Oil can be regularly used as a cream for the treatment of rheumatism/arthritis and hair loss. (1)

Ocimum basilicum L. (Lamiaceae). Sweet Basil/*Tuk malanga*. Leaves
- Mix with water and drink the solution 2–3 times a day for treating urinary-tract infections. (6)

Ocimum sanctum L. (Lamiaceae). Holy Basil/*Tulsi*. Leaves.
- To cure headache. Grind leaves and place on head. (1)
- Used as a laxative for children. Grind leaves and drink the juice. (3)

Olea europaea L. (Oleaceae). Olive/*Zaitun*. Fruits – Oil.
- When taken internally it helps people with gastric ulcer. (9)
- External application helps soften the skin and crusts in eczema and psoriasis. (12)
- To relieve pain. Massage oil onto joints. (23)
- For improved texture and healthy hair. Massage oil into hair and leave overnight, then wash hair. (21)
- Used for stomach ache. Add one spoon of olive oil to warm water and drink. (3)

Oryza sativa L (Poaceae). Rice/*Chawl*. Fruits.
- Rice is boiled in milk to make *Kheer* which can be ingested to help stomach problems; it is best taken on an empty stomach for digestive problems. (4)

- For post-operative food or diarrhoea. Boil rice and lentils to make *kitchari*. (22)
- For treatment of irritable eye. Grains of rice are placed in the lower eyelid. The rice will fall out during the next few days, removing the irritant. (1)
- For red/sore eyes. Place warm boiled rice in a cotton cloth, wrap to form a pouch and hold over the eye. (3)
- To overcome minor heart trouble. Rice is boiled in water. Without draining the rice, eat it for seven days. (3)

Phoenix dactylifera L. (Arecaceae). Date/*Khejur*. Fruit.
- Eat three dates daily to have aphrodisiac effects.
- For mouth ulcers. Make into a paste and apply to affected area. (1)

Piper betle L. (Piperaceae). Betel leaf/*Panchi*. Leaf.
- Used to treat headache. Grind the leaf to extract juice. Mix with equal amounts of honey and apply paste on forehead 2–3 times a day. (3)

Plantago psyllium L. (Plantaginaceae). Psyllium/*Isphagullah* husk. Seeds.
- Used as a diuretic and for constipation. Leave to soak for 1–2 hours in water and then drink for a few days, depending on symptoms and until better. (45)
- Used for constipation and heartburn. Place in water and drink. (5)

Psidium guajava L. (Myrtaceae). Gujava/*Piara*. Fruit.
- The fruit is eaten raw to prevent infections and make the skin healthier. (1)

Punica granatum L. (Punicaceae). Pomegranate/*Daleem*. Fruit and bark.
- To allay thirst in diarrhoea and dysentery. Drink the juice of the fruit (4)
- For expulsion of worms, including tapeworms. Drink the decoction of the root bark of pomegranate. (3)
- For jaundice, high blood pressure, piles and arthritis. Drink the juice on its own or with honey. (6)

Raphanus sativus L. (Brassicaceae). Radish/*Mooley*. Leaves and roots.
- To aid digestion. Eat leaves and roots raw. Has no beneficial use if cooked. Should be avoided before sleep as it may cause a 'prickling' sensation. (2)

Salvadora persica L. (Salvadoraceae). Toothbrush tree/*Miswak*. Stems.
- For treating toothache. Use the stems to clean teeth or place on teeth. (6).

Spinacia oleracea L. (Chenopodiaceae). Spinach/*Saag* or *Paalak*. Leaves.
- Cooked as a vegetable curry for good health and to help improve eyesight over a long period of time. (9).

Swertia chirata Buch.-Ham. ex Wall. (Gentianaceae). Chiretta/*Cherata*. Stems.
- To relieve muscle pain. Place *cherata* in water and allow to boil. Drink when required. (5)

Tamarindus indica L. (Fabaceae). Tamarind/*Imlee*. Fruit.
- Used to refresh mouth. Also used as a stimulant. The fruit pulp is eaten fresh or in a pickle sauce. (2)
- In pregnancy tamarind is recommended to help avoid cravings. (1)
- To relieve constipation. Soak tamarind in water and drink solution. (5)
- For hypertension. Place tamarind in boiled water until dissolved and drink. (4)

Terminalia arjuna (Roxb.) Wight & Arn. (Combretaceae). White Marudah/*Arjun*. Bark.
- For treating diabetes. Place *arjun* in water and allow to boil. Drink daily with breakfast. (5)

Terminalia chebula Retz. (Combretaceae). Chebulic Myrobalan/*Hortoki*. Fruits.
- Fruit is chewed for stomach pains and 'clears' blood. (1)*

Trigonella foenum-graecum L. (Fabaceae). Fenugreek/*Methi*. Leaves.
- Used to treat diabetes. Soak in water for a few hours and drink before going to bed. (7)

Trichosanthes dioica Roxb. (Cucurbitaceae). Pointed gourd/*Potol*. Leaves.
- Used to treat diabetes. Take leaf of plant and turn into juice. Drink the juice. (2)

Triticum aestivum L. (Poaceae). Wheat/*Gom*. Fruits.
- Used to bring down a person's temperature. Wheat flour is mixed with water to make dough; this is then heated and ingested. (1)

Vaccinium sp. (Ericaceae). Cranberry/*Kanchee*. Fruits.
- Drink juice for constipation. (1)

Vitis vinifera L. (Vitaceae). Grape/*Angoor*. Fruit.
- Eat the fruit for a laxative effect. (2)
- Unripe fruit juice is used in throat infections and for thirst. (3)

Zingiber officinale Roscoe (Zingiberaceae). Ginger/*Adha*. Rhizome.
- To treat indigestion. Skin is peeled off and cut into little pieces before swallowing. (18)
- To treat a cough. Boil 2–3 pieces of ginger for a few minutes and then drink the juice. Drink 2–3 times a day. (9)
- For headache or fever. Grind ginger on its own, or with onions, to make a paste and apply on the forehead. (10)
- For sore throat. Boil cinnamon, cardamom and bay leaf with the ginger in water. Drain and drink the water 2–3 times a day until symptoms are relieved. (4)
- For headache and fever. Grind ginger with garlic, onion and neem patha and place on head. (12)
- To treat diarrhoea. Leave to soak in approximately 250 ml water overnight and then drink the next day. (2)
- For treatment of headache. Crush garlic and add to tea without milk to make *adhda cha*. (6)
- To relieve the pain in sore throats. Place in mouth and chew. (10)

Not identified mushroom. *Kumbhi*.
- The juice of mushrooms is used for improving eyesight. (5)

Not identified. *Shuaga*. Seeds.
- For mouth infection/ulcer. Roast and grind *shuaga*. Add honey and put in mouth. (1)

Not identified. *Sorrotha*. Leaves.
- For diabetes and rheumatism/arthritis. Soak leaves and collect juice. (3)*
- For rheumatisms/arthritis and diabetes. Boil in water and drink. (3)

Not identified. *Loja pati tree*. Fruit juice?
- Used for female watery discharge. Collect juice and drink every day until cured. (2)*

Not identified. *Kathe patha.* Leaves.
- Grind leaves and put on cuts. (1)

Not identified. *Tuka tree.* Seeds.
- For constipation. Soak seeds until swollen, then add to sherbet and drink. (2)*

Not identified. *Rifusi*. Leaves.
- Make a paste with a little water and apply on wounds, cuts, burns and eczema. Once dried, apply another layer until heals. (1)*

Not identified. *Tunni-man*. Leaves.
- Collect juice from leaf and drink or cook with fish, as a healthy beverage/food. (1)*

Not identified. *Dephol*. Fruit.
- Used to treat sore throat. Cut the *dephol* fruit into small pieces, boil in water, drain and drink the juice. (2)

Not identified. *Senfisal*. Leaves.
- Used as a diuretic. Place leaves into water and leave to soak 2–3 hours. Drink solution. (6)

Not identified. *Bubraaz*. Root.
- To relieve period pain. Root of tree pulled out on either Saturday or Sunday and placed in a small metal locket. This is then tied to a piece of black string around the stomach. (3)

Not identified. *Khosu*. Leaf.
- For treating fever. Crush the leaf, add salt and place on the forehead. Tightly wrap a piece of cloth over this. Leave for 6–8 hours. (4)

Not identified. *Kha*. Roots.
- For treatment of toothache. Blend the roots into a paste and apply to tooth. (1)

Not identified. *Shutika*. Mixture of plants.
- Used to treat hot flushes after pregnancy. Paste is placed over the head to cool down the body. (1)

Appendix 6.2. List of other natural TMs quoted by the participants

Calcium carbonate. *Chunah*. Add water to produce a white paste. Give to the person with threadworms (3). Mix *chunah* with water and leave overnight. Two layers will form. The water on the top layer mixed with coconut oil is placed on burns (5). For headache, crush *chunah* and garlic together to form a paste. Place on temple and add a layer of tobacco to form a shield (7).

Cotton material (*duppatta*). Roll the duppatta very tightly and thinly around the waist, lower abdomen area, and keep it in this way for a week; ideal to do this straight after childbirth (2).

Chicken soup. *Yakni*. Leave chicken to boil with herbs and spices for approximately two hours and once cooked drink for treating colds and fever (15).

Egg albumen. *Andu*. Beat the egg white and apply to wounds. Used for treating burns (2).

Fish. *Machee*. Cooked in spices or a sauce or grilled. Oil is thought to be good for the heart and health (10).

Hair. *Sool*. To treat warts; tie a piece of hair around the wart tightly to remove it (3).

Honey. *Modhu*. Take it on its own or mixed with turmeric to help cure dry or chesty coughs; take every day until cured (12). Boil milk or water and add one teaspoon of honey to help sleep and aid relaxation; also good for coughs, stomach ulcers and indigestion. Use occasionally when required (16). For coughs or to increase appetite add a tablespoon of honey and some lemon juice to hot milk or water and drink (5). For sore throat mix lemon juice and honey in hot water and drink (3).

Milk. *Duud*. Drink boiled milk everyday to prevent illness (3).

Petrol. Apply the petrol to hair to get rid of head lice (2).

Salt. *Loon*. Mix salt in hot water and drink 2–3 times a day to treat a sore throat (6).

Soot. *Surma*. Apply to the eye as eyeliner once daily when required; used by both sexes; it is said to be useful for treating red and watery eyes, for improving eyesight, and enhancing the shape of the eye (19).

Tibet snow cream. Apply cream around the nose and eyes to relieve a blocked nose. Use 2–3 times a day (2).

Water. *Pani*. Drink lots of water to heal a headache (3). Wet cloth with water and apply to forehead to treat a headache (5). Steam inhalation to treat a headache (2).

Appendix 6.3. Recorded spiritual treatments based on the Qu'ran's prayers

Labour pains.
Chapter 17, section 13, verse no: 30.
When a woman is in the throes of labour above verse should be recited and blown on the stomach or it can be written on paper and worn as *taweez*. This will cause the delivery to become swift and less painful.

Fever.
Chapter 9, section 14, verse no: 301.
The above should be recited and blown on a person who has fever. Otherwise it could be written with saffron on a plate, the plate washed with a cup of water and the patient be made to drink this water.

Depression.
Chapter 9, section 15, verse no: 38.
Should be written on a piece of paper and worn as a taweez and placed on the heart.

Palpitation of the heart.
Chapter 3, section 17, verse no: 82-86.
The verse should be written on the inside of a new clay utensil with saffron ink. The plate then should be washed with one or two cups of water and the patient be made to drink this water.

Disease of the spleen.
Chapter 22, section 17, verse no: 41.
Write the above verse on paper and tie it on the portion where the spleen is situated; then the disease shall be cured.

Piles.
Chapter 1, section 15, verse no: 127-129.

Nose bleeds.
Chapter 4, section 5.
The above verse should be written on paper and fixed between the two eyes.

For a specific pain anywhere on the body.
Chapter 15, section 12, verse no: 1.
Place the hand on the portion of the body where the pain is felt. Recite the above verse once and blow three times on the affected area.

Headaches.
Chapter 27, section 14, verse no: 19.
Recite the above verse three times and blow on the patient and the headache shall disappear.

Earache.
Chapter 11, section 9, verse no: 31.
Write the above verse with leek extract on the inside of the copper dish. Rub off the writing with a teaspoon of pure honey. Collect the honey in a teaspoon and heat it mildly and administer three drops in the affected ear.

Bone fracture.
Chapter 11, section 5, verse no: 139.
Recite the above verse on the affected region.

When bitten by a poisonous insect or snake.
Chapter 19, section 11, verse no: 130.
Circulate the finger around the bitten area and recite the above verse seven times in one breath. The patient shall recover shortly.