Anthropologic study of immigrant patients with T2DM from Morocco to Spain

Practical implications for therapeutic patient education

M Jansà, M Diaz, J Franch, M Vidal, R Gomis*

Abstract

Background: Immigration in Spain has grown exponentially, with Moroccans being the most numerous group.
Aims: To determine the profile of Moroccans with type 2 diabetes mellitus (T2DM), to provide diabetes education strategies.
Design/setting: Cross-sectional study in 10 rural and urban centres, Catalonia, Spain.
Patients and methods: T2DM patients were interviewed using a structured, evaluated interview questionnaire, translated into Arabic. Data obtained underwent descriptive statistical analysis.
Results: Forty patients, aged 50±15 years (73% females) were interviewed: 53% were illiterate; 90% lived with family; 67% lived in Catalonia >5 years; 11% used insulin; 12% used oral agents; 66% reported difficulties with diet and 44% with drugs; 54% ate Moroccan and Spanish cuisine. Self-reported causes of T2DM were: stress (38%); unknown (31%); fear (17%); inherited (14%); God (7%). Thirty-three per cent believed diabetes could be cured; 32% did not use prescribed medication; 43% did not attend appointments; 24% used alternative medicines. Language barriers were present in 60% of respondents and 80% preferred watching TV to reading. Sixty-three per cent followed Ramadan fasting. Quality-of-life ratings from 0 to 10 were >5 in 53% of respondents. Using this information, we designed and developed an educational, bilingual (Arabic/Spanish) DVD that included specific diabetes topics, Moroccan and Spanish cuisine, and recommendations for Ramadan. We also updated the carbohydrate food cup to include staple Moroccan foods.
Conclusion: Linguistic and sociocultural barriers (*eg* low participation rates, illiteracy and poor treatment adherence) were observed. To minimise barriers, tailored educational materials were developed.

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Key words

Diabetic immigrant people; therapeutic patient education

Introduction

International migration has become a worldwide phenomenon and is therefore a key element of Spanish society. Immigration in Spain has grown exponentially in recent years, as has the need for healthcare professionals to know the reality of situations facing immigrants, so that they can tackle the new challenges that this phenomenon represents.

In Spain, the most numerous group of non-Spanish-speaking immigrants is from Morocco.[1] By the end of 2006, Moroccan people represented 18% (593 941 inhabitants) of the total immigrant population of Spain, with 28% living in the autonomous community of Catalonia.

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Immigration from Morocco has two characteristics: the immigrants are mainly from rural settings, and generally have little education. Displacement produces new challenges at social, cultural, economic and healthcare levels. In relation to health, the immigrant population from Morocco has a high rate of infectious diseases.[2] The prevalence of both type 1 and type 2 diabetes in Morocco is between 8% and 10%, according to the International Diabetes Federation.[3] However, in Spain a much higher prevalence of type 2 diabetes mellitus (T2DM) has been reported among Moroccan immigrants, compared with the native population of the same age (up to 40% prevalence, from 60–69 years).[4]

Therapeutic patient education is the cornerstone of diabetes treatment and aims to facilitate treatment adherence, thereby achieving better metabolic control and quality of life.[5–7] Patients of different cultural origins present new linguistic, economic and cultural barriers, therefore, it is important for healthcare professionals to know the different sociocultural aspects that

may directly influence treatment adherence.[8]

We hypothesised that anthropologic knowledge of Moroccan-born people with diabetes, now residing in Spain, would provide key information. Subsequently, this would enable better adaptation of healthcare and therapeutic education programmes aimed at patients with T2DM and their relatives. The aim of the study was to determine the profile of Moroccan patients with T2DM and provide materials and strategies for diabetes education.

Patients and methods

We performed a cross-sectional study in 10 primary healthcare centres in Barcelona, Catalonia, Spain. The inclusion criteria were: immigrant patients from Morocco with T2DM, aged over 18 years, who attended these health centres and provided informed consent. The study was approved by the Ethical Committee of Investigation at the Hospital Clinic of Barcelona, Spain.

The study included the following actions. Firstly, there was the elaboration of a structured interview, using a questionnaire that featured 70 questions covering the following categories: social demographic profile (11 questions); clinical data (16 questions); daily living with diabetes (attributions, knowledge about diabetes and quality-of-life, 25 questions); sociocultural factors (cultural and religious characteristics, 14 questions); appointment compliance and use of alternative medicine (four questions). All of the questions were selected from validated questionnaires, and the EuroQol[9] questionnaire was used to evaluate quality of life. Then, the interview questionnaire was translated into Arabic and tested in 16 interviews. These interviews were performed in people from the Maghreb region, to establish the adaptability of the questions to the study population, since no specific validated questionnaires on diabetes care were available for these people. After further pre-testing in another ten Moroccan people, the questionnaire underwent final adaptation by an anthropologist and a cultural mediator, and the final version included simple closed questions that used colloquial language.

Finally, the usual healthcare provider team invited patients to participate as study volunteers. Those who accepted and signed the informed consent form were interviewed between October 2002 and December 2003. The same anthropologist and cultural mediator went to the 10 participating centres (four in Barcelona; six in rural areas of Catalonia). The data were recorded in Arabic and Spanish.

Statistical analyses

All values are expressed as mean ±SD or as a percentage. All of the statistical calculations were made with the Statistical Package for Social Science (SPSS) for personal computers, version 12.0.

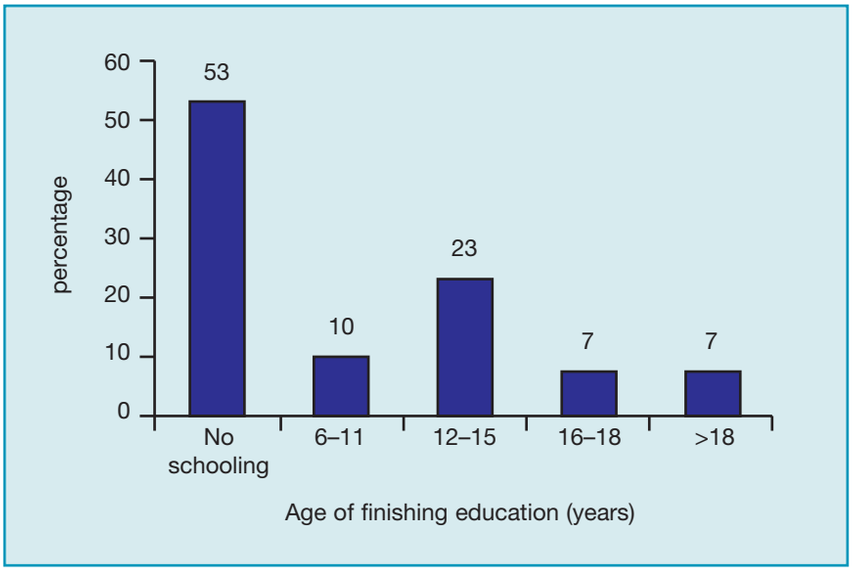

Figure 1. Educational level of 40 Moroccan immigrants with T2DM living in Catalonia

Results

In total, 160 patients were identified and invited to participate in the study. However, 120 patients (75%) were excluded because they did not have a telephone, they refused to participate, or they agreed to participate but did not attend the interview.

Forty patients were interviewed (mean age 50±15 years, 73% females). The native languages were Arabic (58%) and Berber (42%), 90% of the patients lived with their family, and 67% had been in Catalonia >5 years. A large proportion of patients (53%) were illiterate (Figure 1). Regarding self-reported clinical data, 11% received insulin treatment, 12% took oral agents, and 60% had capillary blood glucose meters. None of the patients smoked or drank alcohol. Sixty-six per cent reported difficulties in following their diets and 44% had difficulties following their drug regimens; 43% preferred Moroccan cuisine, 3% preferred Spanish cuisine, and 54% ate both. None of the patients had difficulty in obtaining Moroccan food products.

Attributions and attitudes to diabetes

Table 1 shows the self-reported causes of T2DM, perceptions of cures for diabetes, medication and appointment adherence, and alternative medicine use. A language barrier was present in 60% of patients. Some 63% followed Ramadan and 86% followed the Feast of the Lamb. Reported quality-of-life ratings ranged from 0 (worst perception of health) to 10 (best perception of health), and were >5 in 53% of patients.

Using these results, we designed the characteristics of tailored educational materials. We modified existing educational materials such as the carbohydrate (CHO) cup,[10] which is adapted to 20g of CHO and is useful to exchange cooked starches such as potatoes, pasta, rice, peas, and broad beans. The exchange equivalence used is one CHO cup or 40g of bread. Specific Moroccan starches such as couscous have now been included on the CHO cup (Figure 2) and it can also be used to find equivalences for Moroccan bread (which is usually home-made: three loaves of bread/1kg of flour). For example, 1/12 of a loaf of bread is equivalent to one carbohydrate cup (Figure 3).

The high percentage of illiterate subjects, who prefer watching TV over reading, and who follow sociocultural events such as Ramadan, led to the design of a bilingual Spanish/Arabic patient education DVD in which four Moroccan diabetic patients participated.

The DVD includes the following basic topics related to self-management of diabetes: what is diabetes and treatment; how to prevent and treat hypoglycaemia; how to prevent and treat hyperglycaemia; specific recommendations for diet including Moroccan and Spanish foods; prevention of chronic complications and the need for regular appointments; footcare; counselling for travelling; specific recommendations before, during, and after Ramadan.

Self-reported diabetes aetiology	**%**
Stress	38
Unknown	31
God	7
No answer	24
Cure of diabetes	
Yes	33
No	37
Unknown	30
Abandon treatment if they feel good/bad	
Yes	32
No	68
Do not regularly attend appointments	
Yes	43
No	57
Use alternative medicines (especially herbal medicines)	
Yes	24
No	76

Table 1. Attributions and attitudes expressed by Morrocan immigrants to Spain, who have T2DM

Discussion

This study reports the anthropological profile of immigrant patients with T2DM from Morocco, living in rural and urban areas in Catalonia, Spain. We have described the sociodemographic and religious characteristics, the linguistic and cultural barriers, attributions regarding diabetes, adherence to diet, drugs and appointments, and use of alternative medicines as applied to these patients.

One limitation of this study was the low participation rate. Only 25% of the patients contacted took part in interviews, perhaps because of the generally reserved nature shown by these people with regard to collaborating in this type of activity. It should be taken into account that Spain has a public healthcare system, therefore illegal immigrants attending healthcare centres may be discovered by the authorities.

Compared with other studies on pharmacological treatment, the percentages of patients using oral agents (11%) and insulin (12%) differ from those of the native population, in whom oral agents and insulin usages are clearly greater (70.2% and 21.4%, respectively).[11] The use of alternative medicines among the patients in this study should also be pointed out, with the most common being herbal remedies (24%). However, the questionnaire did not specify whether alternative medicines were taken in addition to prescribed medications. Another study showed that a high percentage of patients were using alternative therapies.[12]

Although difficulties in treatment adherence are well-recognised worldwide,[8,12,13] linguistic, sociocultural, and economic barriers may be added problems for immigrant patients, for economic reasons. Other barriers include those that affect healthcare professionals, particularly regarding their sociocultural knowledge of specific immigrant populations' needs. Therefore, it is necessary to design programmes that provide tailored

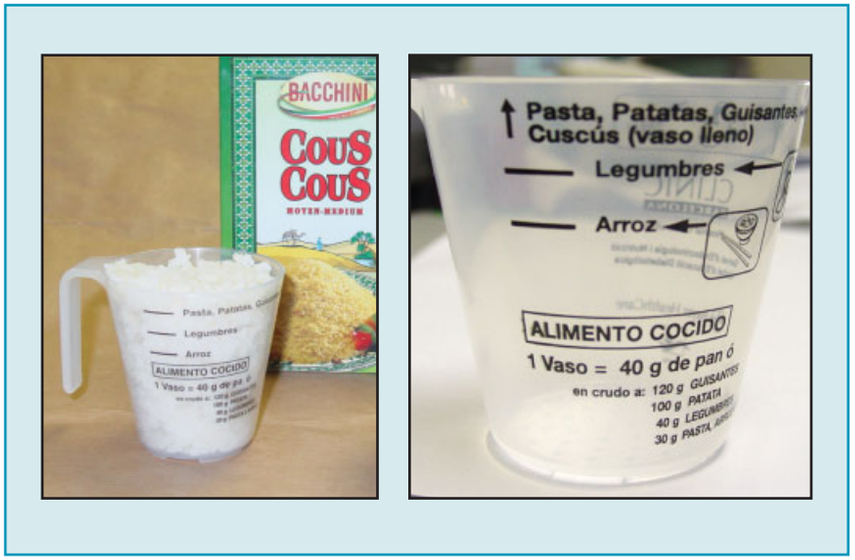

Figure 2. Carbohydrate cup adapted to 20g of carbohydrate, incorporating couscous

sociocultural information for health professionals who are involved in the care of immigrants who have conditions such as T2DM.

Our results relating to social and religious habits are similar to those reported in the Epidemiology of Diabetes and Ramadan 1422/21 Study,[14] where 79% of patients fasted during Ramadan. This religious, lunar-based month of fasting is an important topic to discuss with Muslim patients.[15–17] Depending on the geographical location and season when Ramadan falls, the duration of the daily fast may be anything up to 20 hours. Muslims who fast must abstain from drinking and eating from pre-dawn to sunset, after which there are no restrictions.

Notwithstanding, the Koran specifically exempts the sick from the obligation of fasting, especially if it might lead to harmful consequences for the individual, as is the case for people with diabetes. As the American Diabetes Association workgroup report[18] recommends, specific medical assessment and educational counselling must be provided before, during and after Ramadan. On the other hand, it is also necessary to educate healthcare providers about what is involved during this holy month.

With regard to cuisine preferences, it is important to point out that most of the patients ate both Moroccan and Spanish foods. Ninety per cent of patients were living with their wider families, therefore, the environmental setting of the children within the Spanish school system may have influenced this result. Certainly, these findings led us to adapt our educational dietetic tools to suit the culinary requirements of the majority of Moroccans, as well as non-immigrant patients, and now include illustrations and guidance so that the correct quantities of specific Moroccan starchy foods can be consumed.

In addition to the high instance of linguistic barriers and illiteracy, another cultural difference should be taken into account. In Catalonian society, storytelling is practically forgotten, whereas in Moroccan society this practice is an important entertainment and communication tool, as is the oral communication of knowledge. Memory is a very cultivated quality and the transmission of basic care through storytelling, such as in the preparation of an Arabic/Spanish DVD involving patients of Moroccan origin who had diabetes, may provide educational support for both healthcare providers and other patients. Moreover, the bilingual format of the DVD allows the healthcare provider to know what is being explained, and may enable them to anticipate questions.

Due to the great impact of immigration,[19] healthcare teams in all countries need to become culturally competent. Finally, future research should aim to discover immigrant patients' opinions about their educational needs.

Conclusion

This anthropological approach to the study of immigrant patients with T2DM, originating from the Maghreb region of Morocco, detected specific barriers, such as a high rate of illiteracy and low treatment adherence among the patients. Based on the knowledge of the sociocultural and religious characteristics of these people, which were obtained by this anthropological study, we designed and developed tailored educational materials that aim to reduce barriers and promote better treatment adherence for T2DM. Notwithstanding, further studies are needed to evaluate the usefulness of these tailored materials, to improve patient education about T2DM in Moroccan patients, and their relatives, living in Spain.

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1/12 of bread (1Kg of flour/ 3 loaves)

Figure 3. Exchanges with carbohydrate cup (20g carbohydrate) and home-made Moroccan bread

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Conflict of interest statement

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