SAIMI Study - Health and Health Care Access by Immigrants from the Indian Subcontinent in Lisbon: What Recommendations for Equitable and Culturally Adequate Health Care?

Estudo SAIMI - Saúde e Acesso aos Serviços de Saúde dos Imigrantes do Subcontinente Indiano em Lisboa: Que Recomendações para Cuidados de Saúde Equitativos e Culturalmente Adaptados?

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ABSTRACT

Introduction: The growth of the immigrant population in Portugal has been consistent over the past decades. Nevertheless, information on the health of immigrant populations is scarce. This research uses data collected from the population from the Indian subcontinent living in the district of Lisbon to produce recommendations for the provision of culturally adapted health services.
Material and Methods: Cross-sectional study with the immigrant community of the Indian subcontinent (Bangladesh, India and Pakistan) living in Lisbon, selected based on a snowball sampling technique and using privileged access interviewers. The questionnaire focused on health, health care access, lifestyle and attitudes towards death. The data were subject to a descriptive analysis and an age-standardized comparison between the three nationalities was made.
Results: Surveys were administered to 1011 individuals with a participation rate of 97%. Most participants were adult males. Indian immigrants most frequently reported barriers to use of health services and had a higher frequency of chronic diseases. Pakistani immigrants had worse lifestyle indicators.
Discussion: The immigrant population from the Indian subcontinent tends to report more language difficulties in health care access when compared with other immigrant populations. Based on recommendations of the World Health Organization, it was possible to adapt this knowledge to produce recommendations adapted to the Portuguese context.
Conclusion: There are several aspects in the management of health services in Portugal that can be better adapted to the immigrant population from the Indian subcontinent.
Keywords: Asia, Western; Emigrants and Immigrants; Health Planning Guidelines; Portugal.

RESUMO

Introdução: O crescimento da população imigrante em Portugal tem sido consistente nas últimas décadas. Apesar disto, a informação sobre a saúde das populações imigrantes é escassa. Esta investigação utiliza dados recolhidos junto da população oriunda do subcontinente indiano a residir no distrito de Lisboa para produzir recomendações para a prestação de serviços de saúde culturalmente adaptados.
Material e Métodos: Estudo transversal junto da comunidade imigrante do subcontinente indiano (Bangladesh, Índia e Paquistão) a residir em Lisboa, selecionada com base numa técnica de amostragem bola de neve e recorrendo a inquiridores com acesso privilegiado à população-alvo. O questionário inquiriu sobre a saúde, o acesso aos cuidados de saúde, estilos de vida e atitudes perante a morte. Foi feita uma análise descritiva dos dados e uma comparação entre as três nacionalidades padronizada para a idade.
Resultados: Foram administrados questionários a 1011 indivíduos com uma taxa de adesão de 97%. A maioria dos participantes eram adultos do sexo masculino. Os imigrantes indianos relataram mais frequentemente barreiras na utilização dos serviços de saúde e tinham uma maior frequência de doenças crónicas. Os imigrantes paquistaneses tinham piores indicadores de estilos de vida.
Discussão: A população imigrante do subcontinente indiano tende a relatar mais dificuldades linguísticas no acesso aos cuidados de saúde quando comparada com outras populações imigrantes. Com base em recomendações da Organização Mundial da Saúde, foi possível adaptar este conhecimento para produzir recomendações adaptadas ao contexto português.
Conclusão: Existem diversos aspetos na gestão dos serviços de saúde em Portugal que podem ser melhor adaptados à população imigrante do subcontinente indiano.
Palavras-chave: Emigrantes e Imigrantes; Oeste Asiático; Portugal; Recomendações para o Planeamento em Saúde.

INTRODUCTION

Over the last few decades, Portugal has been chosen as a host country by people with different nationalities. As an example, between 2001 and 2011, the number of foreigners living in Portugal has doubled.[1] Despite this migratory tendency, data on attitudes and behaviours of the different immigrant groups towards health and disease, as well as on determinants related to healthcare access are scarce. This absence of scientific data is particularly relevant given the vulnerability of these populations as regards health issues, frequently faced with added risks and barriers related to

poor access to healthcare.

According to the National Immigration Ministry's (*Serviço de Estrangeiros e Fronteiras*) 2012 data, two out of 100 regular residents in Portugal with foreign nationality were from Bangladesh (1,351), India (5,657) and Pakistan (2,425), mostly living within the Lisbon Area.[2] This figure is probably underestimated as data do not include illegal nor naturalized immigrants. Even though seemingly small, the number of immigrants from the Indian subcontinent has increased and shows specific characteristics (predominantly male, young people and Muslims) when compared to the remaining immigrant populations.[3]

Until very recently, immigration and healthcare have been neglected issues both in Health and Migration studies[4,5] with only few small and frequently non-representative samples studies involving migrant communities.

In Portugal, available data suggests that the immigrant population has lower access to healthcare, when compared to the non-migrant population.[6] Several factors related to lower use of healthcare were identified: shorter duration of residence in Portugal,[6-8] illegal residency,[7-9] country of origin, namely from Africa (when compared to Eastern Europe)[8] and male gender.[9] Situations where people give fake names and addresses have been described by healthcare institutions and attributed to fear of identification by Local Authorities.[10] In addition, although illegal, situations have been described in which health centres denied attendance to undocumented immigrants.[10] One study involving Portuguese health professionals identified opportunities for intervening on their behalf in the context of cultural diversity, as most participants considered having low socio-cultural skills in dealing with these populations.[11]

The study of immigrant communities from the Indian subcontinent has been neglected. Most existing healthcare-related studies are from the United States, where these communities have a strong presence. These include studies and descriptions regarding the relevance of cultural factors to healthcare access and use.[12-14]

Despite cultural differences between immigrant communities from Bangladesh, India and Pakistan, there are also common characteristics that may influence the search for healthcare. From these we should mention a strong family support network (that may explain a lower need for mental healthcare, while limiting freedom of individual family members),[14] a tendency for the relevant use of traditional medicines, mainly affecting those with less ability to speak Portuguese[13] and refusal for organ donation.[15] Despite the fact that good clinical practice guidelines are usually very generic they consider the need to know the patient's cultural origin[12] in order to correctly adapt the impact of any clinical decision (from the patient to his family, for instance) as well as to prevent any action based on stereotypes.[16]

We are not aware of any studies on the health status of these communities in Portugal. There are some studies involving Indian communities regarding social and business strategies,[17,18] religion's role[19] and identity processes.[20-23] These were however qualitative studies aimed to find adaptation strategies of these communities towards a new country.

Major healthcare needs of immigrant communities from the Indian subcontinent, major constraints to healthcare access and limitations to the responsiveness of public institutions regarding these specificities are an important issue and should be assessed. . This reflection is particularly important within the current Portuguese financial crisis, a scenario that predisposes to a reduction in healthcare costs with minority populations.[24]

In 2010, the World Health Organization Regional Committee for Europe (WHO – Europe) summarized the evidence regarding good practice in adapting healthcare to the needs of immigrant populations, assuming at the same time that there is a lack of basic information that would allow an evaluation of intervention efficacy, with an acceptable degree of certainty.[25] Table 1 summarizes these guidelines regarding healthcare delivery, resources management and funding.

In Portugal, the II Plan for Immigrant's Integration (*II Plano para a Integração dos Imigrantes 2010-2013*)[26] included six measures regarding healthcare to migrant populations:

(i) Promotion of access of immigrants to the *Serviço Nacional de Saúde (SNS)*;

(ii) Inter-culturality training program for professionals working with the SNS;

(iii) Program implementation: Immigrant-friendly healthcare services

(iv) Partnership development for the promotion of immigrants' access to healthcare in Portugal;

(v) Institutional procedures aimed to improve management of healthcare agreements facilitating access of immigrants and their families to healthcare;

(vi) Investment in promoting immigrant's mental health.

The assessment of this plan is however limited by the absence of statistical data as well as by its attribution to several governmental entities.[5]

Based on WHO-Europe guidelines, our study aimed to integrate current knowledge regarding the Portuguese context as well as data collected from the immigrant community from the Indian subcontinent, in order to design guidelines regarding SNS healthcare delivery and resource management. Our study is expected to improve and promote clinical services for the immigrant populations in Portugal.

MATERIAL AND METHODS

This was a cross-sectional study with immigrants from Bangladesh, India and Pakistan living in the Lisbon municipality. All the immigrants that left their country

Table 1 - Recommendations made by the World Health Organization's (WHO-Europe) European Regional Committee for good practice and health promotion regarding healthcare for immigrant populations

Service Provision (including health promotion and education, screening, prevention, curative and palliative healthcare)	• Monitoring accessibility and quality in healthcare provision to migrant populations • Identifying and analysing problems, finding solutions and assessing their efficacy • Reducing linguistic barriers providing interpretation services and translated materials, whenever necessary • Reducing administrative and practical barriers to access • Adapting service provision to cultural and social differences • Allocating resources according to incidence and importance of health problems • Using a centred and oriented approach to provide health information to the immigrant population • Adopting a global approach oriented to abolishing of institutional discrimination and development of 'cultural skills' • Increasing inter-sectorial cooperation with other services • Involving the migrant communities in the design, implementation, monitoring and evaluation of healthcare • Reinforcing primary care and reducing inappropriate dependency on emergency care • Integrating the healthcare for immigrants as far as possible within the remaining healthcare in order to improve control measures, ensuring sustainability and avoiding social exclusion
Resource Management	• Developing a workforce for training and education on migration, ethnicity and health; the programs should not be exclusively for health professionals and should also include researchers, managers, administrators and policy-makers • Defining functions as ´cultural mediators', 'health interpreters' and 'health community workers' • Establishing systems for the generation and disclosure of knowledge on immigrants population's health • Reinforcing and consolidating researcher and health professional's knowledge for the promotion of cooperation between disciplines, professions and health sectors
Funding	• Reducing healthcare financial barriers to the most disadvantaged groups, limiting direct payments and promoting universal coverage • Ensuring that immigrants that attend healthcare services know their rights and that these are respected by service providers • Determining economic costs of inequities in health as well as inadequate diagnoses, treatments, medical errors, dropout and low compliance to therapy, arising from a culturally and linguistically inadequate service.

of origin planning to live temporarily or permanently in Portugal (first generation) were considered eligible for the study, as well as those born in Portugal, children of immigrants (second generation), including those who had chosen the Portuguese nationality. Those individuals born from Portuguese that had migrated to Bangladesh, India or Pakistan were excluded from the study.

The snowball non-probabilistic sampling method consisted of asking eligible individuals to identify and reach or provide contact details of other potential study participants. These new individuals were reached and new contacts were again requested until the intended total sample was obtained. In order to set off the snowball sampling, we started with contacts already made at healthcare units with a privileged access to these populations. In order to increase the sample's heterogeneity, the initial contacts included representatives from all the major subgroups: native from the three studied communities, differentiated migration status, different lengths of stay in Portugal, male,

female, individuals from different age groups and also from different social strata and education levels.

Individual questionnaires were administered by inquirers with privileged access to the target population (*Privileged Access Interviewer Method*), i.e. inquirers that were members of the studied communities.[27]

Questionnaire administration was carried out between November 2012 and March 2013, preferentially at the participant's home or at a location where privacy was ensured. Except for participants aged below 15 whose data were obtained through a privileged informer (by *proxy*), only data collected from self- contributions were considered.

The questionnaire was based on a selection of issues used in the 4th National Health Survey (*4° Inquérito Nacional de Saúde* [*INS*]) and the analysis included an assessment regarding healthcare access and delivery. It was divided into twelve blocks regarding the following general issues: sociodemographic characteristics, health status, lifestyles, oral health, healthcare access, mental health inventory and

attitudes towards death and dying.

Our group of participants was characterised using descriptive statistics methods, in terms of sociodemographic characteristics, as well as self-assessment regarding life quality, health status and lifestyle, oral health and hygiene, attitudes towards death and healthcare use. Age-adjusted socio-demographic and health data per community were subsequently analysed.

Our study was approved by the Ethics Committee of the Faculty of Medicine and by the National Committee for Data Protection (*Comissão Nacional de Proteção de Dados)*. All participants were given access to an informed consent, written in English and in Portuguese.

RESULTS

In total, 1,011 questionnaires were administered, with a global 97% compliance rate. The socio-demographic characteristics of our group of participants (adult and children) are summarized in Table 2. Most participants were adult male. All adult participants from Bangladesh and Pakistan were native from their countries of origin; 3.2% (95% CI - 0.9-5.5) of the adult Indian participants were native from Portugal. Between 61 and 64% of the participants in the three groups had a profession, mainly from the 'service workers and shop & market sales workers' professional group. Median duration of stay in Portugal was 1, 4 and 8 years for the adult population from Bangladesh, Pakistan and India, respectively. Almost all participants from Bangladesh and Pakistan declared to be Muslim, while those from India declared to be Hindus. In the three communities, most participants declared to be either 'poor' or 'strict' adherents to religious practices.

The responses from the adult participants regarding self-assessment of life quality, mental health, life styles, health status and attitudes towards death are summarized in Table 3.

From the participants from Bangladesh, India and Pakistan, 96.6% (95%CI - 94.4-98.8%), 69.9% (95% CI – 63.9-75.8%) and 95.2% (95% CI – 92.3-97.9%) ranked their life quality as 'Good' or 'Very good', respectively. Chronic disorders (diabetes, hypercholesterolemia, hypertension and stroke) were more frequent in adult participants from India, when compared to those from Pakistan, the latter with the lowest frequency.

Only 9.6% (95% CI – 6.0-13.2%), 15.8% (95% CI – 11.1-20.5%) and 42.1% (95% CI – 35.5-48.7%) from the adult participants from Bangladesh, Pakistan and India, respectively, would authorize organ donation. Euthanasia and long-term use of life support interventions were found to be different according to the participant's nationality. Adult participants from Bangladesh showed a tendency to be less receptive towards euthanasia [9.6% (95% CI – 6.0-13.2%)] and towards long-term use of life support interventions [19.9% (95% CI – 15.1-24.7%)] whilst those from India

showed to be at the other extreme, more receptive to both interventions [42.1% (95% CI – 35.5-48.7%) and 35.2% (95% CI – 28.9-41.6%), respectively].

Data regarding oral health and healthcare use by participants (adults and children) are shown in Table 4.

Few adult participants from Bangladesh [1.5% (95% CI – 0.03-2.,9%)], from India [3.2% (95% CI – 0.9-5.5%)] and from Pakistan [0.4% (95% CI – 0.0-1.2%)] described having never attended to healthcare facilities, or having had any language difficulty at the healthcare facility [14.3% (95% CI – 10.1-18.5%) from Bangladesh, 26.9% (95% CI – 21.0-32.8%) from India and 14.1% (95% CI – 9.6-18.6%) from Pakistan].

Thirty six adult participants [5.0% (95% CI – 3.4-6.6%)] described having been denied access to healthcare. Only six participants [0.8% (95% CI – 0.14-1.46%)] described having been treated in a discriminatory manner by the health professionals, in relation to their immigrant status. Most of the adult participants in our study agreed with the statement that, in general, the health professionals understand immigrants' needs for healthcare adequately [93.8% (95% CI – 92.0-95.6%)].

Most adult participants in the study [96.0% (95% CI – 94.6-97.5%)] were registered with their local health centre and, from these, 94.4% (95% CI – 92.7-96.1%) were assigned a family doctor. Approximately 24.4% (95% CI – 21.2-27.6%) had already attended an emergency department.

Adult participants from India were those who most frequently could not afford medication, medical fees or tests over the past 12 months [7.4% (95% CI – 3.9-10.9%), 4.2% (95% CI – 1.5-6.9%) and 3.7% (95% CI – 1.2-6.2%), respectively]. Among children participants, only those from India could not afford medication [3.1% (95% CI – 0.1-6.1%)] and medical fees [1.5% (95% CI – 0.0-3.6%)].

Some age-adjusted characteristics of the groups of different nationalities are summarized in Table 5. The immigrants from India were those who lived in Portugal for a longer period of time, with the highest percentage of individuals born in Portugal. This was also the group mainly describing relevant language barriers to the use of healthcare and having been treated with the highest discriminatory manner by health professionals in Portugal. The immigrants from Bangladesh were those with a higher percentage of individuals with higher education level but also with the higher percentage of unemployed. These were most frequently at risk of psychological distress, despite most frequently ranking their quality of life as "good" or "very good". The Indian community had the highest percentage of chronic diseases despite the fact that a very high percentage of overweight and smoking was found in those from Pakistan.

Table 2A - Socio-demographic characteristics of participants by country of origin (Bangladesh)

	Immigrants from Bangladesh (n = 346)			
	Adults (n = 262)		Children (n = 84)	
	n	%	n	%
Compliance rate	97.0%			
Male	224	85.5	46	54.8
Age, mean ± sd	32.2 ± 7.3		5.8 ± 3.7	
Marital status: 'married'	125	48.1	-	-
Educational level				
Basic level or lower	42	16.0	84	100
Secondary	89	34.0	-	-
University	131	50.0	-	-
Occupation: "I have a job"	167	63.7	-	-
Types of Professions				
1. Senior Executives of the Public Administration, Executives in other Companies	18	10.0	-	-
2. Consultants of Intellectual and Scientific Professions	3	1.7	-	-
3. Middle-Level Technicians	9	5.0	-	-
4. Administrative Staff	3	1.7	-	-
5. Service and Sales Staff	141	78.3	-	-
6. Farmers and Qualified Workers in Agriculture and Fishing Industry	0	-	-	-
7. Workers, Hand-craftsmen and alike	0	-	-	-
8. Assembly Line Workers	2	1.1	-	-
Time of residence in Portugal, years, median (IQR)	1 (0-19)		2 (0-8)	
Country of birth				
Portugal	0	-	30	35.7
Country of origin	261	100	54	64.3
Religion				
No	0	-	0	-
Catholic	0	-	0	-
Jewish	0	-	0	-
Muslim	258	99.2	84	100.0
Hindu	2	0.8	0	-
Other non-Christian	0	-	0	-
Practicing level				
1 - Very low	166	64.6	77	95.1
2 - Low	0	-	0	-
3 - Moderate	4	1.6	0	-
4 - High	0	-	0	-
5 - Very high	87	33.9	4	4.9

sd – standard deviation. IQR – interquartile range

Tabela 2B - Socio-demographic characteristics of participants by country of origin (India)

	Indian Immigrants (n = 348)			
	Adults (n = 217)		Children (n = 131)	
	n	%	n	%
Compliance rate		95.6%		
Male	149	68.7	94	71.8
Age, mean ± sd	38.4 ± 11.6		8.0 ± 4.3	
Marital status: 'married'	147	68.1	-	-
Educational level				
Basic level or lower	98	45.4	121	96.0
Secondary	76	35.2	5	4.0
University	42	19.4		-
Occupation: "I have a job"	134	61.8	1	0.8
Types of Professions				
1. Senior Executives of the Public Administration, Executives in other Companies	3	1.7	-	-
2. Consultants of Intellectual and Scientific Professions	3	1.7	-	-
3. Middle-Level Technicians	1	0.6	-	-
4. Administrative Staff	0	0	-	-
5. Service and Sales Staff	155	90.1	1	0.8
6. Farmers and Qualified Workers in Agriculture and Fishing Industry	1	0.6	-	-
7. Workers, Hand-craftsmen and alike	9	5.2	-	-
8. Assembly Line Workers	0	0.0	-	-
Time of residence in Portugal, years, median (IQR)	8 (4-18.8)		6 (4-8)	
Country of birth				
Portugal	7	3.2	81	61.8
Country of origin	183	84.3	48	36.6
Religion				
No	0	-	0	-
Catholic	5	2.3	4	3.1
Jewish	0	-	0	-
Muslim	37	17.1	32	24.4
Hindu	141	65.0	78	59.5
Other non-Christian	34	15.7	17	13.0
Practicing level				
1 - Very low	106	48.8	84	80.0
2 - Low	6	2.8	2	1.9
3 - Moderate	32	14.7	7	6.7
4 - High	26	12.0	7	6.7
5 - Very high	47	21.7	5	4.8

sd – standard deviation. IQR – interquartile range

Tabela 2C - Socio-demographic characteristics of participants by country of origin (Pakistan)

	Immigrants from Pakistan (n = 317)			
	Adults (n = 227)		Children (n = 90)	
	n	%	n	%
Compliance rate		97.8%		
Male	180	79.6	59	55.6
Age, mean ± sd	35.5 ± 8.0		6.9 ± 3.2	
Marital status: 'married'	144	63.4	-	-
Educational level				
Basic level or lower	40	17.6	86	98.9
Secondary	98	43.2	1	1.1
University	89	39.2	-	-
Occupation: "I have a job"	142	62.6	-	-
Types of Professions				
1. Senior Executives of the Public Administration, Executives in other Companies	37	25.2	-	-
2. Consultants of Intellectual and Scientific Professions	0	-	-	-
3. Middle-Level Technicians	2	1.4	-	-
4. Administrative Staff	1	0.7	-	-
5. Service and Sales Staff	105	71.4	-	-
6. Farmers and Qualified Workers in Agriculture and Fishing Industry	0	-	-	-
7. Workers, Hand-craftsmen and alike	0	-	-	-
8. Assembly Line Workers	1	0.7	-	-
Time of residence in Portugal, years, median (IQR)	4 (2-6)		4 (3-4)	
Country of birth				
Portugal	0	-	18	20.0
Country of origin	227	100.0	72	80.0
Religion				
No	1	0.4	0	-
Catholic	0	-	0	-
Jewish	1	0.4	0	-
Muslim	218	96.0	90	100.0
Hindu	7	3.1	0	-
Other non-Christian	0	-	0	-
Practicing level				
1 - Very low	111	49.3	78	89.7
2 - Low	1	0.4	1	1.1
3 - Moderate	8	3.6	0	-
4 - High	7	3.1	3	3.4
5 - Very high	98	43.6	5	5.7

sd – standard deviation. IQR – interquartile range

Table 3 - Self-assessment of quality of life, mental health status, lifestyles and attitudes towards death and death process in adult immigrants, by country of origin

	Bangladesh Adults (n = 262)		India Adults (n = 217)		Pakistan Adults (n = 227)	
	n	%	n	%	n	%
Life quality indicators						
Life quality status						
1 - Very low	1	0.4	4	1.9	1	0.4
2 - Low	1	0.4	10	4.6	0	-
3 - Neither	7	2.7	51	23.6	10	4.4
4 - High	184	70.8	113	52.3	150	66.4
5 - Very high	67	25.8	38	17.6	65	28.8
MHI, "no psychological distress"	139	53.5	132	61.1	159	70.4
Risk factors and behaviours						
BMI						
Low weight	0	-	4	2.0	1	0.5
Normal weight	119	47.2	86	42.6	55	25.1
Overweight	128	50.8	99	49.0	153	69.9
Obesity	5	2.0	13	6.4	10	4.6
Diabetes	10	3.8	10	4.6	4	1.8
Dyslipidaemia	15	5.7	25	11.5	13	5.7
High blood pressure	8	3.1	20	9.2	5	2.2
Heart failure	0	-	3	1.4	2	0.9
Stroke	2	0.8	3	1.4	1	0.5
Smoking habit						
Smoker	49	18.8	54	24.9	90	40.0
Ex-smoker	3	1.1	11	5.1	1	0.4
Never smoked	206	78.9	152	70.0	134	59.6
Attitudes towards death						
DAS, mean ± sd	39.4 ± 4.4		40.1 ± 8.5		38.6 ± 5.1	
Would consent for organ donation	25	9.6	90	42.1	35	15.8
Would consent for euthanasia	25	9.6	76	35.2	28	12.7
Would consent for the use of long-term life support systems	52	19.9	102	47.0	56	25.6
In which country would you prefer to die?						
Portugal	9	3.4	46	21.3	14	6.4
Country of origin	237	90.8	122	56.5	200	91.7
Other	1	0.4	5	2.3	1	0.5
Irrelevant	3	1.1	27	12.5	3	1.4

sd – standard deviation, MHI – mental health inventory, DAS – death anxiety scale, BMI – body mass index.

Table 4 - Oral health status and healthcare use in adult and child participants in our study, by country of origin

	Bangladesh (n = 346)				India (n = 348)				Pakistan (n = 317)			
	Adults (n = 262)		Children (n = 84)		Adults (n = 217)		Children (n = 131)		Adults (n = 227)		Children (n = 90)	
	n	%	n	%	n	%	n	%	n	%	n	%
Oral health status												
Have you attended any appointment with the dentist, oral hygienist or other dental technician												
Yes, at least less than 1 year ago	36	13.7	11	15.9	33	15.2	38	29.0	43	18.9	37	43.0
Yes, more than 1 year ago	119	45.4	31	44.9	135	62.2	73	55.7	173	76.2	47	54.7
Never	107	40.8	27	39.1	49	22.6	18	13.7	11	4.8	2	2.3
Reason for the last appointment												
Dental pain	13	37.1	3	27.3	7	23.3	6	15.8	3	7.3	7	18.9
For dental extraction	7	20.0	2	18.2	8	26.7	0	-	4	9.8	2	5.4
Dentistry	1	2.9	0	-	3	10.0	3	7.9	2	4.9	4	10.8
Oral health status	12	34.3	2	18.2	2	6.7	9	23.7	18	43.9	13	35.1
Routine annual appointment	0		4	36.4	3	10.0	15	39.5	13	31.7	11	29.7
Oral hygiene	2	5.7	0	-	6	20.0	3	7.9	1	2.4	0	-
Other reasons	0		0	-	0	-	2	5.3	0	-	0	-
Reason not to attend any appointment with the dentist												
No need	90	84.1	25	92.6	43	93.5	17	100.0	10	100.0	2	100.0
It is very expensive	17	15.9	2	7.4	3	6.5	0	-	0	-	0	-
Have attended an appointment in Portugal	150	98.7	42	100.0	145	86.8	109	99.1	210	97.7	84	100.0
Dentition												
Complete natural dentition	255	99.2	9	13.0	172	79.6	49	38.6	220	96.9	10	11.8
Some natural teeth missing	2	0.8	59	85.5	44	20.4	77	60.6	7	3.1	75	88.2
Total tooth loss	0		1	1.4	0	-	0	-	0	-	0	-
Dental prosthesis												
Complete denture	1	100.0	-	-	14	32.6	-		3	60.0	-	-
Does not use any prosthesis	0		-	-	29	67.4	-		2	40.0	-	-
Brush one's teeth												
Has no teeth	0		1	1.4	0	-	2	1.7	0	-	0	-
Never	1	0.4	2	2.9	0	-	0	-	0	-	0	-
Sometimes / Less than once a day	0		1	1.4	3	1.4	0	-	1	0.4	1	1.2
Once a day	32	12.4	39	56.5	44	20.4	51	42.9	15	6.6	45	53.6
Twice or more times per day	225	87.2	26	37.7	169	78.2	65	54.6	211	93.0	38	45.2
Healthcare use												
Language understanding difficulty at healthcare services												
Never attended to healthcare	4	1.5	0	-	7	3.2	2	1.6	1	0.4	1	1.1
No	218	84.2	79	94.0	151	69.9	115	89.1	194	85.5	84	93.6
Yes	37	14.3	5	6.0	58	26.9	11	8.5	32	14.1	5	5.6
No access to healthcare due to this difficulty	2	5.4	0	-	5	8.9	0	-	3	8.6	0	-
Healthcare provision was denied	3	1.2	0	-	15	7.2	5	4.0	18	8.0	2	2.2
He/she was treated in a discriminatory manner by the health professionals due to being an immigrant	0	-	0	-	4	1.9	0	-	2	0.9	0	-
Generally speaking, would you consider that the health professionals have a good understanding as regards the healthcare needs of the immigrants?												
I fully agree	226	88.6	79	96.3	153	73.9	93	96.9	207	91.6	82	100.0
I partially agree	24	9.4	3	3.7	37	17.9	3	3.1	15	6.6	0	-
Neither agree or disagree	3	1.2	0	-	8	3.9	0	-	1	0.4	0	-
I partially disagree	0	-	0	-	6	2.9	0	-	3	1.3	0	-
I fully disagree	2	0.8	0	-	3	1.4	0	-	0	-	0	-
Registered at the Health Centre	254	97.3	84	100.0	199	92.1	126	96.2	225	99.6	87	98.9
Has an attending GP	243	95.7	84	100.0	183	85.9	120	91.6	216	96.4	83	94.3
Attended Emergency	45	17.2	6	7.1	89	41.0	26	19.8	38	16.8	11	12.5
Have you ever sought healthcare abroad, since you immigrated to Portugal?	3	1.2	0	-	31	14.3	9	6.9	2	0.9	0	-
Over the last 12 months, have you ever had to buy or pay for any of the following therapies or failed to receive them for lack of financial resources?												
Medicines	3	1.1	0	-	16	7.4	4	3.1	5	2.2	0	-
Medical appointment	3	1.1	0	-	9	4.2	2	1.5	4	1.8	0	-
Complementary diagnostic tests	2	0.8	0	-	8	3.7	0	-	4	1.8	0	-

sd – standard deviation, IQR – interquartile range.

DISCUSSION AND RECOMMENDATIONS

Our study aimed to obtain data allowing healthcare good practice and resource management recommendations to be defined within the Portuguese SNS, oriented to the immigrant population from the Indian subcontinent living in Portugal. These recommendations were adapted from the WHO recommendations using data collected from questionnaires administered to these populations.

We found a higher percentage of male participants (74% and 51%) and respondents living in Portugal for less than five years (67% in our study and 28% in the INS), when compared to the immigrants respondents of the INS 2005/2006 (INS) questionnaire.[6] Our group of participants is in line with some characteristics of the 2011 census data regarding the population from Bangladesh, India and Pakistan living in Portugal: most are male, young, Muslim (those from Pakistan and Bangladesh) or Hindu (from India). In addition, our group had a considerably higher proportion of high-educated individuals than reported in the 2011 census data.[3] These data indicate overlapping characteristics of our group of participants with the population from which census was obtained. The differences are explained by the fact that census data only regarded individuals born in those countries, while our group included second-generation immigrants.

In general, the immigrants from the Indian subcontinent have shown better health indicators when compared to the group of immigrants from the INS study: more adult participants ranked their life quality as 'good' or 'very good' (87% *vs.* 61% in the INS study) and less participants were hypertensive (5% *vs.* 13%). However, more adult participants from the Indian subcontinent were ranked as having psychological distress (39% *vs.* 22%) and a slightly higher percentage described current smoking (27% *vs.* 22%).

It is not surprising that our group of participants showed better health indicators than the INS study as it included younger participants. However, the higher frequency of a possible psychological distress may be a warning for healthcare specific needs in this subpopulation.

Only between 9.6 and 42.1% of the respondents from the Indian subcontinent would authorise post-mortem organ donation, in contrast to 85.7% of the Portuguese population.[28] This percentage reflects the relevance of taking into account cultural differences and to adequately inform immigrant populations.

Dias *et al.*[8] aimed to characterise access to healthcare by the immigrant population, collecting information from approximately 1,500 immigrants in the National Immigration Support Centre (*Centro Nacional de Apoio ao Imigrante*) in Lisbon. About half of this group of immigrants had a South-American nationality, followed by African (35%), Eastern European (12%) and Asian (3%). About of these were male (53%) and were aged on average 33 ± 9 (the

group of immigrants from the Indian subcontinent was aged on average 35 ± 9). In this group of immigrants, 79% had already attended the Portuguese SNS, from which only 1% identified language difficulties in the use of healthcare. Compared to these, 98% of the immigrants from the Indian subcontinent had already attended to the SNS, from which 18% identified the language as a barrier for healthcare attendance.

In order to assess the factors associated to the use of SNS, a snowball technique was used by Dias *et al.*[9] in order to obtain a sample of approximately 1,300 immigrants from Brazil, from the Portuguese-speaking African countries and from Eastern European countries living in the Lisbon area. From this group of immigrants, about one third had higher education level (31%), about half of these were male (49%) and the average age was 36 ± 12. Approximately 77% of the respondents had already attended the SNS in Portugal, a lower percentage compared to what was found in immigrants from the Indian subcontinent (98%).

The population from the Indian subcontinent showed better health indicators when compared to the immigrant populations from other nationalities living in Lisbon, with higher use of the SNS and more frequent language difficulties when attending SNS healthcare facilities. The number of registered people at health centres should be carefully considered, as it may relate to the legalisation process in Portugal.[29]

The sampling method that we used may have an important influence on the interpretation of the results, as it may have contributed to relevant sample homogeneity. However, this is the most adequate technique for relatively small and hard-to-access populations, allowing for an important number of participants to be obtained that would otherwise become more difficult, as well as allowing for the inclusion of both legally and illegally resident immigrants.

The interpretation of our study's results may also be limited by the lack of other studies allowing for an adequate comparison. The available studies are either not directly intended to the immigrant population, which prevents its representativeness (such as the INS study) or are mainly aimed to characterise the use of healthcare by this population (and not health status). Regarding the INS study, we should consider that the group of participants in that study included people with different nationalities from those represented in our study and did not include illegally resident individuals.

Despite these limitations, our study obtained a high compliance rate within a hard-to-access population and found hardly accessible information. Based on this information, it is possible to adapt the current recommendations and to establish the following recommendations:

1. Training the health professionals in the interactions with immigrants from the Indian subcontinent whenever necessary.

Table 5 - Age-adjusted socio-demographic and health status characteristics, by country of origin

Variable	Bangladesh	India	Pakistan
Age (mean ± sd)	32.2 ± 7.3 (31.3; 33.0)	38.4 ± 11.6 (36.9; 39.9)	35.5 ± 8.0 (34.4; 36.5)
Female (%)	13.9 (10.2; 17.8)	30.5 (24.4; 36.5)	19.8 (14.2; 25.3)
Married (%)	52.3 (46.7; 57.9)	64.5 (59.5; 69.5)	61.5 (56.4; 66.6)
Higher education level (%)	49.1 (43.0; 55.2)	19.8 (14.4; 25.1)	34.9 (29.1; 40.8)
Unemployed (%)	14.1 (10.0; 18.2)	5.0 (2.1; 7.9)	0.4 (0.0; 1.1)
Duration of residence in Portugal, years (median)	1 (1-4)	8 (4-18.8)	4 (2-6)
Born in Portugal (%) *	3.1 (2.1; 3.9)	10.8 (4.2; 17.4)	2.3 (1.4; 3.2)
Predominant religion *	Muslim	Hindu	Muslim
Quality of life self-assessment as good or very good (%)	96.4 (94.0; 98.7)	70.2 (64.6; 75.8)	95.2 (92.4; 97.9)
Possible psychological distress (%)	46.1 (40.1; 52.1)	38.2 (31.8; 44.7)	29.1 (22.7;3 5.6)
Overweight and obesity (%)	54.1 (47.9; 60.3)	55.4 (47.1; 60.3)	74.7 (69.4; 80.1)
Language understanding difficulty at the healthcare services (%)	14.7 (10.3; 18.9)	26.7 (22.1; 31.1)	13.4 (9.1; 17.7)
This difficulty prevented from attending to healthcare (%)	5.2 **	7.9 (1.4; 14.3)	7.9 **
Healthcare provision was denied (%)	1.1 (0.6; 3.0)	6.7 (3.5; 9.9)	7.4 (4.1; 10.7)
Perceived as treated in a discriminatory manner by health professionals due to being an immigrant, (%)	0.0	1.9 (0.0; 3.8)	0.7 (0.0; 1.7)
Generally speaking, considers that the health professionals have a good understanding as regards the immigrants' healthcare needs (%)	97.9 (96.2; 99.7)	90.9 (86.8; 94.9)	98.4 (96.8; 99.9)
Registration at a Health Centre (%)	97.1 (95.0; 99.2)	91.8 (88.0; 95.5)	99.6 (98.9; 100.0)
Assigned GP (%)	95.9 (93.5; 98.3)	85.6 (80.8; 90.4)	96.5 (94.1; 98.9)
Attended the Emergency Department (%)	17.9 (13.1; 22.7)	40.7 (34.3; 47.0)	18.1 (12.5; 23.6)
Did not buy any medication because he/she could not afford to pay for it, over the last 12 months (%)	1.2 (0.0; 2.5)	7.4 (3.9; 10.9)	2.1 (0.3; 4.0)
Over the last 12 months, did not attend any physician because he/she could not afford to pay for it (%)	1.2 (0.0; 2.5)	4.2 (1.9; 6.5)	1.6 (0.0; 3.2)
Over the last 12 months, did not carry out a diagnostic test because he/she could not afford to pay for it (%)	0.8 (0.0; 1.8)	3.6 (1.2; 5.9)	1.8 (0.0; 2.9)
Never attended by a dental technician (%)	39.6 (33.8; 45.4)	14.8 (10.2; 19.4)	4.9 (2.1; 7.7)

sd: standard deviation; * adults and children group (all the remaining refer only to adults); ** confidence interval was not determined.
Notes: 95% confidence interval or interquartile range in brackets.

One Portuguese study identified opportunities for intervention in the socio-cultural skills of health professionals.[11] In our study, as 94% of the participants considered that the health professionals properly understood their health needs such training does not seem to be required and as such is not recommended.

2. Training the health professionals on legal requirements regarding healthcare access by the immigrants.

Some cases were documented where health units in Portugal unduly refused access to immigrants who were entitled to healthcare.[10] In our group of participants,

access to healthcare was denied to 5% of the participants, supporting the need for this recommendation.

3. Increasing the availability of interpretation services to immigrants from the Indian subcontinent who attend healthcare facilities but are not fluent in the Portuguese language.

Language is among the most frequently identified barrier regarding the access to healthcare by immigrant populations. Many immigrants from this subcontinent are not fluent in Portuguese (in our study, all the questionnaires were responded in English). Only approximately 18% described not having had any understanding difficulties when attending a healthcare facility in Portugal.

4. Providing information to health professionals regarding the more prevalent health issues and specific problems of the immigrant population from the Indian subcontinent.

Information regarding these epidemiological aspects of a population will add to knowledge meeting the WHO recommendation[25] and allowing for an improvement in healthcare quality.

5. Monitoring health and healthcare use by the immigrant population from the Indian subcontinent.

In line with the WHO recommendation, a monitoring system may inform about the needs in health and accessibility to healthcare in this group. This recommendation is particularly important given the lack of knowledge regarding the health status and the use of healthcare by this population.

6. The creation of community health workers specific for each population should be considered, in order to implement preventive actions as well as to inform on healthcare access.

These three communities showed different profiles regarding health and healthcare use. Although generally satisfied with the health professionals in Portugal, the vulnerability of the immigrant populations and the identification of several barriers to the use of healthcare underline the need for targeted interventions. The creation of a 'community health worker' may help health status in this population to be improved and the adequate use of healthcare to be promoted.[25]

7. Consulting representatives from this immigrant community in order to know the specific needs of this population.

It is possible that not all the problems were reflected in this research, apart from the evidence regarding the specific problems of this community, therefore, as recommended by the WHO, it is always important to allow for electing a representative from specific sub-populations.[25]

8. Information to the immigrants from the Indian subcontinent, possibly through their family doctors, about organ donation regulations in Portugal.

Anyone residing in Portugal is presumed to be a consenting post-mortem organ donor unless the contrary is not manifested by a written document.[30] Our study found that many immigrants from the Indian subcontinent, particularly from Bangladesh, do not agree with organ donation, in contrast to the opinion of the Portuguese population.[28] Therefore, their wish should be taken into account and they should be informed regarding their rights on this issue.

CONCLUSION

Data regarding the health and healthcare access of the immigrants from the Indian subcontinent in Portugal are scarce. Our study added some previously unavailable knowledge and allowed for the development of recommendations adapted to healthcare for this immigrant population in Portugal.

Our study also allowed for the identification of knowledge gaps that dictate the need for an added effort from researchers, health professionals and policy-makers. The apparent discrepancy between the self-perception of health professionals in Portugal and the perception of immigrants from the Indian subcontinent regarding the sociocultural skills of the former is one of these gaps. These issues would benefit from merging these recommendations with population data and from using a Delphi method by a group of experts in order to gather opinions and complete the recommendations.

Finally, our study shows the importance of evidence-informed decision-making regarding healthcare, as well as the importance of an integrated monitoring system not only for research purposes but to actually improve healthcare provision and health standards of the most vulnerable population groups.

CONFLICT OF INTERESTS

The authors declare there was no conflict of interests in writing this manuscript.

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SAIMI Study - Health and Health Care Access by Immigrants from the Indian Subcontinent in Lisbon: What Recommendations for Equitable and Culturally Adequate Health Care?

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