

ORIGINAL RESEARCH ARTICLE

Determinants of care seeking behavior for sexually transmitted infections in a context of social vulnerability: Evidence from Essaouira, Morocco

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Abstract

This study was designed to examine the care practices adopted in the presence of signs of sexually transmitted infection among women of childbearing age in the province of Essaouira, Morocco. A cross-sectional study was carried out on a sample of 1100 sexually active women of childbearing age. Data were collected via questionnaires. The results showed that more than half of the women (63%) consulted a health professional if they showed signs of an STI. However, 37% chose other non-medical remedies. Place of residence [OR: 1.52 (CI: 1.56-1.94)], education level [OR: 1.48 (CI: 1.23-1.85)], and healthcare decision-making [OR: 1.32 (CI: 1.30-1.65)] were the main determinants of healthcare use. Integrated strategies aimed at improving literacy, geographical accessibility to health services, and gender equity are therefore crucial for enhancing healthcare utilization in this population. (*Afr J Reprod Health* 2026; 30 [7]: 39-48).

Keywords: Care practices; Sexually transmitted infections; Self-medication; Traditional treatment; Women of childbearing age; Morocco

Résumé

Cette étude a été conçue examiner les pratiques de soins adoptées en présence de signes d'infection sexuellement transmissible chez les femmes en âge de procréer dans la province d'Essaouira, au Maroc. Une étude transversale a été réalisée sur un échantillon de 1100 femmes sexuellement actives en âge de procréer. Les données ont été recueillies par le biais de questionnaires. La présente recherche a montré que plus de la moitié des femmes (63%) ont consulté un professionnel de santé en cas de signes d'IST. Cependant, 37% ont choisi d'autres remèdes non médicaux. Le lieu de résidence [OR: 1.52 (CI: 1.56-1.94)], le niveau d'éducation [OR: 1.48 (CI: 1.23-1.85)], et la prise de décision en matière de soins de santé [OR: 1.32 (CI: 1.30-1.65)] étaient les principaux déterminants de l'utilisation des soins de santé. Des stratégies intégrées visant à améliorer l'alphabétisation, l'accessibilité géographique des services de santé et l'équité entre les genres sont donc cruciales pour améliorer le recours aux soins dans cette population. (*Afr J Reprod Health* 2026; 30 [7]: 39-48).

Mots-clés: Pratiques de soins ; Infections sexuellement transmissibles ; Automédication ; Traitement traditionnel ; Femmes en âge de procréer ; Maroc.

Introduction

Sexually transmitted infections (STIs) represent a major public health issue.¹ The clinical signs of STIs, such as pain, discharge or genital lesions, can be alarming.² Individuals showing symptoms of STIs, or who suspect they have them, may indeed

be infected. Those who are reluctant to be diagnosed and treated for an STI while still having sexual relations risk transmitting the infection to their partners.³ In a context of social vulnerability, these symptoms are often accompanied by feelings of shame, fear of judgment, and isolation.⁴ Those affected may then adopt avoidance behaviours,

worsening their health and encouraging the transmission of infections.⁵

Recent research has highlighted the alarming rise in STIs rates among women.⁶ Women are disproportionately affected by STIs due to a complex interplay of biological, social, developmental and behavioral factors. Although these STIs are generally easy to treat with antibiotics, undetected infection can lead to pelvic inflammatory disease, fertility problems, and complications during pregnancy or childbirth.^{7,8} In addition, many women lack the knowledge, attitudes, and preventive practices needed to effectively reduce the risk of STI transmission.⁹ In addition, previous studies have shown that women tend to delay seeking care longer than men, and that barriers can be linked to both individual and health system factors.^{6,10} Faced with stigma, poverty, and limited access to healthcare services, these individuals are often reluctant to consult a healthcare professional when they present with signs of an STIs.^{11,12} Several factors limit access to healthcare for vulnerable populations.¹³ Stigmatization: the fear of being judged or discriminated against by medical staff prevents many people from attending consultations.¹⁴ Similarly, lack of information about STIs and their consequences discourages people from seeking care.¹⁵ Thus, limited access to services, especially in certain rural or disadvantaged areas, can make health services remote or inaccessible.³ What's more, the cost of medical consultations or treatments can be prohibitive for people in precarious situations.¹²

Strategies to improve access to care include awareness-raising and education through targeted information campaigns, which can help reduce stigmatization and encourage people to seek help as soon as symptoms appear.¹⁴ Similarly, training healthcare professionals in the management of STIs and the importance of empathy in treatment can help create an environment of trust.¹⁶ In addition, setting up anonymous, free consultations in accessible locations can encourage vulnerable people to seek treatment.¹⁷ Also, collaboration with community organizations can play a key role in raising awareness and supporting the use of healthcare.¹³ Given these findings, this study aims to examine the medical care practices adopted in the presence of signs of sexually transmitted infections among women of childbearing age in the province of

Essaouira, Morocco, in order to understand the factors influencing this care-seeking behavior and thus develop targeted interventions to combat this public health problem.

Methods

Study design and setting

This was a quantitative cross-sectional study of women of childbearing age in the province of Essaouira, which was characterized by a high proportion of rural population, amounting to 77.6%,¹⁸ and multidimensional poverty.¹⁹ The research was carried out in the province's twenty health districts, both urban and rural.

Sample size and sampling technique

The sample size was calculated on the basis of a target population of 65037 women of childbearing age in the province in 2022. Inclusion criteria were as follows: women aged 18 to 49, residing in the province of Essaouira, and having given their informed consent to participate in the study. Women were excluded if their general health status precluded survey participation (e.g., those with serious acute conditions at the time of data collection). The required sample size was calculated using Fisher's formula. A total of 1,100 women were recruited by stratified random sampling, the strata being based on health districts.

Data collection tool

A pre-tested structured interview questionnaire was used to collect data from the study participants. It included three sections: Section 1 contained a brief statement on the purpose of the research and the consent to participate. Section 2 involved sociodemographic and socioeconomic characteristics: age, residence, marital status, education, occupation, household income, household structure, and health care decision-making. For the socio-professional category (SPC) of spouses, we established a classification based on the 2014 national census in Morocco,²⁰ which divides it into three groups: the first category (SPC1) included large traders, the professions, civil servants, and executives; the second category (SPC2) includes artisans, salaried workers, manual workers, employees, farmers, and laborers, as well as cab and truck drivers; finally, the third category

(SPC3) grouped individuals who were unemployed at the time of the survey. Regarding household income, we divided the women into two groups according to the value of the Guaranteed Minimum Interprofessional Wage (GMIW) in Morocco, which amounted to 2,706 Dirhams (Moroccan currency equivalent to 348 American dollars (USD)).²⁰ The first group included women whose monthly income was considered low, i.e., less than or equal to the GMIW, while the second group included those with an average to high income, above the GMIW. For this study, household income was defined as the sum of the income of the woman and her partner. The variable for healthcare decisions was categorized as follows: made by the wife, the husband, jointly (by both spouses), or by someone else.²¹ Section 3 included general questions about seeking care in the presence of sexually transmitted infections. Prior to administering the questionnaire, we consulted three experts in the field of STIs management and research to obtain their opinions on the relevance of the items and the clarity of the questions. Suggested adjustments were incorporated, and their feedback helped refine the data collection tool.

Data management and analysis

The researchers performed the statistical analysis using the Statistical Package for the Social Science Program (SPSS, version 18). We summarized the data using the mean, standard deviation, and range for quantitative variables and frequency and percentage for qualitative variables. In addition, binary logistic regression was used. This method enabled us to adjust for potential confounding factors and determine the association between demographic and socioeconomic characteristics and the decision to consult a healthcare professional or to use self-medication and non-medical remedies. A statistical significance level of 5% was used.

Ethical considerations

Consent

Participation in this study required participants to give their voluntary and informed consent. They were also thoroughly informed beforehand about the study's purpose, the researchers involved,

the objectives, and the confidentiality measures concerning the data collected.

Ethical approval

The research proposal has been approved by the health authorities and the Ethics Committee of the Moroccan Association for Research and Ethics (MARE) in Taroudanet, under number 01/REC/2022 on February 9, 2022. All measures concerning data confidentiality, security of storage, and respect for the right to privacy have been scrupulously observed. Written informed consent was taken from each study participant after a clear explanation of the aim of the study. Moreover, there were not any personal identifiers included in the data. In addition, all data collection procedures were carried out in accordance with the Helsinki Declaration of Biomedical Ethics..

Results

Demographic and socio-economic characteristics of women surveyed

In the present study, 64% were under 35 years of age (Table 1). Of the 1,100 women of childbearing age in our sample, urban women accounted for 37.2% (409 women) and rural women for 62.8% (691 women). The proportion of women living more than six kilometers from the nearest health facility was 33.4%. Nearly a third of the women surveyed were illiterate (27.1%). Analysis of marital status revealed that 96.9% of women in the study population were married and 3.1% were unmarried. The activity rate recorded in our study was 11.8%. The majority of women had a monthly income of less than or equal to the minimum wage (53.5%). The number of children per woman ranged from 0 to 7, with an average of 1.88 children. Nearly half the women (42.2%) had more than 2 children. Nuclear families, made up of spouses and their children, accounted for 79.6%, while multiple-type families, with the presence of more than one married couple, represented 20.4%. Only 24.1% of women make decisions about access to healthcare on their own.

Care practices adopted by women with STIs

In the present study, 693 women (63%) turned to a health professional if they showed signs of an STI (Table 2)

Table 1: Demographic and socioeconomic characteristics of women

Demographic and socioeconomic characteristics of women	Frequency	Percentage
Age		
< 35	704	64
≥ 35	396	36
Place of residence	409	37.2
Urban		
Rural	691	62.8
Distance to care facilities		
< 6 kilometer	733	66.6
≥ 6 kilometer	367	33.4
Educational level		
Illiterate	298	27.1
Literate	802	72.9
Marital status		
Married	1066	96.9
Unmarried	34	3.1
Parity		
≤ 2 children	635	19.4
> 2 children	465	42.2
Women's professional activity	129	11.8
Active (SPC 1 ; SPC 2)		
Inactive (SPC 3)	971	88.2
Monthly family income	564	53.5
≤ GMIW		
> GMIW	488	46.5
Household structure		
Nuclear	876	79.6
Multiple	224	20.4
Health care decision-making	265	24.1
Single woman		
Other persons	835	75.1

However, 223 (20.3%) chose non-medical remedies, and 184 (16.7%) obtained drugs without a medical prescription, thus practicing self-medication.

Factors associated with choosing the type of care

In the Moroccan context, to our knowledge, no study has attempted to analyze the effect of sociodemographic factors on the use of health care in the presence of STIs signs (Table 3).

Table 2: Type of care sought by women in the presence of sexually transmitted infections

Use of care	Frequency	Percentage
Health professionals	693	63
Self-medication	184	16.7
Non-medical remedies	223	20.3
Total	1100	100

For our in-depth analyses of the relationship between care-seeking and determining factors, we subdivided our sample of women into two groups: the first group comprised women who sought care from a health professional, and the second group comprised women who used non-medical remedies or practiced self-medication.

These figures were 693 (63%) and 407 (37%), respectively. The results in Table 3 indicate that the significant covariates linked to the use of healthcare professionals when STI symptoms are present, ranked in order of importance, are place of residence ($p < 0.001$), level of education ($p < 0.001$), healthcare decision-making ($p < 0.01$), parity ($p < 0.05$), distance to nearest healthcare facility ($p < 0.05$), household structure ($p < 0.05$), and monthly family income ($p < 0.05$).

Adjusted odds ratios by type of women's care practices

To eliminate confounding factors, we applied a binary logistic regression. The dependent variable represents the two care-seeking options observed in the event of STIs signs: consultation of health professionals and use of self-medication or non-medical remedies.

The independent variables are linked to the socio-demographic characteristics mentioned above. The results of this analysis (Table 4) revealed an association between women's use of healthcare professionals and factors such as their place of residence, level of education, and ability to make decisions. Thus, women residing in urban areas appear to have a more frequent use of qualified healthcare professionals, as indicated by the results [OR (odds ratio): 1.52 (CI (confidence interval): 1.56-1.94)], which could reflect better access to healthcare facilities.

Table 3: Women's choice of care and associated factors

Choice of type of care	N	Healthcare professional (n=693)	Self-medication / non- medical remedies (n=407)	Test χ^2
		Number (%)	Number (%)	
Age (years)				
< 35	704	447 (63.5)	257 (36.5)	1.92 ^{NS}
≥ 35	396	246 (62.1)	163 (41.8)	
Place of residence				
Urban	409	309 (75.6)	100 (23.9)	19.89 ^{***}
Rural	691	384 (55.6)	307 (44.4)	
Distance to care facilities				
< 6 kilometer	733	291 (39.6)	442 (60.4)	6.14 [*]
≥ 6 kilometer	367	109 (29.7)	258 (70.3)	
Educational level				
Illiterate	298	146 (49)	152 (51)	15.90 ^{***}
Literate	802	566 (70.6)	236 (29.4)	
Marital status				
Married	1066	573 (53.8)	493 (46.2)	2.63 ^{NS}
Unmarried	34	16 (48.3)	18 (51.7)	
Parity ≤ 2 children				
> 2 children	635	321 (50.6)	313 (49.4)	6.34 [*]
Revenu mensuel familial				
≤ GMIW	564	346 (61.4)	218 (38.6)	5.02 [*]
> GMIW	488	338 (69.3)	150 (30.7)	
Women's professional activity				
Active (SPC 1 ; SPC 2)	129	84 (65.6)	45 (34.4)	3.27 ^{NS}
Inactive (SPC 3)	971	590 (60.7)	381 (39.3)	
House hold structure				
Nuclear	876	391 (44.6)	485 (55.4)	5.76 [*]
Multiple	224	76 (34.2)	147 (65.8)	
Health care decision-making				
Single woman	265	139 (52.3)	126 (47.7)	11.20 ^{**}
Other persons	835	287 (34.4)	548 (65.6)	

* : $p < 0,05$; ** : $p < 0,01$; *** : $p < 0,001$; ns: non significatif

Table 4: Adjusted odds ratios by type of women's care practices and by factors

Variable	A	Test χ^2	OR	CI
Place of residence	0.58	11.34 ^{**}	1.52	(1.56-1.94)
Distance to care facilities	0.24	1.73 ^{NS}	1.36	(0.53-1.07)
Education level	0.42	10.46 ^{**}	1.48	(1.23-1.85)
Parity	0.28	1.88 ^{NS}	1.37	(0.96-1.67)
Monthly family income	0.18	1.64 ^{NS}	1.25	(0.94-1.46)
Household structure	-0.26	2.67 ^{NS}	0.92	(0.73-1.17)
Health care decision-making	0.34	8.42 ^{**}	1.32	(1.3-1.65)

A: Constant; χ^2 : Chi-square value; OR: odds ratio; CI: confidence interval; *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; NS: Not significant

Furthermore, level of education was a significant factor in healthcare utilization [OR: 1.48 (CI: 1.23-1.85)], suggesting that women with a higher level of

education are more likely to consult qualified healthcare professionals. Furthermore, when women are involved in decision-making about their

health [OR: 1.32 (CI: 1.30-1.65)], they are more likely to seek care from qualified health professionals if they have signs of an STI ($p < 0.01$).

Discussion

STIs can appear in a wide variety of contexts, where they can be unexpected and present a challenge in terms of effective care. Diagnosis and treatment of STIs offer the opportunity to prevent further infections.²² Our results show that 63% of women consulted a healthcare professional when they showed signs of an STI.

However, 37% of women surveyed did not receive assistance from qualified health professionals. This may be explained by the fact that some women may not be aware of the signs or risks associated with STIs, leading them not to seek help. However, early diagnosis and treatment are essential to avoid long-term consequences for reproductive health.²³ In the present study, 16.7% of women practiced self-medication. This is compared with 75% in a study of antimicrobial self-medication for reproductive tract infections in two provinces of the Lao People's Democratic Republic, which showed that respondents were self-medicating against STIs with inappropriate antimicrobials purchased from private pharmacies.²⁴ In addition, the use of self-medication in the face of STIs signs and the dispensing of non-prescription medicines by private pharmacies are attitudes revealed in a large number of other studies; it is 31% in Thailand²⁵, 58.3% in Vietnam²⁶ and up to 82.5% in Tanzania²⁷. However, the use of drugs not prescribed by doctors can delay diagnosis, encourage the development of antimicrobial resistance, cause adverse effects or drug reactions, and lead to the spread of infection within the population.^{28,29}

Furthermore, in this study, 20.3% of the women surveyed used non-medical remedies (use of plants and/or recourse to traditional healers). This finding is in line with that of an ethnobotanical study on the use of medicinal plants to treat STIs in Madagascar, which found that 22.6% of respondents used medicinal plants to treat the signs of STIs.³⁰ Indeed, because of the social stigma attached to STIs, people, especially women, avoid discussing their health problems and prefer to consult traditional healers, who are available in

every village and town.³¹ The main reasons given by people who opt for traditional treatments include lack of access to modern medical facilities, attachment to traditional approaches, and lastly, reluctance to talk about this form of illness in front of unfamiliar healthcare professionals.³²

Given these findings, it is essential to understand the factors that influence healthcare-seeking behavior for STI-related problems, in order to develop targeted interventions to combat this growing epidemic.² Indeed, in Morocco, multiple constraints influence decisions about seeking healthcare. In most cases, this occurs when symptoms persist, especially for users who live far from a health center. Women with unfavorable socio-economic conditions are more likely to resort to non-medical remedies.³³ In the present study, a number of factors had influenced this choice of seeking care in the presence of STIs signs.

Binary logistic regression revealed a significant relationship between women's use of healthcare professionals, their place of residence, their level of education and their ability to make decisions about their health. This shows that women's use of qualified healthcare professionals is 1.52 times more frequent in urban areas than in rural areas. In addition, it is 1.48 times higher among educated women than uneducated ones and 1.32 times higher among women who make their own care decisions than those whose decisions are made by others.

With regard to educational level, similar results have been reported worldwide in Zimbabwe,³⁴ Ghana,³⁵ and Bangladesh,³¹ indicating that women with a higher level of education are more likely to turn to qualified health professionals in the presence of signs of STIs. Similarly, a study in South Africa found that a low level of education was associated with a high prevalence of use of traditional remedies.³⁶ Our results also converge with those observed in Morocco. A study of phytotherapy and urinary tract infections in the Moroccan Sahara (Tan-Tan) in 2014 revealed that the prevalence of phytotherapy use for cystitis is higher in people with a low level of education than in subjects with a high level of education.³⁷ This choice may be due to the fact that illiterate women may find it difficult to access health information and understand health professionals' recommendations on STIs prevention and treatment. As a result, they

may be more inclined to resort to self-medication and non-medical remedies as an immediate solution in the event of signs of STIs.

Indeed, this study revealed a statistically positive association between healthcare decision-making and women's use of qualified healthcare professionals. In many societies, healthcare decision-making has an impact on care-seeking. Decisions about seeking care from qualified healthcare personnel are made in common. Generational hierarchy, gender relations, and economic dependence are determinants.²¹ However, the improved educational level and financial autonomy of young women seem to have brought about a new dynamic in the process of assessing the severity of health problems and making healthcare decisions.²¹

In the present study, healthcare use in the presence of STIs signs was statistically associated with place of residence. Urban women made greater use of healthcare professionals than their rural counterparts. This difference may be due to the fact that rural women may face barriers to accessing healthcare services, such as distance from healthcare facilities,¹⁹ lack of available healthcare professionals or high travel costs. As a result, it is easier for them to resort to traditional remedies or self-medication as a first measure to treat signs of STIs, due to geographical or economic constraints.

Since STIs compromise the quality of life, as well as the sexual and reproductive health of women and the health of newborns and children,³⁸ access to healthcare facilities refers to the ability of individuals to obtain medical care and health services in a timely and adequate manner. This includes geographical proximity to healthcare facilities, availability of medical services, health insurance coverage, as well as other factors.³ In Morocco, as in many countries, access to healthcare facilities can vary according to region, socio-economic status and other demographic factors.³⁹ Nevertheless, in our context, recourse to a biomedical provider is the preferred option.²¹ Access to care is also an important aspect of disease control, as health services play a role in treatment and even prevention.³⁹ However, this access is often subject to various restrictions, including geographical and economic accessibility.²¹

Our results can probably be explained by the highly significant relationship observed between a

woman's place of residence, her level of education, her standard of living and her autonomy in healthcare decision-making. In this study, the best-educated urban women had an average to high standard of living (69.3%) and had autonomy in decision-making in 52.3% of cases. These favorable social conditions, particularly for urban households and the affluent classes, favor their use of appropriate care in the event of signs of STIs. In fact, the authors reported that affluent households were associated with an increased likelihood of consulting qualified health professionals in the event of a health problem.³⁵

This study has both strengths and weaknesses. The strengths lie in the fact that data from similar studies are not available in our context, as this is the first study to examine the use of care in the presence of signs of STI. In addition, the study is multicentric, which means that in addition to conducting the study in different primary care structures in the province of Essaouira, we were able to benefit from a larger sample size. However, several limitations must be acknowledged. The cross-sectional design prevents causal inference, and the restriction of the study population to women of childbearing age limits the generalizability of the results to other demographic groups. Moreover, reliance on self-reported symptoms and healthcare-seeking behaviors may have introduced reporting bias. Despite these limitations, the results have important implications for policy and practice. They highlight the critical role of women's education and decision-making autonomy in promoting appropriate care-seeking for STIs and underscore persistent urban-rural disparities in access to qualified healthcare. Targeted interventions aimed at improving health literacy, strengthening women's autonomy, and reducing geographic inequities in service availability are therefore warranted. These findings provide valuable evidence to inform program planning and the design of context-adapted strategies to improve STIs management in similar settings.

Conclusion

Access to care for sexually transmitted infections in a context of social vulnerability remains a complex problem. However, through an integrated approach sensitive to the needs of individuals, it is possible to improve access to care, reduce the risks of

transmission and improve the overall health of vulnerable populations. Recourse to healthcare professionals in the presence of STIs signs was 63%, while 37% used non-medical remedies or practiced self-medication.

These results confirm that the inadequate management of STIs constitutes a major public health and social challenge in the Essaouira province. This concern is particularly salient given that the study focused exclusively on women of reproductive age (18–49 years), thus excluding other at-risk populations such as adolescents, older women, and men. The multivariate analysis demonstrated that urban residence, higher education levels, and women's autonomy in health decision-making were independently associated with increased use of qualified healthcare professionals in the presence of STI-related symptoms. This underscores the need for the earliest possible intervention by educating the population about the risks associated with inadequate treatment of STIs. Finally, the authors argue that this data would help program planners make the most of the data.

Recommendations for improving practice

The fight against STIs requires a holistic approach involving all those involved in the management of these infections. Thus, the recommendations and solutions proposed by the participants stem directly from their experience of STIs.

Strengthen education and awareness to encourage professional consultation.

Facilitate access to health services, especially in rural areas.

Promote women's active participation in healthcare decisions.

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Contribution of authors

We declare that this work was carried out by the authors named in this manuscript and that all the responsibilities related to the claims relating to the content of this article will be borne by the authors.

Nezha Nacer designed the study and participated in data acquisition, literature search, data analysis, and manuscript writing. Samia Rkha, Abdelmounaim Manoussi, Imane Kajjoune, Jaouad Chouikh and Nadia Ouzennou conducted data analysis, and read and approved the manuscript for publication. All authors read the manuscript and approved the final version for publication.

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