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Research Article

Forgoing Healthcare Services: Evidence from a Household Survey in Abidjan (Côte d'Ivoire)

Jerome Kouame[1, 2, *], Akissi Regine Attia-Konan[1, 2], Kouame Koffi[1], Marie-Laure Tiade[1], Desquith Aka[1], Maxime Kouakou[1], Serge Oga[1], Julie-Ghislaine Sackou-Kouakou[1, 2]

[1]School of Pharmacy, University Felix Houphouet-Boigny, Abidjan, Cote d'Ivoire

[2]Center for Research and Studies in Populations Policies and Health Systems, National Institute of Public Health, Abidjan, Cote d'Ivoire

Abstract

Background: In Africa, healthcare is generally supported by households. The heavy burden of healthcare on household leaders can lead them to forego care. In this study, we analysed the determinants of healthcare renunciation among household leaders in Abidjan. *Methods*: This cross-sectional study was carried out from May to July 2019 in "colombie", a neighbourhood of Abidjan (Côte d'Ivoire). Heads of household that had been living there for at least 3 months were randomly selected. Sociodemographic, economic, health status and health care renunciation characteristics were collected. Logistic regression models were used. *Results:* The sample consisted of 648 heads of household with a mean age of 35.6 ±8.37 years and a sex ratio (F/M) of 1.59. Almost all of them (97.53%) had given up care at least once. Medical consultations foregone concerned 57.56% of them (including 18.21% to the general practitioner and 39.35% to the specialist). After the consultation, 39.97% of them gave up on other care. People who reported poorer health (OR= 1.93 [1.14–3.29], p=0.015) and those who had no health coverage (OR=6.42 [3.90–11.00], p<0.001) gave up significantly more medical consultations. Heads of households with dependent children (OR=1.93 [1.15–3.34], p=0.015), those who were still in school (OR=1.89 [1.06–3.36, p=0.030]) and those without health insurance (OR=3.30 [1.80–6.19], p<0.001) were significantly more likely to forego postconsultation care. *Conclusion:* Literacy level, risk perception, health system responsiveness and health insurance coverage were drivers of healthcare renunciation. Health insurance coverage was the factor that most influenced renunciation at different stages of the care pathway. As a large number household leaders don't benefit from health insurance, this work highlights the need to make health coverage functional in the country.

Keywords

Heads of Household, Forgoing Healthcare, Social Inequalities, Côte d'Ivoire

*Correspondence: Jerome Kouame (jerome.kouame@yahoo.fr)

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1. Introduction

Healthcare renunciation refers to the fact that individuals, either deliberately or under pressure, do not seek healthcare services even though they feel the need to do so [1, 2]. Not seeking care contributes to further deterioration in people's state of health [3]. It also illustrates their difficulties in accessing healthcare. Renunciation results from problems linked to the spatial and temporal organization of healthcare provision [4]. The geographical accessibility of healthcare services, delays in appointments and excessive consultation times could partly explain this [3, 5-8]. Renunciation is also linked to individual demands and economic constraints. It can occur at different stages in the healthcare pathway, at the time of medical consultation or for other postconsultation care.

This behaviour has been found among patients in several developed countries, despite universal health cover and specific aid for vulnerable people [9, 10]. In France, approximately 4% of people aged 16 and over had given up at least once on a medical consultation in 2006. That same year, 7% of them refrained from consulting a dentist [11]. However, more generally, socially disadvantaged individuals and those with no health cover are more likely to forego healthcare [1, 12].

In sub-Saharan Africa, a large proportion of the population has no health cover. Health expenditures are financed mainly by households through out-of-pocket payments [13, 14]. These payments represent a financial risk for households that use healthcare services, exposing them to a catastrophic situation that could lead to impoverishment [15, 16].

In Cote d'Ivoire, 37.5% of the population lived below the national poverty line in 2021 [17]. Direct payments for healthcare by households accounted for 77% of private healthcare expenditures in 2015 [18]. The vast majority of healthcare costs are therefore borne by heads of household. The heavy burden of health costs on households, especially the poorest, can lead them to forego care or to turn to other therapies [19]. However, few studies have examined the issue of people foregoing healthcare in the country. The aim of this study was to analyse the determinants of healthcare renunciation at different stages of the health care pathway among heads of household in the city of Abidjan.

2. Methodology

2.1. Study Design and Setting

This was a cross-sectional survey that took place from May to July 2019 in a neighbourhood called "Colombie". This neighbourhood is located in the municipality of Cocody, west of the city of Abidjan. According to the general population census in 2014, the neighbourhood had 12977 households. Its population was estimated at 45835 inhabitants [20]. Five health centres (public and private) are available there, less than 5 kilometres from the houses.

2.2. Participants

The study population consisted of heads of household residing in the neighbourhood for at least three (3) months and present at the time of the survey. Those who were unavailable after three (3) scheduled appointments were not included.

2.3. Sampling and Conduct of the Survey

The sample size was determined via the Schwartz formula [21]:

$$n = \frac{Z\alpha/2 \text{ X } p \text{ X } (1-p)}{i^2}$$

n: sample size
p: frequency of healthcare renunciation = 72%
Zα/2 =1.96, for a 5% risk of error
i: precision = 1%

Previous work focusing on health care renunciation in Cote d'Ivoire was not available. However, Angbo-Effi noted that 72% of the people surveyed used street medicines [22]. This implies that 72% of people may have abandoned the conventional health care system. Thus, for the calculation of the sample size, we estimated the rate of renunciation of care at 72%. The number of participants to be included in the study after calculation was 537 (considering a precision of 1% and a risk of error of 5%). A presurvey in another neighborhood allowed us to estimate a nonresponse rate of 20.7%. We therefore ultimately included 648 heads of household in the study.

Households were selected via a cluster random sampling. The households in the neighbourhood were not numbered. Using a map, we randomly divided the neighbourhood into thirty (30) geographical zones. Twenty-two (22) households were selected from each zone, except for twelve zones where twenty-one (21) were selected to be consistent with our estimated sample size. In each zone, the first household was drawn, and one in two households was visited. For each household, we interviewed the head of the household. Community health workers were used as guides to facilitate access to the households.

2.4. Tools and Data Collection

A pretested questionnaire was used to collect the data. The variables measured were as follows:

1) Sociodemographic characteristics: age, marital status, level of education, occupation, number of dependents, and housing status;
2) Economic characteristics and those of perceived health status: the benefit of a remunerated activity, the general state of health and the perception of its evolution since the previous year, health insurance coverage;
3) Renunciation of health care in the last twelve months preceding the survey: This information was collected via

the following two questions: "In the past twelve months, have you renounced to a medical consultation? "And" In the past twelve months, have you given up on treatment after seeing a doctor? ". The type of treatment renounced and the reasons for renouncing were then recorded. We considered that a participant had renounced to treatment if he had renounced medical consultations only, renounced compulsory or advised medical procedures only, or renounced both.

2.5. Data Analysis

The data were entered into EPIDATA 3.1 software and analysed via RStudio 1.1.447 software. Each variable was subjected to descriptive analysis. The frequencies of renunciation to consultation (with a general practitioner and a specialist) and those of renouncing after consultation were estimated, along with their confidence intervals.

The search for factors associated with renunciation to health care was carried out in two steps. First, the associations between renunciation of health care (at the consultation and after consultation) and other variables were explored via the $\chi 2$ test (or, where appropriate, Fisher's exact test) in bivariate analyses. The threshold of statistical significance was set at 5%.

Two logistic regression models were constructed. In the first model, the dependent variable was the renunciation of medical consultation (whether it concerned the general practitioner or the specialist). It was a binary variable with the modalities "yes" if the head of household had given up the consultation and "no" if he had not.

In the second model, the dependent variable was the renunciation of care after medical consultation. It was a binary variable with the following modalities: "yes" if the head of household had given up care after consultation and "no" if he had not.

In these two logistic regression models, the explanatory variables were sociodemographic, economic and health status characteristics.

The regression models included, in each model, all the variables that had a p value of less than 20% in the bivariate analyses. Using the top-down step-by-step selection procedure, the variables that provided the least information to the models were phased out until final models were obtained that consisted only of significant variables (p values <5%).

3. Results

3.1. Sociodemographic, Economic and Health Status Characteristics

The sample consisted of 648 participants with a mean age of 35.6 ± 8.37 years. The sex ratio (F/M) was 1.59. Most of the participants were tenants (86.27%) and had at least a primary school level of national education (78.55%). More than half of them lived as couples (53.86%) with dependent children (85.80%). Approximately seven out of ten participants had paid. They were most often artisans or traders (50.1%), and 84.57% of them did not have any health insurance coverage. Almost eight in ten (78.24%) perceived their state of health to be good. Just over half of them (51.85%) reported being in better health than they had been in the past year. The sociodemographic, economic and health status characteristics are presented in Table 1.

Table 1. *Sociodemographic, economic and health status characteristics.*

	N	(%)
Socio-demographic characteristics		
Gender		
female	398	61.42
male	250	38.58
Age		
< 30	169	26.08
30-39	306	47.22
40-49	121	18.67
≥50	52	8.03
Housing status		
tenant	559	86.27
house owner	89	13.73

	N	(%)
Level of education		
not educated	139	21.45
primary school	166	25.62
secondary school	257	39.66
higher education	86	13.27
Marital status		
couple	349	53.86
single	299	46.14
Dependants		
no	92	14.20
yes	556	85.80
Occupation		
artisan/trader	337	52.01
learner	66	10.18
executive/employee	121	18.67
jobless	124	19.14
Economic characteristics and health status		
Paid activity		
yes	458	70.68
no	190	29.32
Health insurance coverage		
yes	100	15.43
no	548	84.57
General health status		
good	507	78.24
excellent	79	12.19
bad	62	9.57
Perception of the evolution of the state of health in one year		
better	336	51.85
identical	220	33.95
worse	92	14.20

3.2. Characteristics and Reasons for Renouncing to Health Care

Almost all participants (97.84%) had forgone care at least once in the last twelve months. Approximately one in two participants (57.56%) had given up medical consultations. This was more common for consultations with specialists (39.35%), especially with gynecologists. The other specialists that participants gave up seeing were dentists (20.37%) and ophthalmologists (16.98%). Approximately four out of ten participants (39.91%) did not seek postconsultation care. They were most likely to forego medication (37.50%) and biological tests (18.98%).

Heads of household were more likely to renounce treatment for personal reasons (59.09%). They preferred to use unconventional therapies (28.40%). The second reason for renunciation

to treatment was financial (46.40%). The other reasons were related to health staff (32.41%) and to the organization of the health care service (16.67%). The characteristics and reasons for renouncing health care are presented in Table 2.

Table 2. *Characteristics and reasons for renouncing to health care.*

	N	(%)	CI 95%
Renouncement to consultation			
All consultations	373	57.56	53.65 - 61.40
At the GP	118	18.21	15.31 - 21.40
At the specialist			
All specialties	255	39.35	35.57 - 43.23
Gynecologist (except pregnancy)	153	23.61	20.39 - 27.07
Dentist	132	20.37	17.33 - 23.68
Ophthalmologist	110	16.98	14.16 - 20.09
Other specialists*	29	4.48	3.02 - 6.36
Renouncement to post-consultation care			
All post consultations	259	39.97	36.17- 43.86
Therapy			
Pharmaceuticals	243	37.50	33.76 - 41.35
Optical	12	1.48	0.96 - 3.21
Paraclinical examination			
Biological	123	18.98	16.03 - 22.21
Imaging	68	10.49	8.24 - 13.11
Reasons for renouncement			
Personal reasons			
All reasons combined	344	59.09	49.16-56.98
Practice of unconventional care**	184	28.40	24.95-32.03
Fear of hospital care and diagnosis	113	17.49	14.59-20.58
Personal choice not to seek for treatment	49	7.56	5.64 – 9.87
Economic reasons			
All reasons combined	299	46.14	42.25-50.07
Lack of financial means	141	21.76	18.64- 25.14
Lack of health insurance coverage	101	15.59	12.88 -18.61
High cost of transport	51	8.87	5.91 -10.22
Care not covered by the insurance policy	9	1.39	0.64 -2.62
Reasons related to health workers			
All reasons combined	210	32.41	28.81-36.16
Difficult relationships with health workers	200	32.86	27.32-34.58
Overproduction of care	15	2.31	1.30-3.79
Reasons related to the health care organization			
All reasons combined	108	16.67	13.88-19.76

	N	(%)	CI 95%
Unsuitable hours	75	69.44	9.21-14.29
Too long appointment deadlines	51	8.87	5.91-10.22
Poor quality of material	8	1.23	0.53-2.42

* (Dermatologist=14; Cardiologist=4; Diabetologist=4; Urologist=2; Otorhinolaryngologist=2; Gastro-enterologist=1; Traumatologist=1; Pulmonologist=1)
** (Traditional medicines and street drugs)

3.3. Factors Associated with Renouncement to Treatment

In the bivariate analysis, renunciation of medical consultation was associated with level of education ($p < 0.001$), marital status ($p=0.048$), having dependent children ($p=0.016$), occupation ($p < 0.001$), health insurance coverage ($p < 0.001$) and general health status ($p < 0.001$). These factors were also associated with renunciation of postconsultation care (Table 3).

Table 3. *Bivariate analysis of the factors associated with renouncement to healthcare.*

	CONSULTATION		POST-CONSULTATION	
	N (%)	OR (CI95%, p)	N (%)	OR (CI95%, p)
Socio-demographic characteristics				
Gender				
female	239 (60.1)	1.30 (0.95-1.80, p=0.106)	153 (38.4)	Ref
male	134 (53.6)	Ref	106 (42.4)	1.18 (0.85-1.63, p=0.317)
Age				
< 30	107 (63.3)	1.48 (0.79-2.78, p= 0.222)	59 (34.9)	0.68 (0.36 - 1.28, p=0.225)
30-39	177 (57.8)	1.18 (0.65-2.12, p=0.590)	118 (38.6)	0.79 (0.44-1.44, p=0.440)
40-49	61 (50.4)	0.87 (0.45 - 1.67, p=0.679)	59 (48.8)	1.20 (0.63-2.32, p=0.584)
≥50	28 (53.8)	Ref	23 (44.2)	Ref
Housing status				
tenant	322 (57.6)	Ref	222 (39.7)	Ref
house owner	51 (57.3)	0.99 (0.63-1.56, p=0.958)	37 (41.6)	1.08 (0.68-1.70, p=0.739)
Level of education				
not educated	92 (66.2)	2.99 (1.72-5.27, p<0.001)	45 (32.4)	0.34 (0.20-0.60, p<0.001)
primary school	116 (69.9)	3.55 (2.07-6.17, p<0.001)	49 (29.5)	0.30 (0.17-0.52, p<0.001)
secondary school	131 (51.0)	1.59 (0.97-2.63, p=0.067)	115 (44.7)	0.58 (0.35-0.95, p=0.032)
higher education	34 (39.5)	Ref	50 (58.1)	Ref
Marital status				
couple	188 (53.9)	Ref	157 (45.0)	1.58 (1.15 -2.18, p<0.001)
single	185 (61.9)	1.39 (1.02-1.91, p=0.040)	102 (34.1)	Ref
Dependants				
no	64 (69.6)	1.83 (1.15 - 2.98, p=0.013)	24 (26.1)	Ref
yes	309 (55.6)	Ref	235 (42.3)	2.07 (1.28-3.46, p=0.004)

	CONSULTATION		POST-CONSULTATION	
	N (%)	OR ($CI_{95\%}$, p)	N (%)	OR ($CI_{95\%}$, p)
Occupation				
artisan/Trader	221 (65.6)	5.30 (3.37 -8.51, p<0.001)	105 (31.2)	0.18 (0.16-0.29, p<0.001)
learner	39 (59.1)	4.02 (2.14 -7.67, p<0.001)	27 (40.9)	0.28 (0.15- 0.52, p<0.001)
executive/employee	32 (26.4)	Ref	86 (71.1)	Ref
jobless	81 (65.3)	5.24 (3.06-9.16, p<0.001)	41 (33.1)	0.20 (0.12- 0.34; p<0.001)
Economic characteristics and health status				
Paid activity				
yes	253 (55.2)	Ref	191 (41.7)	Ref
no	120 (63.2)	1.39 (0.98-1.97, p=0.064)	68 (35.8)	0.78 (0.55-1.10, p=0.162)
Health insurance coverage				
yes	21 (21.0)	Ref	76 (76.0)	Ref
no	352 (64.2)	6.76 (4.12-11.53, p<0.001)	183 (33.4)	6.32 (3.92-10.52, p<0.001)
General health status				
good	300 (59.2)	Ref	194 (38.3)	Ref
excellent	32 (40.5)	0.47 (0.29-0.76, p=0.002)	45 (57.0)	2.14 (1.32-3.47, p=0.002)
bad	41 (66.1)	1.35 (0.78-2.38, p=0.293)	20 (32.3)	0.77 (0.43-1.33, p=0.358)
Perception of the evolution of the state of health in one year				
better	101 (45.9)	Ref	113 (51.4)	1.98 (1.20-3.30, p=0.008)
identical	213 (63.4)	2.04 (1.45-2.89, p<0.001)	114 (33.9)	0.96 (0.60-1.58, p=0.878)
worse	59 (64.1)	2.11 (1.28-3.51, p=0.004)	32 (34.8)	Ref

All other things being equal, people who felt in poorer health (OR= 1.93 [1.14--3.29], p=0.015) and those who had no health coverage (OR=6.42 [3.90--11.00], p<0.001) gave up significantly more medical consultations. Heads of households with dependent children (OR=1.93 [1.15–3.34], p=0.015), those who were still learning (OR=1.89 [1.06–3.36, p=0.030) and those without health insurance (OR=3.30 [1.80–6.19], p<0.001) were significantly more likely to forego post-consultation care (Table 4).

Table 4. *Multivariate analysis of the factors associated with renouncement to healthcare.*

	CONSULTATION	POST CONSULTATION
	OR ($CI_{95\%}$, p)	OR ($CI_{95\%}$, p)
Dependants		
no	-	Ref
yes	-	1.93 (1.15-3.34, p=0.015)
Occupation		
artisan/Trader	-	Ref
learner	-	1.89 (1.06-3.36, p=0.030)

	CONSULTATION	POST CONSULTATION
	OR ($CI_{95\%}$, p)	OR ($CI_{95\%}$, p)
executive/employee	-	2.54 (1.44-4.52, p=0.001)
jobless	-	1.12 (0.71-1.75, p=0.623)
Health insurance coverage		
yes	Ref	Ref
no	6.42 (3.90-11.00, p<0.001)	3.30 (1.80-6.19, p<0.001)
General health status		
excellent	Ref	Ref
good	1.89 (1.32-2.73, p=0.001)	1.80 (1.06-3.11, p=0.032)
bad	1.93 (1.14-3.29, p=0.015)	0.96 (0.58-1.62, p=0.882)

4. Discussion

This article is part of a series of studies initiated by our department with the aim of estimating the frequency and analysing the determinants of health care renunciation in subgroups of the Ivorian population [23-25]. The lack of access to healthcare reflects the difficulties experienced by these populations. This topic is still poorly documented in sub-Saharan Africa, which makes it difficult to compare our results with those of previous studies carried out in this region.

A number of studies have shown that in Africa, people living in rural areas face greater difficulties in accessing healthcare than those living in urban areas do [26, 27]. This finding was also reported in Cote d'Ivoire by Attia-konan, who noted lower levels of use of modern healthcare services (53.8%) in rural areas. In these rural areas, exclusive recourse to traditional care was more common (8.9%), as was the frequency of renunciation of care (32.5%) [28]. An analysis of these studies revealed that living in an urban area seems to be a factor that favours access to healthcare. Our work shows that in these urban areas, access to healthcare is not homogeneous for all populations. We have chosen to analyse healthcare renunciation in this neighborhood because it is located in the heart of the city of Abidjan, the economic capital of Cote d'Ivoire. In this city, the problem of the availability of health services does not seem to arise, as several health services are less than five kilometers from the inhabitants. It was expected that the local population would make greater use of health services. We did, however, note that the rates of healthcare renunciation were much higher than those of people living in rural areas. The behavior of health care workers and the organization of the health care system seem to be less frequently cited as reasons for not seeking care. This work revealed that in Abidjan, almost all heads of household had given up healthcare at least once. Approximately 60% of them had foregone consulting a doctor. In France, Chaupain noted that approximately 4% of people aged 16 and over had given up at least once in the last twelve months while seeing a doctor, even though they felt the need to do so [11]. In the same country, Daabek, between 2015 and 2018, estimated that 25.4% of the population had foregone care, despite the existence of health coverage [29]. In Italy, the rate of healthcare renunciation was 7.4% from 2013-2015 [30]. In Switzerland, 13.8% of people who took part in the Guessous study gave up healthcare for financial reasons [9]. The difference in frequency with these studies can be explained by the fact that, in our context, heads of household were more likely to forego care for personal reasons, mainly the use of nonconventional medicines. Self-medication with nonconventional medicines (street and traditional medicines) is still a common practice in sub-Saharan Africa [31, 32]. In 2011, 72% of the people surveyed in the Angbo-Effi study in Cote d'Ivoire were already self-medicating [22]. This preference for nonconventional medicine may be a direct consequence of a lack of financial means or health coverage. Although 70% of the participants had a paid job, these were mostly low-paid informal activities. These participants considered their income to be so low that more than 80% of them, to preserve their dignity, refused to indicate the range in which this income fell. Renahy noted that inactive people and those with low incomes internalized financial obstacles, and many of them no longer considered access to healthcare [4].

The renunciation of consultations with specialists was the most common. These were mainly gynecologists, dentists and ophthalmologists. Renunciation of consultations with these specialists (in different proportions) was reported in our previous work in a peri-urban locality in the city of Abidjan [23]. While the influence of gender was not found in this study, a low level of education and a large number of dependents, described in previous work as determinants of the renunciation of healthcare, were found in our study [24, 33, 34]. In addition to any other factor (due to the strength and significance of the

statistical link), being covered by health insurance was found to be a determining factor in giving up medical consultations and postconsultations. The absence of health insurance coverage has also been described as a factor influencing the renunciation of care among students and people living in other peri-urban communities in the city of Abidjan [23-25]. In Cote d'Ivoire, less than 10% of the population is covered by health insurance. Out-of-pocket payments (51.08% of total healthcare expenditures in 2013) are significant and are a source of impoverishment for the population [35]. This can partly explain the low rate of utilization of healthcare services (less than 30% nationally). Since 2012, the Ivorian government has opted for a nationwide compulsory health insurance scheme. In general, healthcare provision is improving in quantitative terms but remains inaccessible for a large segment of the population.

Limitations

The data were collected on the basis of information gathered retrospectively, which could induce recall bias. We therefore allowed participants more time to restrict their responses to the last twelve months prior to the survey.

5. Conclusion

Health insurance coverage was the factor that most influenced renunciation at different stages of the care pathway. This work highlights the need to make universal health coverage functional in the country.

Abbreviations

F/M	Female/Male
OR	Odds Ratio

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Author Contributions

Jerome Kouame: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Software, Writing – original draft

Akissi Regine Attia-Konan: Data curation, Formal Analysis,, Methodology, Writing – review & editing

Kouame Koffi: Data curation, Formal Analysis, Investigation, Methodology, Writing – review & editing

Marie-Laure Tiade: Investigation, Software, Supervision, Validation, Validation, Visualization

Desquith Aka: Software, Supervision, Validation, Investigation, Validation, Visualization

Maxime Kouakou: Software, Supervision, Validation, Investigation, Validation, Visualization

Serge Oga: Data curation, Formal Analysis, Methodology, Project administration, Resources, Supervision, Validation, Writing – review & editing

Julie-Ghislaine Sackou-Kouakou: Conceptualization, Methodology, Project administration, Resources, Supervision, Validation

Data Availability Statement

The data is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

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