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Research

Determinants of Health Care Renunciation among Women in Ivory Coast: Case of the District of Abobo Anonkoi-3

Jérôme Kouame[1,2], Julie-Ghislaine Sackou-Kouakou[1,2], Marie-Laure Tiade[1,3], Régine Attia-Konan[1,2], Madikiny Coulibaly[1], Aïssata Dagnogo[1], Kouame Koffi[1], Annita Hounsa[1], Mariette Gokpeya[1,3], Simone Malik[1], Angèle Desquith[1], Agbaya Oga[1,4], Kouakou Luc[1], Kouadio[1,3]

[1]Faculty of Pharmaceutical and Biological Sciences, Department of Public Health, Hydrology and Toxicology, University Félix Houphouët Boigny, Abidjan, Ivory Coast
[2]Center for Research and Studies in Populations, Policies and Health Systems, National Institute of Public Health, Abidjan, Ivory Coast
[3]Hygiene Laboratory, National Institute of Public Hygiene and health, Abidjan, Ivory Coast
[4]Medical Information department, Institute of Cardiology, Abidjan, Ivory Coast

ABSTRACT

Background: Health care renunciation aims to identify unmet care needs that a health condition would have justified. This behavior appears to be more common in women than in men. The objective of this work was to analyze the determinants of the health care renunciation among women in the city of Abidjan.

Subjects and Method: We carried out a cross-sectional study from March to May 2019 in Anonkoi-3, a peri-urban district of the municipality of Abobo, in the north of the city of Abidjan. Questionnaires served to collect informations. Bivariate analyzes and a multiple logistic regression were used to measure the association between the different types of renunciation and the characteristics of women. Dependant variable was healthcare renunciation. Independent variables were socio-demographic, economic, health status characteristics and reasons for renouncing to health care.

Results: The population sample consisted of 423 women (with mean age= 32; SD= 12 years). The renunciation on consultations with the general practitioner concerned, 72.34% of women. Regarding consultation with the specialist, the ophthalmologist (25.05%), the dentist (21.99%), and the gynecologist (14.89%) were those mostly renounced by the women. After consultation, 31.2% of them renounced to pursuing other treatment. They most often renounced to buying drugs from conventional medicine (19.62%) and preferred to use street drugs and traditional drugs (87.71%). All things being equal, women aged 28 to 38 (OR= 2.45; 95% CI= 1.31 to 4.68; p= 0.013), artisans and traders (OR= 3.22; 95% CI= 1.48 to 7.38; p= 0.004) and those in trade learning (OR= 2.42; 95% CI= 1.12 to 5.49; p= 0.028) significantly renouncing more on health care.

Conclusion: In addition to financial reasons, the renunciation on health care can be explained by individual and social behaviors specific to individuals.

Keywords: women, healthcare renunciation, precariousness, social inequalities, ivory coast

Correspondence:
Jérôme Kouame, Faculty of Pharmaceutical and Biological Sciences, Department of Public Health, Hydrology and Toxicology, University Félix Houphouët Boigny, BPV 34 Abidjan 01, Ivory Coast. Email: jerome.kouamejj@gmail.com. Mobile: 0022565237900.

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BACKGROUND

The renunciation to health care reflects the fact that people feel the need to seek for medical attention, and ultimately giving up on it for various reasons (Després et al., 2011a; Desprès, 2013; Warin et al., 2015). The need for treatment can be diagnosed by a medical practitioner or identified by the patient himself (Chaupain-Guillot, Guillot and Jankeliowitch-Laval, 2014). The fact that treatment are being renounced would contribute to the deteriorating state of health. The treatment, management of people who have renounced to treatment can extend over relatively long periods and incur significant costs (Allonier, Dourgnon and Rochereau, 2010; Dourgnon, Jusot and Fantin, 2012).

The treatment renunciation has been described in several developed countries, despite universal health coverage and specific assistance to the most vulnerable people in these countries. In the United States, Tuckett in 1978 had shown that part of the population considered sick by conventional medicine did not consult a doctor, even in a context of free health care services (Tuckett, 2013). In France, the renunciation was more marked for dental and optical care services (Després et al., 2011b; Chaupain-Guillot, Guillot and Jankeliowitch-Laval, 2014; Revil, Casagran and Chauveaud, 2016). In sub-Saharan Africa, the frequencies of renunciation to treatment are not well known.

Renunciation to treatment can thus occur at different stages of the health care pathway. Classically, populations renounce to entering (at the time of medical consultations) or continue in the conventional health care system (Després et al., 2011b; Wolff, Gaspoz and Guessous, 2011). This phenomenon is the result of both dysfunctions in the organization of the health care system and of personal and cultural factors specific to the individuals (Chauvin et al., 2011).

Although the literature reported mainly renunciation due to financial reasons (Després et al., 2011b; Wolff, Gaspoz and Guessous, 2011; Guessous et al., 2014), studies have underlined the diversity of explanatory factors. These factors are linked to the health status and living conditions of the populations (Allin, Grignon and Le Grand, 2010; Jusot, 2013; Bouba-Olga, Vigé and Vigé, 2014; Warin et al., 2015; Ancelot, Bonnal and Depret, 2016; Revil, Casagran and Chauveaud, 2016; Baggio, Iglesias and Fernex, 2017; Revil, 2017). Higher frequencies of renunciation have been found in people living under precarious situations (Després et al., 2011b; Jusot, 2013; Ancelot, Bonnal and Depret, 2016), those who had a low level of education (Bouba-Olga, Vigé and Vigé, 2014) and those who were not covered or poorly covered by the supplementary health insurance coverage (Després et al., 2011b). In addition to these factors mentioned above, women seem to have a greater probability of renouncing to treatment than men (Revil, Casagran and Chauveaud, 2016; Revil, 2017). A greater risk of renouncing to health care in women was first found by Chauvin in 2011 (Chauvin et al., 2011) before being confirmed, in 2016, by the French observatory of non-use of rights and services (Revil, Casagran and Chauveaud, 2016).

As the World Health Organization (WHO) reminded us, women, despite a higher life expectancy, continue to have a poorer quality of life. They perceive themselves to be in poor health more often and report more illnesses (World Health Organisation, 2009). This poor health can be attributed to their low purchasing power. Indeed, poverty strikes women more than men. Among the 1.5 billion people who live

on $1 a day or less, there are predominantly women (United Nations, 2000). A third of households in the world are headed by women; 80 to 90% of poor families are headed by a woman (Centre International de solidarité ouvrière, 2002; Agence Belge de developpement, 2012) (Centre International de solidarité ouvrière, 2002; Agence Belge de developpement, 2012).

In Côte d'Ivoire, women represent close to half (48.3%) of the population (Institut National de la statistique de Côte d'Ivoire, 2015). Few studies have addressed the issue of renunciation to health care. This study aimed to analyze the determinants of renouncing to treatment at different stages of the health care pathway for women in Abidjan.

SUBJECTS AND METHOD

1. Study Design

A cross-sectional study, with a descriptive and analytical focus, was conducted from March to May 2019, in Anonkoi-3, a peri-urban neighborhood in the municipal of Abobo, northern zone of the city of Abidjan. We estimated the frequencies of care renunciation among women and analyzed the associations between care renunciation and socio-demographic, economic and health-related characteristics of women.

2. Population and Sample

At the last general population and housing census in 2014, the population of Abobo was estimated to be about 1,030,658 inhabitants, of which 49.26% were women; Anonkoi-3 district had about 4,814 inhabitants and 754 households (Institut National de la statistique de Côte d'Ivoire, 2015). This neighborhood falls to the Abobo-West health district. Health centers are available there within less than five (5) kilometers to homes (Ministère de la santé et de l'hygiène publique République de Côte d'Ivoire, 2018).

The target population consisted of women aged at least 18 years, residing in Anonkoi-3. The source population was identical to the target population. Women aged 18 years and older, living for at least three (3) months in the neighborhood and present at the time of the survey were included in the study. Not included were those absent after two (2) confirmed appointments.

The selection of women was made by a random survey. Households in the neighborhood were not numbered. Using a map, we divided the neighborhood, at random, into thirty (30) zones. In each area, we chose fourteen (14) households, except in three areas where we chose fifteen (15) in order to be consistent with the sample size we had estimated. In each zone, the first household was drawn and one in two households was visited. In each household we interviewed only one woman. Community health workers served as a guide to facilitate access to households.

The sample size was determined using Schwartz's formula (Schwartz, 1995). Due to the lack of previous study estimating the rate of renunciation to health care in Côte d'Ivoire, we have chosen to put it at 50%. The number of women to be included in the study after calculation was 384. Assuming a non-response rate of 10%, we finally included 423 women in the study.

3. Study Variables

The dependant variable was renunciation to health care in the last twelve months preceding the survey. The independent variables were:

Socio-demographic characteristics: age, marital status, level of education, occupation, number of dependents, housing status, participation in community life.

Economic characteristics and those of the state of health of women: The benefit of a remunerated activity, monthly

income, general state of health and the perception of its evolution since the previous year, the attendance of health care facilities accessible free of charge, the benefit of health insurance cover, the reasons for the absence of health insurance cover (if applicable).

The reasons for renouncing to health care.

4. Operational Definition of Variables

Renunciation to health care in the last twelve months preceding the survey: It referred to care needs that were unmet by choice, coercion, or due to insufficient or inadequate care or treatment being received. It was collected using 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 was then recorded. We considered that a woman had renounced to treatment if she had either renounced medical consultations only, or renounced compulsory or advised medical procedures only, or renounced both. The measurement scale was dichotomus, coded 0= ”no” and 1= ”yes”.

Socio-demographic characteristics:

Age was the number of years since the woman was born and until the time of data collection. The age variable was then categorized according to quartiles.

Marital status was the fact of women living in couple (with a jobless spouse or not) or being single. It was a categorical variable with the following modalities: single, couple (spouse active) and couple (spouse inactive). Secondly, marital status was considered as a dichotomous variable, coded 0= ”single” and 1= ”couple”.

Level of education was the highest level of formal education ever completed. It was a categorical variable with the following modalities: not educated, primary school, secondary school and higher education.

Occupation was the main professional activity of women. They were asked to fill it in on the survey form. The occupation was then classified as: learner, jobless, artisan/ trader, executive/employee and pensioner.

Number of dependants referred to the number of people who were living with and physically and financially dependent on the women at the time of the survey. They were asked to fill it in on the survey form. The number of dependants was then categorized as: 0, 1 to 2, 3 to 4 and more than 4.

Housing status defined the legal situation of household regarding the occupation of its main residence. There were three main statuses:

- The status of tenant was applied to women paying rent regardless of the type of dwelling they occupy;
- The status of lodger (tiers/family) was applied to women who do not owned their dwelling and do not paid rent;
- The owner status referred to women who owned their households.

Participation in community life referred to the fact that women take part, on a regular or irregular basis, in the activities of a group of people for whatever purpose. They were asked to specify the nature of the community activity in which they participated. The community activities was then classified as: religious, communal, tontine, volunteering or non-community life. Secondly, participation in community life was considered as a dichotomous variable, coded 0= ”no” and 1= ”yes”.

Economic characteristics and those of the state of health of women:

Paid activities were activities for remuneration for certain services, such as employment by another person or organization. It was considered as a dichotomous variable, coded 0= ”no” and 1= ”yes”.

Monthly income was the fixed income in West African CFA franc (XOF currency) received each month by women. It was a categorized in four classes: None, 1 to 30,000 XOF, 30,001 to 60,000 XOF, and more than 60,000 XOF.

General health status was the general state of health as perceived by women. It was a categorical variable with the modalities: bad, good and excellent.

Perception of the evolution of general state of health since the previous year. It was a categorical variable with the modalities: worse, identical and better.

Attendance of health care facilities accessible free of charge it was considered as a dichotomous variable, coded 0= "no" and 1= "yes".

Health insurance coverage it was considered as a dichotomous variable, coded 0= "no" and 1= "yes".

Reasons for the absence of health insurance cover (if applicable) women were asked to fill it in on the survey form.

The reasons for renouncing to health women were asked to provide information on the reasons for giving up care. These reasons were then grouped into categories, according to whether they were financial, related to the organization of care, health personnel or purely personal reasons.

5. Study Instruments

A pre-tested questionnaire was used to collect all data of this study.

6. Data Analysis

Data were entered by EPIDATA 3.1 software and analyzed using 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 to health care (at the consultation and after consultation) and other variables were explored using the $\chi 2$ test (or, where appropriate, Fisher's exact test) in bivariate analyzes. The threshold of statistical significance was set at 5%.

Three logistic regression models were constructed. They included, in each one, all the variables that had a p-value of less than 20% in bivariate analyzes. 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%).

7. Research Ethic

To carry out this study, we obtained the authorizations from the Director of training and research of the Ministry of Public Health and Hygiene, that of the District Director of Health of Abobo-Ouest and that of the leaders of the neighborhood (neighborhood leaders and community leaders). The written consent of the participants was obtained. Data collection, entry and analysis was anonymous.

RESULTS

1. Sample Characteristics

The sample consisted of 423 women (mean age= 32, SD= 12 years old). Most of these women were in a relationship with a partner who was professionally active (53.20%). Most of them had a secondary school level of national education (36.17%), and were still learning a trade at the time of the survey (35.70%). More than half of them had no dependents (54.85%) and were tenant of their house (56.97%). About 4 out of 10 women had a paid job, 14.42% of them received a monthly income above the guaranteed minimum inter-professional

wage (SMIG) in Ivory Coast which is 60,000 XOF (90 Euros).

Table 1. Sociodemographic, economic and health status of women

Characteristics	Category	Frequency	Percentage
Demographic characteristics			
Age	- < 23	92	21.75%
	- 23-27	111	26.24%
	- 28-38	112	26.48%
	- ≥ 39	108	25.53%
Marital status	- couple (spouse active)	225	53.20%
	- Single	180	42.55%
	- couple (spouse inactive)	18	4.25%
Level of Education	- not educated	70	16.55%
	- primary school	74	17.49%
	- secondary school	153	36.17%
	- higher education	126	29.79%
Occupation	- learner	151	35.70%
	- jobless	96	22.70%
	- artisan/trader	132	31.20%
	- executive/employee	34	8.04%
	- pensioner	10	2.36%
Number of dependents	- 0	232	54.85%
	- 1 to 2	124	29.31%
	- 3 to 4	49	11.58%
	- >4	18	4.26%
Housing status	- tenant	241	56.97%
	-lodger(Tiers/Family)	164	38.77%
	- house owner	18	4.26%
Community life	- None	153	36.17%
	- religious	134	31.68%
	- communal	65	15.36%
	- tontine	53	12.53%
	- volunteering	18	4.26%
Economic characteristics and health status of women			
Paid activity	- Yes	166	39.24%
	- No	257	60.76%
Monthly income (in XOF currency)	- None	257	60.76%
	- 1 – 30000	29	6.85%
	- 30001 – 60000	76	17.97%
	- > 60 000	61	14.42%
General health status	- bad	14	3.31%
	- good	372	87.94%
	- excellent	37	8.75%
Perception of the evolution of the state of health in one year			
	- worse	58	13.71%
	- identical	140	33.10%
	- better	225	53.19%
Access to health centres with free health services			
	- yes	16	3.78%
	- no	407	96.22%
Health insurance coverage			
	- yes	128	30.26%
	- no	295	69.74%
Reasons for the lack of health insurance coverage (N =295)			
	- lack of information	148	50.17%
	- lack of funds	100	33.90%
	- other priorities	37	12.54%
	- not felt needs	10	3.39%

Most of the women were involved in association activities (63.83%). They mainly participated in religious activities (31.68%). More than two-thirds of the women did not have any health insurance coverage (69.74%). The main reason (50.17%) was lack of information.

Almost nine in 10 women (87.94%) perceived their state of health to be good. Just over half of them (53.19%) did not notice any change in their health over the past year. The socio-demographic, economic and health status characteristics of women were presented in Table 1.

Table 2. Characteristics and reasons for renouncing to health care

Renouncement to health care	N	(%)	CI (95%)	
			Lower Limit	Upper Limit
Renunciation of consultation				
At the general practitioner	306	72.34	67.77	76.50
At the specialist				
All specialties combined	226	53.43	48.55	58.25
Ophthalmologist	106	25.05	21.06	29.52
Dentist	93	21.99	18.20	26.30
Gynecologist (except pregnancy)	63	14.89	12.00	19.00
Dermatologist	4	0.94	0.30	2.57
Cardiologist	2	0.47	0.08	1.89
Psychiatrist	1	0.24	0.01	1.52
Renouncement of post-consultation care				
Therapy				
All treatments combined	132	31.20	26.86	35.90
Pharmaceuticals	83	19.62	16.01	23.80
Optical	26	6.15	4.13	8.99
Dental care	21	4.96	3.18	7.61
Surgery	11	2.60	1.37	4.74
Physiotherapy	2	0.47	0.08	1.89
Paraclinical examinations				
All laboratory tests combined	42	9.92	7.33	13.28
Biological	39	9.22	6.72	12.49
Imaging	7	1.65	0.73	3.53
Reasons for renouncement to health care				
Personal Reason				
All reasons combined	418	98.82	97.10	99.56
Practice of unconventional care *	371	87.71	84.10	90.61
Personal choice not to seek for care	163	38.53	33.90	43.38
Fear of hospital care and diagnosis	41	9.70	7.12	13.02
Financial Reasons				
All reasons combined	250	59.10	54.24	63.80
Lack of health insurance coverage	179	42.32	37.58	47.20
Lack of financial means	62	14.66	11.50	18.47
High cost of transport	11	2.60	1.37	4.74
Care not covered by the insurance	3	0.71	0.18	2.24
Reasons related to health workers				
All reasons combined	201	47.52	42.69	52.40
Overproduction of care	134	31.68	27.31	36.38
Difficult relationships with health workers	88	20.80	17.10	25.05
Reasons related to the health care organization				
All reasons combined	233	55.08	50.20	59.87
Unsuitable hours	187	44.21	39.43	49.10
Too long appointment deadlines	79	18.68	15.14	22.80
Poor quality of material	3	0.71	0.18	2.24

*Traditional medicines and street drugs

Renunciation to health care during the last twelve months.

Table 2 described the characteristics and reasons for renouncing to treatment. Almost all the women (99.80%) had, at least once, renounce to go for a consultation in the last twelve months. The proportion of women who renounced to a consultation with a general practitioner was 72.34%. Regarding consultation with a specialist, the ophthalmologist (25.05%), the dentist (21.99%), and the gynecologist (14.89%) were those that women renounced the most. Renunciation at the post-consultation was observed in 31.20% of women. They most often renounced to buying drugs (19.62%).

Women were more likely to renounce to treatment for personal reasons (98.82%). They preferred to use other therapies (87.71%). The second reason for renunciation to treatment was financial (59.10%), mainly the lack of health risk insurance coverage. The other reasons were related to the organization of the health care service (55.08%) and health staff (47.52%).

2. The result of bivariate analysis

Table 3 presented the results of the bivariate analyzes of the factors associated with renouncement to health care. A statistically significant association was shown between age (28-38 years old) and the renouncement to consultations with the general practitioner (OR= 2.25; 95% CI= 1.31 to 4.68; p= 0.028).

Renunciation to consultations (with the general practitioner and/or specialist) was not significantly associated with any of the variables describing the economic characteristics and health status of women. The other socio-demographic characteristics (marital status, level of education, number of dependents, housing occupancy status) did not influence the renunciation to consultations.

The associations between renouncement to consultations and the different categories of reasons mentioned by the women interviewed did not show significant differences.

As for renouncement after consultation, it was associated with single marital status (OR= 1.70; 95% CI= 1.12 to 2.58; p= 0.016), having no income (OR= 3.33; 95% CI= 1.60 to 7.86; p= 0.006) and lack of health insurance coverage (OR= 2.67; 95% CI= 1.63 to 4.54 ; p <0.001).

3. The result of multilevel analysis

Table 4 presented the results of the multivariate analyzes of the factors associated with renouncement to health care. After adjusting for the covariates, compared to older women, those in the 28-38 age group significantly, renounced twice as often, to consultations with the general practitioner (OR= 2.45; 95% CI= 1.31 to 4.68; p= 0.013).

Women working as artisans and traders significantly renounced consultations with specialists (OR= 3.22; 95% CI= 1.48 to 7.38; p= 0.004). Those who were learning a trade renounced consultations twice as often (OR= 2.42; 95% CI= 1.12 to 5.49; p= 0.028), compared to executives and employees.

Regardless of the other factors included in the model, single women (OR= 1.71; 95% CI= 1.06 to 2.80; p= 0.028) and those with an income between 30001 and 60,000 XOF (OR= 3.16; 95% CI= 1.33 to 8.20; p= 0.012) renounced much more to health care after consultation. They mainly mentioned financial reasons (OR= 2.34; 95% CI= 1.47 to 3.80; p= 0.001).

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

Variables	Renouncement to consultation				OR	p
	Generalist		Specialist			
	N	%	N	%		
Age (Years)						
- < 28	139	68.5	109	53.7		
- ≥ 28	167	75.9	117	53.2	1.45	0.088
Marital status						
- married	178	73.3	123	50.6		
- unmarried	128	71.1	103	57.2	1.31	0.016
Level of education						
- not educated	53	75.7	41	58.6		
- educated	253	71.7	185	52.4	0.78	0.346
Occupation						
- with a job	221	69.7	172	54.3		
- jobless	85	80.2	54	50.9	2.61	0.146
Number of dependents						
- none	140	73.3	102	53.4		
- ≥ 1	166	71.6	124	53.4	1.00	0.993
Housing status						
- tenant	175	72.6	131	54.4		
- house owner or lodger	131	72.0	95	52.2	0.92	0.659
Paid activity						
- no	186	72.4	135	52.5		
- yes	120	72.3	91	54.8	1.10	0.645
Income						
- yes	120	72.3	91	54.8		
- no	186	72.4	135	52.5	3.33	0.06
Associative Life						
- yes	188	69.6	147	54.4		
- no	118	77.1	79	51.6	0.89	0.578
Health insurance coverage						
- yes	98	76.6	65	50.8		
- no	208	70.5	161	54.6	1.16	0.472
Perceived health						
- good or excellent	294	71.9	218	53.3		
- bad	12	85.7	8	57.1	1.17	0.777
Evolution of state of Health						
- identical or better	267	73.2	192	52.6		
- worst	39	67.2	34	58.6	1.28	0.394
Financial reason						
- no	127	73.4	91	52.6		
- yes	179	71.6	135	54.0	2.64	<0.001
Reason related to health care organization						
- no	140	73.7	94	49.5		
- yes	166	71.2	132	56.7	1.33	0.141
Reasons related to personal health						
- no	2	40.0	3	60.0		
- yes	304	72.7	223	53.3	0.76	0.768
Reasons related to health care staff						
- no	159	71.6	111	50.0		
- yes	147	73.1	115	57.2	1.34	0.138

Table 4. The result of multiple logistic regression analysis

Independent Variables	OR	95% CI		p
		Lower limit	Upper limit	
Age (Years)	2.45	1.31	4.68	0.013
Occupation	3.22	1.48	7.38	0.004
Marital status	1.71	1.06	2.80	0.028
Income	3.16	1.33	8.20	0.012
Financial reason	2.34	1.47	3.80	0.001
N observation	423			
Nagelkerke R^2	0.032			
Hosmer and Lemeshow goodness of fit test: p=1.000				

DISCUSSION

1. Frequencies and reasons for treatment renouncement

About three of four women had renounced to general practitioner consultation in the past 12 months. One of two women had given up to consultation with the specialist. These results may reflect the difficulties these women experienced to entering in the health care system. Regarding consultations with the specialist, the renouncement was more noticed with the ophthalmologist (25.05%), the dentist (21.99%), and the gynecologist except pregnancy (14.89%). The order of priority in the renouncement to consultations with a specialist is different from that observed in France. In that country, the renouncement due to financial reasons concerned first dental care (38.6%) and then eye care (20.4%) (Revil, Casagran and Chauveaud, 2016). The renunciation to gynecological consultations outside pregnancy could be explained by the fact that reproductive health care (prenatal, postnatal and family planning consultations) was free or subsidized in Côte d'Ivoire. But women's health is not limited to reproductive problems. Cardiovascular disease and cancer (of the cervix, breast) are among the most common causes of death in women (World Health Organisation, 2018). In addition, altered oral health is frequently observed during and after pregnancy (Hartnett et al., 2016). The results of our study may suggest that the usual management of pregnancy-related problems was partial since the dental care renouncement was high.

Renouncement to post-consultation care was more pronounced when purchasing drugs (19.62%). The financial burden of paying for prescriptions appears to be the main difficulty women faced in maintaining themselves in the health care system. They thus preferred to use other types of medication (87.71%), in this case street and traditional medicine. Angbo-Effi et al. (2011) in an urban study in Côte d'Ivoire noted that 72% (N= 300) of respondents preferentially consumed drugs from the street, due to their low cost.

The high propensity of women to renounce to seeking for medical attention, combined with the propensity to renounce to purchasing drugs, poses problems of accessibility and acceptability of treatment; all the more so as only 3.78% of them attended free health care centers. In France, renouncement to the purchase of drugs was observed in only 6.6% (N= 7542) of women (Revil, Casagran and Chauveaud, 2016).

Financial reasons, mainly the lack of health insurance coverage, were mentioned only in the background, after personal reasons. Renouncement was most often

found after consultations. The renouncement rate for financial reasons (59.10%) is far higher than that observed in Île de France by Bazin in 2001, which was 14.2% (Bazin, Parizot and Chauvin, 2006).

The availability of practitioners at any time of the day and as quickly as possible for appointments has been criticized. The same is true of the tendency of health professionals to administer far more care to women than they consider necessary for a given disease.

2. Factors associated with renouncement with treatment

Women aged 28 to 38, working as artisans and/or traders were more likely to renounce entering the health care system. The age at which women renounce to treatment, remains controversial in the literature. Our results confirmed those of Dourgnon (Dourgnon, Jusot and Fantin, 2012), Desprès (2011) and Bazin (2006) who noted a higher probability of renouncement to health care in women under 40 years of age. Bazin explained this fact by the lower income that women in this age group earned, which did not allow them to have access to the needed medical care.

Single women, those who did not have health insurance coverage and those with an income between 30001 and 60,000 XOF (90 euros) were much more reluctant to stay in the health care system. In addition to the current burdens of community life, these women face sometimes very heavy burdens of taking charge of their health problems. Their insufficient financial resources could justify their renouncement to treatment.

The low level of education and the large number of dependents, which were nevertheless described in previous work as determinants in the renouncement of treatment (Bouba-Olga, Vigé and Vigé, 2014; Revil, Casagran and Chauveaud, 2016) did not find statistical significance in our study. Therefore, these facts seem not to affect the renouncement to care among women in the locality of Anonkoi-3.

3. Limitations and conclusion

One of the main fact limiting our study was the way in which renouncement to treatment is being measured. The data were collected on the basis of the statement made by the women surveyed. This can introduce a desirability bias. This bias was minimized by the presence of community health workers when the questionnaire was administered.

The study was also carried out in an urban environment, in a locality with a higher probability of finding only women from the lower and middle classes of Ivorian society. While the age structure of the women sampled is comparable to that of the female population in Côte d'Ivoire, the sample included a lower proportion of illiterate women than that of the general population. The results are therefore not generalizable to all women in Côte d'Ivoire.

This study highlighted the difficulties in accessing health care for women at different stages of their treatment care pathway. Determinants of renouncement to health care were women's age, occupation, marital status, income, and health insurance coverage. This renouncement to health care was therefore a combination of multiple reasons, far from being solely financial. Sociological analyzes would allow a better appreciation of other influencing factors.

AUTHOR CONTRIBUTION

Jérôme Kouame, Julie-Ghislaine Sackou-Kouakou and Marie-Laure Tiade conceived the study, defined the study design and drafted the initial manuscript with active writing contribution of all authors. Régine Attia-Konan, Madikiny Coulibaly and

Aïssata Dagnogo defined the data collection strategy and coordinated data collection. Jérôme Kouame, Kouame Koffi and Annita Hounsa analyzed data. Mariette Gokpeya, Simone Malik and Angèle Desquith revised critically the intellectual content. Agbaya Oga and Kouakou Luc Kouadio approved the final manuscript and revision. All authors contributed to the interpretation of the data. They agreed to be accountable for all aspects of the work.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest in relation to this article.

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