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Determinants of the Use of Health Care and Therapeutic Routes of Populations in Rural Senegalese Areas, 2016

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Abstract

In Senegal, access to health care for rural populations and therapeutic choices remain problematic. These problems may be synonymous with insufficient financial resources, long waits, ineffective treatments, or drug shortage in health structures, leading patients to perform various therapeutic behaviours. The aim of this present study was to identify the therapeutic routes of the patients and the determinants of the different uses of health care in the populations of Ferlo. This descriptive and analytical study was carried out as part of the medical consultation days of the 2016 summer at the university in Widou Thiengoly. All patients who met the selection criteria were enrolled. In total, the 150 participants were mainly animal breeders (63.3%) and housewives (26%), also, most were women (90.7%). The analysis of the therapeutic routes showed that the health post was used as first-line and second-line respectively in 85.3% and 59.3% of the study populations. Traditional medicine and self-medication would be used in the third intention. Therapeutic choices were independent of age (p = 0.94), marital status (p = 0.84) and occupation (p = 0.58). On the other hand, social dimensions, such as tradition, appreciation of efficiency, distance, cost, and gender, also determine the use of health care. Women used health post more frequently than men (p = 0.03) (OR: 3.89, $CI_{95\%}$ [1.16 - 12.98]) of the order 3.89. The main reasons for self-medication practice were the treatment of headache or fever (46%) and that of fatigue (26%). The prices were more expensive for health facilities (70.9) than for traditional healers (70% "not expensive at all") where the waiting time was considered "not long at all" (70%).

1. Introduction

Health is the most precious good of all times and in any society, individuals and communities try to preserve it by several means [1] [2]. Those means are economic, material, spirituel and medical. Health is the most precious in that it constitutes the main capital in the construction of the individual and of society. In the individual's effort to adapt to his environment, illness acts as a contrasting factor in health. Faced with diseases, human society has always resorted to various forms of health care available in their environment. Marc Augé rightly considered illness as "an elementary form of the event" [2] [3]. It is, so to speak, pathology in the double-sense, biophysical and social. Thus, the process of regaining health is established to the extent that "in the event of illness, individuals are unable to assume their social status and roles" [2] [4]. In this regain of normal status, "people take the best option to recover his health" [2] [5]. Thus divination, oracle (prophecy), and even prognosis are linked to the functioning of health systems promoting the coexistence of several medicines.

Healthcare in Africa is increasingly characterized by a growing offer, both in terms of volume and diversity of its forms: traditional medicine, therapeutic practices linked to religion, western type medicine. It goes without saying that the Senegalese health landscape does not escape this plurality of medicine which reflects the therapeutic complexity faced by individuals.

This study was carried out in Widou Thiengoly, a village in Ferlo in northern Senegal, to obtain quantified information on the use of health care and its determinants. It allowed analyzing practices in order to contribute to the improvement of public health in Senegalese rural areas.

2. Materials and Methods

A mixed (qualitative and quantitative) descriptive and analytical study was conducted in Widou Thiengoly in August 2016. All individuals aged 15 years and over present on the study area during the medical consultation days of 2016 summer at the university were included upon their consent.

The study covered 150 participants and, qualitative and quantitative data were collected using a questionnaire. The variables concerned mainly identification and information on the therapeutic route: the use of health post, the use of traditional medicine and the use of self-medication. The socio-demographic data of the respondents were also collected.

The data collection was carried out with the help of two investigators who had previously been informed about the use of the questionnaire in the local language.

The direct interview technique was used to administer the questionnaire. The answers to the questions were coded first. An input mask, using Sphinx software, was used to create a database. A double entry of responses and verification were performed. The data were analyzed using R software. Socio-demographic data were presented in tabular or graphical form; qualitative variables, using their percentage and standard deviation (SD); quantitative variables with mean and SD or median. The content analysis allowed the study of certain qualitative aspects. Participation was free and voluntary. The studies carried out in the context of the summer university had the approval of the ethics committee

3. Results

3.1. Descriptive Results

- **Socio-demographic characteristics of respondents**

A total of 150 participants were interviewed for the study.

The average age was 31.3 ± 10.4 years. The minimum age was 15 years, and the maximum was 70 years. The results showed that the 25 - 49 age group was more representative (66%), followed by the 15 - 24 age group (28%) and finally the 50 - 70 age group (6%). With regard to gender, women represented the largest proportion of the sample, with 90.7% compared to 9.3% for men.

Regarding the profession, the percentage of breeders was higher (63.3%), followed by housewives (26%) and the others represented only 10.7%. Concerning the marital status, 92% of respondents were married, 6.7% were single and 1.3% divorced (Table 1). Compared to the matrimonial property regime, 47.3% were under polygamous and 44.6% were monogamous.

Table 1. Characteristics of participants on the therapeutic route Widou, 2016 (N = 150).

Variables	Numbers	Percentage (%)
Age		
15 - 24 years	42	28.0
25 - 49 years	99	66.0
50 - 70 years	9	6.0
Sex		
Male	14	9.3
Female	136	90.7
Occupation		
Breeder	95	63.3
Household	39	26.0
Others	16	10.7
Marital status		
Married	138	92.0
Single	10	6.7
Divorced	2	1.3

- Therapeutic routes

Figure 1 shows the distribution of respondents by type of health care.

Regarding the use of health care as first-line, the health post (health post was the most chosen by the population of Widou with 85.3%, followed by self-medication (14%) and then traditional medicine (0.7%).

As the second-line, the use of the health post (HP) was higher (59.3%), followed by that of the traditional medicine (30%) and finally self-medication (10.7%).

Regarding the third-line use of health care, the majority of the population didn't have that need (86.7%), however, 9.3% and 4% of the population used traditional medicine and self-medication respectively. The results highlighted that populations of Widou preferred the health post as the first-line and the second-line in the use of health care and traditional medicine appeared to be the second choice of the second-line.

Thus, the use of the health post was 85.3% in first intention, 59.3% in second intention and 0% in third intention. The use of traditional medicine was 0.7% in first-line, 30% in second-line and 9.3% in third line. The use of self-medication was 14% first-line, 10.7% second-line and 4% third-line. In sum, the health post was the most used for health care by the population of Widou, and then followed traditional medicine (Figure 2).

Among the 150 participants, 128 have used the health post as a first resort. As a second resort for these 128 participants, 69 returned to the health post, 45 opted for traditional medicine and 14 practiced self-medication. And in the third recourse, 4 participants among those who had opted respectively for self-medication and traditional medicine renewed their choice. Those who used the health post for the second intention didn't have a third resort.
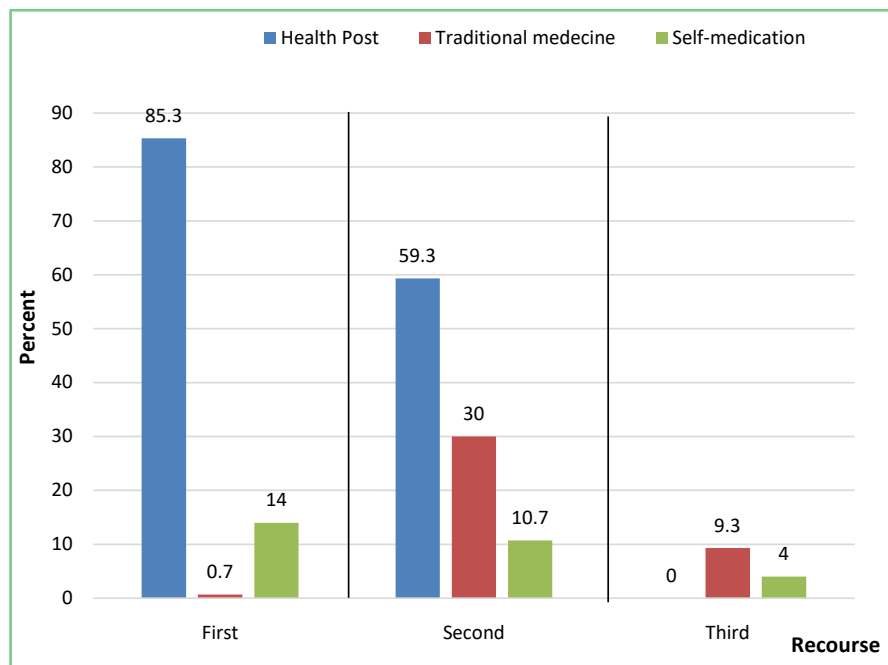

Figure 1. Distribution of respondents by level of recourse, Widou study, 2016.
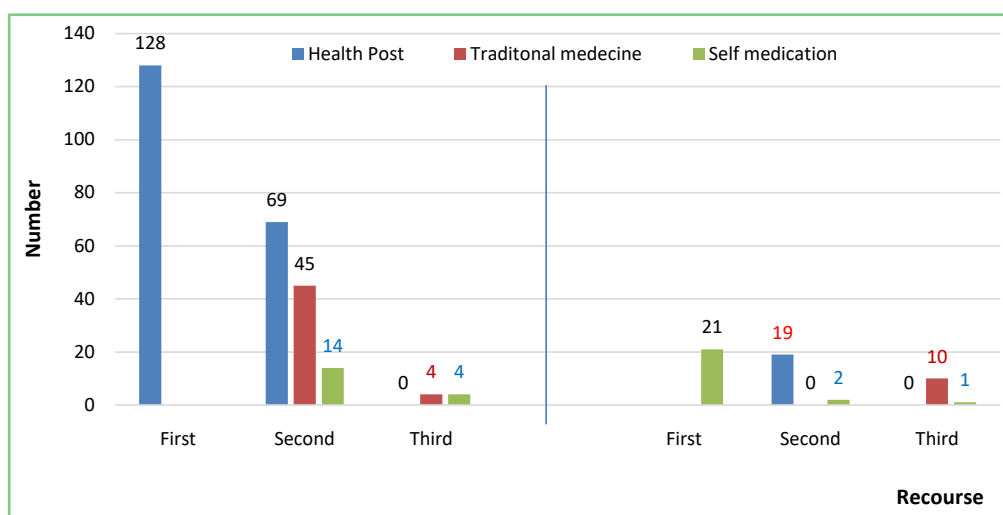
Figure 2. Therapeutic routes of Widou participants study, 2016.

Of the 150 participants, 21 people chose self-medication as a first resort. Among them, 19 went to the health post and 2 renewed the self-medication in second resort. And in third resort 10 out of 19 who used the health post in second intention opted for traditional medicine; for self-medication a person renewed the same practice.

The participant who initially opted for traditional medicine, returned to it in 2nd and 3rd recourse.

3.2. Analytical Results

Table 2 presents the gross risk of first-line use of the health post according to socio-demographic variables.

As a first resort, attendance at the health post versus other types of recourse (traditional medicine and self-medication) was studied. The Bivariate analysis showed that the first-line use was independent of the age group ($p = 0.94$), marital status ($p = 0.84$) and the nature of the occupation ($p = 0.58$). On the other hand, it was noted that gender influences recourse choice, women used the health post more frequently than men ($p = 0.03$) with odds ratio equal to 3.89 ($CI_{95\%}$ [1.16 - 12.98]).

- Population perceptions about delivered treatments

The analysis on the perception about care mainly concerned the respondents seen by traditional healers and those practicing self-medication. Regarding traditional medicine, most of them were observing the treatments received, 58 out of 60 people (98.7%). And the waiting time at the traditional healer was not considered long for 70%. The cost of treatment was not fixed in most cases (85.4%), but very accessible according to 70% of respondents who received that type of treatment.

4. Discussion

The results of the study showed that the sample consisted mainly of women

Table 2. Gross risk of first-line use of the health post in the therapeutic routes' survey of Widou, 2016 (N = 128).

Variable	Odds Ratio	CI$_{95\%}$ P Value
Age		
15 - 24 years	1	-
25 - 49 years	0.93	0.34 - 2.60 0.94
50 - 70 years	1.33	0.14 - 12.67
Gender		
Male	1	-
Female	3.89	1.16 - 12.98 0.03
Marital status		
Others	1	
Married	1.18	0.24 - 5.79 0.84
Occupation		
Breeder	1	
Household	1.77	0.55 - 5.67 0.8
Others	1.42	0.29 - 6.86

(90.7%), most of whom were married (92%). Attendance at the health post was more female (p = 0.03). They are responsible for the health of the family, especially that of the children. This result is consistent with the role of women in African society, particularly in Senegal. They are responsible for the social management of the family: education, health, etc. A study on the determinants of the therapeutic route in southern Benin reported that 54% of respondents were women [6]. On the other hand, Ouendo *et al.* found in their study on the route of indulgent in Benin that only 17.2% of the heads of household interviewed were women [7]. Men often ensured the status as head of household.

In Widou, most of respondents were breeders (63.3%) or housewives (26%) and they were between 25 and 49 years old (66%). Breeding is the main activity in the silvopastural area. Men and women work there to meet their financial needs. But also, it is a means of subsistence in food. The study conducted in Mali on the therapeutic route showed that the 31 - 40 age group represented 26% of the sample and 37.9% were traders [8]. In our study 92% were married, compared to 84% in Mali [8]. The study carried out in Cameroon found 56% of women and mostly young people [9].

Care options

With regard to therapeutic routes during a morbid episode in Widou Thiengoly, modern medicine was the first option of care within the study area. The results showed that 85.3% of respondents requested the health post for the first-line and 59.3% for the second-line. That may be explained by the fact that populations are convinced by the success of modern medicine, taking into account the tech-

nological means it uses in the treatment and eradication of diseases. These results corroborate those of Kouakou in Cote d'Ivoire who used the same approach. In his study, modern medicine was the first therapeutic option for patients [2]. This demonstrates the high use of biomedicine in both rural and urban settings. The modern therapeutic approach offers better diagnostic accuracy, and in shorter time frames.

However, the use of traditional medicine is also a reality. In our study, 0.7% and 30% of residents reported seeking a traditional healer in case of illness, respectively in first-line and second-line. Traditional medicine is a cultural heritage and a way to connect people to their own history. Despite scientific advances in modern medicine, the World Health Organization (WHO) estimates that 80% African population still use traditional medicine in primary health care [10]. In New Caledonia, Vachon, J. found that 75% of the participants in his study used traditional medicine [11]. These findings corroborate those of Kouamé on the evaluation of comparison between modern and traditional medicine in the health districts of Yopougon, which revealed that 91% of the population used traditional medicine [12]. Kouakou's study in Cote d'Ivoire reported a frequency of 18.7% for the use of traditional medicine [2].

In some countries or regions of the world, alternative or soft medicine designations are synonymous with traditional medicine. In Widou, its use is characterized above all by religious practices that integrate, among other things, Islamic prayers and acts of protection. Therefore Andreas Zempléni talked about "the social uses of disease through pathological experiences; in traditional thought, a disease always has a mystical face that goes beyond the comprehension of human and science" [13]. Besides traditional medicine, self-medication is a third way.

In this study 14% of respondents used self-medication as a first-line drug, 10.70% as a second-line drug and 4% as a third-line drug. Kouakou's study found almost similar results, 11.61% of surveyed individuals [2]. However, Nkoma's study mentioned a higher frequency in first-line use for traditional medicine (51.9%) than that for the health post (42.1%) [9].

Our study did not find any significant relationship between age, marital status, and occupation on the one hand and the primary use of health post on the other. However, there is a significant association between gender and first resort (p = 0.03). Also, the use of health post in first-line use of care was 3.89 times higher for women, compared to men. This finding corroborates that of Nkoma in terms of therapeutic use of health post for women (40%) compared to men (33%) with p = 0.007 [9].

- Determinants of care options

Many factors are associated with health decisions and use of services. They can be divided into three categories according to whether they refer to: 1) individual characteristics; 2) disease characteristics and patients' perceptions about them; or 3) characteristics of the services offered and patients' perceptions. Over-

all, the study shows that socio-demographic variables such as age, marital status, and occupation do not change the therapeutic choices of individuals at Widou Thiengoly. Furthermore, the respondents cited certain determinants that influenced the decision to use a type of therapy. Financial means, therapeutic effectiveness, gender, tradition, distance assessment, cost of the act, time saving (waiting time and distance), had an impact on the therapeutic route in general and included some unpredictability related to human autonomy. These factors were cited in Kouakou's study in Bouaké [2].

Efficiency appears today as an essential variable in the choice of the therapeutic route. Individuals in the conquest phase of their health, go where they think they will find an adequate and effective response. As such, modern medicine has more audience (85.3% of respondents for the first recourse) within the population. But it is clear that traditional medicine remains a reality with good compliance with prescriptions (98.7). The level of satisfaction with the treatment received is higher at the traditional healer (98.3%) than in health post (66.9%). This could be explained by the fact that in the study area, the perpetuation of traditional medical practice is due to its social anchorage. And the level of its demand by the population may correspond to the proportion of very conservative individuals. As a result, these therapists have the benefit of the trust of those who consult them, regarding the special nature of their actions.

The results of the survey showed that most often the traditional healer did not set a consultation price (85.4%) and the waiting time was not at all long (70%). On the other hand, costs at the health post were considered more expensive (70.9%) than those at the traditional healer. And the logic is that in the event of illness, populations go where they think they can get rid of their evil, but at a lower cost.

In comparison to the results of Konan's study on the use of traditional medicine in primary health care in Abidjan, financial accessibility was the main reason for recourse to traditional medicine [14].

5. Conclusions

Regarding the objective to analyze the different uses of health care and to understand the motivations that determine the therapeutic routes of the populations of Widou Thiengoly, the study was conducted through both a qualitative and quantitative approach. It appears that the therapeutic route is presented in multiple forms (health post, traditional medicine and self-medication) in the locality.

Each route or therapeutic option is often the translation of perceptions of the disease, also of the socio-cultural conditions of individuals. In this study, modern and traditional medicines seem to crystallize the demand for care.

The quality of health care services, as well as health facilities, plays an indisputable role in the use of care, including the use of the health post. Efficiency, purchasing power, gender, time-saving, distance, and tradition, etc. are the main

factors that determine the care process.

Thus, it would be necessary to support socio-cultural practices in order to integrate a scientific approach in traditional medicine remedies in Widou Thiengoly, whose lines of thought would be:

1) Scientific research to support the findings of traditional practitioners observed in the territory;

2) Ethno-pharmacological studies will have the main objective of evaluating the use of medicinal plants in Widou. This information may then be used to identify effective preparations that will be a source of the development of new drug treatments. Isolation of new active molecules will be the basis for understanding the mechanisms of action and considering reliable toxicology studies and clinical trials.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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