

---

# Factors Associated with Utilization of Health Services in Rural Area in Ferlo, Senegal

Ndèye Marème Sougou<sup>1,2,\*</sup>, Oumar Bassoum<sup>2</sup>, Mamadou Makhtar Mbacké Lèye<sup>1,2</sup>,  
Ibrahima Seck<sup>1,2</sup>, Adama Faye<sup>1,2</sup>, Anta Tal-Dia<sup>1,2</sup>

<sup>1</sup>Department of Public Health and Preventive Medicine, University Cheikh Anta Diop, Dakar, Senegal

<sup>2</sup>Institute of Health and Development, University Cheikh Anta Diop, Dakar, Senegal

## Email address:

nmsougou@hotmail.com (N. M. Sougou)

\*Corresponding author

## To cite this article:

Ndèye Marème Sougou, Oumar Bassoum, Mamadou Makhtar Mbacké Lèye, Ibrahima Seck, Adama Faye, Anta Tal-Dia. Factors Associated with Utilization of Health Services in Rural Area in Ferlo, Senegal. *European Journal of Preventive Medicine*. Vol. 6, No. 2, 2018, pp. 29-33. doi: 10.11648/j.ejpm.20180602.11

**Received:** February 27, 2018; **Accepted:** March 13, 2018; **Published:** April 8, 2018

---

**Abstract:** In African rural area, studies have shown under-utilization of rural health services. This situation occurs in a context of therapeutic pluralism that competes with access to the health service. The aim of this study is to analyze the place of the modern health care system at the heart of the search for childcare in a rural environment in Ferlo, Senegal. Methods: A cross-sectional study was carried out to examine the place modern health care in the stages of the therapeutic itinerary among children living in Senegal rural area in March 2017. Using Schwartz formula for sampling, we include in this study 173 children aged 6 to 59 months living in the area of Widou Thiengoly. Bivariate and multivariate analyses were made. Result: Most of children (82.3%) lived on more than 1 hour drive from health facility. For the first instance of therapeutic choice, most of mothers (61.2%) used self-medication in case of children disease, 35.3% of mothers used health facilities and 2.6% choosed traditional healers. For second instance, only 2.4 % of mothers were used self-medication. For third instance, there was no self-treatment. Therapy organizing group were led by mothers at 56.5 % and fathers in 45.6%. At 77.6% of cases, there were discussions to decide on the treatment of the child. In most cases, fathers were interviewed (90.9%) to give their opinion on the therapeutic choice. Fathers paid for children care in 87.6% of cases. 30.6% of mothers said that self-medication was cheaper compared to health facilities and traditional healers. 95.3% said that they believed that it was most efficiency to use a lot of type of therapeutic in same moment. Multilogistic regression found that the quality of the caring relationship impacted in using health services  $ajOR=0.19$ ;  $IC=0.056-0.59$ . Conclusion: This study contributes to the knowledge of self-treatment choices regarding children disease management in Senegal rural area. The main finding of this study was that the quality of the caring relationship impacts attendance and utilization of health services. A professional and competent attitude on the part of health workers will thus be able to improve the use of health services in traditional rural areas in Senegal.

**Keywords:** Using Health Services, Children, Health Workers, Rural Area

---

## 1. Introduction

In Senegal, the search for care for sick children is intimately linked to intensive home care and low use of health facilities [1]. For most of children living in villages in Senegal, initial care begins with self-medication at the expense of the use of health facilities [2]. The diversity of therapeutic offers is a fact proven in the contemporary world. It refers to a cosmopolitan therapeutic space. In

contemporary black Africa, there is a wide range of therapeutic remedies, ranging from modern medicine to traditional medicines, from the healing cults of Jewish-Christian and prophetic religions to maraboutic practices. In addition to these types of recourse, there are also popular health care practices whose main actors are mothers, fathers, grandmothers and grandfathers, but also all drug peddlers (modern or traditional) sold at retail throughout African towns and villages [3]. The success of this therapeutic

pluralism in Africa is commensurate with the crisis in health systems and, more generally, with the crisis in African states [4]. These therapeutic practices proliferate at the expense of the health care system. Preliminary studies have shown under-utilization of rural health services (shouldered and pruned). Little research has yet been done on the place of the modern health care system at the heart of defining the therapeutic pathway for young children in rural areas. The aim of this study is to analyze the place of the modern health care system at the heart of the search for childcare in a rural environment in Ferlo, Senegal.

## 2. Methods

### 2.1. Type of Study

We conducted a descriptive and analytical cross-sectional study

### 2.2. Sampling

In Widou, the child population is thus estimated at 988 (19% of 5,200 people living in Widou). Nineteen percent (19%) is the size of the child population in Senegal. In Linguere, the prevalence of malnutrition is 12.3% according to the SMART survey. The choice of malnutrition prevalence as a basis for sampling is linked to the fact that it is one of the leading causes of morbidity and is associated with 50% of the causes of death among children under 5 years of age in Africa [5]. According to Schwartz's formula, we estimate at 173, the number of children included in the study taking into account the 5% margin of error: 173 children. Taking into account the number of non-respondents, the total sample is 170 children. The questionnaires were administered to the mother of each child included in the sample. 170 mothers of children under 5 years of age were surveyed.

Schwartz Formula:

$$n = \frac{(t^2 \times p (1 - p))}{m^2}$$

n=sample size

t=level of confidence

p=estimated prevalence of malnutrition in Widou thiengholi area

m=estimated 5% margin of error

### 2.3. Collection of Data

The data collection was carried out in 2017 by 3 interviewers speaking the vernacular language of the fulbe zone. Questions concerning therapeutic routes and the use of health services were asked to mothers in fulbe. The mothers and their children were all found in the household.

### 2.4. Data Analysis

Data analysis was performed using R studio software version 3.1.3.

Andersen's model of health services utilization was used in

the analysis.

The dependent variable was the use of the health facility in the last 6 months by the child after an episode of illness.

The variables studied as predisposing factors were: age of the child, sex of the child, age of the mother, marital status, indicators of social structure: occupation of the mother, residential mobility (transhumance), family size; indicators of values and beliefs: perception of knowledge of illnesses affecting the child.

The variables studied as needs factors were: perception of the dangerousness of the disease, the diagnosis made by the family itself, the diagnosis made by the health worker, the existence of acute malnutrition in the child, the existence of underweight in the child, and the existence of stunted growth in the child.

The variables studied as contributing factors were: the existence of a membership in a mutual health insurance company, the fact of benefiting from free healthcare provision at the level of the health structure, familiarity with the health agent, perception of the high cost of health services, and the presence of a health structure in the living area.

The bi-varied analysis was done. To do this, the PEARSON Chi-two test at 5% risk threshold was used, as well as the exact Fisher test according to the usual conditions of each test.

This step will be critical in selecting the variables to be included in the multi-variate model in order to identify the factors that explain health services utilization. The variables to be included in the model will be selected according to the Hosmer and Lemeshow method. The selection of candidate variables for the multivariate model consists in considering two types of variables: those whose bi-variate test has a p-value below a predefined threshold <0.25.

## 3. Results

### 3.1. Socio-Demographic Characteristics of the Population

In our sample, the average age of mothers was 28.1 +/- 8.01 years, the average age of fathers was 38.35 +/- 9.1 years. 98.8% of mothers are married. Seventy-six (75.9%) of mothers were uneducated, 14.7% were literate and 3.5% had basic education. 95.3% of mothers were housewives. 72.94% of the target children were between 24 and 60 months old. Ten percent (10%) of children were acutely malnourished (Weight-for-height), 15.9% were underweight (Weight-for-age) and 15.3% of children were stunted.

Fifty-five (55.81%) of children have used the health facility for their care in the last 6 months. 65.88% of children used the health structure during their last episode of illness. 2.34% of children are enrolled in a mutual health insurance scheme. 5.26% received free care in the health facility.

Eighty-two percent (82.25%) of the sample take more than an hour to reach the nearest health facility. 74.84% of families are familiar with the health worker working in the health facility.

### 3.2. Description of the Organizing Care Group

It is noted that in 56.5% of cases, it is the mother who decides that the child needed care. In most cases (77.6%),

there is a discussion in the family about therapeutic choice. This discussion mainly concerns the father in 90.9% of cases. It is noted that fathers pay for care in 87.6% of cases.

**Table 1.** Factors Associated with Health Services Utilization.

	ajOR	CI	p
Predisposing factors			
sex (male)	0.97	0.53-1.78	0.53
age child (6-24 months)	1.13	0.57-2.24	0.42
Mother age			
15-19 years	0.83	0.35-1.95	0.41
20-35 years	1.17	0.63-2.20	0.3
More than 35 years	0.91	0.43-1.89	0.4
Marital status (married)	0.62	0.05-7.04	0.58
Mother occupation			
shepherdess	1.6	0.28-9.02	0.45
Transhumance*	1.37	0.74-2.53	0.19
Total person living in house (5-15)*	0.71	0.37-1.35	0.19
Knowledge about the child*	3.14	0.78-12.60	0.086
Enabling factors			
Hazardous disease	0.3	0.13-5.14	0.6
Diagnosis by himself *	0.69	0.36-1.31	0.16
Diagnostic per health care agent*	0.51	0.26-0.98	0.031
Existence acute malnutrition	1.09	0.56-2.12	0.46
Underweight Existence	1.23	0.64-2.34	0.31
Existence of stunted growth	0.83	0.45-1.53	0.64
Contributing factors			
Mutual health insurance	0.77	0.10-5.64	0.59
Free health care services	1	0.25-3.86	0.62
Familiar health agent *	2.62	1.25-5.52	0.008
Cost price service	1.95	0.31-12.03	0.38
Presence of health facilities in residential area*	0.67	0.28-1.63	0.25

Variable of which  $p < 0.25$

**Table 2.** Multi-Variety Analysis of Factors Associated with Health Services Utilization.

	p	ajOR	CI
Sex	0.98		
Female		1.09	0.56-2.16
Male		1	
Age	0.78		
24-59 months		0.89	0.40-2
Transhumance	0.13		
No		1.7	0.85-3.5
Yes		1	
Number of people living in the house between 5-15	0.99		
>15		0	NA
Child friendly knowledge	0.11		
No		3.5	0.79-19.49
Yes		1	
Diagnosis of malnutrition by the family itself	0.99		
Yes		0	NA
No		1	
Diagnosis by Health agent	0.71		
Yes		1.63	0.12-42.19
No		1	
Familiarity with healthworker	0.00057		
Yes		0.19	0.056-0.59
No		1	
Presence of health facility in the field	0.5		
Yes		0.38	0.014-5.99
No		1	

Familiarity with the health worker is the only variable related to the use of the health structure (ORaj=0.19: IC=0.056-0.59)

## 4. Discussion

### Use of the health structure

In the world, children from the poorest households when they are sick are less likely than children from a privileged environment to be taken to a health facility [6]. In our study, still few children had to be brought into the health structure during their last episode of illness. Fifty-five (55.81%) of the children had used the health facility for their care in the last 6 months. 65.88% of children had used the health structure during their last episode of illness. Some studies in Africa have shown unequal access to health services for the poorest people, including children [7]. Like our study, in Tanzania, 41% of children were brought to an appropriate health facility when they were sick [8]. This lack of access to health services is more marked in rural areas [9].

### Geographic inaccessibility of health services

The geographical accessibility of health services is the physical distance or the time taken to reach the health structure of the beneficiary. In developing countries, it is one of the main determinants of access to health services [10]. Geographic accessibility was described as one of the main barriers to accessing health services [11, 12]. In Widou, in the Senegalese Ferlo, 82.25% of the sample took more than one hour to reach the nearest health facility. In Africa, lack of sufficient health facilities contribute to the inaccessibility of health services. In Africa, the nearest health center/dispensary should not be more than 5 km away (or 10 km in particularly difficult regions) [13]. In Kenya, as in many African countries, for most households, the nearest public health facility was about 4 kilometers away. This may suggest that households near a health care facility were more likely to visit the facility at the time of illness than those living far away [14].

### Description of therapy organizing group

"Whenever an individual or a group of individuals is ill and is confronted with problems that exceed them, a therapy organizing group is formed. Different maternal and paternal parents, and possibly their friends and associates, come together to scrutinize the information, provide moral support, make appropriate decisions, and finalize the details of the therapeutic consultation. The therapeutic group thus acts as an intermediary between the patient and the specialist" (Janzen, 1978:24) [15]. In most cases (77.6%), in Widou Thiengholi, there is a discussion in the family about the therapeutic choice. In 56.5% of cases, the mother decides that the child needed care in the decision-making process. This discussion mainly concerns the father in 90.9% of cases. Child care is paid for by fathers in 87.6% of cases. The role of gender relations in the decision-making process regarding care research has been studied by several authors in developing countries [16]. A study in Ethiopia found that among women with financial resources, less than half of all women in developed countries have decision-making power over seeking care for themselves and their children [17]. Decision-making processes involving the mother are linked

to both education and income [18]. In Widou, the majority of women were uneducated (75.9%).

### Role of the caregiver relationship in access to health services

In Widou, 74.84% of families had a familiar relationship with the health worker working in the health facility. The multivariate logistic analysis showed that familiarity with the health worker was the only determinant related to the use of the health facility (OR<sub>adj</sub>=0.19: IC=0.056-0.59). The caring relationship influences the perception that users have of the health structure. The patient's acquaintance of the health workforce is often a determining factor in how he or she is treated in the health facility. Often, the patient is the victim of anonymization of his or her condition [19]. Inadequate communication between the patient and his or her caregiver causes problems in the use of health services [20]. In Africa, "relational" dysfunctions in health services have unfortunately been evidenced by numerous observations. At the heart of the therapeutic act, some works underline that essential medical acts were not carried out as they should have been. Although known, at least theoretically, the prescribed standards and ideal conduct are not implemented [21]. The relationship with the patient depends on so many factors (personalities of the caregiver and the career, life course, patient pathology, context of care...) that each one is unique [22]. Professional distance can be defined as "the moral and psychological limit to the expression of personal values in the context of the professional activity" [23]. According to P. Prayez, there is a right distance, which he defines as "the capacity? to be in contact with others despite? the difference of places" [24]. In addition to the stakes facing the caregiver and his emotional "self-protection", the search for a fair professional distance also has an impact on the caring relationship, and in particular on the establishment of a bond of trust. The more the caregiver and patient are in a healthy, fair relationship that respects their individuality and status, the better they will be able to build a relationship of trust. Developed familiarity can be the source of a transgression of professionalism necessary for the quality of care. In Widou, this familiarity between caregiver and care provider is the factor associated with under-utilization of the health service by populations.

## 5. Conclusion

This study showed that the quality of the caring relationship impacts attendance and utilization of health services. A professional and competent attitude on the part of health workers will thus be able to improve the use of health services in rural areas in Ferlo, Senegal.

## Limitations

This study could be complemented by a qualitative study. This relationship of familiarity that characterizes the caring relationship in this traditional population can be questioned more deeply.

## Competing Interests

The authors declare that they have no competing interests.  
Ethics Approval and Consent to Participate

Prior to the commencement of the study approval had been obtained from the University Cheikh Anta Diop Local Research Ethics Committee (Reference: Protocol 074/2015/CER/UCAD).

## Funding

This work was funded by the Observatoire Homme - Milieux Tessékéré (CNRS-UCAD).

## Acknowledgements

The Observatoire Homme -Milieux Tessékéré (CNRS-UCAD) offered guidance on the measures to be used as part of the data collection for this study.

## References

- [1] Franckel A. "Les comportements de recours aux soins en milieu rural au Sénégal. Le cas des enfants fébriles à Niakhar Sociologie. Université de Nanterre- Paris X, 2004. Français. <tel-00195109>"2004; these.
- [2] Rapport provisoire AGVSAN (2010): Principaux facteurs structurels de risque de la malnutrition en milieu rural au Sénégal. Kolda-Sédhiou-Matam-Diourbel-Fatick-Kedougou.
- [3] Yoro BM. Pluralisme thérapeutique et recours aux soins en milieu rural ivoirien1: approche méthodologique, Ph.D. Recherches qualitatives. 2012; 31(1): 47-61.
- [4] Canguilhem G. Le normal et le pathologique. 1996; Paris: PUF.
- [5] Unicef. La situation des enfants dans le monde 1998. Résumé la Malnutrition, causes conséquences et solutions. <https://www.unicef.org/french/sowc98/pdf/presume.pdf>
- [6] Unicef report 2016 the state of the world's children.
- [7] Haddad S., Nougata A., Ridde V. Les inégalités d'accès aux services de santé et leurs déterminants au Burkina Faso. Santé, Société et Solidarité Année 2004 2 pp. 199-210.
- [8] Schellenberg JA., Victora CG., Mushi A., de Savigny D., Schellenberg D., Mshinda H., Bryce J., Inequities among the very poor: health care for children in rural southern Tanzania Volume 361, Issue 9357, 15 February 2003, Pages 561-566.
- [9] Harris B., Goudge J., Ataguba J E., McIntyre D., Nxumalo N., Jikwana S., Chersich M. Inequities in access to health care in South Africa. Journal of Public Health Policy June 2011, Volume 32, Supplement 1, pp S102-S123.
- [10] Peters, D. H., Garg, A., Bloom, G., Walker, D. G., Brieger, W. R. and Hafizur Rahman, M. (2008), Poverty and Access to Health Care in Developing Countries. Annals of the New York Academy of Sciences, 1136: 161-171. doi:10.1196/annals.1425.011
- [11] Hjortsberg, C. A. & C. N. Mwikisa. 2002. Cost of access to health services in Zambia. Health Policy Plan. 1: 71-77.
- [12] Hjortsberg, C. 2003. Why do the sick not utilize health care? The case of Zambia. Health Econ. 9: 755-770.
- [13] Jacquemot, P. (2012). Les systèmes de santé en Afrique et l'inégalité face aux soins. Afrique contemporaine, 243,(3), 95-97. doi:10.3917/afco.243.0095.
- [14] Mbagaya, G. M., Odhiambo, M. O., & Oniang'o, R. K. (2005). Mother's health seeking behaviour during child illness in a rural western Kenya community. African Health Sciences, 5(4), 322-327.
- [15] Janzen, JM. 1978. The quest for therapy in Lower Zaire. University of California.
- [16] Osamor, P. E., & Grady, C. (2016). Women's autonomy in health care decision-making in developing countries: a synthesis of the literature. International Journal of Women's Health, 8, 191-202. <http://doi.org/10.2147/IJWH.S105483>
- [17] Nigatu D, Gebremariam A, Abera M, Setegn T, Deribe K. Factors associated with women's autonomy regarding maternal and child health care utilization in Bale Zone: a community based cross-sectional study. BMC Womens Health. 2014 Jul 3; 14():79.
- [18] Pokhrel S, Sauerborn R. Health Policy Plan. 2004 Jul;19(4):218-33 Household decision-making on child health care in developing countries: the case of Nepal.
- [19] Une médecine inhospitalière: Les difficiles relations entre soignants et soignés dans cinq capitales d'Afrique de l'Ouest.
- [20] Altaras, R., Nuwa, A., Agaba, B., Streat, E., Tibenderana, J. K., Martin, S., & Strachan, C. E. (2016). How Do Patients and Health Workers Interact around Malaria Rapid Diagnostic Testing, and How Are the Tests Experienced by Patients in Practice? A Qualitative Study in Western Uganda. PLoS ONE, 11(8), e0159525. <http://doi.org/10.1371/journal.pone.0159525>
- [21] Jaffré, Y. (2003). Le souci de l'autre: audit, éthique professionnelle et réflexivité des soignants en Guinée. Autrepart, 28, (4), 95-110. doi:10.3917/autr.028.0094.
- [22] Barthel F. La distance professionnelle dans la relation soignant-soigné à domicile. Institut de Formation en Soins Infirmiers de Villeneuve-Saint-Georges Promotion 2009-2012.
- [23] MARTIN, M. La distance professionnelle, The international journal of applied philosophy, Vol 11 - n°2, 1997, pp. 39-50.
- [24] PRAYEZ, Pascal; SLIWKA, Corinne (sous la coordination de). Distance professionnelle et qualité du soin. France: Broché. Editions Lamarre. 2009. p. XVIII. nombre de pages 287.