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Principle for the Installation of Accommodation for Sick guards in Public Health Establishments in Brazzaville in the Republic of Congo

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Abstract: The results of scientific studies of human social facts in the field of health show that the management of a patient should involve the patient's entourage, whatever the status or size of the health establishment. In healthcare establishments in the Congo, the following are recognised as being responsible for medical care: specialist doctors, doctors, midwives, nurses and care assistants. The patient's family and close friends are responsible for looking after the patient and financing care. The hospital infrastructure does not provide any space for the patient warden who accompany the patient during reception and hospitalisation. This makes Congolese hospitals inefficient for patient care. How can we integrate the function of the Sick guard and the assistance of the family, in order to reduce the mortality rate and repair the harm caused to patients requiring the presence of relatives during their stay in hospital, which is considered to be a dangerous place? This article examines the functional principles for configuring the space that patient warden would occupy in the patient care system. On the basis of a documentary analysis of sociological and architectural studies of existing facilities, this article proposes a typical accommodation model with the spaces needed to ensure the well-being and effectiveness of the patient warden with the patient. These are rooms with minimum space for 2 to 4 individual beds, equipped with toilets and showers. The accommodation has a dining area, kitchen and laundry facilities. In the future, this accommodation will become part of the hospital estate and may be occupied by orderlies and patient warden recruited by the hospital administration.

Key words: Sick guard, patient, public health establishment, accommodation, Republic of Congo.

1. Introduction

The right to health and family protection is a priority for Congolese citizens, governments and development partners. In the 2007 general population census [1], the Congo had a population of 3,697,490, and the 2023 census (RGPH-5) [2] shows that the total resident population of the Republic of Congo is 6,142,180, almost double in sixteen (16) years. This increase in population is accompanied by an increase in the number of patients [3, 4]. In the Republic of Congo, in the event of illness, it is relatives, friends and acquaintances who play a vital role in guiding and supporting the patient throughout the period of hospitalisation until full recovery (cure). The studies devoted to the issue of Sick guard in healthcare establishments have been approached from a sociological point of view by both foreign and national experts and/or researchers such as: Bluebond-Langner [5], Bungener [6], Arborio [7], Chris [8], Saint-Charles and Martin [9], Diallo and Jaffre [10], Pueugueu [11], Pierrick [12], Charpin et al. [13], Fainzang [14]. Experts in Central Africa have also carried out research in this area. These include Jean-Claude [15], Edmond [16] and Honoré and

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Bertrand [17]. In addition, a number of studies have been carried out in industrialised countries by researchers such as Saillant [18], Leila [19], Paseole [20], Marie [21] and many others, on home sick guards and the role of family and friends in hospitals. All these authors, each in their own way, have concluded that it is up to the patient to decide who should take on the role of caretaker, and the determining factor is "trust". In the Congo, where there is a strong attachment to family and custom, this choice may be made in favour of a relative, friend or acquaintance [15, 16, 22]. All these experts and/or researchers recognise the delay observed in African countries in dealing with the issue of sick guards in health establishments or at home. From an architectural point of view, no study has ever been carried out for the Republic of Congo. In the organisation of care in the Congo's health establishments, there is no dedicated space for sick guards. And yet they play an important role in patient survival. We need to interpret the research findings of experts in medical sociology in architectural terms. Who are the essential, little-known players involved in patient care in health establishments in the Congo? And what is the size and quality of the space they need to carry out their tasks during hospitalisation? The aim of this study is to identify the architectural principles for designing temporary accommodation for sick guards, with all the amenities required in a hospital environment. Specifically, it aims to recall the importance and specify the place of the sick guards, family members in the chain of care in health establishments in the Congo. This study also sets out to differentiate between the concepts of "nurse-aide-caregiver", "sick guard" and "visitor" in hospital conditions in the Congo.

The data for this study come from documents from the INS (National Institute of Statistics) and the results of available studies in the fields of medical sociology and the management and use of human resources in health establishments.

2. Methodology

2.1 Nurses and Visitors in the Care of Patients in the Congo

In the Congo, in the event of illness, relatives, friends and acquaintances provide emotional, material and financial support to the patient [11, 15]. Managing patients in healthcare establishments or at home involves not only the nursing staff, but also other social players who are less well known to hospital managers and the socio-professional categories working there. Among these still little-known players are sick guards and visitors.

2.1.1 Sick guards—Health Auxiliary and Family Member

Generally, when faced with illness, Congolese people turn to traditional medicine (traditional therapy), spiritual therapies (churches) and/or modern medicine (Western medicine) [23]. These three types of therapy sometimes compete and sometimes complement each other. Some people consult them in rotation, others in parallel [17]. Most people start with churches and traditional healers, dragging their illness through the critical stages. Modern hospitals are consulted at the last minute [19, 24]. In recent years, modern medicine has made great strides in the Congo. Congolese are beginning to seek medical advice, diagnosis and treatment in local hospitals. The number of patients admitted to hospital is constantly increasing [16]. Each patient is always accompanied by 2 to 4 sick guards, members of the family or close friends, who keep a rotating watch. The departments concerned are neonatology, traumatology, neurology, infectious diseases, pneumology, cardiology, gastroenterology, metabolic diseases and psychiatry. Here, hospital stays range from three (3) days to a month or more [21]. In industrialised countries, the nursing staff act as sick guards. Relatives, friends and acquaintances are completely excluded [12]. In the Congo, and in the countries of Central Africa (the Congo Basin), the role of sick guard is performed exclusively by relatives, friends and acquaintances who

enjoy the patient's intimate trust. They are present with the patient throughout the period of hospitalisation. There are usually 2 or 3 of them in rotation. They are responsible for the patient's nutrition and accompany them to medical examinations (samples, scans, MRIs (Magnetic Resonance Imagings), X-rays, etc.). Family members (relatives, friends or acquaintances) act as a resource person, facilitating the work of the nursing staff. They play the role of reporter or informant for other family members, friends and acquaintances, who for lack of information, invade the hospital and spread false news. Family members are therefore chosen from among relatives, friends and acquaintances because of their close relationship with the patient, their trust in other family members and their familiarity with the hospital environment and nursing staff. They give the patient confidence in the nursing staff and reassure them against the prejudices of other family members.

2.1.2 Visitor—Patient's Financial Provider

The Bantu culture, based on remarkable solidarity and calling for social cohesion, means that in the event of illness, large crowds gather around the patient from home to hospital. They are truly responsible for the comfort of the patient and contribute to his or her recovery. On the other hand, the presence of certain relatives, friends and acquaintances around the patient sometimes has a negative impact on the patient's state of health. So the presence of relatives, friends and acquaintances in hospitals in the Congo is a source of much confusion.

Visiting patients in Congolese hospitals is generally regulated. For example, at the CHU-B (Brazzaville University Hospital Centre), they are authorized from 5am to 7am in the morning, from 1pm to 2pm during the day and from 5pm to 7pm in the evening. The number of visitors in a hospital ward at any one time should not exceed 3 people. Visitors are relatives, friends and acquaintances of the patient who do not enjoy the intimate confidence of the patient or the head of the family. They support the patient from a distance or at the times prescribed by the establishment. Generally, they are not welcome in hospitals, as they create insecurity, unhealthy conditions and overcrowding both inside and outside. The presence of visitors prevents nursing staff from performing their duties properly and is a nuisance for patients. In most hospitals (CHU, Talanga ï, Mak é k é, Djiri and others), there are more visitors than patients. Gathering in large numbers, they give the impression of a wake ceremony, especially when it comes to people who have had accidents or given birth. This category of relatives, friends and acquaintances are considered visitors in this study. Their presence should therefore be strictly regulated, if not prohibited.

2.2 Accommodation Structures for sick guardsf in Health Establishments in the Congo

In the Congo, a country with a predominantly Bantu population, there is a need to introduce sick guards—people chosen from among relatives, friends and acquaintances—into the hospital structure as health auxiliaries. Health establishments are called upon to accept certain social, cultural and environmental realities of the country, in order to better respond to the needs of patients and their recovery. A rest area should be built within the hospital for sick guard who have spent more than 4 to 6 h with them. A permanent presence will therefore be useful next to the patient to facilitate both the patient in taking treatment and the nursing staff in administering care. By introducing the sick guards, a member of the family (relatives, friends and acquaintances) as a health auxiliary, family visits can be reduced or eliminated, especially in hospital wards, leaving the sick guards to act as a point of contact (interface) between the patient and relatives on the one hand, and between the patient and care staff on the other. The relevant spaces should be created and fitted out to facilitate exchanges and speed up the patient's recovery.

2.2.1 Current State of sick guards Shelters

The confusing and unpaid status of the sick guard, sometimes rejected, sometimes accepted in French

hospitals, does not help the conditions of the hospitalised patient. The rejection and stigmatisation of the patient attendant weakens the patient and discourages the doctor. In the Congo, the family is a key player in health care. It is also a place where health behaviours related to hygiene and diet are passed on and taught. A space has been set aside in hospital facilities for family members to look after patients.

At present, the conditions under which patients are accommodated do not provide space for sick guards or visitors. They are often rudely evicted and then recalled when the patient needs to be fed or cleaned. This situation is often the reason why, in the event of illness, patients turn first to traditional healers and the church instead of going to hospital. Sick Congolese are afraid to go to hospital on their own. They need moral, material and financial support, because the hospital only has medical knowledge.

The sick guards, appointed and recognised by the head of the family, help the patient with diagnosis (medical examinations), medication and nutrition, and play an active role in care alongside the nursing staff. Let's look at a few examples.

2.2.1.1 CHU-B

The administration of the CHU-B recognises the role played by sick guards and visitors during patients' hospitalisation. For this reason, it has built a fee-paying sanitary block at the entrance to the emergency department for patient sick guards and visitors. But it has not built shelters for them. The toilet block includes toilets, showers and washing facilities. Figs. 1 and 2 show that, as no shelter is provided, sick guards are forced to confine themselves with patients in hospital wards, corridors, balconies or under trees.

Fig. 1 Shelter for sick guards under the footbridges.

Fig. 2 Shelter for sick guards under the trees.

Fig. 3 Toilet block at the entrance to the emergency department.

Fig. 4 Toilet block for sick guards in the R+5 building.

2.2.1.2 Pierre Mobengo Army Hospital, Brazzaville

The Armed Forces Hospital administration has built a 5.00 m long by 4.00 m wide shelter with no furniture, toilets or showers for the neonatology sick guards and visitors. There is no shelter for sick guards and visitors from other departments (intensive care, rheumatology, etc.).

The neonatal sick guards' shelter is a one-room building and can only sick guard one gender (male or female). Men with women who have undergone caesarean sections and who have a child in distress find themselves without shelter in very difficult conditions.

The newly-built building does not solve the problems of the sick guards, who remain at the patient's side throughout the period of hospitalisation to look after dirty laundry, the supply of medicines, food and other needs of the patients. Fig. 5 shows the external appearance of this shelter.

2.2.1.3 Talangai Hospital, Brazzaville

Recognising the role and importance of the sick guard in a hospital structure, the administration built a covered but open shelter. In this building, there are no toilets, no showers, no laundry facilities, and no space for cooking or heating food. And yet, the food for the sick is paid for by their relatives, i.e. the sick guards. Fig. 6 shows the current state of the ward building at Talangai hospital.

2.2.1.4 Makélékélé Hospital, Brazzaville

As at Talangai hospital, the sick guards at Makélékélé hospital are housed in a covered shed that opens onto the outside, as shown in Fig. 7. The basic hygiene needs of patients, sick guards and visitors are not taken into account.

Fig. 5 Shelter for patients at the Pierre Mobengo Military Hospital in Brazzaville.

Fig. 6 Shelter for sick guards at Talangai Hospital in Brazzaville.

Fig. 7 Shelter for sick guards at the Mak đ é-K đ é hospital in Brazzaville.

2.2.1.5 Djiri General Hospital in Brazzaville

At the newly built Djiri General Hospital, no provision has been made for sick guards. As a result, the health authorities and architects urgently need to get involved in providing health facilities with infrastructure that takes into account the needs of sick guards, whether they are nursing staff or members of the patient's family.

2.2.2 Projected Situation

The aim is to propose the functional principles for configuring the space to be occupied by the sick guards as part of the patient care system. On the basis of a documentary analysis of sociological and architectural studies of existing facilities, it is necessary to propose a standard accommodation model with the spaces required to ensure the well-being and effectiveness of the sick guard with the patient. These include rooms with circulation areas equipped with toilets and showers. The accommodation should have a dining area, kitchen and laundry facilities.

3. Results and Discussion

In the Congo, patients going to hospital are always accompanied by relatives, friends and acquaintances. They provide emotional support and help reduce anxiety and stress before, during and after hospitalisation. In most cases, patients have problems communicating with the nursing staff (doctors, nurses, etc.). They may also have difficulty getting up, moving around, cleaning themselves and eating. In the Congo, healthcare staff rely on family members to look after the patient, including providing medicines. Sick guards appointed by the family and its head are better placed to look after the patient.

For reasons of efficiency, two or three rotating shifts can be organised. For example, one person could look after the patient from 7 a.m. to 7 p.m., then rest, while the other takes over from 7 p.m. to 7 a.m. For other families, instead of two people, three people can look after the patient in succession as follows: the first starts from 7 am to 3 pm; the second from 3 pm to 11 pm and the third from 11 pm to 7 am. These shifts give the sick guards time to rest. Appropriate accommodation will have to be built on the hospital premises for patients living far from the hospital or from other departments of the country.

An analysis of the spaces occupied by patient guards and visitors in existing hospitals reveals the following: when patients are admitted to the emergency department (triage), they are accompanied by relatives, friends and acquaintances. Their number depends on the type of illness, the patient's social situation and the person in charge of the family (or the person caring for the patient). In the event of hospitalisation, doctors authorise the permanent presence of a relative who is the sick guarden, especially in paediatrics, neonatology, gynaecology, traumatology, etc. The only relative authorised to stay with the patient is often limited and exhausted.

In the light of the above, and taking custom into account, the sick guard team in health establishments will be made up of a representative from the patient's mother's side, one from the father's side and an intimate who may be the spouse, child or father (mother). For visitors and those accompanying patients, there should be a waiting room (or waiting hall) with a toilet area and a coffee corner. It should be borne in mind that registering, consulting, observing and orienting patients in reception services takes a minimum of 4 to 6 h or more.

For patient guard who need to rest, we propose that the hospital structure should include a building with rooms, areas for movement and recreation, toilets and showers, a dining area with the possibility of cooking and heating food for patients and patients' carers, and a laundry room. These facilities will relieve the burden on the most frequent and longest-stay patients. This will avoid patients having to go back and forth from hospital to home or from hospital to hotel to wash, eat and do the laundry.

Fig. 8 shows a typical floor plan for a single-storey building, and Figs. 9 and 10 illustrate typical ground- and upper-floor plans, respectively, for a multi-storey building that could be adapted to Brazzaville's hospitals to alleviate the condition of nursing staff.

Implementing this concept in health establishments would make an effective contribution to patient care, as it takes into account the socio-cultural parameters of the Bantu people. The building for the sick guards will be a source of income for the hospital administration and will contribute to the well-being of the patient's relatives, friends and acquaintances by maintaining their health and guaranteeing the patient's recovery.

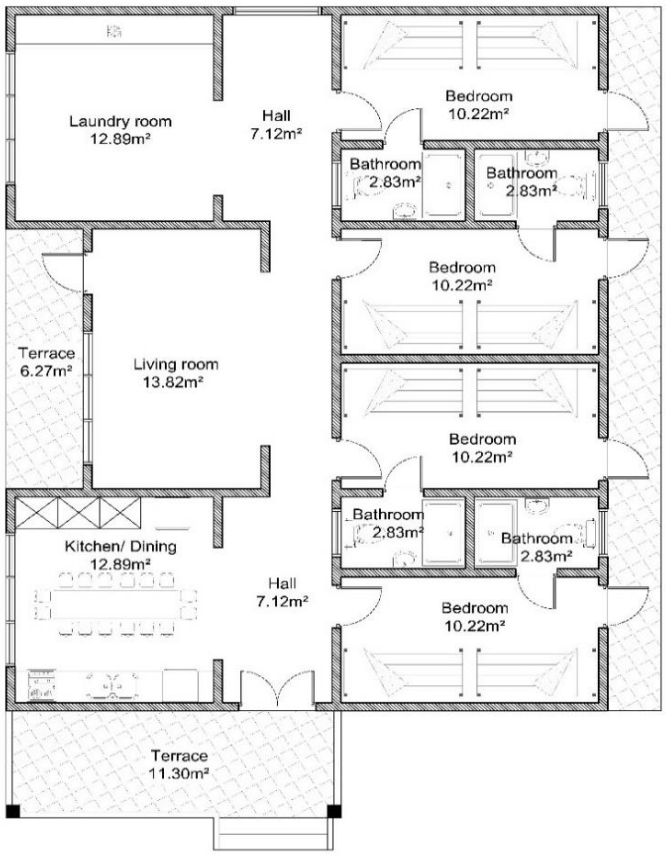

Fig. 8 Plan of the single-storey building with 4 bedrooms.

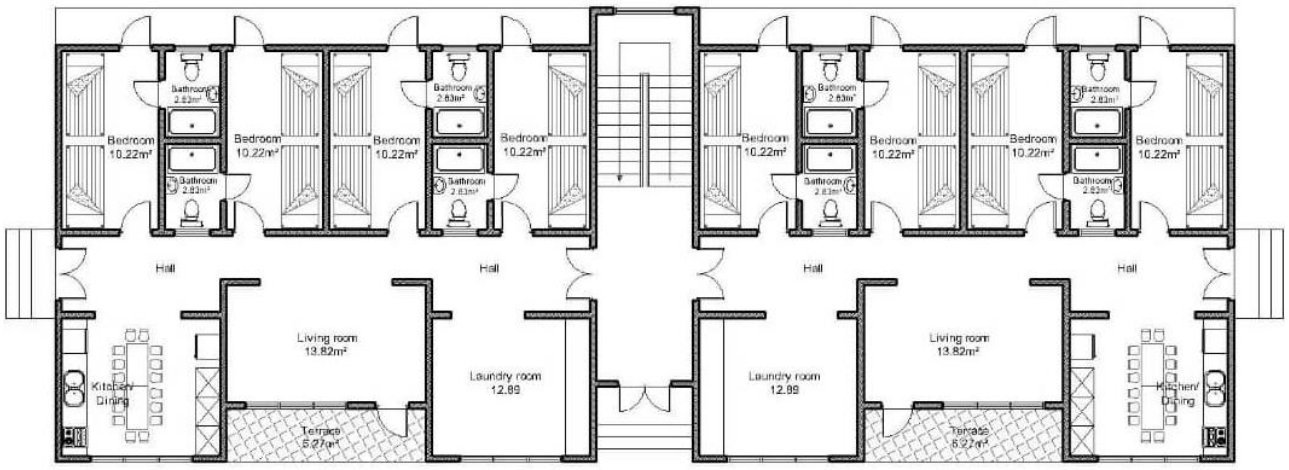

Fig. 9 Plan of the ground floor of the building with 8 rooms per level.

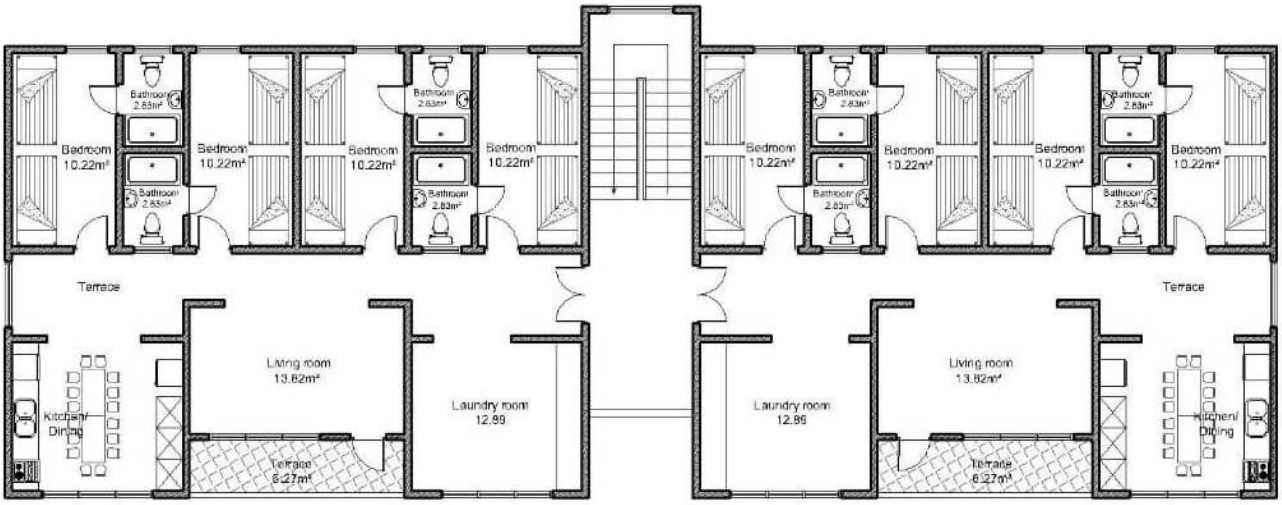

Fig. 10 Floor plan of the building with 8 bedrooms per level.

4. Conclusion

Illness and other forms of disability are the cause of hospitalisation for people of all ages. In the chain of care in Congolese health establishments, the role of sick guard is confused with that of visitors. During hospitalisation, relatives, friends and acquaintances take care of the patient.

At present, the problem of accommodation for patients and sick guards is one of the factors affecting the quality of care, patient recovery and the reduction of mortality in hospitals.

This study looks at the architectural conditions in which patients are cared for in hospitals in Congo Brazzaville.

The research explores the fact that the spaces dedicated to sick guards and their status are compromising the health and dignity of relatives, friends and acquaintances in charge of the patient's health.

The study proposes the inclusion in health establishments of accommodation buildings for sick guard and premises for receiving visitors. These facilities are a priority in helping patients to recover, and in preventing relatives, friends and acquaintances from becoming ill while their loved ones are in hospital.

Prolonged hospitalisation (of more than 10 days) is very distressing for parents. The introduction of sick guard accommodation, comprising a laundry, a kitchen with a dining area, and bedrooms equipped with showers and toilets, will make it much easier for relatives, friends and acquaintances to support the patient throughout the period of hospitalisation, and will provide a source of income for the hospital administration. Hospitals that have run out of space will be able to provide accommodation for patients on call. However, to reduce the cost of vertical communications (lifts, stairs, etc.), the number of levels should not exceed four (4).

References

[1] Ménages et habitations, République du Congo, Ministère de l'Economie, des finances, du plan, du portefeuille public et de l'intégration. 2012. Recensement général de la population et de l'habitation de 2007 (RGPH-07). (in French)

[2] Rapport ETMIC Congo. 2004. Press release on the publication of the preliminary results of the fifth general population and housing census (RGPH-5), RGPH-5-INS-CONGO Brazzaville. https://ins-congo.cg/communique-relatif-a-la-publication-des-resultats-preliminaires-du-rgph-5/. (in French)

[3] Institut National de la Statistique (INS). 2012. "Volume 5: Households and Dwellings." In *Recensement et le développement (CEPED)—Recensement général de la population et de l'habitation (2012)*. Brazzaville: INS. (in French)

[4] Institut National de la Statistique (INS). 2023. *Cinquième recensement général de la population et de l'habitation (RGPH-5): résultats préliminaires*. Brazzaville: INS. (in French)

[5] Bluebond- Langner, M. 1978. *The Private Worlds of Dying Children.* Guildford: Princeton University Press.

[6] Bungener, M. 1987. “Logique et statut de la production familiale de santé.” *Sciences Sociales et santé* 5 (2): 45-59. (in French)

[7] Arborio, A. M. 1995. “Quand le ‘sale boulot’ fait le métier: les aides-soignantes dans le monde professionnalisé de l'hôpital, sciences.” *Sociales et Santé* 12 (3): 93-126. (in French)

[8] Chris, A. 2001. “Back to the Old House? ‘Sick Role’ and Bibliographical Narratives of the Housing Needs of Short-Stay Hospital Patients.” *Health & Place* 7: 81-92.

[9] Saint-Charles, D., and Martin, J. C. 2001. “De la perspective d' ‘aidant-naturel’ àcelle de ‘proche-soignant’: un passage nécessaire, santé.” *Mentale au Québec* 26 (2): 227-44. (in French)

[10] Diallo, Y., and Jaffre, Y., and Olivier de Sardan, J. P. 2003. “Pauvreté et maladie.” In *une médecine inhospitalière. Les difficiles relations entre soignants et soignés dans cinq capitales d'Afrique de l'Ouest*, edited by Jaffré, Y., Olivier de Sardan, J. P. Paris: Karthala, pp. 157-216. (in French)

[11] Pueugueu, I. B. 2021. “Repenser la place des ‘gardes-malades’ dans l' équipe de prise en charge en Afrique subsaharienne: Une réflexion sur ‘l'ethno soins infirmiers’.” *AnthropoCité* 2: 29-34. (in French)

[12] Pierrick, B. 2012. “Vers une clinique du logement.” *Bulletin de psychologie, tome* 65 (6): 515-22. (in French)

[13] Charpin, D., Nadia, B., and Laplace, J. P. 2014. “Santé et habitat.” *Bull. Acad. Natle Méd.* 198 (9): 1685-700. (in French)

[14] Fainzang, S. 2006. *La relation médecins-malades: information et mensonge.* Paris: Presses Universitaires de France. (in French)

[15] Jean-Claude, M. 2017. “Incidences de la présence des garde-malades sur la prise en charge médicale des patients. Étude menée au Centre Hospitalier et Universitaire de Brazzaville.” Ph.D. thèse, l'Université Marien NGOUABI. (in French)

[16] Edmond VII, M. E. 2011. “Le garde malade au cœur de l'organisation du système de santé au Cameroun: entre participation àla prise en charge des malades et risques de débordements.” Accessed on 02/02/2024 https://docplayer.fr/2650217-Les-profanes-ptofessionnels-de-sante-le-garde-malade-au-coeur-de-l-organisation-du-systeme-de-sante-au-Cameroun.html. (in French)

[17] Honoré, M., and Bertrand, F. 2018. *Famille et santé en Afrique: regards croisés sur les expériences du Cameroun et du Benin.* Paris: L'harmatan. (in French)

[18] Saillant, F. 1999. “Femmes, soins domestiques et espace thérapeutique.” *Anthropologie et Sociétés* 23 (2): 15-39. (in French)

[19] Leila, O. 2004. “Le service des gardes à domicile. Une innovation sociale dans l'aide àdomicile en Wallonie.” *Les Cahiers du Cerisis* 188: 1-32. (in French)

[20] Pascale, F. 2024. “Le logement à la sortie de l'hôpital psychiatrique.” In Reiso. Accessed on 28/01/2024 https://www.reiso.org/document/1407. (in French)

[21] Marie, S. 2014. “Le rôle de l'entourage au sein de l'hôpital africain: une thématique négligée?” *Sciences sociales et santé* 32 (1): 39-64. (in French)

[22] Cresson, G. 1997. “la sociologie de la médecine méconnait-elle la famille.” *Société contemporaines* 25: 45-65. (in French)

[23] Reyneart, C., Libert, Y., Jacques, D., and Zdanowicz, N. 2006. “Autour du corps souffrant: relation médecin-patient-entourage, trio infernal ou constructif?” *Cahiers Critiques de Thérapie Familiale et de Pratiques de Réseaux* 36: 103-23. (in French)

[24] Pelletier, J. F., Piat, M., Côté, S., and Dorvil, H. 2009. *Hébergement, logement et réablissement en santémentale. Pourquoi et comment faire évoluer les pratiques.* Québec: Presses de l'Université du Québec. (in French)