



Social Representation of Cancer among Nurses in Burkina Faso and Influence on Early Diagnosis of Cancer

Augustin Tozoula Bambara^{1,2,*}, Michel Ilboudo², Dagnagnewende Dieudonne Kabore², Pingwende Fidele Kabore², Alice Cynthia Sama²

¹Health Sciences Training and Research Unit, Joseph Ki-Zerbo University, Ouagadougou, Burkina Faso

²Cancerology Department, Yalgado Ouedraogo University Hospital, Ouagadougou, Burkina Faso

Email address:

tozoulabambara@gmail.com (Augustin Tozoula Bambara)

*Corresponding author

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Abstract: *Objective:* We conducted this study with the aim of determining the association between the social representation of cancer of nurses in Ouagadougou and the decision they make when faced with a sign suggestive of cancer. *Methods:* We conducted a survey over a period from December 27, 2022 to March 26, 2023 in the city of Ouagadougou. A total of 341 nurses working in the Health and Social Promotion Centers participated in the survey by completing a questionnaire. They were asked to produce a series of five words that came to mind spontaneously from the word “cancer” inducer then to rank these words in descending order of importance according to their judgment. The subjects surveyed were finally asked about their practices in front of signs suggestive of cancer. These practices have been categorized into “I refer” and “I do not refer” to a higher level of care. We compared these two groups through a prototypical analysis using the Iramuteq software. *Results:* In group 1, the central core was composed of 8 words which are: Pain, Incurable, Suffering, Breast, Nodule, Chemotherapy, Expensive, Tumor. The second periphery was composed of: Death, Fear, Metastasis, Chronic, Expenditure, Compassion, Serious. In group 2, the core was composed of 15 words which are Death, Pain, Tumor, Suffering, Expensive, Metastasis, Nodule. The first periphery was composed of the following words: Fear, Incurable, Chemotherapy, Chronic. The maximum tree of representation indicates that the words cited in both groups are organized around the words “death”, “pain”, “incurable” and “fear”. *Conclusion:* This difference in perception of the disease has a probable influence on their readiness to refer patients to health centers better equipped for patient management. It seems necessary to reflect on ways to train nurses, to inform them about cancer and on the benefits of adequate and early management.

Keywords: Social Representation, Cancer, Nurses, Ouagadougou

1. Introduction

The concept of social representation refers to “a form of knowledge that is socially developed and shared, has a practical aim, and contributes to the construction of a common reality for a social whole” [1]. In the field of health, social representations have been studied in different contexts such as the representation of the disease, the sick person and certain preventive behaviors [2]. Cancer is a public health problem because of its increasing incidence, morbidity and related mortality. When it occurs in an individual, it becomes the

object around which the communication between the patient, his entourage and health workers takes place [3]. The difficulties encountered in this interaction can be attributed to the diversity of perceptions and representations that each can develop about the disease or treatment [3]. When the word “cancer” is evoked, individuals are attacked by images, ideas, conceptions, beliefs, opinions or attitudes that condition their relationship with the disease. This set of images and beliefs is related to cancer knowledge and experiences [4]. Burkina Faso is a country with limited resources. According to the organisation of the health system, the Health and Social

Promotion Centers (CSPS) constitute the first level of care. This is the population's first contact with modern health facilities. These centres are run by nurses who offer curative and promotional services to the population of their health coverage area [5]. They are important players in the health care system, as their skills depend on the quality of first aid given to patients and their efficient orientation to the upper echelons of the health care system when necessary. If the patient cannot be managed by the CSPS, the patient is then directed towards a structure that meets the criteria of the first reference level: the Medical Center with Surgical Unit (CMA) [6]. Cancer is a major public health problem in this context, due to population poverty and delayed diagnosis. Advanced stages account for more than 70% of cases [7]. The nurses received theoretical and practical training during their training course, allowing them to participate in the management of cancer patients. They are at the heart of cancer management. Their knowledge and experience contribute to the development of their representation of this disease [8]. Their attitudes and practices may be responsible for patient diagnostic errors, which may delay consultation at a specialized centre. Indeed, a study showed that paramedics were responsible for 30% of the late consultation of cancer patients in Brazzaville, due to the trivialization of symptoms and the misorientation of these patients [9]. It could be the same in our context. This could be related to their perception of cancer. We conducted this study with the aim of determining the association between the social representation of cancer of nurses in Ouagadougou and the decision they make when faced with a sign suggestive of cancer. This could help to formulate suggestions to reduce the delay in the diagnosis of cancers in Burkina Faso.

2. Methods

2.1. Period and Framework of Study

It was a survey over a period from December 27, 2022 to March 26, 2023. This study took place in the health districts of the city of Ouagadougou which is the political and administrative capital of Burkina Faso. In terms of health, the city of Ouagadougou corresponds to the Health Region of the Centre. It has five health districts (Baskuy, Bogodogo, Boulmiougou, Nongr-Masson and Sig-Noghin), under the direction of the Regional Health Directorate of the Centre. The health region of the center has 4 university hospitals, 5 medical centers with surgical antenna, 95 Health and Social Promotion Centers (CSPS), 9 isolated dispensaries, an isolated maternity, 9 garrison infirmaries. There were 377 CSPS nurses during the study period.

2.2. Conduct of the Investigation

We conducted an exhaustive sampling of nurses by visiting CSPSs several times according to their work schedule. A total of 341 nurses participated in the survey by completing a questionnaire. This was a self-administered questionnaire using a form. This form was anonymous and accompanied by

an envelope to be sealed once the questionnaire was completed. This ensured the anonymity of nurses and the confidentiality of their responses. A pre-test was conducted before the collection began. Nurses were contacted at their workplace. The questionnaire began by collecting the characteristics of the respondents (gender, length of service, cancer training). Second, nurses were asked to produce a series of five words that came to mind spontaneously from the word "cancer" inducer. Third, respondents were asked to rank the words in descending order of importance according to their judgment. This method of free evocation is a classic technique of investigation of social representation used in many studies [10]. The subjects surveyed were finally asked about their practices in front of signs suggestive of cancer. These practices have been categorized into "I refer" and "I do not refer" to a higher level of care.

2.3. Data Analysis

We compared two groups of subjects: those who said they routinely refer patients with a cancer-suggestive sign (Group 1), and those who said they did not routinely refer patients to a cancer-suggestive sign (Group 2). The data collected using the free and then hierarchical evocation method were processed using prototypical analysis [10], which made it possible to identify the central elements of the representation by distinguishing several subsets on the basis of two indices: the frequency of each word appearing in the corpus of words and its average rank of importance. This analysis made it possible to construct a 4-box table (Table 1): the most frequent items of high importance were classified in box 1; This is the central core. Boxes 2 and 4 consist of the peripheral elements. Box 3 contains the contrasting elements. The data were also the subject of a similarity analysis which made it possible to highlight the strong relationships between the elements of the same set and thus to approach a certain organization (its structure) [11]. This analysis was represented as a tree graph without a cycle (maximum tree). These scans were performed using Iramuteq 0.7 alpha 2 software. The threshold at which a word is considered frequent, as well as the threshold at which a word is considered important, has been determined for each group by the Iramuteq software.

Table 1. Prototypical analysis showing the 4 zones in a structural approach of the social representation.

	High Rank	Low Rank
High frequency	Central core	First periphery
Low frequency	Contrasting elements	Second periphery

3. Results

Three hundred and forty-one nurses (341) of the 377 practising in the CSPS of the city of Ouagadougou answered the questionnaire. The female gender represented 51.3% of the sample. The professional seniority of these agents was on average 15 years; 83.7% had more than 10 years of professional service. A third of the respondents (32.7%) said they had not received initial cancer training during their training course. Two

The maximum tree of representation indicates that the words cited in both groups are organized around the words "death", "pain", "incurable" and "fear" (figure 3 and 4).

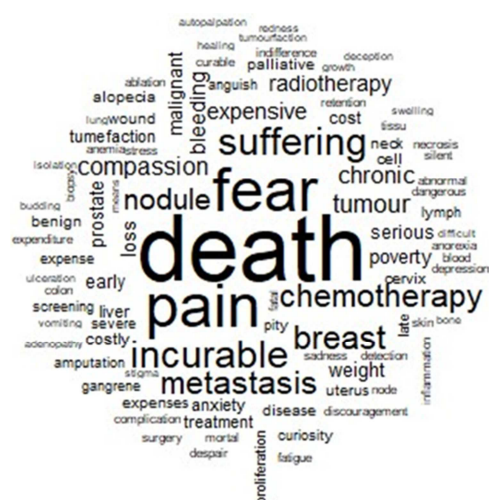


Figure 1. Word cloud of group 1 evocations.



Figure 2. Word cloud of group 2 evocations.

Table 2. Prototypical analysis of the social representation of cancer in nurses who said they routinely refer patients with a cancer-suggestive sign (Group 1).

Low Rank (≤ 2.78)				High Rank (> 2.78)		
Central core				First periphery		
High Frequencies (≥ 17.9)		freq	Av. rank		freq	Av. rank
	Pain	69	2.3	Death	121	3
	Incurable	41	2.7	Fear	71	2.8
	Suffering	39	2.6	Metastasis	29	2.9
	Breast	32	2.1	Chronic	22	3.4
	Nodule	30	2.6	Expenditure	21	2.8
	Chemotherapy	29	2.4	Compassion	20	3.8
	Expensive	28	2.7	Serious	19	2.9
	Tumor	19	2.3			
Contrasting elements			Second periphery			
	freq	Av. rank		freq	Av. rank	
Low Frequencies (< 17.9)				Bleeding	15	3.1
				Cervix	15	3.0
				Radiotherapy	15	3.5
	Tumefaction	15	2.7	Prostate	12	2.8
	Poverty	15	2.7	Wound	11	3.5
	Weight loss	14	2.3	Liver	10	3.8
	Malignant	13	2.3	Amputation	8	3.9
	Screening	11	1.5	Alopecia	8	3.2
	Anxiety	11	2.7	Benign	8	3.5
	Treatment	10	2.2	Palliative	7	3.9
	Cost	9	2.7	Inflammation	6	3.2
	Late	8	2.2	Pity	6	3.2
	Cell	8	2.4	Complication	6	3.8
	Uterus	8	2.6	Biopsy	5	3.4
	Gangrene	6	2.3	Stigma	5	3.8

[illegible]

Table 3. Prototypical analysis of the social representation of cancer in nurses who said they do not routinely refer patients with a cancer-suggestive sign (Group 2).

		Low Rank (≤ 2.95)		High Rank (> 2.95)		
		Central core		First periphery		
		freq	Av. rank		freq	Av. rank
High Frequencies (≥ 8.03)	Death	39	2.8			
	Pain	26	2.8	Fear	21	3.1
	Tumor	15	1.8	Incurable	17	3.4
	Suffering	14	2.6	Chemotherapy	12	3.6
	Expensive	11	2.8	Chronic	10	3.2
	Metastasis	11	2.5			
	Nodule	10	2.7			
		Contrasting elements		Second periphery		

Low Rank (≤ 2.95)				High Rank (> 2.95)		
Central core				First periphery		
Low Frequencies (< 8.03)		freq	Av. rank		freq	Av. rank
				Malignant	7	3.4
				Weight loss	6	3.3
				Wound	6	3.2
				Bleeding	5	3.0
				Poverty	5	3.0
				Expenditure	5	3.0
	Proliferation	7	2.7	Breast	5	3.0
	Cell	6	2.8	Compassion	4	3.8
	Serious	6	1.7	Depression	4	3.2
	Biopsy	5	2.2	Treatment	4	4.5
	Cervix	4	2.8	Radiotherapy	4	4.4
	Necrosis	4	2.8	Benign	4	4.0
	Screening	3	1.3	Stress	4	3.5
				Anapath	3	3.3
				Tumefaction	3	4.3
				Pity	3	3.0
				Expense	3	3.7
				Silent	3	3.0
			Alopecia	3	4.0	
			Anxiety	3	3.0	

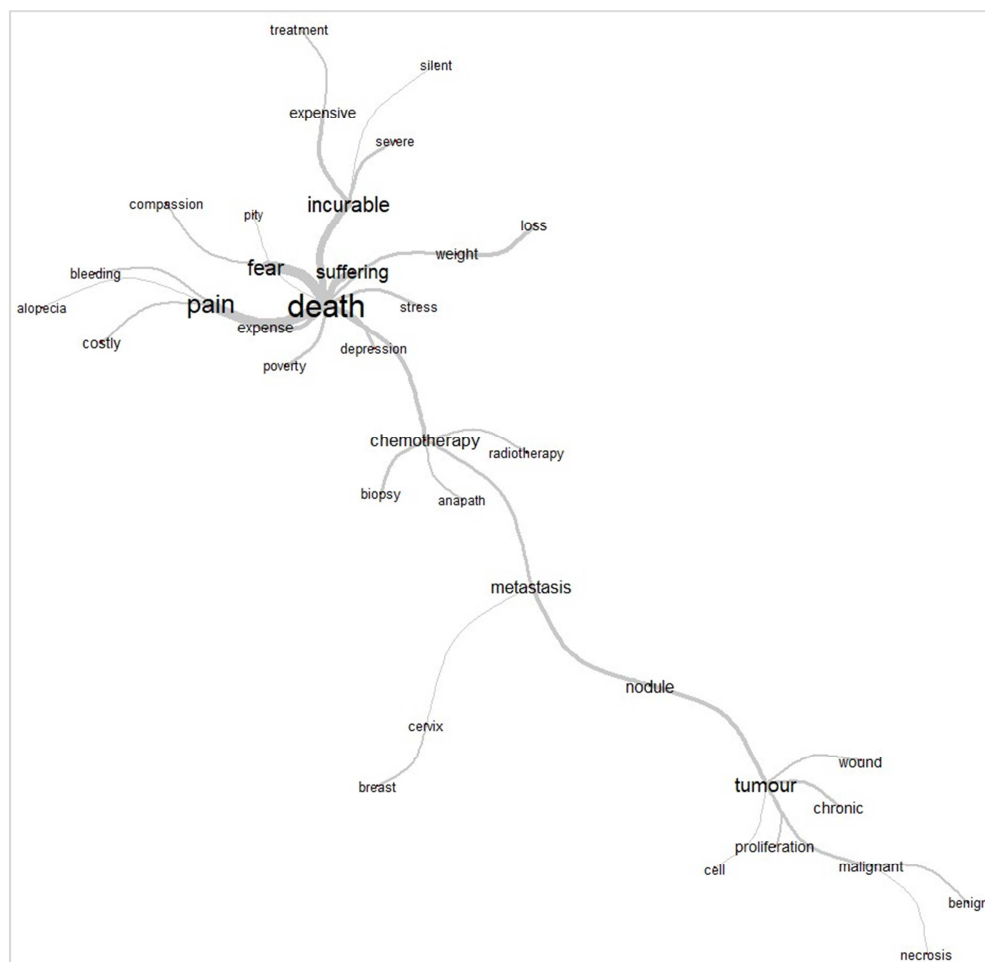


Figure 4. Similarity analysis of the social representation of cancer in nurses who said they do not routinely refer patients with a cancer-suggestive sign (Group 2).

4. Discussion

Our study apprehended, through a prototypical analysis of

spontaneous then hierarchical evocations, the social representation of cancer in the nurses of the city of Ouagadougou. It compared the social representation according to the attitude of these nurses when faced with a

sign suggestive of cancer. These health workers work in peripheral health facilities. According to the organisation of the Burkina Faso health system, this is the first level constituted by the Health and Social Promotion Centers (CSPS). In these centers, a minimum package of activities defined by the Minister of Health [5]. These health centres are people's first contact with the health system. The attitude and practices of the nurses who work there determine the course of care of the patients, and therefore the early diagnosis of cancer.

In both groups of our study, the most cited words referred to death, pain and fear. In Group 2, the words "death" and "pain" were the most prominent. This deadly content is found by several authors who have studied diverse populations of subjects. This content is commonly shared by patients [4, 12], their loved ones, nurses [13] and doctors [4]. Cancer is a serious and often fatal disease. In this he is considered by Siddharta to be the emperor of all diseases [14]. Its prognosis is even more pejorative in our context because of the delay in diagnosis, the indigence of the populations and the inadequacies of the technical plateau.

In Group 1, the central core was dominated by the words "pain", "incurable" and "suffering". According to Abric, the core is made up of elements that play a privileged role in representation in that the other elements depend directly on it; it is the unifying and stabilizing element of representation [15]. Cancer would therefore be defined for Group 1 subjects as an incurable disease, responsible for pain and suffering. Pain is the most common and disabling symptom in cancer patients. It affects 2/3 of patients during their illness [16]. The poor access to morphine in Burkina Faso makes the control of this symptom difficult, responsible for many sufferings [17]. Difficulties in accessing care compromise the chances of recovery and survival. In this group, peripheral elements are dominated by the words "death", "fear" and "metastasis". These words are directly dependent on the context by integrating elements of the situation in which the representation occurs [15]. Death, as well as the fear it conveys, though frequent in the evocations of nurses, would not be inevitable; they would depend on the context of the resource-constrained countries we're in and early diagnosis.

In Group 2, the central core was dominated by the words "death", "pain" and "tumor". The mortal content is here the central element of representation. Pain and suffering contribute to the organization of this representation, as do the subjects in group 1. In this case, the words "fear" and "incurable" are the elements that concretize, regulate and defend the central representation, since they constitute the peripheries.

We can therefore observe a different social representation of cancer between nurses who systematically refer patients when they see a sign suggestive of cancer (group 1), and those who do not refer systematically (group 2). Pain and suffering are the central elements of the representation of the former, while death and pain centralize the representation of the latter. This difference in perception could be related to their conduct in front of a cancer-evocative sign. Group 2 subjects may find

it unnecessary to refer patients suspected of having cancer to a higher level because they consider their death inevitable. On the other hand, group 1 subjects initially think about pain that deserves to be relieved; death would depend on the possibilities of management. They are then more likely to refer patients to appropriate health centres for further management.

5. Conclusion

The death, pain, suffering and incurability associated with cancer are the central elements of the social representation of nurses in Ouagadougou with regard to this disease. This representation varies according to the way in which these health workers deal with a patient showing signs of cancer. Pain, the incurability of cancer and suffering are central to the social representation of nurses, who systematically refer patients to a higher level. On the other hand, death and pain are central to the representation of nurses who do not systematically refer. The delay in referring patients with signs suggestive of cancer could therefore be linked to nurses' perception of cancer. It would seem necessary to consider ways of training and informing nurses about cancer and the benefits of appropriate, early treatment. However, the social representation of cancer among patients could play a major role. Hence the interest in conducting similar studies in this population group.

Disclosure Statement

The author has no competing interests to declare.

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