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# Forensic Autopsy in the Republic of Benin: Knowledge and Perceptions of Relatives of the Deceased

Bigot Cedric Egnonwa<sup>1,2,\*</sup>, Badou Agnes<sup>3</sup>, Agbodande Anthelme<sup>2</sup>, Wanvoegbe Armand Finagnon<sup>2</sup>, Azon Kouanou Angele<sup>2</sup>

<sup>1</sup>Unit of Forensic Medicine, Faculty of Health Sciences, University of Abomey-Calavi (UAC), Cotonou, Benin

<sup>2</sup>Unit of Internal Medicine and Medical Oncology Faculty of Health Sciences, University of Abomey-Calavi (UAC), Cotonou, Benin

<sup>3</sup>Unit of Social Sciences, University of Abomey-Calavi (UAC), Cotonou, Benin

## Email address:

bigot.ce@gmail.com (B. C. Egnonwa)

\*Corresponding author

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**Abstract:** This study aimed to describe the knowledge of relatives of the deceased regarding forensic autopsy and to analyze their perceptions of this forensic act. The focus of the study was the relatives of deceased individuals who died in violent contexts or suffered suspicious deaths, in which case a forensic autopsy was necessary. A total of 109 people were included in the study. The majority of respondents were male (78.0%). The average age of respondents was 46 +/- 11 years. A total of 56.9% of respondents had never heard the expression "medico-legal autopsy" before the death of the relative. Respondents know that autopsies are used to identify the cause of death in 80.7% of cases. An association was found between level of education and level of knowledge concerning forensic autopsies ( $p=0.001$ ). A total of 85.3% of respondents had poor perceptions of forensic autopsy. The preservation of bodily integrity was more important than the benefits of knowing the cause of death for 57.8% of respondents. Respondents claimed that family members made at least one attempt to postpone the autopsy in 94.5% of cases. Objections to the autopsy were motivated by the fear of not being able to proceed quickly with the burial (93.6%), the fear of seeing the body undergo an aesthetic alteration (74.3%), the feeling of inflicting suffering on the deceased (45.3%) and the conception of autopsy as a practice prohibited by respondents' religion (38.5%). The cultural and human dimensions of forensic autopsy should not be overlooked. For more support from the relatives of the deceased, it is essential to integrate, beyond medicine and law, social considerations and human.

**Keywords:** Forensic Autopsy, Knowledge, Socio-cultural Belief, Death, Justice

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## 1. Introduction

Performing a forensic autopsy means examining the body of a deceased person and subsequently dissecting it to determine the causes of death and identify any possible signs of an offense [1]. Forensic autopsy is carried out at the request of a judicial police officer (OPJ) on the behalf of the public prosecutor or a judge. No opposition can be permitted in cases of forensic autopsy [2]. This technique is an exciting tool for judicial investigation. However, it is practiced on a lesser scale in sub-Saharan African countries [3]. In Benin, legislation allows the practice of medico-legal autopsies, but this practice

is rarely employed. In general, relatives of the deceased show great interest in the cause of death. The first question following the announcement of a death is "What did he die of?" or "What killed him?" In many African cultures, death is seen as the result of an external and therefore unnatural factor [4, 5]. Paradoxically, despite this interest in the cause of death, the families of people whose death occurred in a violent context or under suspicious conditions seek to oppose the practice of autopsies. As a result, people's interest in the cause of death is more focused on immaterial causes, which in the

African context are viewed as the basis of any death, however natural it may be.

This study aimed to describe the knowledge of relatives of the deceased regarding forensic autopsy and to analyze their perceptions of this forensic act.

## 2. Methods

This investigation was a descriptive, cross-sectional study conducted using a survey questionnaire between January 2019 and December 2020. The context of the study was the entire southern half of Benin. The focus of the study was the relatives of deceased individuals who died in violent contexts or suffered suspicious deaths, in which case a forensic autopsy was necessary. To be included in the study, participants were required to be over 18 years old, to have been invited by the police or to have been designated by the family of the deceased to carry out the identification of the body prior to the forensic autopsy. When several people were available with respect to the same body, we included only the closest relative in terms of priority (parents, spouses, children, collateral relatives and friends). Families of deceased individuals who were unidentified were not included in the study, nor were subjects who refused to provide formal consent. The people thus identified were asked to respond to a questionnaire orally. The questions were inspired by the questionnaire developed by Bunei et al. [6]. The questionnaire focused on sociodemographic information, knowledge of forensic autopsy, and the family's perception and attitude toward that practice. To assess knowledge of forensic autopsy, we considered participants' level of knowledge to be acceptable if respondents' proposed definitions of the practice made it clear that the doctor would examine the surface of the body and at least one bodily cavity (skull, thorax or abdomen).

For participants who did not speak French, the questions were asked in the language that was most accessible to them. The indications and conclusions of the autopsy were also taken into account (e.g., judicial indication, nature of death).

The data collected were encoded and saved using EPI DATA 3.1 software. The analysis was performed using STATA software. The sample was described according to the usual statistics (frequency, mean, standard deviation.). The chi-square test was used for analysis.

## 3. Results

### 3.1. General Characteristics of Respondents and Judicial Data

Table 1 presents the distribution of respondents according to their characteristics. A total of 109 people were included in the study. The majority of respondents were male (78.0%). The average age of respondents was 46 +/- 11 years. Respondents had mainly stopped receiving education before

attaining a baccalaureate (77.1%).

Respondents were questioned during the autopsies, which had been requested as part of the preliminary investigation in 84.4% of cases. The remaining autopsies had been requested by an investigating judge (15.6%). The information collected prior to the autopsy suggested violent death by homicide in 25.6% of the cases.

*Table 1. Respondents' characteristics.*

	Respondents	
	n	%
Age groups (years)		
[17-25]	2	1.8
[25-35]	17	15.6
[35-45]	24	22.0
[45-55]	43	39.4
[55-64]	28	25.7
Gender		
Male	85	78.0
Female	24	22.0
Marital status		
Single	22	20.2
Married/in union	78	71.6
Widowed	9	8.3
Religion		
Animist	13	11.9
Christian	58	53.2
Muslim	36	33.0
Other	2	1.8
Educational level (year)		
[0 - 6]	22	20.2
[6 - 10]	32	29.4
[10-14]	21	19.3
>14	25	22.9
Relationship with the deceased		
Ascendant (Father, Mother)	5	4.6
Child	9	8.3
Brother; sister	32	29.4
Uncle, aunt	47	43.1
Cousin	13	11.9
Friend	3	2.8
Total	109	100.0

### 3.2. Respondents' Knowledge of Forensic Autopsy

A total of 56.9% of respondents had never heard the expression "medico-legal autopsy" before the death of the relative whose body was to be the subject of the autopsy. Respondents were able to note that autopsies are used to identify the cause of death in 80.7% of cases. Table 2 presents the distribution of respondents according to the definition they provided of forensic autopsy. It shows that 21.1% of respondents provided an acceptable definition of forensic autopsy. In the group of individuals who could produce a satisfactory definition, 47.8% had a university education. An association was found between level of education and level of knowledge concerning forensic autopsies (p=0.001).

**Table 2.** Respondents' definition of autopsy.

Respondents' definition of autopsy	n	%
No definition	47	43.1
The autopsy will be limited to the external examination	39	35.8
The autopsy will include an external and internal examination	16	14.7
The autopsy will include an external, internal examination and dissection of the viscera	5	4.6
The autopsy will include an external, internal examination and dissection of the viscera. It can be accompanied by organ or fluid removal	2	1.8
Total	109	100.0

### 3.3. Respondents' Perceptions of Forensic Autopsy

Table 3 presents distribution of respondents according to their perceptions of forensic autopsy. A total of 85.3% of respondents had poor perceptions of forensic autopsy. The preservation of bodily integrity was more important than the benefits of knowing the cause of death for 57.8% of respondents.

In cases in which homicide was strongly suspected, the proportion of respondents who expressed unfavorable opinions of the practice of autopsy was 42.9%, compared to 63.0% in the context of other forms of death. There was no statistically significant association between suspicion of homicide and unfavorable opinions toward the practice of autopsy ( $p=0.0633$ ).

Respondents claimed that family members made at least one attempt to postpone the autopsy in 94.5% of cases. Objections to the autopsy were motivated by the fear of not being able to proceed quickly with the burial (93.6%), the fear of seeing the body undergo an aesthetic alteration (74.3%), the feeling of inflicting suffering on the deceased (45.3%) and the conception of autopsy as a practice prohibited by respondents' religion (38.5%).

**Table 3.** Respondent's perception of forensic autopsy.

	n	%
It is important to know the cause of death		
Yes	93	85.3
No	16	14.7
The autopsy is essential to establish the cause of death		
Yes	4	3.7
No	105	96.3
The preservation of bodily integrity must prevail over the search for the cause of death		
Yes	79	72.5
No	30	27.5
Forensic autopsy should not be performed without the consent of the family		
Yes	101	92.7
No	8	7.3
The use of non-invasive methods (virtopsy) should be favored over forensic autopsy		
Yes	108	99.1
Non	1	0.9

## 4. Discussion

This study concerning knowledge of and perceptions toward forensic autopsy targeted relatives of deceased persons for whom a forensic autopsy had been requested. The findings

reveal that the relatives of the deceased know very little about the autopsy and that they are aware of its purpose, but the findings also show that these relatives nevertheless maintain a negative attitude toward the practice.

Even though a large segment of the study population (80.8%) associates autopsy with an investigation that aims at discovering the cause of death for a deceased individual, very few relatives know the real meaning of autopsy. This low level of knowledge is linked to several factors. In Francophone African countries, autopsies are uncommon, and forensic autopsy is not a common topic of discussion. A study conducted in Côte d'Ivoire revealed that 62% of residents of Abidjan did not know what a forensic autopsy entailed [7]. The most educated respondents had a higher level of knowledge than respondents who had a brief education. This observation is recurrent in "knowledge, attitudes and practices" studies carried out in Africa pertaining to health-related themes [8].

The people interviewed for this survey had negative perceptions of forensic autopsies. This perception of forensic autopsy is also observed among medical students in Benin [9] and doctors and nurses in Nigeria [10]. These negative perceptions of forensic autopsy are most likely related to beliefs pertaining to death and the mortal remains of the deceased. These beliefs stem from the dichotomy between the anatomical view of the dead body and the social view of the body. For relatives, the corpse is never perceived as such. Due to the associated beliefs and attitudes, the body is an object of respect, precaution and sacredness [11]. Three factors explain the respondents' reluctance to perform autopsies: a lack of interest in elucidating the material causes of death, concern for the preservation of the body's integrity, and a focus on the timely organization of funeral rites.

In traditional culture in Benin, death is rarely considered to be natural. Even death from chronic illness or sepsis is perceived to be unnatural by individuals who are close to the deceased. The belief that death results from an external action that is supernatural in character is firmly entrenched in the minds of the population. This exogenous factor cannot, according to them, be detected by modern medicine because the causal factor/agent of death is located on a spiritual or mystical level. As a result, there is little point in performing forensic autopsies. It is for this same reason that legal action is perceived to be superfluous by relatives of the deceased. This belief explains why in 42.9% of cases in which homicide was suspected, relatives continued to oppose the use of forensic autopsy. In their eyes, the deceased's spirit can take on the task of chastening or haunting those who evoked or caused his death.

Particular social views of the mortal remains of the deceased constitute a second reason for this negative attitude toward forensic autopsy.

In African tradition, the deceased's body is sacred, a view which is less common in Europe [12]. In Benin, the body is certainly destined for degradation (decomposition and putrefaction), but this decay is a natural process that must take place out of sight. Death should not alter one's memory of the living. For this reason, the remains of kings and heads of families are not exposed to public view in the Fon cultural area. Neither the introduction of Islam or Christianity into nor the influence of modernity on funeral rites has succeeded in altering this perception of the body of the deceased [13]. The autopsy is perceived to be a way of destroying the body of the deceased. The religions most often practiced by respondents were Christianity and Islam. The doctrines of these two religions are not formally opposed to the practice of autopsy [14-16]. However, they insist on the respectful treatment of bodies [17].

Concern for the preservation of bodily integrity is an essential factor in the rejection of autopsy. In Côte d'Ivoire, Botti K. et al. observed that aesthetic concerns explained 17.9% of cases in which autopsies were not performed [18]. In our study, concerns of this variety were raised by 74.3% of respondents.

The question of deadlines for the return of bodies was also of great concern to the respondents. The importance of funeral rites for the repose of the deceased's soul, its introduction into the world of the ancestors and the cessation of mourning requires a symbolic period of time between the occurrence of death and burial. Thus, in the "Fon" tradition as manifest in southern Benin, depending on the deceased's age, sex, cause of death, and especially social status, the body must occasionally be buried as soon as possible, even if the funeral ceremonies continue for a longer period. These worship-related considerations reinforce the fear of engaging in a long legal process that could jeopardize the standard order of funeral rituals.

These concerns for the preservation of the body explains attempts to obstruct the progress of the judicial procedure. Acts carried out to obstruct legal proceedings were reported by 94.5% of respondents. Even if an autopsy is compulsory, it is essential to reassure the relatives of the deceased regarding appropriate treatment of the body. The forensic pathologist must be able to show empathy and humanity in his relationship with the body on which he works. Setting aside a few minutes to inform the family of relevant concerns is, in our view, a gesture of humanity that does not infringe on the confidentiality of legal proceedings. Such a meeting also allows the doctor to obtain valuable information regarding the deceased (in terms of his or her history) that may have escaped the police. This practice is essential in the African context, where the medical records of the deceased are not often accessible by the medical examiner. The use of virtopsy (virtual autopsy) techniques could also provide reassurance in this context. The evolution of medical imaging techniques now makes it possible to establish many

diagnoses in the context of thanatological forensic medicine without it being necessary to alter the body [2]. A study conducted in Rotterdam also showed that subjects from Africa were more accepting of postmortem investigations when the use of minimally invasive methods was an option [19].

## 5. Conclusion

The cultural and human dimensions of forensic autopsy should not be overlooked. This situation calls for a negotiation of the autopsy with the parents and occasionally even with the deceased. Convincing the relatives of the deceased to accept the autopsy by providing information and performing mediation is a humanistic duty for the forensic doctor practicing in the Beninese context or even in a broader African context. Openness to new forms of an autopsy like medical imaging that do not harm the body, namely, virtopsy or virtual autopsy, are also options that should be explored in the African context to obtain more support and collaboration from relatives of the deceased. This study should be extended to a larger part of the population.

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