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Practical Knowledge and Attitudes of the Population Towards Dog Bites

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Abstract: The dog was the first species domesticated by man. It was first a useful animal for its hunting, guarding or shepherding abilities. Over the centuries, it has become a pet that currently has its place in homes. This change in situation is at the origin of many new interactions between dogs and humans (1). The study we conducted aimed to assess the knowledge, attitudes and practices of the population regarding dog bites. This was a descriptive and cross-sectional prospective study lasting one month from September 1 to 30, 2021 in the urban municipality of Koniakary. Any person living in the selected households during the study period who agreed to participate was included in the study. Women represented 58.4% of our sample. The average age of our respondents was 28 years old. Households with a dog were 35.7%, which was free to move in 96.03% and did not have a vaccination card. A percentage of 5.9% of people surveyed have already been bitten by a dog, which had an unusual attitude in 71.43%. The wound was located at the level of the foot in 54.38% and superficial in 66.67%. Among the people surveyed, 70.37% expressed having recourse to a medical consultation and immediately in 95.55%. Those who washed first before consultation lent 11.96%. Rabies was the risk mentioned by 39.89% faced with a dog bite against 29.63% who had no knowledge of the risks.

Conclusion: this study on dog bites has shown us that people have some knowledge of the risks and preventive measures against dog bites as well as risky behaviors and practices that persist within communities.

Keywords: Knowledge, Attitudes, Practices, Bite, Dog, Koniakary

Introduction

The dog was the first species domesticated by man. It was first a utility animal for its hunting, guarding or shepherding abilities. Over the centuries, it has become a pet that currently has its place in homes. This change of situation is at the origin of many new interactions, between the dog and the man (1). Because of this proximity with the dog, pet, but also of this change of situation sometimes causing to forget that the behaviors of the dog and the man are different, the risks of accidents and in particular of bites constituting a real problem sometimes involving the vital prognosis of the victim (1).

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The dog is a social animal, living as such in a group. The cohesion of this group is ensured by a communication that is based on several modes: auditory (emission of grunts in matters of prevention), olfactory (emission of pheromones) and visual (posture which can be neutral, threat of fear or play, position of the ears or the queue). The dog therefore emits a signal by combining these different modes of communication, but the response to these signals can vary from one individual to another (1).

During a study carried out in France in 2010, 479 cases of bites were named over one year in five different hospitals. Considering the population that depends on these hospitals, this represents an average of 2.8 emergency room visits for dog bites per 100,000 inhabitants. This figure represents an underestimate of the number of real bites since it only takes into account the bites listed in emergencies and therefore potentially serious (1).

In hospital studies carried out by the Insurance Documentation and Information Center and according to the Pasteur Institute, 500,000 cases of bites are reported each year, three quarters of which are due to dogs. It appears that the number of declared bites is largely underestimated in France. Unfortunately, bites are not without consequences. They lead to 60,000 hospitalizations per year (INVS, 2010), and represent 0.5% to 1% of surgical emergencies in France, causing a scar in 50% of cases (2).

In the United States of America, in 2014, there were 4.5 million dog bites, which represents an average of 104 medical visits per 100,000 inhabitants per year. These results show that the previous estimates are much lower than the actual number of bites (1). In Mali, at the end of a retrospective study, carried out from 2000 to 2003 in the district of Bamako, there were 5870 consultations for bites at the level of the epidemiological division (DPLM), i.e. an average of 1467/year (3). In a study carried out in 2010 on the contribution to the epidemiology of human rabies in the urban localities of Mali (Bamako, Kayes, Koulikoro, Sikasso, Ségou and Mopti), the dog was the main biting animal with 97% of the cases (3114 out of 3211) (4). The management of dog bites is a medico-surgical emergency. It is a still deep and infected wound. It therefore imposes a stereotyped attitude which alone makes it possible to avoid the inevitable evolution towards abscess and the sometimes dramatic consequences which can result from it (5).

The knowledge and attitudes of the population vary according to experiences, beliefs and socio-economic level. It is in this perspective that this study took place.

Materials and methods

The study was carried out in the commune of Koniakary (health district of Kayes). It was a descriptive and cross-sectional prospective study on the knowledge, attitudes and practices of the population in the face of dog bites lasting one month from September 1 to 30, 2021. Were included in the study study any person living in the selected households during the study period and having agreed to participate. 348 people residing in the urban commune of Koniakary and having given their free and informed consent took part in the study. Data entry and analysis were

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done using epi info 7software. The chi-square test was used to compare the proportions with a risk of error set at 5%. Compliance with ethical rules related to research on human subjects was essential.

Sampling: We randomly selected 9 households to be surveyed in each neighborhood of the commune of Koniakary (9 neighborhoods in all). The choice of households was made by the door-to-door method after determining the Hazard of the first household (method of the direction shown by the end of the pen).

Data collection method

The technique for collecting data from households was the guided interview and the tool was a questionnaire structured according to WHO guidelines.
The information was collected by interviewing respondents.

Variables studied were:

- Sociodemographic characteristics (age, sex, profession, level of education).
- Knowledge of the measures to adopt in the event of a bite and the biting animal (emergency actions).
- Knowledge of the health risks following a dog bite

Results

Sociodemographic and economic characteristics

The people surveyed were 351 people with a female predominance of 58.40%. The most represented age group was 16 to 30 years old with 61.25%. The average age was 28 years with extremes of 5 years and 77 years. In addition, 76.92% were out of school. Housewives predominated followed by farmers with respectively 51.85% and 23.93%. (Table I).

Dog ownership and caretaking

Households owned at least one dog in 35.71% of cases. These dogs were free to move in 96.03% of cases and none of them had a vaccination record (Table II).

History of bite

Of the study participants, 5.98% had been bitten by a dog with an unusual attitude in 71.43% of cases and on the street in 38.10%. The wound was superficial in 66.67% and located at the level of the foot in 52.38% (Table III).

attitudes

Facing the bite

They claimed to have resorted to medical consultation in the face of the bite in 70.37% and immediately in 95.55% of cases (Table IV).

Facing the biting animal

Slaughtering was the most frequent attitude of the respondents towards the biting animal in 71.51% (Table V).

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Bite Risk Knowledge

Rabies was the risk most often cited in 39.89% of respondents, 29.63% of cases knew no risk, followed by tetanus in 23.93% of cases (Table VI).

Discussion

Sociodemographic and economic characteristics

Women were the most represented in our sample and the average age of our respondents was 28 years old.

Given the methodology used, namely home visits, the female predominance then made sense because men are often absent during the day.

The reality of the environment as well as the predominance of housewives and farmers would explain the low educational level of our respondents. Our results are lower than those of I. Tiembré & al and M. Savadogo who found an average age of 35 and 33 years respectively, those with no schooling at 8.4% and workers in the informal sector at 66.24% [6 ,7]. With regard to sex, this trend was reversed on the side of men in these two studies (66.8% and 57.3%) [6,7]. This could be explained by the fact that in these two studies the target population was the heads of households who are most often men.

Dog ownership and caretaking

Households that owned a dog were mostly free to move around and did not have a vaccination card. The dog is considered a pet of man and a full member of the family. Guardian of the houses, its caging is therefore weak. Ignorance of the importance of the vaccination card and the lack of veterinarians in this rural environment explained these percentages.

Mr. Savadogo found that 57.6% of households own a dog [7]. This could be explained by the size of its sample (3848 people and 616 households).

I. Tiembré found 22% of households owning a dog [6].

History of bite

There were among the people surveyed who had already been bitten by a dog, most often with an unusual attitude. The wound was superficial and mainly located on the foot. O. Koné and F. Diaby found that the dog was the animal most responsible for bite cases, all species combined (97% and 100% respectively) [4,3]. The upper limb was the bite site in 60.7% and 61.5% and the superficial wound in 60.5%. This could be explained by the fact that the dog is the closest animal to humans and given the size of the dog, the lower limb is the most accessible.

Attitudes

Facing the bite

The majority of the people surveyed had recourse to a medical consultation and immediately in the event of a bite. Others will wash first before medical consultation. This could be explained by the fact that most of the people interviewed had no knowledge of the importance of washing in the event of a bite. Our results are identical to those of M. Savadogo & al who found 67.4% of people who consulted each other after being bitten [7].

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Facing the biting animal

The biting animal had been slaughtered in the majority of cases due to ignorance, the lack of a veterinarian in the area and the absence of a vaccination record with all the people with a dog explained this gesture. On the other hand, M. Savadogo & al found 67.4% observation of the animal [7].

Bite Risk Knowledge

Rabies was the risk mentioned when faced with a dog bite. But there were respondents who had no knowledge of the risks. The educational level and the living environment would explain these figures. In the study made by R. Mindekem, rabies was described as a disease transmitted to humans by dogs (41.43%) and the best-known means of transmission of rabies was the bite in 99% of cases. [8].

Table I: Sociodemographic and economic characteristics

Features	Frequency	Percentage
Age range		
Under 16	7	1,99%
16-30 years old	215	61,25%
31-45 years old	69	19,66%
46-60 years old	39	11,11%
61 and over	21	5,98%
Sex		
Feminine	205	58,40%
Male	146	41,60%
level of studies		
No schooling	270	76,92%
Primary	63	17,95%
Secondary	12	3,42%
Superior	6	1,71%
Occupation		
Household	182	51,85%
Farmer	84	23,93%
Trader	43	12,25%
Driver	5	1,42%
Raised	5	1,42%
Tailor	5	1,42%
Teacher	4	1,14%
Marabout	4	1,14%
Black-smith	3	0,85%
Others	16	4,56%

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Table II: Dog possession and guarding mode

Features	Frequency	Percentage
Existence of dog in the family during the passage		
Nope	225	64,29%
Yes	126	35,71%
Mode of containment		
Free to move	121	96,03%
Attached	3	2,38%
Fencing	2	1,58%
Dog vaccination record		
Non	126	100,00%

Table III: History of bite

History of bite	Frequency	Percentage
Yes	21	5,98%
Non	330	94,02%
Circumstances of this bite		
Unusual dog attitude	15	71,43%
Provocation	5	23,81%
Others	1	4,76%
bite place		
Street	8	38,10%
Residence	7	33,33%
bush	6	28,57%
Type of wound		
Deep wound	7	33,33%

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Superficial wound	14	66,67%
bite site		
Foot	11	52,38%
Leg	3	14,29%
Buttock	2	9,52%
Others	5	23,81%

Others: Neck (1); Back (1); Leg and buttock (1); Hand (1); Face (1).

Table IV: Attitude towards the bite

Attitude	Frequency	Percentage
Medical consultation	247	70,37%
Traditional treatment	52	14,81%
Washing the wound	42	11,96%
Do not know	8	2,28%
Therapeutic abstention	2	0,57%
Consultation time		
Immediately	236	95,55%
When I have time	6	2,43%
More than 48H	4	1,62%
24H to 48H	1	0,40%

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Table V: Attitude towards the biting animal

Attitude	Frequency	Percentage
Slaughter	251	71,51%
Isolation	45	12,82%
Nothing	29	8,26%
Observation at the veterinarian	23	6,55%
Lost view	3	0,85%
Total	351	100,00%

Table VI: Knowledge of bite risks

Risk knowledge	Frequency	Percentage
Rage	140	39,89%
Do not know	104	29,63%
Tetanus	84	23,93%
Rabies and Tetanus	7	1,99%
Dead	7	1,99%
Sepsis	3	0,85%
Pain	3	0,85%
Rabies and Sepsis	1	0,28%
Epilepsy	1	0,28%
Nothing	1	0,28%
Total	351	100,00%

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Conclusion: this study on dog bites has shown us that people have some knowledge of the risks and preventive measures against dog bites as well as risky behaviors and practices that persist within communities. Awareness campaigns must be carried out among the populations to improve knowledge of possession and what to do in the face of dog bites.

References:

L. OHLMANN. Dog bites in children: bibliographic and observational study with the aim of defining elements of prevention. Thesis in veterinary medicine LYON Veterinary Campus 2017 CLAUDE-BERNARD University - LYON I; No. 011: P 21-29

J, M. TAILLANDIER. Bites and scratches in the practice of veterinary medicine with small animal clients: regulatory and preventive aspects. National Veterinary School of Alfort Faculty of Medicine of Créteil 2018; P 9-10

F. DIABY. Cases of rabies in the infectious diseases department of the chu du point g from 2014-2017. FMOS USTTB medical thesis 2018; 18M31: P 2-3

O.KONE. Contribution to the epidemiology of human rabies in urban areas of Mali. FMOS USTTB medical thesis 2010; 10M585: P 15-20

J. LEBEAU. What to do in the face of a dog bite. Faculty of Medicine of Grenoble 2003; No. 213b: P 1 -3

I. TIEMBRE et al. Knowledge, attitudes and practices of heads of households in the commune of Abobo (Abidjan, Côte d'Ivoire) with regard to rabies, in 2008. Africa, public health & development volume 26 / N°4 - July-August 2014 2014/ 4: pages 547 to 553 ISSN 0995-3914 DOI 10.3917/spub.144.0547

M. SAVADOGO et al. Rabies epidemiology and community knowledge, attitudes and practices in Burkina Faso. Journal of Livestock and Veterinary Medicine of Tropical Countries May 2020. DOI: 10.19182/remvt.31863

R. MINDEKEM. Evaluation of the Knowledge-Attitudes-Practices of the populations of the health districts of Benoye, Laoukassy, Moundou and N'Djamena South on canine rabies in Chad. Pan African Medical Journal. 2017; 27:24 DOI:10.11604/pamj.2017.27.24.11464