INNSPUB

Journal of Biodiversity and Environmental Sciences (JBES)
ISSN: 2220-6663 (Print) 2222-3045 (Online)
Vol. 20, No. 6, p. 14-18, 2022
http://www.innspub.net

RESEARCH PAPER OPEN ACCESS

Ethnozoological folk healing in remote barangay in Pamplona, Cagayan, Philippines

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Article published on June 15, 2022

Key words: Ethnozoology, Folk healing, Remote barangay, Biodiversity, Philippines

Abstract

Many health care values and traditions are substantially different from the dominant Filipino community because of the folk healing practices of remote barangays in Pamplona. These far-flung barangays are more accepting of the use of animals to meet their basic needs in their socio-economic activities. This study investigated ethnozoological practices of the target community. The study made use of the descriptive research design using the survey method. The study revealed that, the utilization of animals in the traditional healing practices of the five remote barangays of Pamplona, Cagayan is a vital part of enriching a traditional rural community's rich cultural values and practices. The study identifies many high-value medicinal animal species, implying that long-term medical data collection has a high potential for economic development. It was also discovered that the study area has many therapeutic animals which can be used to cure a wide range of human ailments. The Philippines being rich in biodiversity makes it good locale to study animals with medicinal value, Moreover, discovery of these organism and its probable functions can open new windows for drug discovery and development.

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Introduction

Due to various their ancestral cultural relationship with natural resources, humans, particularly ethnic societies, rely on wild flora and animals for a variety of functions. Traditional medicine and folk culture are examples of such linkages that nevertheless exist today as socio-ethnic traditions (Dhakal *et al.,* 2020). Ethnozoology is a branch of biology that studies the numerous associations involving human and animal sources. Humans have amassed a plethora of information regarding the importance of animals and plants to them (Abede *et al.,* 2022). In addition, people from diverse civilizations around the world use animal and plant-based cures to prevent and treat various ailments. Ethnomedicinal awareness is a significant option in the healthcare provision because the plurality of the worldwide people focuses on traditional medicinal treatments and medical practices to meet their essential needs (Solis and Casas, 2019).

Vegetation, hunting, reproduction, seed distribution, breakdown of organic matter, loss of soil structure, and oxygenation are only a few of the important roles performed by creatures in ecological systems. As a result, animals have brought valuable development and natural benefits to humans. People across the world eat a variety of invertebrates and vertebrates, while others are utilized as remedies (Gomez *et al.,* 2021). Animals not only give food, but they also supply medicine and other things. The types and intensities of local people's management contacts with fauna, as well as the reasons for the strength of such interactions, which can range from simple gathering to domestication (Solis and Casas, 2019).

Use of such animals and animal products in traditional techniques of treatment of various ailments stretches back to the dawn of mankind, and for a myriad of purposes. Zootherapy, also known as ethno-zoology, is the management of human ailments with animal-derived substances. Despite the widespread use of ethno-zoology in animal-based traditional remedies, a detailed review, and studies of zootherapy in contrast to plant-based therapeutic investigation is still lacking (Hussain *et al.,* 2021).

In the Philippines, folk healing represents deeply rooted rural cultural values and traditions. Common healing rituals involving plants and animals are used by both wealthy and impoverished families. Common perceptions of health are influenced by the natural environment and history (Bibon, 2021). The Philippines, like any other Asian nation, has a thriving community, which extends to how they practice healing and healthcare. Different Asian cultures use different models for perceiving and understanding symptoms and disease. These models affect their decisions to pursue medical help.

It is in these predicaments that the current ethnozoological survey was designed to gather firsthand data in the municipality of Pamplona, Cagayan, Philippines. To identify and determine the traditional uses of animals and evaluate the relevance of medicinal animals utilized by the people in the local of the study. This study is known to be beneficial since it provides significance to biological resource that can be studied as potential source of new compound which can heal certain diseases or illnesses. Furthermore, it will also assess the data received from the respondents giving due importance to relevant animal species, parts used, and mode of preparation that serve as medicine to treat illnesses or diseases and further drug discovery.

Materials and methods

Research Design

This study made use of descriptive research design using survey method. Descriptive research is a research method that can establish the condition in present event.

Locale of the Study

The study was conducted in the remote barangays of Pamplona, Cagayan, Philippines, namely: Casitan, Cabaggan, Nagtupacan, Tabba, and Tupanna. The following barangays are hard to reach because of its geographical location.

Respondents

The participants in this study were a mixture of the following: community leaders, folk healers, and

residents. A total of 25 respondents were included in the study. In this report, ethical considerations were also taken into accounts, such as maintaining the confidentiality of the participants, primary informants, and elders.

Research Instruments

The major tool used to collect data was an interview guide. Reputable sources with verified backgrounds, specialties, and experience that allowed the researchers to confirm the community's awareness of these therapeutic animals.

Data Gathering Procedure

Since one of the research instruments is interview. As soon as permission to perform the study was received, the respondents' awareness and observation of using animals in their folk healing practices were scrutinized through observation and interview. The researcher assessed the gathered data based on the previous stages of data gathering and noted significant details related to the subject, noting significant details on the use of animals by the respondents.

Results and Discussion

Profile of the Respondents

Age

Table 1 shows the profile of the respondents in terms of age. It is evident that the pool of respondents is dominated by individuals from 61-70 years of age. This accounts to 40 percent of the total number of respondents. This was followed by an age range of 51-60 with 9 members or 36 percent of the population. One or 4 percent of the total respondents was observed in the age range of 71 and above. These findings clearly suggest that the respondents were old enough to suffice needed information as credible source.

Table 1. Profile of the Respondents in Terms of Age.

Age Range	Frequency	Percentage
71– Above	1	4.00
61 – 70	10	40.00
51 – 60	9	36.00
41 – 50	5	20.00

Sex

It is evident in table 2 those male respondents had overpopulated the pool of respondents. It is observed that 17 or 68 percent of the total number of respondents were identified. In the case of the female respondents only 8 or 32 percent were identified. The finding based on the table below clearly shows that there were more male individuals which were knowledgeable about folk healing using animal parts found in their locality.

Table 2. Profile of the Respondents in Terms of Sex.

Sex	Frequency	Percentage
Male	17	68.00
Female	8	32.00

Occupation

In terms of occupation, table 3 reveals that the respondents are into farming as their primary way of earning a living. The table shows that out of 25 respondents, 10 or 40 percent were identified as farmers. There are also 8 or 32 percent classified as fisherman. A notable number of individuals who are barangay officials are also recognized. It accounts to 20 percent of the total respondents. This finding implies that the geographical location of the locale of the study is a great determiner of the type of occupation the respondents might have. In addition, this kind of work could also serve as an avenue for them to discover these facts

Table 3. Profile of the Respondents in Terms of Occupation.

Occupation	Frequency	Percentage
Barangay Official	5	20.00
Farming	10	40.00
Fishing	8	32.00
Self - Employed	2	8.00

Ethnomedicinal Animals identified by the Respondents

As gleaned in table 4, various animals were identified as potential source of medicinal cure are presented by the target respondents. A notable number of individuals identified “beklat” (*Malayopython reticulatus*) from the Pythonidae family. There were about 23 or 93 percent of the individuals marked this organism as ethnomedicinal animal. “Pag – ong” (*Siebenrockiella leytensis*) being a member of Testudinidae was identified by 20 or 80 percent of the respondents. From the Gekkonidae family, “alutiit” (*Hemidactylus frenatus*) has also been enlisted by 19

or 76 percent of the respondents. Next on the list is from the family of Phasianidae with a common name of "manok" (*Gallus gallus domesticus*) has been enumerated by 18 or 72 percent of the respondents. "Bangus" (*Chanos chanos*) (Chanidae family), "dalag" (*Clarias anguillaris*) (Clariidae family) and "aso" (Canidae family) had been identified by 15 or 60 percent, 17 or 68 percent and 11 or 44 percent, respectively.

The skull, bones, and skin of the python, as well as the fats and hatching, were discovered to be used for traditional system of medicine. The greatest use value and informants' confidence ratio were found in Python fat. Human diseases handled with python included rheumatism, headaches, sleep disturbance, hypoglycemia, and spiritual defense (Boakye *et al.,* 2021). Further, fish protein is a class of natural polymers obtained from the hydrolysis of fish collagen, and it includes abundant component acids for nutrient dense uses as dietary products. Fish gelatin products, due to their natural properties, are reasonably safe for the body when compared to clinical therapies and medicines (Lv *et al.,* 2019).

Table 4. Ethnomedicinal Animals identified by the Respondents.

Animal Family	Common Name	Frequency	Percentage
Testudinidae	Pag – ong	20	80.00
Gekkonidae	Alutiit	19	76.00
Pythonidae	Beklat	23	92.00
Chanidae	Bangus	15	60.00
Phasianidae	Manok	18	72.00
Canidae	Aso	11	44.00
Clariidae	Dalag	17	68.00

Animal Part used in Healing, Mode of Preparation and Disease Treated

Table 5 reveals that the several body parts of animals enumerated can be used as traditional medicine. Shells, bile, gizzard, blood, and meat of identified animals can be used to treat diseases or illnesses.

These can be prepared through pulverizing the shell in case of the turtle. It can be used to treat asthma. Burning or grilling the whole body of the animal can also be made as it is believed to cure asthma just like in the case of turtle shell. In terms of bile, it is usually dried or heated in a method known as decoction. Doing so according to the respondents will treat cough and boil. Blood in the case of dogs is collected to reduce the risk of anemia and meat of fishes like "dalag" are scraped to cure wounds.

It was discovered that natural macromolecules generated from turtle carapace could be used as a partial alternative for mammalian collagen in the medical, food, and biomaterial areas (Li *et al.,* 2020). Prior to getting released into the hepatic metabolism and systemic circulation, bile acids generated in the liver go through a series of metabolic modifications. Because these chemicals circulate continuously all throughout body, they will be found in a variety of sample specimens. Bile, which is not an often-utilized biological material, has been employed in a range of medical and conservation biology using both standard and novel analytical methods (Łuczykowski, *et al.,* 2021).

Table 5. Animal Part used in Healing, Mode of Preparation and Disease Treated.

Common Name	Part/s Used	Mode of Preparation	Disease Treated
Pag – ong	Shell	Pulverize the shell	Asthma
Alutiit	All parts	Burn whole body	Asthma
Beklat	Bile	Dry the bile	Cough, Boil
Bangus	Bile	Decoction	Cough
Manok	Gizzard	Burn animal part	Stomachache
Aso	Blood	Collect blood	Anemia
Dalag	Meat	Scrape the meat	Wounds

Conclusion

In conclusion, people from remote barangays in the locale of the study are still administering folk healing using animal parts of turtle, house lizard, boa, milkfish, mudfish dog and chicken to patients particularly those who are suffering from asthma, coughs, measles, boil, anemia, and back pains and found to be effective.

Acknowledgement

The authors would like to acknowledge the Cagayan State University for extending financial assistance for the completion of the study.

Conflict of interest statement

The authors declare that there is no conflict of interest in the conduct of the study.

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