

Traditional medicine and pharmacopoeia in South West Burkina Faso. Medicinal plants from fallow areas: study, management and promotion

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Key words: Burkina Faso, Fallows, Medicinal Plants, Traditional medicine

Introduction

Fallow areas have an important place in the traditional territory organization in Africa.

Traditional medicine and pharmacopoeia are among human activities that occurs in fallow areas through the collecting of medicinal plants.

Ethnobotanical studies were conducted about traditional medicine and pharmacopoeia in fallow areas in different villages in the south west of Burkina Faso in savanna areas about 100 km around from Bobo Dioulasso (south-Sudanese phyto-geographical territory).

Our aim was to register oral traditional knowledges and to study medicinal uses of plants. Through this study, we wanted to develop sustainable management of natural resources and promote participatory research. It lead us to identify possibilities for the promotion and development of vegetal species of fallow areas.

Material and methods

Surveys were conducted in agreement with traditional village authorities since traditional medicine is very often linked with animism which continues to play a important role in African villages. Information was gathered among different ethnic groups (Mossi, Peul, Bobo) who are using different recipes and different plants. Different social categories of people were involved in the study which permits hence to collect the traditional knowledges about different kinds of medicine, through the use of different pools of medicinal plants:

- traditional healers : they are mainly specialized in family medicine;
- women's associations : women are used to work in paediatrics, gynecology and obstetrics;
- cattle rearers (peuls) : veterinary medicine.

Studies were made both individually and during meetings organized in the villages.

We collected a voucher specimen for each plant species that was mentioned by people to verify scientifically the names of plants. Studies were conducted over a period of two years (1998 and 1999) in dry and rainy seasons to collect both annual and perennial plants.

Results

General results

135 medicinal species from fallow areas, belonging to 46 botanical families were registered, representing 461 recipes:

- family medicine was the main field with 251 recipes (noted as FM in fig 1 and fig 2);
- paediatrics, gynecology, obstetrics (174 recipes) (noted as PGO);
- veterinary medicine (45 recipes) (noted as VM).

Most frequently used plant families

Although we find that 46 families of plants were used, the most frequently used families were as follow:

- Combretaceae: 13 species and 62 recipes
- Rubiaceae: 11 species and 49 recipes



- Mimosaceae: 11 species et 33 recipes
- Fabaceae as Caesalpiniaceae: 10 species et 50 recipes
- Fabaceae as Papilionaceae: 7 species et 13 recipes

Euphorbiaceae (6 species and 26 recipes) and Anacardiaceae (5 species and 24 recipes) are also very often used in traditional medicine.

Methods of use of traditional drugs

The methods of use differ depending on the kind of medicine, but the most common way is to drink the concoction and to wash oneself or the children (fig. 1):

family medicine (Olivier, 1999, Olicard, 1999).

- concoction to be drunk followed by washing one-self or the children (53 % of recipes)
- application to skin (24 %)

paediatrics, gynecology and obstetrics (Flahaut, 1999)

- concoction to be drunk following by washing the children (70 % of recipes)
- enema and hop-bath (11 %)

veterinary medicine (Olivier, 1999)

- concoction to be drunk by cattle with salt (47 %)
- plant powder mixed with salt to be eaten (27 %) (this method is characteristic of veterinary medicine).

Parts of medicinal plants used

Many parts of plants are used by traditional medicine, especially roots, bark, leaves, fruits and flowers (fig. 2)

- family medicine: roots (42 % of recipes) (Olivier, 1999 ; Olicard, 1999)
- paediatrics, gynecology, obstetrics: leaves (51 % of recipes), few roots (17%) (Flahaut, 1999)
- veterinary medicine: roots (31 %) and leaves (33 %) (Olivier, 1999).

It is believed by many people in the studied area that the roots are very powerful in traditional healing and this is the reason why there are not used to treat children who are weaker than adults or animals: it is verified by the percentage of leaves used in the recipes for paediatrics (51 % of recipes).

Main diseases treated by traditional medicine

- Family medicine: malaria, diarrhoea, respiratory and cutaneous diseases, liver diseases (Olivier, 1999 ; Olicard, 1999)
- Paediatrics: diarrhoea, haemorrhoids, prolapse and malnutrition-related problems, (Flahaut, 1999) also treatment to strengthen children

- Gynecology - Obstetrics: plants to aid birth & lactation (Flahaut, 1999)
- Veterinary medicine: intestinal worms, diarrhoea, treatments for pregnant cows, retention of placenta (Olivier, 1999).

Discussion

Results show that:

- Ethnobotanical studies: they permit to register traditional knowledge, only transmitted by oral tradition, with risk of loss when elderly practitioners die. There is a need to develop this kind of studies in Africa because lots of knowledges are not yet registered like in India or China where books have been written in old times;
- Fallow areas:
 - they may be considered as a bio-diverse conservation area (many kinds of different species: herbs, shrubs, trees). This is one reason why fallows are very important. It was found that a very big number of plants were used by the different ethnic groups and the different social categories;
 - they act as a natural and free drugstore where people can collect traditional drugs for all kinds of medicine (family, paediatrics, gynecology, obstetrics and veterinary medicine). This is an important point since people can not buy modern drugs because of poverty or because medical structure lack in their villages.

The main diseases that were registered correspond to the main African health and sanitary problems.

This leads us to conclude that traditional medicine and medicinal plants from the fallow areas have a great importance in the health cover of rural populations.

Conclusion

It appears that there is a need to promote participatory management of natural resources from fallow areas because of the role of medicinal plants in the health of rural populations.

- Different levels of activities have to be developed for the conservation and protection of natural resources with participatory approaches (Serpantie, in press):
 - in rural areas: promote sustainable utilization and protection of existing species, cultivate rare or endangered species;
 - in urban areas : promote cultivation of major medicinal plants and develop "medicinal gardens" for traditional healers.



- Promote and develop research about biological activities and toxicity of medicinal plants (validation) and develop diffusion of information between researchers and traditional healers in order to:
 - develop the production of traditional drugs from plants, available at community level with standardization of phyto-medicines (*Guiera senegalensis* Lam., Combretaceae as an example, Pousset, 1989);
 - avoid use of toxic plants and propose alternatives (the leaves have to be used instead of roots of *Nauclea latifolia* Sm., Rubiaceae which are toxic, Sourabie et al., 1995).

Acknowledgments

The authors want first to thank traditional authorities and populations of the different villages belonging to the area of studies for their participation and will of exchange. This work would not have been done without their help.

We also thank Mr. Fages and G. Serpantie (IRD – Burkina Faso) and V. HIEN and O. BOGNOUNOU (INERA – Burkina Faso) for their material, technical and scientific support during the field studies and for their help in the participation to the 4th European Congress of Ethnopharmacology.

This work was funded by 7th FED from E.E.C (follows project in West Africa) and Sama Bioconsult.

References

FLAHAUT E. (1999) *Pharmacopée et médecine traditionnelle dans l'ouest du Burkina Faso : plantes médicinales et soins du couple mère – enfant*, Thèse de Doctorat en Pharmacie, Université de Lille II, 143 p.

POUSSET J.L. (1989) *Plantes médicinales africaines*, Tome 1 : *Utilisation pratique*, Tome 2 : *Possibilités de développement*, Paris, Ed. Ellipses - ACCT, 156 p., 159 p.

OLICARD C. (1999) *Plantes médicinales antiseptiques du Burkina Faso : étude ethnobotanique*, Mémoire de Maîtrise en Biologie des Populations, Université de la Rochelle, 30 p.

OLIVIER M. (1999) *Valorisation des plantes médicinales des jachères*, Rapport d'activités programme Jachère, IRD – INERA, 121 p.

SERPANTIE G. (sous presse) *La notion de niveau d'artificialisation : intérêt pour la gestion des ressources renouvelables, le cas du Karité et d'Andropogon gayanus en zone soudanienne*.

SOURABIE S., GUINKO S. et KABORE I.Z. (1995) Contribution à l'étude chimique et microbiologique de *Nauclea latifolia* Sm. (Rubiaceae). Possibilité d'utilisation des feuilles comme succédané des racines dans le traitement traditionnel des gastro – entérites, *Revue de Médecine et Pharmacopée Africaines*, 9 (1), 7 – 12.

Figure 1. Percentage of methods of use of plants depending of kind of medicine

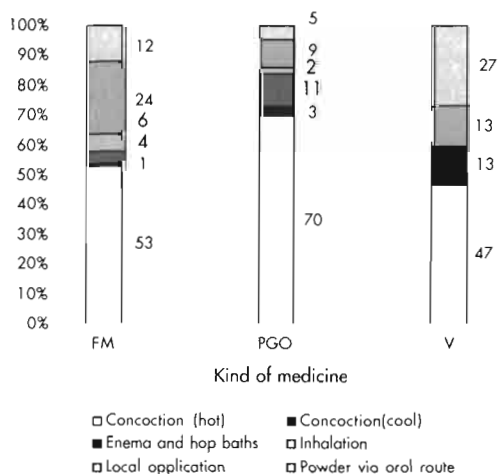


Figure 2. Percentage of plant part used depending of kind of medicine

