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### The Cultural Context of Diarrheal Diseases and Health Seeking Behavior among the Wari', an Amazonian People, Brazil

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#### Abstract

The aim of this paper is to contribute to the understanding of the cultural context of diarrhoea, and discuss the health seeking behavior according local conditions. We carried out a fieldwork among the Wari from southwestern Brazilian Amazon in two villages (Indigenous Land Igarapé Lage) since November 2002 to May 2003. Wari ethno classification of diarrheal disease shows a general category (*honko*'), four parallel categories in the same taxonomic level and six subordinate categories according to signs and symptoms of these diseases. There are intersections between the traditional and official medical systems, and both form a complex network of flow and counter flow in the process of health seeking behavior, outlining the therapeutic itinerary. The decision to seek resources for treatment of diarrheal diseases is mainly determined by some signs/symptoms such as bloody stools, vomiting, mucus in the stool and fever, and by causes attributed to illness along the process.

**Keywords:** Amazonian People; Diarrhea; Ethno classification; Health Anthropology; Indigenous People; Medical Systems; Medicinal Plants; Public Health; Therapeutic Itinerary.

#### Introduction

Acute diarrheal diseases remains one of the leading causes of illness and death among young children in low-income and middle-income countries, particularly affecting communities where inadequate water supplies, poor environmental sanitation, poor housing, limited education and poverty prevails [1, 2, 3, 4, 5, 6, 7, 8]. Mortality from diarrhea in Brazil has decreased significantly over the past four decades because of the expansion of the primary care network, the spread of oral rehydration therapy, some decrease in child malnutrition and improved sanitation conditions, with increased access to Drinking water, although still limited [9, 10, 7]. Clearly, despite the decline in diarrhoeal mortality, diarrhoea remains one of the principal causes of morbidity and mortality in children [3, 11]. Small children are particularly prone to dehydration and death due to diarrhea; whilst impaired nutritional status becomes endemic among survivors. Page et al. [12] conclude that the proportion of consultations for diarrhea cases in children under five years old was higher than those reported in previous surveys in Niger and elsewhere.

The epidemiology of diarrhea in Brazil follows the pattern observed elsewhere, i.e., of declining mortality but relatively stable morbidity, with children in their first five years of age accounting for most of the burden, particularly in regions where low levels of socioeconomic development prevails [13, 14, 15]. In the last decades, however, Brazil has witnessed important public health developments, achieving significant reduction in infant mortality. The increased use of oral



rehydration therapy through primary care, improved nutrition and sanitation are believed to have contributed to the observed declining trend in childhood mortality due to diarrhea throughout the country in the last thirty years [15, 16, 17, 18].

Contrary to this national trend, the overall health conditions of indigenous children do not seem to have experienced parallel improvement. Studies show that diarrhea may account for over 60% of hospitalizations among indigenous children 0-5 years of age [19, 20]. Diarrhea is also a major cause of mortality among indigenous children. Infant mortality in indigenous communities is usually 2-3 folds higher than national average, often surpassing 60 per 1,000; and, in some cases, reaching the hundredths, like in the Xavánte and the Kayapó [21, 22, 23].

A number of studies carried out in rural north eastern Brazil and abroad have extensively demonstrated the complex cultural background surrounding the management of childhood diarrhea on the part of mothers and other caretakers, and its importance in the prevention of dehydration, malnutrition, and infant death [24, 25, 26, 27, 28, 29, 30, 31, 32, 33]. Despite the recognition of the important role played by culture in the management of acute infections like diarrhea, anthropological studies of indigenous medical systems in Amazon are few and often focus on ritual aspects of shamanic curing [34, 35].

Few investigations have looked at the role of so-called 'traditional' underlying concepts of disease in the determination of diagnosis and treatment among indigenous communities; even less so with an emphasis on the importance of its interface with Western medical practices and technologies to which Brazilian Indians are growingly exposed [36, 37, 38, 39]. Few studies have evaluated health seeking behavior for diarrheal diseases in indigenous communities [40]. An anthropological study about diarrhea in indigenous societies in Brazil was carried out among Kaiowá and Guarani children from Indigenous Land Caarapó, Mato Grosso do Sul State [41].

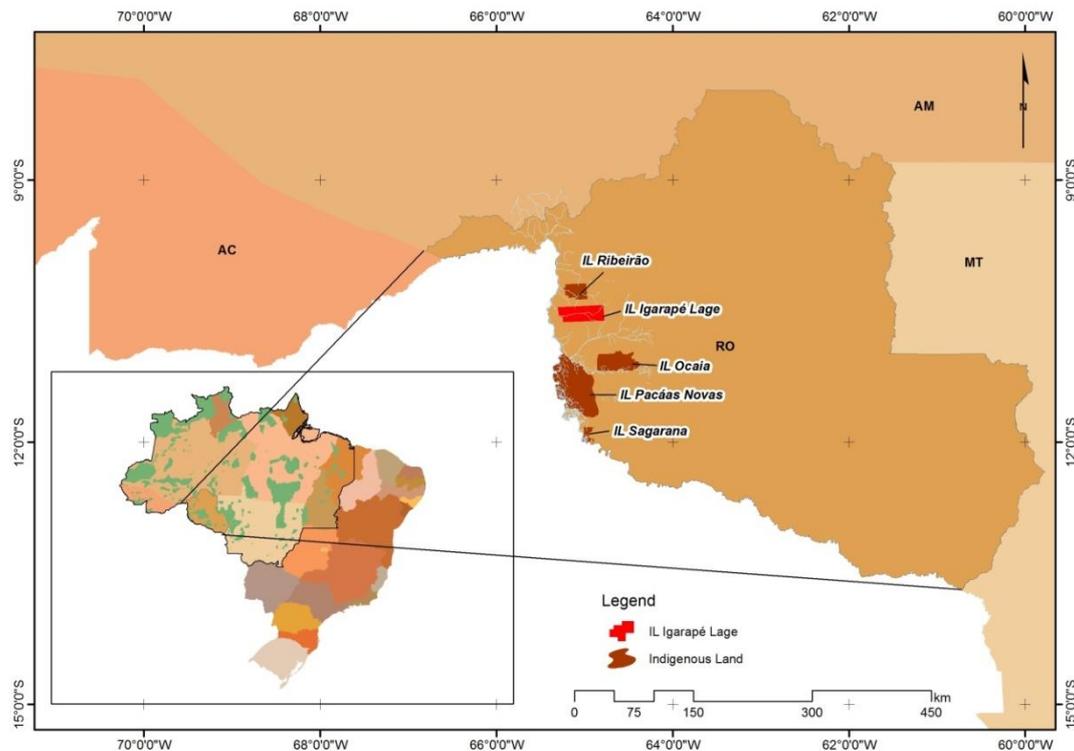
Cultural contexts where various forms of therapies or 'medical systems' co-exist have been studied based on the concept of 'medical pluralism', theme that was introduced and discussed in anthropological literature by Buchillet [36]. Kleinman [42] has been reference to studies about relations between patients and their choices for treatment in the context of culture. The space constructed in the 'contact zone' where the biomedicine and the indigenous traditional knowledge interact, in the practice and in the theory, is analyzed by Follér [38], who use the concept of intermedicality, term initially used by Greene [43] in the discussion about Aguaruna shamanism. To Greene, intermedicality is a contextualized space of hybrid medical systems and agents with sociomedical conscience. As discussed by Granich et al. [40], "community-based studies of health seeking behavior have shown that rural communities utilize a variety of health care options to manage diarrheal diseases" and, probably, even more in indigenous communities where traditional practices are significant.

The aim of this paper is to contribute to the understanding of the cultural context of diarrhoea among the Wari' People of southwestern Brazilian Amazon. Particular attention will be paid to wari' perceptions of the different kinds of diarrhea that may affect children and their role in triggering attitudes and behaviors on the part of wari' mothers. The role of indigenous health agents trained by the Brazilian Indian health service in the management of childhood diarrhoea among the Wari' will also be examined, considering their key role to be played in the delivery of primary health care to indigenous communities.

## 1. Methodology

### 1.1 Background

The Wari' or Pakaanóva people of west Rondônia comprise some 2,300 individuals living in various villages on five reservations (Pacaas Novas, Rio Negro-Ocaia, IgarapéLage, Igarapé Ribeirão, and Sagarana) located approximately 64-65° W, 11° S (see figure 1). Approximately 52% of the Wari' population is under 15 years old, and 22% lies between 0-5 years. The term Wari' is not necessarily an auto-denomination, but it is currently preferred by the Indians themselves in opposition to Pakaanóva, a name that was attributed to them by Brazilian backwoodsmen and employees of the Indian service since first contacts back in the 1950s. In reality, so-called Wari' society is comprised by different exogamous and relatively independent subgroups named Oro Waram, Oro Waram Xijein, Oro Nao', Oro Mon, Oro Eo, Oro At, Oro Jowin, and Oro Kao' Oro Waji [44, 45, 46, 47].



**Figure 1: Location map of the Indigenous Lands Wari', Municipality of Guajar-Mirim, State of Rondonia, Brazilian Amazon.**

Contact with Brazilian nationals was disastrous for the Wari'. During the 1940s and 50s, the persecution and direct killing of Indians by rubber tappers in this region was intensified. Epidemics of infectious diseases followed shortly and raged all villages causing drastic depopulation and social breakdown. At present, Wari' economy is based on slash-and-burn horticulture (maize and manioc are the major staples), complemented by hunting and fishing. The seasonal commercialization of Brazil nuts, manioc flour, and handicrafts provide much needed cash income to an impoverished community economy. Overall sanitation in Wari' villages is poor; villagers usually resort to the nearest stream or river for bathing and fetching water for drinking and cooking. Outdoor latrines erected by FUNASA officials are seldom used, what can be easily confirmed by the thick grassy vegetation that often encircles them.

Generally speaking, health standards are low among the Wari'. Tuberculosis, malaria, chronic undernutrition, and intestinal parasitism are endemic, with incidence and prevalence rates usually much higher than what is reported for non-Indian neighboring rural inhabitants in the region [48, 49, 50, 51, 52, 53, 54]. The analysis of passive morbidity data covering a ten years period (1993-2003) at the Guajar-Mirim Indian health clinic (Casa de Sade do ndio) – responsible for the provisioning of medical care to the Wari' – reveals that diarrhoea alone stands for approximately 40-50% of hospitalizations in 0-5 years old children [55].

## 1.2 Field Work

Open-ended, ethnographic interviews were conducted by the author during six months (November 2002-May 2003) at the Lage Novo (264 persons) and Linha Dez (89 persons) villages. Both villages are located at the Igarap Lage Indian reserve, in the western extreme of the Amazonian state of Rondnia, near the border with Bolivia. Interviews were conducted in Portuguese (most adult Wari' at Lage are bilingual) or in the native language, with the help of interpreters, usually the local health agent.

All houses in the village were regularly visited with the aim of interviewing women about their breastfeeding practices, infant feeding and nutrition, as well their knowledge about the diagnosis, etiology, and treatment of diarrhoea in wari' children. Special interest was paid to mothers who were eventually attending ill children at the time of interview. Particular attention was also given to the work routine of the village's Indian health agents, with a focus on their curative and preventive approaches to diarrhoea in children. Whenever possible interviews were tape-recorded, otherwise written notes were taken.

At the time of field work, a total of 31 women had children younger than five years old at Lage Novo village, totaling 58 children in this age interval (1 to 3 per mother). In-depth interviews were carried out with 20 (64.5%) women, 15



(75.0%) cared for at least one child with diarrhoea during the time span of fieldwork. Women that were not interviewed were either absent from the village for long-term medical treatment or secluded because of recent delivery or sickness.

## 2. Results

### 2.1 Wari' Taxonomy Of Diarrhoea (*Honko'na*)

Generally referred to as *honko'na* or *kahonko'wa*, Wari' taxonomy of diarrhoeal disease relies on predominant signs or symptoms characteristic of each particular episode of disease, often involving a combination of descriptive terms that refer to a set of major perceived signs and symptoms characteristic of an specific episode. Therefore, there are no pre-defined classificatory categories, but a variety of descriptive terms or expressions that can be used to better describe each case, pending upon major perceived signs and symptoms that predominate. The terminology used to name the different 'kinds' of diarrhoea derive from very objective criteria that include the consistency, smell, and color of the feces, the concomitance of blood or mucous, and other commonly associated symptoms like vomiting or abdominal pain.

When asked to explain and describe different kinds of diarrhoea, Wari' mothers would resort to the description of some recent episode of *honko'na* in one of her children.

The most important defining characteristic of *honko'na* is the consistency of the feces. Slightly softened feces, however, are not necessarily indicative of *honko'na*. As it was commonly observed, children passing soft stools (*baramanamonokokon*, 'their feces soft') did not raise concern on the part of their mothers. The condition of *honko'na* becomes clear-cut when feces are liquefied. Thus the physical state of the stool constitutes the major defining visible characteristic of diarrhoea. When somebody is passing liquid stools it is said that he or she has *honko'akkom* ('diarrhoea', 'like', 'water'), or *honko'naakkomma* ('to have diarrhoea with water').

Certain signs are perceived as potentially more dangerous, especially when involving a small child, thus triggering a quicker response on the part of Wari' mothers in their search for a proper therapy. The presence of blood in the feces is probably the most important indicative sign of seriousness of a case of diarrhoea, and can be referred as *awo'nakikon* or *awo'na pa hoki* (to defecate with blood), *honko'ma'nawik* ('diarrhoea', to have/to be, blood) or *honko'painwik* ('diarrhoea', indicative particle, blood) – always raising concern and anxiety on the part of the mothers of ill children.

Another important sign that identifies a specific kind of *honko'* is the presence of mucous (often referred to as scum/foam in allusion to the scummy surface of stagnant waters) or pus in the feces. The Wari' refer to it as *honko'nama'namowi* ('diarrhoea', to have/to be, 'mucous/scum') or as *honko'painkayateterene ne kamiñiwa* (to defecate with mucous/sputum/pus). Wari' mother's reports of *honko'na* with mucous or pus also commonly mention the presence of blood.

The smell of the feces was often mentioned by Wari' health agents as an indication of a bad case of diarrhoea and referred to as *honko'nakonioni* or *künina* (*honko'na* with bad smell).

*Honko'na* can be anticipated or followed by abdominal pain. In such a case, the Wari' refer to it as *honko'katinamiñi* ('diarrhoea', 'pain', 'stomach') or *katitamanana pa miñi* ('to have a lot of stomach pain'). Stomach pain can occur independently of *honko'na*, thus it constitute a disease category by itself.

To pass worms (*meté*) in the feces was highlighted by some Wari' mothers and health agents as a possible sign of *honko'na*. Notwithstanding, there is not clear-cut connection between the presence of worms in the stool and some kind of *honko'na*. The passing of worms in the feces of Wari' children appears to be perceived as a normal episode, taking into consideration the recurrence of its mentioning during interviews with mothers.

### 2.2 Ethnoepidemiology and Etiology

In most cases of *honko'na* that were followed at the household and health post levels, Wari' mothers did not appear to have clear-cut explanations for the particular case of illness in their child. Most often they would resort to a general explanation, usually linking the case in consideration with the consumption of a certain food item by the child, or contact or ingestion of "dirt". Often Wari' mothers would simply say that they did not know how *honko'na* had developed in their child.

Despite the difficulties faced in collecting this kind of information, we were able to assemble a number of factors or situations that, in accordance with Wari' ideas about disease causation, may cause *honko'na* in children. The ingestion of certain food items (*karawa*) by children rank among the most frequent causes of diarrhoea referred by Wari' mothers and health agents. Food items perceived as being spoiled (*omkaawina*), left overs or foods classified as fat (*homa*) are perceived as particularly dangerous and capable of causing diarrhea.

Despite its potential threats to health, greasy foods (specially game and certain fish) are appreciated, although should not be allowed freely to small children. At season, 'jatuarana' fish (*Hemiodus microcephalus* Gunther) abounds and its fat



meat from the belly is highly appreciated. The ingestion of fish fat by small children is perceived as capable of causing *honko'na*.

Not only the kind or the quality of the food item but also how much one eats from it is perceived and potentially capable of causing *honko'na*. Wari' mothers mention that "excess" eating is a common cause of *honko'na*. Wari' families usually rapidly consume game and fish brought into the village by the men. There is a practical side to it, of course – the limited means to preserve meat or fish at the village before it spoils. On the other hand, however, Wari' informants attribute the rapid consumption of the catch to the perceived necessity to free the animal's spirit (*yam*), otherwise caught in the animal's dead body and thus potentially harmful to villagers. Thus it was not unusual for incoming hunters late at night to wake up the family to start a fire immediately in order to roast the meat. By early morning everyone would be feasting from the catch, men and women of all ages alike, until it was down to bones.

Another case in point is the consumption of certain fruits. At season, for instance, cashews, mangoes or 'ingás' (*Inga* sp., Leguminosae) that commonly grow in the village surroundings become loaded with incommensurable quantities of ripe fruits. Groups of children of all ages can be seen climbing those trees and enjoying themselves, at the same time playing and eating large numbers of sweet ripe fruits. According to a Wari' mother, "...when [children] eats too many mixed *karawa* [referring to the fruits], picking from one and another, thus one gets *honko'na*". One way or the other, despite listing 'excess' eating as an important cause of *honko'na* in children, Wari' mothers do not seem to have the means to effectively control the whereabouts of their small-ones.

Another issue to consider is the habit of eating all the available food, especially in the case of hunts, may or may not be associated with the need for 'free' the *yam* ("spirit") of the hunt according the old traditional habit. The "spirit-animal" can either cause disease, in a relationship of attack or predation, or help the *kotükiüenim* (shaman) to heal someone, in an exclusive relationship of partnership and reciprocity.

Excessive consumption of certain foods considered 'heavy', particularly in the case of young children, is also mentioned as a cause of honko. In this sense, heavy foods are those high-fat (*homa*), as some fishes (eg., *jatuarana*) and game mammals (eg., *paca* [*Agouti paca*], peccary [*Tayassu peccary*], collard peccary [*Tayassutajacu*]) or considered more difficult to digest, for example, beans, *chicha* (*tokwa*), food with lots of spice and certain types of honey (*xintot* and *parawan*).

To drink stagnant or dirty water (*mixemna* = dirt, putrid) is also considered a possible cause of *honko'na*. In the case of water, dirtiness or cleanness is assigned by visual inspection and smell. There is no mentioning to a concept of (microscopic) contamination, despite Indian health agents have been exposed to biomedical microbiological concepts of disease causation and prevention in training workshops promoted by the Indian health service.

Other episodes of diarrhea may have explanations associated with tragic events in the family. When someone dies, people close relatives of the deceased restrict the feeding because they are in mourning. Wari people value the event of death. Therefore, the death of a close relative weakens living people. The body weakens and the *yam* is more susceptible to shutdown and, tempted by the *yam* of the dead, *yam* leaves the body, thus the person dies.

Despite this interpretation, it is remarkable that there is a suspension of daily activities and, consequently, malnutrition or circumstantial abstinence during the mourning, mainly by close relatives. Hence, increase of susceptibility to diarrheal diseases.

There is an association between category "ameba" (amoeba), extemporaneous to Wari' culture, and the concept of *kaxikon yam* ("evil spirit" of certain animals) that may cause diarrheal disease. The category "ameba" was incorporated into wari' nosology by Indian health agents, who learned about that parasite during courses and workshops as part of the training to they work as health agents officially hired.

It is curious, however, as this category has also been incorporated in the discourse of the elders. In this case, they refer specifically to an animal called *patawan* (creature like a big armadillo - *Dasyus* sp.), nocturnal and considered dangerous, whose *yam* may cause diarrhea in children of careless fathers who treads in the hole that he dug in the ground. The *kaxikon yam* ("evil spirit") of that animal acts causing the disease. The 'ameba' became associated with *kaxikon yam* causing *honko'*, ie, the agent's name is changed, but the interpretation of the mechanism of causation is not necessarily changed. The cure depends on the shamanic removal of *kaxikon yam* of the *patawan* (which is in the child's body) by *kotükiüenim*.

Other causes of diarrhea have been cited. Mothers refer to category *mete'* (worms in general), but they ignore the source of the worms and do not associate directly worms as cause or effect of diarrhea, but only as a sign that accompanies episodes of diarrhea. Some people attribute the use of pharmacy medicines for malaria, cough and other diseases as a cause of *honko'* and stomach ache.



### 2.3 Knowledge about Dehydration and its Implications for ORT (Oral Rehydration Therapy)

Dehydration was not indicated, in general, as a result or as inherent to *honko'na*. Some information in this sense was mentioned in interviews with Indian health agents, but not spontaneously, only after specific questions. When we asked about how to express signs of dehydration in the wari' language, they responded unanimously with expression *omnakwerekun* (literally 'there is not his/her body' or 's/he has no body'), but it has broader meaning than just 'dehydration'. Someone very thin, but not clinically dehydrated or patients in advanced physical wasting both may be called with this term *omnakwerekun*. Although no attention is found in cases of dehydration due to diarrhea by the Wari' in general and Indian health agents in particular, episodes often happen.

The little knowledge about ORT was very evident in the research. The answers to questions in the interviews with mothers are not consistent with best practice, according to WHO [56, 57] and Unicef/WHO [5]. Differences in the way of preparation and administration of ORS and the conception of the purpose of the Oral Rehydration Solution (ORS) is a concern in actions to disseminate its use, as remembered by Green [58].

### 2.4 Therapeutic Resources

The most known and cited remedy to *honko'* is a plant called *kakarama*, which can be used in various ways. It is a kind of vine (*makon*) that release a liquid when its stem is cut, which is drunk by the patient. In addition, the vine can also be tied around the waist of the patient in order to act in healing. This second technique is according to traditional wari' conception that the body has 'holes' or pores through which occurs the passage of both remedies into the body as the output of pathogenic agents [44]. Another remedy widely cited by wari' and its use noted is a plant called *kawekekem*. The Indian health agent also indicates and prepares it. Wari' also indicate other "vine" to *honko'*, called *tawit*, a species of Araceae family (*Philodendron* sp.) which is generally epiphytic in the jungle. The vines, in fact, are the aerial roots of the plant which grow toward the ground. The root release its liquid sap when they cut it which constitute the wari' remedy to *honko'*.

The use of leaf, bark or seed of domestic fruit species (eg., guajava, cashew, avocado) is the most cited treatment and, certainly, used by Wari' to *honko'*. They cited a plant from the forest called *nükiün-nükiün* specifically to vomit (*we'*), it is a tree from which they strip the bark, boil it, drink and bathe with the solution.

Several types of honey (*tawi*), differentiated by species of bee (*tawi*), are recognized for their therapeutic properties. However, not all honeys are indicated to *honko'* and some are not recognized as a remedy, but only to drink. Depending on each informant, the indication may vary, and all informants are elderly in this case.

In addition to remedies, there are certain types of food, mainly some species of birds, which are prescribed and considered good, but whose broth or flesh can also be used to bathing or to rubbing respectively. In the other hand, there are certain proscribed hunting animals as food when someone is sick. These proscriptions are related with the wari' conception of disease causation by *yamikarawa*, i.e., the *kaxikon yam* of those animals tends to victimize the Wari' according to principle of predation and counter-predation.

Seeking for shaman it is not so common nowadays, but some wari' quoted in several interviews about previous episodes of diarrhea and other diseases.

It is common wari' use drugs purchased and taken without medical prescription, guided only by previous information transmitted by someone other who has already used those drugs or through induction of a drugstore clerk.

There is a habit more or less widespread among them that is add salt and/or sugar in vegetable infusions (teas), fact that can be both beneficial or harmful depending on the dose and proportion of salt and sugar, question also emphasized by Green [25] and Barros et al. [26]. This practice represents an alternative to be more investigated as rehydration or prevention of dehydration, therefore, when used in proper concentration, may be an important element for this purpose. Coconut (*Cocos nucifera* L.) water can constitute a good auxiliary in prevention and treatment of dehydration and its cultivation could be stimulated.

Finally, treatments of the 'informal sector' in health among the Wari' from Lage Novo and Line Dez villages consist primarily of medicines prepared from native plants (leaves, barks, seeds, fruits, roots), based on 'traditional' knowledge (*pain mi* or *pain nahwarak*), or exotic plants (*kayimemem*), introduced by non-indigenous (*wiyam*) people in the region, several types of honey (*tawi*) and prescribed or proscribed foods, depending on the type of disease. We observed that the health care seeking behavior is determined by the categorization of diseases based on signs and symptoms.

The therapeutic itinerary starts at home and, after, can follow several routes. Patients can stay within the limits and resources of the village or, in severe cases, when there is not resolvability in the Health Post, go to the town of Guajará-Mirim or eventually to Porto Velho. In the village, the most frequent route is home-Health Post-home. Home treatments

include traditional resources of plants or animals extracted from the forest and remedies purchased at drug stores.

### 3. Discussion and Conclusions

The wari' categorization of illnesses is markedly explained based on signs and symptoms. The ethnotaxonomy wari' of diarrheal illnesses is structured by a generic category (*honko'na*), some parallel categories at the same taxonomic level (*katinamunu*, *we'*, *om nakwerekun*, and *mete'*) and a series of subordinated categories (*honko'akkomma*, *honko'akmowina*, *honko'ma'nawik*, *honko'katinamunu*, 'geenfeces', and *honko'kakoniioni*) which are not necessarily exclusive nor strict, but they are characteristics that can vary along the illness process.

This ethnotaxonomy of Wari' to diarrheal diseases has similar features with various others as presented by Langdon & MacLennan [59] in Colombia, Green [25] in Swaziland, Nichter [60] in Sri Lanka, Baclig & Patrick [61] in Thailand, Jackson & Jackson-Carrol [62] in Nepal, Cogswell et al. [63] in Nigeria, Ryan & Martínez [64] in Mexico, and Mabilia [27] in Tanzania.

Questions about etiology of diarrhea among Wari' are comparable with those observed among Kaiowa and Guarani by Pícoli & Adorno [41]. Both these people have a specific label to diarrhea in their language (*honko'* in wari' and *chiri* in kaiowa-guarani) and define it through signs similar to biomedical signs, but the explanation models about etiology and modes of treatment are not always the same. Among Tzotzil-speaking Mayans, in Chiapas, Mexico, Granich et al. [40] found four types of diarrhoea, Ch'ich' sim nak'al, Shenelch'utul, Tza'nel and Sak sim nak'al, and perceived that the two first are more severe than the others, but there was no significant difference between diarrhea type and category of home remedies used. Similarly to Kaiowa and Guarani [41], among Wari' the variety of causes of diarrheal diseases in children has implication on the therapeutic itinerary, triggering attitudes and behaviors such as home treatment, traditional healer like shaman or official health services. In the same way, like among the Tzotzil [40], the more severe types of diarrhea, like *honko'painwik* (with blood) and *honko'nama'namowi* (with mucus) among Wari', also influence in the health seeking behavior out of home. Similar categories were found by Mabilia [27] among Wagogo of Tanzania who have two general terms for diarrhoea (*lwito* and *ida*) and both terms refer to various types of abnormal stools which they distinguish according to causal agents.

Home treatments represent a significant option to Wari' People. In general, this part of the informal sector [42] is the first and often the only option for therapeutic use. Therapeutic resources from other sectors are searched according to severity of an episode of illness, the interpretation about etiology along the process or due to evaluation of the efficacy of one or other treatment. Therapeutic efficacy is one of the most important criteria that determine the health care seeking behavior, i.e., they use what works for symptomatic relief, as discussed by Ryan [65]. This statement is confirmed by Granich et al. [40] as follows:

*Exclusive reliance on either traditional or allopathic options was infrequent. Many communities integrating new medical paradigms into their belief systems utilize such a pragmatic pluralistic approach to health care.*

Moreover, the choice and search for therapeutic resources to a particular event of illness are influenced by economic, social and cultural factors. Usually, they use multiple resources at the same time or in subsequent moments of the same disease process. This phenomenon has been shown in ethnographic works in health anthropology [e.g., 30, 41, 65, 66, 67], what we observed that it happens among Wari' during diarrhoea episodes and in other types of diseases.

In this sense, the approach of Kleinman [42], that analyzes the health care system since the 'sectors', has some limitations in the analysis of the interaction between different medical traditions and their agents in a context of medical pluralism. On the other hand, Greene [43] aims to overcome the 'sectorized' vision in that it examines the culture from the point of view of the praxis through the concept of intermediality. Follér [38], following this concept, says that, in the contact between different social agencies which represent distinct medical traditions, they construct a "dialogic experience" where all are observers and observed, although there may be a political asymmetry.

Thus there is not a strict separation between the distinct traditions, but there is only knowledge and discourses with distinct origins, which interact in a complex context and, in this process, they produce a new cultural reality, in the praxis, and different from the previous matrixes. It is in this manner that we interpret the cultural context among Wari', according to Follér [38] who says that there is a flux of knowledge between the biomedical and ethnomedical discourses. Intermediality means that there is a link at least between two discourses of knowledge.

According to Green [58], the use of local resources, foods and drinks, appropriate for diseases should be encouraged by public policies. Thus some wari' local therapies should be better studied. However, problems, like those written by Chowdhury et al. [68] about availability and difficulty of preparing should be evaluated, because these conditions are



present today among Wari' although by other forms, for example, proportional doses of salt/sugar different from that WHO [5, 56, 57] recommend.

The same problems we observed among wari' mothers, such as belief that ORT does not stop diarrhoea and, on the contrary, that it aggravates diarrhoea episodes are similar among other people, like in Nigeria [31], in Mali [30], and in Kenya [33]. On the other hand, Ellis et al. [33] write that, when questioned about the role of ORS, most parents exhibited a clear understanding of its purpose to replace fluids lost during an episode of diarrhoea, because there was promotion of ORS through radio and television and child survival projects in the area. These results indicate us that it is possible change de conceptions about therapies through appropriate projects.

Thus, we agree with Page et al. [12] that health care seeking behavior for diarrhea varies according to the context and has important implications for developing appropriate care strategies and estimating burden of disease. In this sense, Policy makers and managers should reflect about the complex cultural context to decide how to manage and act directly and effectively among distinct cultural population, especially indigenous People. There are steps that act on most immediate factors, but we cannot neglect the broader issues that affect the general living conditions of the group, like cultural factors related with ethno classification of diseases and its implications on health care seeking behaviors and, as discussed by Kimani-Murage et al. [69], cultural practices like access to and utilization of health care facilities, child feeding education, and family planning.

Finally, considering the poor health conditions of indigenous peoples and problems in its resolution, research indicate to the need to plan programs and actions for prevention and healing of diseases paying attention to environmental, and social and cultural contexts of each population as well as other factors.

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