We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900
Open access books available

185,000
International authors and editors

200M
Downloads

Our authors are among the

154
Countries delivered to

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Chapter 14

Complementary Medicine with High Dilutions Strengthen Conventional Therapies and Health

Silvio Leite Monteiro da Silva

Additional information is available at the end of the chapter

http://dx.doi.org/10.5772/intechopen.72415

Abstract

Breeders that have any concern to conventional therapies with sheeps and goats may be interested in complementary medicine with high dilutions. There are plenty of advantages in favor of adding these tools options to the animals care. Connections with breeders, animals, veterinarians and consumers trends are considered. The chapter discusses the context related to the opportunities the current state of art of high dilution medicines offers and the challenges that are faced by the mainstream current worldwide solutions. Six therapeutic styles are identified as useful for these small ruminants. Some of them need specialized professional support and some do not because they are already ready for acquisition and use. References of how work evolves in systems and how to find them are provided. The findings clearly state that the introduction of complementary high diluted medicines offers advantages to the current demands.

Keywords: ultra high dilutions, alternative treatments, residues, sheep and goats, small ruminants

1. Introduction

The contextualization of the usage of ultra-diluted medications benefits the understanding of the potential that this tool based evidences can provide operations with goats and sheep. The challenges and risks concerning the breeding of these small ruminants must be mitigated with an increase in the safety of this sector, and part of this optimization is the certainty of availability of non-residual therapeutic tools for veterinarians and full access to producers. Thus, ultra-diluted drugs may reduce the sanitary and management risks of the activity itself and provide a good animal product, entailing less tasks for workers who daily handle animals by decreasing the demand for work. Broadening the capability of maintaining the herd

IntechOpen

© 2018 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/3.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. CC BY

healthy or making decisions in the face of an outbreak in a herd is a preventive measure, and, as is known about preventive measures, they are less costly than implementing a reactive remedial action in a specific disease or adversity.

In addition, the customers that eat and make use of animal products are becoming more demanding and are aware of their own health, especially referred to the risk of chemical, microbiological, and systemic contaminations of products and substances that will be exposed to the social-environmental impacts caused by the sector, which invariably can affect them. However, there are restrictions to traditional and registered medications liable to be used in goats and sheep, which aggravate due to the fact that innumerous classic and conventional therapeutic tools like antimicrobials and antiparasitic are at risk of functional collapse. Therefore, ultra-diluted medications may, individually or collectively, make the systems more competitive, reactivate in practice the healing capability of conventional treatments in a joint action, decrease the mortality of animals in outbreaks, and prevent an end of the feasibility of production systems that make use of goats and sheep anywhere.

2. Literature review

It is important to conceptually distinguish ultra-diluted to phytotherapic medicines regarding the occurrence of residual risks. Phytotherapic medicines are herbal drugs that generally have a smaller industrial processing and are based on the presence of concentration of chemical compounds present in parts of plants that are used. Like, for example, a passion fruit extract (*Passiflora sp*.) that produces a soothing effect if ingested, marigold extract (*Calendula oficinalis*) as a topical anti-inflammatory that acts in the region it has been applied, and garlic (*Allium sativum*) as antibacterial and antioxidant [1, 2].

On the other hand, the ultra-diluted medications can originate from plants, minerals, or animals, like, for instance, *Atropa belladonna* (dynamized belladonna) for acute inflammations, including some acute mastitis, *Natrum muriaticum* (dynamized NaCl) for physical illness due to separation at weaning; and *Apis mellifica* (dynamized bee) for acute allergic reactions. The dynamization process extracts from the original compounds the medicinal principle through consecutive dilutions and shaking. The original compound needed to make an ultra-diluted medication is called mother tincture and depending on the substance, it can be directly used as an herbal medicine before the dynamization. The debate on the active principles of ultra-diluted substances is important for the differentiation regarding the presence of residues, while herbal medicines and mother tinctures have high concentrations that can be excreted and modify the taste of milk and meat, and it might need a waiting period and disposal of milk, for example, ultra-diluted drugs have a low concentration of molecules and the risk of the presence of residues and need of waiting period or disposal derived from the medication is unnecessary. The presence of herbal medicine residues may be less significant than antimicrobials, hormones, and anti-inflammatories, but the local bodies that regulate drugs for animals that process food imposes legal restrictions even if not always complied [3, 4].

http://dx.doi.org/10.5772/intechopen.72415

The results of the use of ultra-diluted medicines were adapted from human medicine and are independent of beliefs or religions, and the achieved effects are different than the placebo effect, even if animals or caretakers are not aware of the introduction of those medications. Generally, the healing processes in animals are remarkably higher in terms of qualitative response and time in relation to if they were compared to humans. Recently, a change in the research epicenter regarding ultra dilutions has been observed from Europe to Brazil. Example countries that are well-known for using ultra-diluted treatments are Brazil, India, and France, but there are veterinarians and doctors that employ this kind of treatment all over the world, and it can be easily noticed in some specific events of the sector, and it is clear that there is availability, and the access to such professionals will depend on a matter of choice. China has started a remarkable movement of research funding, whereas, against history, a group in the European Community has decided to impose a restriction to investments in research. In Switzerland, there are institutions engaged in research and cancer treatments with ultra-diluted and anthroposophical medications (e.g. Weleda, the Ischia Institute); in Italy, there are wards in hospitals that make use of very common ultra-diluted medicines in Toscana region. In Brazil, there are pharmaceutical industries of ultra-diluted medicines for animals that are distributed to retail and packed in sacks with up to 20 kg, which are shipped throughout the country and for exportation. The recognized benefits by popular use of people in charge of animals or caretakers in farms, or even in pets, as well as by a specific category of professionals impose to the agility and interest with which universities and public research centers are unable to get updated and make experiments. Thus, attention of opinions from individuals with a lack of deep area knowledge must be paid with restrictions. There is a need to check the origin of information and their reliability should be checked if comes from an ultra-diluted substances expert [5–7].

3. Material and methods

The following sections will identify the use of high dilutions with their opportunities and challenges.

3.1. Opportunities

Treatment of animals is part of the food supply chain for people, thus there is an interface with human health. People who choose ultra-diluted medicines are generally constituted of more educated and wealthier individuals, and it is known that the offer of this kind of therapy reduces the financial expenses of its users with healthcare plans. On the other hand, there is still part of the population that demonstrate problems with the use of conventional medicines (allergies, intolerance, adverse symptoms, recurrence of symptoms, and resistance) and that benefit from treatments with ultra-diluted drugs. There is an applied area of pharmacological studies that makes major efforts in the application of individualization and customization of treatments that employ therapeutic drugs, but are restricted to the enhancement of the manipulation of dose protocols or the introduction of a conventional medicine for the metabolism and predetermined conditions.

As well it happens for human beings, there is a population in the different species of animals that benefit from diverse degreed of restrictions to the mass conventional treatment protocols. Those animals produce less, suffer repeat infections, recurrence of symptoms, constant sickness due to different diseases, all of them generally caused by unsuitability to the proposed system in which they are classified. An animal that does not adapt may be disposed or transferred to another place in case it does not die before, but curiously the rate of adaptation in the herd returns to the previous level with a brief period of time and appears to be constant, regardless the disposal or removal of animals. Therefore, collective factors, either intra or extraindividual, may be present and are challenging study objects and still unknown either for animals or humans. Although with efforts being made in the customization of conventional therapies and its prominent proposals as a tendency in pharmacology, especially in humans, the use of ultra dilutions has already preceded that individualization in the west over 200 years ago.

Ultra-diluted medicines are versatile because they can be applied in many production models: since a conventional producer, who makes use of them as a first modification of assistance and support in handling; introduced in breeding to reduce costs with medications; activities for workforce and disposals; until producers with extreme needs in reducing feedstocks and residues that they incisively use; and learning and counting on specialized workforce to practically solve all their demands. Examples of systems like that are organic certified (bio), anthroposophical, independent systems of self-sufficiency, farms that produce food for a group of consumers that demand less residues in animal products and countries that were subject to trade embargos extended by the supply of feedstocks (Cuba), distant regions with reduction or geographical restriction of trade routes and even regions of social and economic exclusion.

The active principle and the mechanism of action are one of the most controversial issues, and the further development of the discussion involving them, due to the limitation of access to data, may be used or inadvertently prevent the access to the benefits that it entails when it comes to its practical and followed use favoring to the animals. The state of the art is that the effects in living creatures, including animals, were corroborated as a natural phenomenon and is at a stage of collection of experimental data to supplement a single theoretical and solid proposal. There are two dozens of theoretical propositions to explain part of the collected phenomena, but that depend on enhancement to create a more comprehensive theory that is capable of approaching the full extent and theoretical predictability of the analyzed phenomena. It is estimated that there is an interaction of the informed field effects (including the electromagnetic ones) with living beings, although some of the imposed obstacles remain in the own limitation of the knowledge about living creatures as biosensors for the fields. The hard core scientific developed knowledge on the interaction of fields with living creatures nowadays is restricted to an experimental and diagnostic effects, with X-rays, computed tomography, MRI scan and ultrasonography.

Even though all the accumulated knowledge so far allows the use as a therapeutic tool, taking into account, yet, that some types may rely on specialized work force to carry on and follow the treatments successfully. Possibly the medication acts informationally through weak

waves, probably and even electromagnetic (because there are waves different than the electromagnetic) that can be inactivated through the exposure of a few minutes at a temperature above 60°C. The medications that are carefully produced and properly stored are capable of influencing the health-disease processes of the animals that are biosensors regarding the interventions that are carried out.

Given the characteristics of the medicines, there is a reduction in environmental pollution due to the lack of metabolites and known drugs excreted in the milk, urine and feces (e.g. use of hormones to synchronize the mounting season, ivermectin as antiparasitics, antibiotics and anti-inflammatories in case of infections). The water treatment systems for human consumption and the waste treatment of animals are generally developed without the monitoring of the depollution by hormones and other drugs. According to the proposal of the productive system (organic example), the use of ultra dilutions becomes one of the main tools in the control of diseases, since there is a restriction in the use of conventional medicines, which is conditioning for the maintenance of the status of the proposed productive system. Thus, in such systems, we can consider that this therapy would have a more important function than the usual denomination that it has nowadays as "complementary".

The scope of the use of ultra-diluted medicines is wide and has a high plasticity according to the demand of who required it. The therapeutic tools are initially recognized or reached to the animals as a simple substation of conventional feedstocks. The progress of the dialog with the increase of interaction with a specialized professional and the broadening of the comprehension of the potential regarding the tool may coevolve until the complete substitution of conventional medicines in most of the cases. That myriad will depend on the personal investment made by people in charge of the animals and direction of the productive system, and there is generally need for identification of a distribution channel of animal products aiming at the selection of people who make a point of having those characteristics. An example of target audience are people who are identified with the use of items originated from family agriculture, organic products, anthroposophical goods and also regions in which there is social and economic exclusion with a restriction of access for the animals to medicines, routine laboratory tests for following-up the herd and eventually low investment in cutting-edge technology.

Examples of the use of ultra-diluted medicines in herds of goats and sheep are generally associated to the main demands, like, for example, it is notorious the presence of intestinal endoparasites, reduction of stress through feedlot handling, reduction of the impacts caused by Caprine Arthritis Encephalitis or lymphadenitis. Let us take a look at these cases:

Two findings revealed that the spontaneous growing curve of endoparasite eggs by natural infection are statistically lower (two-way ANOVA; P-value <0.01; $n = 7$ or 8) in pregnant goats treated with commercial medicines for internal parasitosis in comparison with water-treated animals. During the 10 weeks of intensive monitoring, the curve outlined by the result of the fecal egg counting test throughout the weeks maintains a parallelism in the elevation pattern among the groups. The animals presented a prevalence of Alpine breed with approximately 10% of the Saanen breed, part of the time in sheepfolds with elevated slatted and loose in the pasture in the hottest hours of the day.

However, the previous round of treatment phase was, mostly during the mounting season, the group that was subject to verum treatment also presented a lower monitoring for fecal egg counting, but that decrease was not significant in relation to the placebo treatment.

The monitoring was promoted by the importance of internal parasitosis in goats and sheep and the offer of commercial medicines produced and provided in Brazil, which are specific for the control of internal parasitosis. The animals, individually labeled and distributed by lots in randomized blocks, were given powdered medicine dissolved in water directly to its mouths in order to obtain more control in the experiment, and the control group was subject to the administration of pure water to mimic the restraining of each animal. Feeding consisted of feed and corn silage. A factor that increased the challenge of natural infection, especially in the treated group, was the disposal of animals from both groups in the same space and at the same time, that is, if all animals were treated the expected parasite load of the entire environment would be certainly lower. However, the natural infection in different pickets may be diverse, therefore the collective use for both groups can be considered as a smaller potential distortion of the results in comparison to the situation in which the groups were in different pickets. The main results were that the medication showed its action, statistically meaningful, during the supposed challenge due to the metabolic stress caused by lactation [8, 9].

There are reports of cost reduction with total replacement of conventional medicines, even if considering the investments specialized in work force. This therapeutic tool has its own evaluation systems of the evolution of health-disease processes. According to the evolution of the state of art that identifies the interaction between parasites and hosts, it has been observed that immunological and metabolic variations regarding the modulation phenomenon, even subtle, may significantly change the detrimental effects of parasites on hosts, and they are specially interesting when such effects are minimized and when the capability of the animals to be kept productive is increased, making the system more solid to interferences and adversities.

Knowing how to observe the action time of ultra-diluted medicines is crucial to understand and properly evaluate its functioning. As a general rule, if a process is acute, that is, if it started suddenly or very quickly, the process and healing time will be immediate or very fast, like, for instance, in an acute mastitis, an allergic reaction to an insect bite, acute torsion of a digestive organ or problems in calving. On the other hand, if a chronicle process that has been taking place for more time, even if not previously identified by people in charge, might have its resolution time or higher balance, like, for example, caprine arthritis encephalitis, lymphadenitis and mycoplasmosis. Sometimes the synergic effect of a conventional treatment and a treatment based on ultra dilutions may gradually reduce the need of interventions, like the incidence of mastitis, myiasis and other ectoparasites.

Therefore, the peak risk of incidence of acute mastitis may be kept, but gradually reduces its intensity and number of affected animals according to the evolution of a continuous treatment, similarly with the occurrence of external and internal parasites. In a conventional system, the employee in charge of the animals that records the application of antimicrobials in cases of chronicle mastitis that become acute, and ivermectin to control the evolution of larvae that might affect the production of leather and wool, and of internal parasites in case he or she

monitors the mucosa through its color against anemia, he or she will notice that the interval of ministration of conventional medicines gradually increases in up to 3 months, drawing its own conclusions. The erroneous allegation by the false feeling that the proposed treatments fail is common when there is lack of records, and generally those progressive alterations slip, thus all that must be done it to check the records.

Milk-producing systems that need interventions for mastitis are subject to a period of initial adaptation. The ultra-diluted tools will stimulate the removal of possible pathogens present in the udder, and this phenomenon is known as drainage with exoneration. After the first days of the start of the ministration of the medicine, lumps in the milking will be observed, and it looks like to be acute mastitis, but what is really happening is the removal of agents with direct stimulus in the animal through the mammary gland. The difference between this phenomenon and an acute mastitis is that the animal quantitatively maintains the production of milk in a very similar way, does not present swelling nor redness in the mammal glands. Its feed intake and rumination remain normal, there is no fever, the animal moves normally and appears to be well and calmer during the milking.

Thus, the treatment with antimicrobials is dispensable and the use of intramammary enzymes is advisable in order to help to dissolve the lumps and remove them. This case is the only moment in which it happens and, due to the increase in the number of somatic cells, the breeder may choose for redirecting the use of that milk if it is paid due to its quality, according to the adopted criteria. The beginning of the treatment does not impede the incidence of clinical cases of mastitis, which will be typical, and the opposite of the parameters previously mentioned, except that it may also be included the presence of lumps or absence of milk production. The use of ultra-diluted drugs does not dismiss necessary handling ordinary care, like pre- and post-dipping, hygiene of the animals, of the milker and of the facilities, as well as its adjustment and recommended maintenance.

3.2. Challenges

Considering that the resistance phenomenon to antiparasitics and antimicrobials has been observed and reported more frequently than the speed of production of new drugs for animals, there is an imminent risk of the existence of a crisis in the conventional treatment tools. That crisis may have evolved either through the technically recommended use or specially through the indiscriminate use of active principles in some places. Curiously, it may have been preserved in places which it is not so used due to the restriction to access because of many reasons. Breeding with research and development, execution of practical tests, optimization, record and approval by regulatory organizations from each country or block for a new drug may take 20 years. That investment is high and the private sector eventually restricts the production and research according to the obtained financial return, that is, the offer of medicines may be influenced by adverse factors that go beyond the demand and needs regarding the animals, especially concerning highly technical medicines and with a limited or restricted distribution flow in the market [10, 11].

The expected use of medicines itself already imposes a risk of the active principle to lose its activity after a few decades, and this is aggravated by preventive and indiscriminate use, like

subdoses, lack of execution of antibiogram, duration and frequency lower than the recommended according to the pharmacological basis.

In accordance with the drug, like, for example, an antimicrobial, the phenomenon may involve the contamination of people with resistant microorganism through the intake of raw animal products, poorly cooked, non-pasteurized or without a proper inactivation of possible pathogens, and such risk is aggravated in human population with comorbidities, reduced immunological response and at risk, like for children, elderly, pregnant women, HIV carriers, people with transplanted organs and people who are subject to other continuous treatments by immunosuppressants.

For example, albendazole is a trend-setting antiparasitic for the treatment of round internal parasites either in animals or in humans, but, through time, the antibiotics ivermectin had to be used as an antiparasitic in animals and nowadays is employed in humans. The recommended cut point of the fecal egg counting test to start a antiparasitic treatment was broadened, and this increase may make the maintenance of the usage of albendazole viable. Several reports show the use of ivermectin with power of influencing and modifying in an undesirable way the gene expression. Its effects in the long term in an animal, for human beings who consume milk and meat from those animals, rest unknown.

Goats and sheep are domestic animals that moreover contribute for people's nutrition all over the world, therefore they are part of the trophic food chain of human beings. However, mankind nowadays suffers from an outbreak of cancer, even though too little is known about what reasons led to that increase in the sudden incidence of cancer in the last few years. It is speculated that factors regarding industrialization, environmental and nutritional pollutants may have strong influence, and curiously all of them are connected to the animal food supply. The most substantial data discovered was the identification of the consumption of cow's milk. This habit was pointed out as one of the identified risk factors that contributed to the higher incidence of cancer when comparing the Asian human population who did not consume milk.

The protective factor had that possibility due to the gene pool, but was disregarded after the confirmation that the incidence equates when a migration of that Asian population happens to Western regions where they had got into the habit of consuming milk and dairy products. This little-known fact is overlooked by professionals responsible for health, feeding and handling, as well as by animal breeders. Thus, feeding and the use of medicines for animals have a low validation of effects in the long term, either in the animals itself or in people that consume animal products.

The diet and the investment in animal's feeding is a factor that exerts a great financial impact in this activity, and one may add a great range of ingredients in animal's feeding without obtaining a validation of its effects, except the sieve of the animal itself in refusing to eat. There is also the possibility that the ingested feed by the animal cause an expected alteration in flavor/taste and strange odor in meat or in the milk for the person who will consume it (e.g. excessive use of sugar cane). Frequently the inclusion of those ingredients is reduced until is accepted by the animal to make use of the cheap energy or fibers source.

http://dx.doi.org/10.5772/intechopen.72415

The manufactured medicines either for people's use or animals are subject to tests in the short term before they reach the market, even if there are different regulatory agencies according to the place. But, the tests in the long term in the so-called phase 4 are directly carried out in the population that make use of them and followed by the pharmaceutical industry itself, so there is a clash of interests regarding the demonstration of the results. The animal pharmaceutical industry does neither monitor nor follow the effects of the medicines used in animals in persons. Any kind of tests and experiments has a very high financial investment to compensate even the return with the sale of drugs. Therefore, we are facing a crisis not only financially, but also that concerns principles regarding the influence in feeding and people's health, which can be influenced by the animal handling. That contrast is shown when we identify a human health crisis through a cancer epidemic as the apex of a great problem, and, at the same time, we overlook time and effort granted to treatments and its effect in the long term in animals that provide food and supplies for people. This theoretical ideal may be very distant from the average practice in the world, especially because not even the access to laboratory tests for animals, medicines in sufficient amount and demand, either physically or financially, besides the proper disposal of animal products, are widely restricted in many regions and less developed countries.

4. Key results

Relevant therapeutic strategies qualitatively identified to small ruminants will be presented as the key results.

4.1. Herd treatment with predefined protocols

The simplest therapeutic strategies of immediate application, with low need of intervention of specialized work force, direct acquisition and generally without prescription, which contemplate the main solutions for caprine and ovine breeders were inspired in the theoretical utilization and practice of drainers (Léon Vanier) and biotherapeutics (Constantine Hering and Wilhelm Lux), developed, conceived and recently consolidated in Brazil. This new field is called, in veterinary medicine, as populational homeopathy and was designated by its creator, the Brazilian veterinary Cláudio Martins Real (1926-). The medicines can be administered to animals twice or three times a day in general, directly on the feed trough, at the customary feeding time, or mixed in the feed, or even in mineral salt. They can be administered directly in the animal's mouth in case there are a few animals or impossibility of including the necessary dosage in the intake routine.

Let us take a look at some examples:

- Control of verminosis in goats and sheeps: a general recommendation for all producers is to administer from 1 to 10 g of the commercial product feed trough, a daily dosage of 2–5 g per head is a customary recommendation. The beginning of a typical treatment starts with a higher dosage and, after 2–3 months, it can be gradually reduced. A high potential challenging situation can start with a total of 10 g per head, during the day, throughout 2–3 months, and slowly reduce until a cost-benefit of the desired effect is stabilized. The

aforementioned experiment made use of individual administration outside the recommended protocol of the package insert because, even with the dosage of 2 g per animal a day, the frequency had to be modified for a daily oral administration, for 6 days a week, always skipping Sunday. Commercial medications that are associated to this solution for internal parasites: Verm 100, OvinoSigo, Fator Vermes® [12–14].

- Hoof problems: commercial medications associated with Homeopathy for Herd of the veterinary medicine that may be used for caprine and ovine with official record of the benchmark Brazilian industries: Foot 100, CascSigo, Fator Casco®, Fator Diartro® [12–14].
- Mastitis: Mast 100, Mastisigo, Fator M&P Pó®, Dolisovet® intramammaire, PVB PHYTOLAC SOLUTION BUVABLE [12–15].
- Diarrhea: Entero 100, EnteroSigo, Fator Infecções Pó® [12–14].
- Reproductive system: Pró-Cio, Matrimax, Vigotonus, Embrioplus, FertSigo, SodoSigo, Fator Fértil Pó®; Fator Parto Pó®; Fator Cria Pó®; WOMBYL GA BUVABLE; PVB POUDRE CALCIQUE GA [12–15].
- Photosensitivity and skin: Figotonus, DermaSigo, Fator Hepa-Foto®, PVB ABCES GA BUVABLE [12–15].
- Feed conversion and fattening: Convert H, Convert H Leite, EngordSigo Plus, Fator Pró Pó® [12–14].

The usage of this kind of ultra-diluted medications [12–14] is constant during a period of time, and, in this case, the most widely used explanation and easiest to understand is that, given the challenges that are always present in the system, for example, restraining, even partial, pressure regarding the production demand, higher animal density, dependence of human interference for feeding, water supply and sheltering concerning free wild life. The role of the medication could be explained, according to this theory proposed by the creator of the method in 1987, as a continuous counterbalance of those challenges that are imposed to each organization, that is, the reason why there is a general recommendation of 2 g per head daily, which in practice works very well and that may be suited to each situation. It will be possible to notice improvements in the reduction of the treated symptoms in up to 3 months.

The specific sporadic usage to act in phases of the productive system, for example, promotion of ovulation and embryo fixation, diarrhea in young animals, skin and metabolic temporary problems of the liver. For medications whose goal, for example, is to control internal parasites, mastitis, if applicable, and to minimize stress and increase the utilization of feeding, it is advisable to continuously use 2 g per animal a day (or even 1 g) than interrupting this therapeutic type. The progress of the time of use monthly and annually will show to the person in charge of the animals that they are progressively better, more resistant to the adversities caused directly or indirectly by the treatment modalities.

It is important to highlight that the reduction of endoparasitism will not prevent the need of usage of an antiparasitic like albendazole because the medication is not supposed to completely

substitute the input, but rather increase the application interval gradually, increase the resistance capability of the animals to the effects of internal parasites, increase the challenge for internal parasites to remain alive and decrease the feasibility of reproductive ways of internal parasites. In the beginning of the rainy season and in the beginning of dry season, it is strategic to double the dosage for 1–2 weeks. This therapeutic modality depends on the dosage, therefore, when you notice that the challenged has increased it is strategic to increase the dosage per head, daily in two to three times. The higher the number of daily administrations the better; two are enough and in only one the assurance of consumption must be guaranteed, because there can be a lot of variation in the individual ingestion due to competition in the feed trough. The recommended availability of the size of the feed trough must be properly assured to the number of animals. For the daily total dosage, it can be considered the several ways of estimated administration of consumption orally, like addition in the feed, mineral salts and directly in the feed trough on the silage or feed. The powdered feed mixed specifically in the farm can be added in percentage value to the consumption according to the administration. Some pelletized feeds may contain oiliness enough to adhere to the means of the most used medicines (calcium carbonate or crystal sugar), however the inclusion of the formula before the pelletization is not recommended because it will certainly cause a loss of action due to the heating process higher than 60°C in the extruder.

The storage of the pure medicine, or of those that are mixed with mineral salt or feeding must be protected from higher temperatures (above 25–30°C). Sealed rooms without ventilation, vehicle or dumpster interiors exposed to the sun, proximity of strong electromagnetic fields may cause interferences, and these are easy to be avoided, because they are highly suspicious in terms of medicine inactivation. The availability in the mineral trough of exposed mineral salt to the sun does not prevent the functioning, but after the incidence of some rain washing it will have to be reoffered. After long periods of utilization, rarely the treatment effects may not be observed as if it had stopped, in these cases all you have to do is to suspend the medication for at least 2 weeks, use another drug, like, for example, instead of controlling internal parasites monitor stress, and then reintroduce the previous medication that had stopped working. These principles are applicable to all medicines of continuous use of populational homeopathy and the package insert may present different recommendations with each other, but all of them must work this way.

4.2. Self-organization Factor of the Biofield

The BioFAO methodology for animals – Self-organization Factor of the Biofield – was also developed in Brazil and evolved from the work of experts in human beings in a daily clinical practice by a doctor who worked in the beginning of her career as a unicist – Míria de Amorim. The application of this method in animals presents a differential among other therapeutic options with ultra dilutions, because it generally makes use of an application protocol of single day administration and with long intervals without the need of new intervention after the starting months of follow-up. As well as with other methods, it can be used in goats and sheep for breeding and pets, individually or collectively, but it demands the monitoring of a qualified professional. An updated list of qualified professionals is available [16].

This therapeutic tool used seven dynamized minerals in a specific sequence of medicines: *Antimonium crudum*, *Kali carbonicum*, *Mercurius solubilis*, *Sulfur*, *Natrum muriaticum*, *Aurum metallicum and Ammonium muriaticum*. The establishment of those medications was inspired and has a connection with the ayurvedic medicine used in India. This protocol is capable of producing in the animals the phenomena described in Hering's Law of Cure, that is, they trigger a healing process individually. Due to the fact of the usage only of ultra-diluted medicines, it presents the same benefits with minimum contamination risks of animal products previously described. However, it is necessary to perform a professional follow-up to determine the proper potency to animals or to the herd, monitor the occurrence of symptoms, guide the person in charge in case of need regarding the conducts that are possibly needed, frequently re-evaluate the status of the animals and make news prescriptions according to the collected data.

The advantage of this method is that is dismisses the need of repertorization, which is done by traditional treatments with ultra dilutions. Therefore, the prescriber decides especially about the potency to be used and the necessary protocol repetitions, which can vary according to the purpose of the activity with animals, the age of each category, historic, risk of exposal to interference and evolution agents. Another great advantage of this methodology is the administration of the medication, because the protocol is done in one single day for all animals. The medication causes in the animals the cure process that will act in the subsequent months. After the animals receive the protocol, it is recommended the initial follow-up, with an interval of 3 months. According to the evolution, the prescriber will gradually increase the interventions interval. Between one prescription and another, the animals must have the confirmation on the interruption of the previous treatment for the beginning of the effect of the new protocol, and this procedure is quite simple and explained in the training program.

The restriction to this methodology is the usage in animals, or near them, of substances containing camphor, essence of eucalyptus or mint, because it is known that the direct contact or olfactory access to camphor and essence of eucalyptus are capable of interfering, with partial or total interruption of the healing processes. In a productive system in the field, the access to animals can be direct or indirect to those substances. The typical direct access would be the utilization of any topic medication with camphor or eucalyptus, ointment with camphor for wounds, or any topical anti-inflammatory, injectable or orally taken regarding these compounds. The indirect access would consist in a person that suffered a contusion, administered a topical product containing camphor for pain relief (e.g. pomades, gel, arnica gel with camphor) or for a wound and applied ointment and had access to animals. These medications generally cause a chilly sensation when in contact with the skin, and to avoid this negative interference, all you have to do is to ask someone not to use the medicine or not to have immediate access to animals to run an odor or chilly sensation test. The product can be removed with the use of soap and water and must be well rinsed.

In order to the veterinarian to qualify for the usage of the Self-organization Factors of the Biofield, a previous training is necessary to follow-up the evolution of the updates, in the recommended frequency of at least once a year, even if through the distance learning platform. The training can be obtained through the BioFAO Institute [16]. The medication is produced

in Rio de Janeiro according to standards of the Brazilian Homeopathic Pharmacopeia, 3rd edition, by Alquiotupã pharmacy [17] which is the institution registered in medicines regulator local authority (Agência Nacional de Vigilânica Sanitária—ANVISA) and shipped with due care and diligence to Brazil and abroad through a qualified prescriber.

4.3. Symptomatic treatment

The symptomatic treatment can be made with the choice of the medicines by the person in charge. Experienced people in the handling of ultra-diluted medicines may have access to information, which were learned under the professional guidance of specialized veterinarians during the development process of a productive system of family agriculture, organic, anthroposophic, among others. Another way to learn is cultural, with relatives, nowadays parents and grandparent's generation that made good use of the past, or even learned some guidance through books or with their own specialized doctors to treat themselves, their children and relatives in common and repetitive situations. There are courses for lay people to use ultra-diluted medications, and the safest way would remain in the symptomatic modality; however, there may be lack of some elements for a proper evaluation and complete exploration of the potential offered by the tools. The symptomatic use would be, for example, treatment for sneezes, diarrhea or inflammations, but that could prevent the animal of having access to a deserved care, even if conventional. The experienced person in charge, in these situations, must be aware and know how to recognize the threshold to take actions between attempting a treatment of initial symptoms with resolution and the actuation of a professional to assist his herd, either for treatments with ultra-diluted medications or not.

4.4. Multiple medicines prescribed by a professional

The complexist method means the use of more than one drug in a certain period of time for an animal, individually, or in a group of animals. The qualified specialized professional collects the detailed information and performs the procedure of repertorization before the prescription. It is the most widely used system in veterinary medicine with ultra-diluted medicines in the world, especially due to its higher latitude of action with a faster expectation of resolution by people in charge due to the current demands. This method can even use the repertorization procedure, which consists of a specific search with more details in the next topic. A farm may have a small medicine stock guided by the specialized veterinarian for usage in cases in which it is necessary an immediate and specific use. Situations like, for example, a deliver with difficulties or an acute inflammation of the mammary glands may get unassisted if identified in the evening, out of the working hours, in distant places of the places where the medicine is administered or places that depend on shipping by remote delivery.

Besides that, in a certain dairy herd in which there is relatively low turnover of animals and greater identification of individual behavior during the milking is very suitable for the determination of the most proper medicines for each animal, which can be used according to the complexist methodology together with the general for the herd, for that phase of the herd with the requested organization and handling. The most interesting phases of caprine and ovine may be: Dehorning, if necessary in caprine, separation of the mothers and weaning of

caprine and ovine, mounting seasons, shearing, start or ending of the rainy season, slaughter, that is, alterations in the productive phase or general function.

This method, combined with the handling alterations has the potential to widely substitute the use of conventional medicines, allows a great use for collective occurrences, like common diseases in small ruminants, like mycoplasmosis, caprine arthritis encephalitis, lymphadenitis, behavior changes, among others. This is the most well-known methodology among specialized veterinarians and which has a worldwide availability, and it can be used in agroecological, organic and complimentary to anthroposophic systems, among many others. It can make use of more well-known medicines, less well-known medicines or even produce specific medicines for the herd from material collected from the own animals (biotherapeutic). In synergy with the usual or even conventional ultra-diluted medicines, the biotherapeutic can control and initially stabilize a disease process of the herd and can subsequently evolve and change according to the evolution and the safety provided to the animals. In case there is usage of conventional combined medication, the tools offered by the complexist method can slow the healing time for the animals, reduce the risk of recurrence of symptoms, increase tranquility and reduce stress normally present in the productive systems.

The purchase of the medication will depend on the offer and local legislation; there can be restrictions and more severe control for the application of medicines in animals that produce meat and dairy products. Several countries in Europe have access to medicines produced by Boiron Laboratory. In Brazil, there is a specific regulation for laboratories to manipulate homeopathic medicines for production livestock. However, since there is a tolerance that varies according to the region and city in the usage of manipulated medicines in drugstores for humans in big pharmacies for pet shops, it is common that this place is a reference site indicated by professional veterinarians that prescribe ultra-diluted medications.

4.5. Single medicine personally prescribed by a professional

The classic method is known by the use of only one ultra-diluted medicine per animal or for the entire herd in a certain period of time. The qualified specialized professional will collect detailed information and carry out the repertorization procedure before the prescription. This is the most traditional method of all methodologies with ultra-diluted medications, is detail oriented in the data collection for the execution of a repertorization procedure. The determination of the most adequate single medicine, also called background medication, among a great variety of medications, is imbued in the task of identifying the substance that will characterize another health-disease process of each animal or collectively of the herd as a living system. It is quite suitable for animals in expositions, competitions, animals that have a high zootechnical value and animals with narrower conviviality with human beings either in dairy production or as pets, and animals that participate in specific activities, like, for example, in goat yoga.

This methodology is considered a gold standard by many professionals of the classicist thinking, and the animals can make use of the same medication in several different potencies and frequencies according to the evolution of facts. The main objective is the determination of the

http://dx.doi.org/10.5772/intechopen.72415

archetype that the animal or certain herd is actually facing, therefore it is used preventively or in a healing way, but the historic of the health-disease process is important to determine the strategies of a treatment by the single medicine method. Even if a little bit usual from the perspective of people in charge of animals, the specialists believe that it might develop an even better job if the animals, individually or in herd could be followed-up as soon as possible, since the gestational process of the next generation or even being young. The observation of the behavior patterns, even if the animals are not ill, provides data for the specialized veterinarian that will be considered in repertorization. The previous treatment of the animal, did preventively, may increase its metabolic resistance, minimize the risk of getting ill and negative effects in case of an outbreak, and even reduce the use of work force and additional medicines.

The establishment of a single drug by repertorization will need to interview someone that knows very well the animals, generally those who are in charge that directly handle them will describe differentiation details which are singular among the animals of a herd or from a herd to another. These people know the individuality and the behavior in details, besides the history of illness, if available. The repertorization is a procedure that in the old days was made manually by consulting a catalog of peculiar symptoms. These symptoms have a description in specific notation called repertorial language and may depend on the interpretation of a professional used to the described information. The inexperienced observer may not know the reality between the incidence of phenomena with animals, the repertorial language and its interpretation and mistakenly believe that a medicine is suitable.

Nowadays, there are several solutions in softwares that make faster the determination of a single drug, which have to be carefully evaluated by the attentive professional. The softwares may always bring the medicines with more cataloged symptoms in detriment of the others, preventing an eventual identification of a singularity. After the determination of some of the possibilities of more likely medicines, each one will be consulted in the description catalog entitled materia medica to confirm the previous results. This confirmation is qualitative, thus is subject to several opinions according to the experience or diversity of the collected reports in an opportunity to collect information. The medicines used in the unicist modality may be re-evaluated by the professional certainly much before judging by adjustments or mistakes; the process will have to evolve in order to guarantee that the animals have their needs met for its health and balance. The professional that follows-up this treatment will follow-up and give initial systematic feedbacks, when he or she will gradually increase the intervals between appointments with the evolution stabilization.

Due to pressured and demands of today's world, the people in charge have requested treatments with fast responses, without feedbacks, with a low offer of tolerance regarding handling alterations or extra jobs beyond the current ones. Short-sighted solutions and those in the short term may be a practical ideal for people in charge of the animals, but not necessarily for them. Chronicle and long processes, regardless of used therapy, will demand financial and work force investments given the necessary attention of the issue. The exclusively unicist methodology used in veterinary medicine may have less supporters nowadays regarding the complexist methodology, but the repertorization procedure with the identification of the background medicine is extremely useful and remains being applied in both modalities.

4.6. Cancer symptomatic support prescribed by a professional

Animals with a high zootechnic value or pets may demand treatment for an eventual incidence of neoplasia. All goats and sheep can have their neoplastic processes treated with ultra-dilution medicines; however the investment in this kind of treatment according to the activity regarding the animals may present a low cost-benefit due to investments. Besides that, the malignant neoplasia cases are considered incurable diseases and hard to be controlled, thus they will demand a different attention from the specialized veterinarian because it might require frequent follow-ups. Though, for animals with high zootechnical value, this reality can be feasible, because they are generally used for the collection of embryos, participation in expositions, storage of the genetic material *in vitro* of breeds and lineage at risk or little preserved, of high interest in terms of genetic material. Besides that, caprine and ovine taken as pets may have the desired treatment by personal interest due to emotional involvement factors, either in a family nucleus or in an institutional environment with specific interests. The cases of neoplasia must be followed-up by a qualified professional, and the ultra-diluted medications can increase the life quality, modulate the evolution of the tumoral processes and decrease the suffering of animals in many situations.

There are specific protocols committed with the treatment of neoplasia, however all of them must be supervised by an experienced professional in the field of neoplasia and ultra-diluted medications. Generally, there will be a reference persona round experienced in the use of those tools. Examples of used medications are some potencies of Iscador® (mistletoe or *Viscum album*) [18], treatment with the repertorization of neoplasia, biotherapeutic of neoplasia, self-organization factors of the Biofield in a differentiated way [19]. The protocols can be used in combination with conventional treatments. The treatment of an animal with neoplasia may need a multidisciplinary team, attention and full-time dedication, as well as the referred investments resulting from the necessary support.

5. Conclusions

The treatment of goats and sheep with ultra-diluted medicines is applicable and recommended for any activity regarding these species. People who consume and use animal products wish a reduction in the exposure to residues of any kind, and the treatments with ultra dilutions specially contemplate this demand. The breeders of goats and sheep that wish to improve and prevent diseases, with an increase in the life quality of the animals, regardless of the size of the herd, can use ultra-diluted medicines. The usage of ultra-diluted medicines for goats and sheeps may depend on a follow-up by a specialized professional (homeopathic veterinarian) according to the demand. Opinions and researches coordinated and guided by at least one experienced and qualified professional in the team in the use of ultra-diluted medicines may be considered with special regard. Promotional and research material done by people without a proper formation in this field must be considered with restrictions.

Conflict of interest

The author has no conflict of interest to declare.

Author details

Silvio Leite Monteiro da Silva

Address all correspondence to: silvioleite@gmail.com

Universidade Federal do Estado do Rio de Janeiro-UNIRIO (Federal University of State of Rio de Janeiro), Rio de Janeiro, Brazil

References

[1] Hordegen P, Cabaret J, Hertzberg H, Langhans W, Maurer V. Bioactive forage and phytotherapy to cure and control endo-parasite diseases in sheep and goat farming systems—A review of current scientific knowledge. Veterinary Parasitology [Internet]. 2006;**108**(1): 1-8. Available from:. DOI: http://onlinelibrary.wiley.com/doi/10.1111/j.1939-1676.2006.tb02881.x/abstract

[2] Bullitta S, Piluzza G, Viegi L. Plant resources used for traditional ethnoveterinary phytotherapy in Sardinia (Italy). Genetic Resources and Crop Evolution. 2007;**54**(7): 1447-1464

[3] Jütte R, Riley D. A review of the use and role of low potencies in homeopathy. Complementary Therapies in Medicine [Internet]. 2005 Dec [cited 2014 Jun 4];**13**(4):291-296. Available from: http://www.sciencedirect.com/science/article/pii/S0965229905001159

[4] Giuliotti L, Pisseri F, di Sarsina PR, Azzarello BM, Terracciano G, Benvenuti MN. Gastrointestinal strongyles burden monitoring in a flock of Zerasca sheep treated with homeopathy. European Journal of Integrative Medicine. 2016;**8**(3):235-238

[5] Teixeira MZ, Guedes CHFF, Barreto PV, Martins MA. The placebo effect and homeopathy. Homeopathy. 2010;**99**(2):119-129

[6] Relton C, Cooper K, Viksveen P, Fibert P, Thomas K. Prevalence of homeopathy use by the general population worldwide: A systematic review. Homeopathy. 2017;**106**:69-78

[7] Lees P, Chambers D, Pelligand L, Toutain P-L, Whiting M, Whitehead ML. Comparison of veterinary drugs and veterinary homeopathy: Part 1. The Veterinary Record [Internet]. 2017;**181**(8):170-176. Available from:. DOI: http://veterinaryrecord.bmj.com/lookup/doi/10.1136/vr.104278

[8] Lacerda EB, de Almeida Rezende Machado NV, de Souza GH, Bonamin L, Bernardi MM, Monteiro da Silva SL. Dairy goats endoparasites infection and effects of commercial homeopathy medicine. International Journal of High Dilution Research. 2013; **12**(44):156-157

[9] Almeida ALR, Silva AGB, Lacerda EB, de Almeida Rezende Machado NV, Pereira AL, Monteiro da Silva SL. Pregnant dairy goats endoparasites reduced by commercial populational. Homeopathy. 2014;**13**(47):135-136

[10] Marshall BM, Levy SB. Food animals and antimicrobials: Impacts on human health. Clinical Microbiology Reviews. 2011;**24**:718-733

[11] Nunan C, Young R. Use of antibiotics in animals and people. The Veterinary Record. 2015;**177-178**(1):468-470. Available from:. DOI: http://veterinaryrecord.bmj.com/lookup/doi/10.1136/vr.h5934

[12] Real H Saúde e Nutrição Animal. CNPJ 00.988.303/0001-64 Avenida Zilá Corrêa Machado, 12068. Bairro: Maria Aparecida Pedrossian. Campo Grande, MS, Brazil. 2017. Available from: http://www.realh.com.br [Accessed: 2017-10-15]

[13] Sigo Procedimentos Homeopáticos Ltda. Rua Zeferino Pires de Freitas n° 121. Campo Grande, MS, Brazil. 2017. Available from: http://www.sigohomeopatia.com.br [Accessed: 2017-10-15]

[14] Laboratório Veterinário Homeopático Fauna e Flora Arenales Ltda. CNPJ 02.556.428/0001-40. Rua Maurilio Fernandes N°141, Conjunto Habitacional Ana Jacinta. Presidente Prudente, SP, Brazil. 2017. Available from: http://www.arenales.com.br [Accessed: 2017-10-15]

[15] Laboratoires Boiron, 2 avenue de l'Ouest Lyonnais, 69510 Messimy, France. Available from: http://www.boiron.fr [Accessed: 2017-08-28]

[16] Instituto BioFAO. Avenida das Américas, 500, Bloco 6, sala 305. Shopping Downtown, Barra da Tijuca, Rio de Janeiro, RJ/Brazil. <faleconosco@institutobiofao.org.br> Available from: http://www.institutobiofao.org.br. [Accessed: 2017-10-15]

[17] Farmácia Alquiotupã. CNPJ 01.838.373/0001-07. Av. das Américas, 3939 Bloco 2, Loja H. Barra da Tijuca, Rio de Janeiro, RJ/Brazil. CEP 22631-003 <contato@alqfarmacia.com.br> Available from: http://www.alquiotupa.com.br [Accessed: 2017-10-15]

[18] Institut Hiscia. Verein für Krebsforschung. Kirschweg 9. CH-4144 Arlesheim. Switzerland. Available from: http://www.vfk.ch/ [Accessed: 2017-10-15]

[19] Moreira HM, Amorim M, Maruyama C, Trinca R, Torres C, Ornellas R, Santos C, Alves Junior M, Guiguer E, Lira B. Survival of mice with erhlich ascitic tumour treated with ultra-dilutions. EJC. Proffered papers. 2011;**47**(1):S100