

# INTERCULTURAL MEDICINE CLINIC FOR THE TREATMENT OF MENTAL HEALTH AND SUBSTANCE USE DISORDERS IN THE YAQUI TRIBE.

## **Background**

Chronic methamphetamine use by a segment of the population of youth and adults of the Yaqui tribe, in addition to physical, mental and emotional deterioration, has led to an increase in intra-family and community violence, greater isolation and social exclusion of the individuals that have been affected by the drug, which facilitates the development of criminal behavior within communities. Excessive alcohol consumption is also associated with the use and abuse of amphetamines and is also presented as a priority public health issue in the eight towns of the Yaqui tribe.

The social effects of the widespread marginalization of indigenous peoples, and the low level of development of social care infrastructure for the Yaqui community over the years; as well as, the loss of uses and customs that link young people and adults to their indigenous identity has exposed the Yaqui tribe to an exacerbated vulnerability to the harmful effects of drugs and alcohol, which has rendered conventional treatments offered by the Public Health department ineffective.

### **Yaqui tribe – Nierika AC collaboration**

In 2014, the Multidisciplinary Association for the Preservation of Indigenous Traditions of Sacred Plants of the Continent – Nierika AC, proposed to implement a series of therapeutic work sessions with an indigenous cosmovsion in Yaqui territory, where an interdisciplinary team attended for a week to Yaqui tribe members and their families. The results were quite positive, and due to this, work continued in the following years. Tribe members themselves, through traditional authorities requested the support of Nierika AC to continue the work in an established way in Yaqui territory and thus various steps were taken to obtain financing and be able to implement said project.

Nierika AC is a Mexican non-profit organization whose objectives involve research and biocultural preservation of Indigenous traditions and ceremonies in which sacred (psychedelic) plants are used (Nierika AC, Preservation and Conservation, n.d.). They also work toward elaborating proposals of regulation for the use of these plants in intercultural medicine contexts and work closely with the Huichol people of Mexico as well as other tribes in the American continent (Nierika AC, Intercultural Medicine Research, n.d.).

In the report generated as a result of the intercultural medicine workshops that were held in Yaqui territory in 2014, Loizaga Pazzi of Nierika AC observes that “people resort to health centers whose western medicine does not cover patients nor families’ needs. Treatment tends to be pharmacological with various third-generation antidepressants and anxiolytics, and there are no psychotherapy contexts to care for patients and their families. The damage that alcoholism and amphetamines do to the tribe is evident and should become a priority for public health for the Yaqui tribe and for the corresponding health authorities”.

### **Project objective**

This project’s objective is to develop and implement integrative addiction treatment and mental health programs in collaboration with specialist researchers and traditional doctors from diverse cultures related to the Yaqui culture. These protocols will be multidisciplinary and culturally adapted to the Yaqui cosmovision, which will include traditional medicine and herbal medicine interventions in ceremonial contexts, such as the purification and reflection bath of the pre-Hispanic temascal, Peyote ceremonies and Ayahuasca ceremonies for therapeutic purposes, psychedelic-assisted psychotherapy, and also mindfulness meditation, group and family therapy, as well as integration of cultural activities that help strengthen Yaqui identity as a therapeutic strategy.

### **General considerations for treatment protocols**

The suggested treatment can start in groups of no more than 15 people so that they can be given very close and personalized attention, in addition to contemplating that their relatives will also participate in some activities. Upon admission, patients will undergo a medical evaluation and diagnosis so we can safely prescribe the treatment of each young person. The doctors will

periodically monitor patients' health status and record relevant data. Each patient will be assigned a therapist who will start with psychological evaluations and carry out all the follow-up and psychotherapeutic integration, all recorded in audio and/or video to have more elements in each of their files that serve to document the progress they have had, and in the same way collect necessary data for future investigations that serve to improve treatment protocols.

Treatment can begin according to the health status and the degree of abstinence of each individual and this acute detox may be supported with Kambo, Koarepa or herbal medicine. Kambo is the name by which the substance obtained from the skin secretions of the *Phyllomedusa bicolor* frog, native to the Amazon is known, and which is believed to have immunological effects that can help with the detoxification process (den Brave et al., 2014).

Koarepa is the Yaqui name that refers to the *Incilius alvarius* toad. This toad, endemic to the Sonoran Desert, contains within its parotid glands a powerful psychedelic substance called 5-methoxy-N,N-dimethyltryptamine (5-MeO-DMT). Preliminary evidence indicates that 5-MeO-DMT has the potential to ameliorate various psychiatric conditions (Davis et al., 2019; Uthaug et al., 2019). A recent epidemiological study on the use of 5-MeO-DMT showed that large numbers of people reported improvements in symptoms of anxiety, depression, substance abuse, and post-traumatic stress disorder (Davis et al., 2018; Davis et al., 2019). Pre-clinical data offer evidence of 5-MeO-DMT's anti-inflammatory, neuro-regenerative and anti-addictive potential through its interaction with Sigma 1 receptors, as well of its effects on glutamate receptors (Dakic et al. 2017; Szabo, Frecska, & Rajnavolgyi, 2014; Szabo, 2015), both of which may have relevance in the treatment of mental health disorders.

The temascal or pre-Hispanic steam bath (sweat lodge) is a medicinal resource present in various indigenous peoples of North America. It is ideal to start the work of young people to facilitate the group integration that will be necessary throughout their process in the clinic and to gradually initiate them in treatment with psychedelics. The temascal can be used daily and through the end of treatment. It can even be left open to discharged patients who wish to participate from time to time as part of a therapeutic follow-up and as a maintenance strategy. There is evidence that whole-body hyperthermia is useful for the management of various pathologies including depression (Janssen et al. 2016).

Mindfulness meditation will also be integrated as a tool for daily use to work on internal processes, which will also facilitate work during and after ceremonies. Observation of the mind and its processes helps detect addictive thinking patterns and supports relapse prevention. Numerous studies support mindfulness as an evidence-based modality for the management of various mental health afflictions such as depression, anxiety, post-traumatic stress disorder, and for relapse prevention (Bowen et al., 2009; Priddy et al., 2018; Hofmann & Gómez, 2017; Boyd et al., 2018).

To exercise the body, program participants will take walks in the mountains (monte), explore flora and fauna, collect wild foods, participate in conservatories about nature, about the ancient vision of the “juya annia” (Universe of the mountain [monte]), etc. recovering ancestral practices of relationship to nature. As their physical condition allows, we will incorporate specific exercise routines.

Once the integration of the group has been achieved, and trust, empathy and affection have been fostered between patients and the multidisciplinary team, the Ayahuasca ceremonies may begin to start the deep therapeutic work needed. After several introspective ceremonies and therapeutic integration sessions, the psychosocial aspect will be addressed through ceremonies with Peyote. In these Peyote ceremonies, family and friends will be able to participate in the ritual, and inter-tribal encounters will also be held where each Town contributes cultural elements that strengthen indigenous identity. A central aspect that will be worked on in the Peyote ceremonies is the restructuring of family ties and their relationship with the community in order to strengthen their sense of belonging and acceptance.

Patients, with the help of their therapists, will be developing their life project and relapse prevention plan throughout their stay. Once they leave the clinic, they will have periodic appointments for evaluation and follow-up. The next group of young people must enter the clinic before the previous one have been discharged so that they can overlap, share experiences and generate ties of support.

### **Cultural activities**

The clinic will offer various activities and workshops where patients can learn different trades based on their preferences so that they may develop skills which can be integrated into their life projects once they leave the clinic. The activities are focused on improving community life, contributing to autonomy, care for the environment, food sovereignty, art, etc., fulfilling a double purpose since it will in turn safeguard some traditional knowledge given that the majority of these activities provide elements that are used in Yaqui dwellings, in the sacred precincts, in festivals, celebrations and rituals, as well as in daily use, clothing, food, herbal medicine, etc.

Activities may be modified, added or removed, taking into account patient's preferences, the clinic's and communities' needs. If possible, is it intended that some of these activities are permanent (e.g. traditional embroidery) to generate products that can be sold to help resupply the materials needed for the different workshops.

### **Workshops and activities**

- Permaculture and bioconstruction
- Agroecology and recovery of *sewacoram* (family garden)
- Traditional embroidery
- Shoe and clothes making
- Weaving of petates and baskets
- Herbal medicine
- Midwifery
- Yaqui arts and crafts
- Clay utensils making
- Carpentry
- Healthy cooking
- Handmade soaps and natural cosmetics
- Ancestral dances

- Painting and drawing
- Music
- Etc.

### **Food sovereignty**

The lack of water in the Yaqui river has resulted in many families no longer growing their food. Gradually, in the most recent generations, knowledge about the cycles of the earth and everything related to knowledge about crops has been lost. Formerly, *sewacoram* (family garden = “huerto familiar”) were used to supply families with food. Today, the vast majority of Yaquis depend on the industry to supply their food. With this change their health has deteriorated, resulting in chronic-degenerative problems such as hypertension, diabetes, obesity, etc.

The Intercultural Medicine Clinic houses two additional parallel projects, a food sovereignty project, where we intend to grow the food that is needed to supply staff and patients. Food that will be produced in a sustainable and ecological way. Where in addition to the benefits that it will bring to the health of patients, it will allow them to work with the land, connecting with their body and with a conscious diet, it will give respect and value to the land and plants. It will also provide them with the necessary knowledge to implement the *sewacoram* when they return to their community.

The other parallel axis is the conservation of *Lophophora williamisii* and of the endemic species of toad *Incilis alvarius*, creating both an ideal habitat for the proliferation of the endemic toad, and introduce the cultivation of Peyote in Yaqui territory, in order to preserve both species in our territory.



## **Infraestructura**

The infrastructure design will be carried out under the principles of permaculture. The spaces that are needed are the following:

- Office
- Communal kitchen
- Dormitories for patients
- Rooms for guests and staff
- Spaces for recreation (“lugares de esparcimiento”)
- Class rooms for workshops and group activities
- Ceremony spaces - Tipi, temascal, maloca.
- Space for food gardens
- Bathrooms

## **Requeriments**

On the part of the Secretary of Health, we request institutional support for the project and its endorsement so that we may process the corresponding permits and licenses from relevant government agencies to implement research treatment protocols with psychedelic-containing traditional indigenous medicine, as well as the basic salary for the multidisciplinary team and the initial costs to complete the training of said team.

On the part of international non-profits like *Riverystyx Foundation*, we seek to obtain the necessary funds for the development of the clinic's infrastructure and conservation projects. Through our work with IPIC (Indigenous Peyote Conservation Initiative), we also seek to collaborate with other indigenous peoples in preservation projects for the species *Lophophora williamsii*, which is believed to be well adapted to the Sonoran Desert. Although Wirarikas are authorized to collect and use Peyote under the official Mexican standard NOM-059 as a species under official protection, there is pressure on it. Any effort to expand the habitat under the same protection and use will be beneficial. The proposed intercultural clinic will be able to contribute to the protection and use of Peyote for the Wirarikas and other indigenous peoples of the region.

The endemic toad species *Incilius alvarius* is currently in an uncertain ecological situation. Although it is not included in the NOM 059, and the International Union for the Conservation of Nature (IUCN) Red list has it classified as a "lower risk" species, in recent years there has been an incremental demand of 5-MeO-DMT derived from the parotid glands of this toad, which may be endangering the species. For this reason, this project is also contemplating the steps we need to take to conduct a species population assessment to generate current data on the toad's actual ecological status. This with the end goal of reclassifying his status as needed as a first step on a series of conservation strategies. Georgina Santos Barrera, the herpetologist who conducted the species assessment for the IUCN's Red list in 2004 has recently been made aware of the various cultural forces encroaching on the species and we have begun strategic conversations to conduct this population study in summer 2021.

## **Conclusions**

Psychedelic substances like psilocybin are being studied for their therapeutic potential in various psychiatric conditions, including depression and substance use disorders. Psychedelics of

natural origin such as Ayahuasca and Peyote have also shown effectiveness in these afflictions when used in well-structured therapeutic contexts.

The establishment of an Intercultural Medicine Clinic represent a great opportunity to create a multidisciplinary work team that can design and implement treatment programs from an indigenous cosmovision to address the problem of methamphetamine addiction in Yaqui communities in culturally-sensitive and effective ways.

The implementation of this project can be considered a world breakthrough in the investigation of next generation alternatives for several of the main causes of morbidity and mortality in the world such as anxiety disorders, depression and substance use disorder, since the knowledge generated will be original and revolutionary in the development of new methodologies for the management and healing of these pathologies. This in turn will be an excellent first step for Mexico to position itself as a pioneer in the treatment of mental health and substance abuse disorders from a comprehensive indigenous cosmovision, implementing psychedelic-assisted therapy protocols with psychedelics of natural origin. This pioneering project will also serve as the basis to expand health services to indigenous peoples from an intercultural perspective that offers culturally adapted treatments to effectively address the challenges for individual and collective mental health. Likewise, this project will allow conservation and preservation projects to be carried out for the species *Incilius alvarius* and *Lophophora williamsii* in the Sonoran Desert

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