PROJECT
WANÖPO

AN APP FOR TRANSDIAGNOSTIC MENTAL HEALTH SCREENING
FOR PRIMARY CARE IN LOW AND MIDDLE INCOME COUNTRIES

wanöpo

IMPROVING MENTAL HEALTH

PROJECT WANÖPO

ABSTRACT

One in four people around the world will have a mental health problem throughout their lives. Mental disorders are one of the most prevalent health problems and they not receive enough attention by health policies around the world. Public health agencies, nonprofit organizations and even the private sector, have been attemping to develop programs to tackle the mental health problem from care, prevention and promotion views. However, they have failed due to data collection issues and the way how they propose strategies for mental health management. Therefore, Wanöpo emerges as an initiative which purpose is to perform an adequate screening of the most prevalent mental health conditions in Colombia and, at the same time, to provide specific management guidelines for the patients who are treated. The development of the project is supported on evidence-based studies about the importance of having a transdiagnostic view of mental problems. The project is based on an app that will evaluate the dimensional level of emotional disorders, as well as other related problems such as suicide and substance use. The promotion of these technologies in the mental health field in low- and middle-income countries will help reduce the stigma. In addition, it could contribute to data recollection about mental health in the country.

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THERE'S NO HEALTH, WITHOUT MENTAL HEALTH

MENTAL HEALTH CONTEXT

1. INTRODUCTION

1.1 THERE'S NO HEALTH WITHOUT MENTAL HEALTH

"There's no health, without mental health" has been the motto of organizations like World Health Organization (WHO), Pan American Health Organization (PAHO) and many country public policies since 2007 (Prince et al., 2007). However, the mental health problem is still one of the biggest challenges to be addressed by 2019. According to WHO, one in four people will be affected by a mental health disorder at some point of their lives, and only two-thirds of people with a known mental disorder seek help from a mental health professional. Among the reasons for not going for help are the stereotypes, prejudices and discrimination that are framed in public stigma and self-stigma (see table 1). In addition to having limited access to opportunities for academic and work opportunities, this stigma extends to professionals and the health system, being a barrier that limits the use of available resources (Patel et al., 2016). As stated by WHO (2017) health is not only the absence of disease but a state of physical, mental and social well-being. Nevertheless, mental health has been neglected a place in the health agenda, especially in low- and middle-income countries (LMICs) like Colombia (Patel et al., 2016).

Table 1: Taken from Corrigan & Watson (2002)

Comparing and contrasting the definitions of public stigma and self-stigma

Public stigma	
Stereotype	Negative belief about a group (e.g., dangerousness, incompetence, character weakness)
Prejudice	Agreement with belief and/or negative emotional reaction (e.g., anger, fear)
Discrimination	Behavior response to prejudice (e.g., avoidance, withhold employment and housing opportunities, withhold help)
Self-stigma	
Stereotype	Negative belief about the self (e.g., character weakness, incompetence)
Prejudice	Agreement with belief, negative emotional reaction (e.g., low self-esteem, low self-efficacy)
Discrimination	Behavior response to prejudice (e.g., fails to pursue work and housing opportunities)

1.2 ECONOMIC IMPACT OF MENTAL HEALTH CONDITIONS

Mental disorders also have an impact on global and national economic loss. It is estimated that the burden associated with mental health and substance use problems increased by 37.6% between 1990 and 2010 (Whiteford et al., 2013) and approximately with 10% of the global burden of disease. The burden associated with mental health problems is estimated at 14%, but on average, countries allocate only 4% of the budget to this item (Raviola, Becker & Farmer, 2011).

The above, added to the lack of training of mental health professionals, mean that for LMICs the gap for the treatment of these problems is such that it is estimated that 75% of patients are not treated. It is estimated that the economic loss associated with mental health problems was US $ 8.5 trillion in 2010, a figure that is expected to double by 2030 (Patel et al., 2007). In the case of LMCIs, mental disorders cost around US $ 870 billion every year (Collins et al., 2013). Government expenditures in mental health, in the countries that require it the most, are much lower than what is needed, since they have a great burden associated with these problems and little availability of effective interventions. Being the LMCIs the most serious examples in terms of scarcity of resources, inequity in their distribution and inefficiency in their use (Saxena et al., 2007).

1.3 MENTAL HEALTH CONDITIONS AND ITS CONSEQUENCES

Mental health conditions (MHC) include a heterogeneous and large number of discrete health conditions among mental, neurological and substance use disorders. Also, intellectual, cognitive and psychosocial disabilities and suicide risk (WHO, 2017). As with many noncommunicable conditions they are originated by complex interactions between psychological, social biological and genetics variables (Patel et al., 2016). They have several and relevant consequences from the individual to the global level as they run a chronic course and have an enormous impact on the social and economic well-being.

The relationship between mental disorders and other health conditions is complex. Some health conditions increase the risk of suffering mental health problems or extend the duration of their episodes. The dynamic between mental health disorders and other health conditions influences maternity and neonatal development, communicable and noncommunicable diseases and somatic symptoms without medical explanation. In addition, it has been found that mental disorders are associated with risk factors such as hypertension, obesity, poor diet, decreased physical activity and smoking, which affect the development of chronic diseases (Prince et al., 2007). It is possible to affirm that a mental illness generates a great disability in the person who suffers it, thus impacting both its immediate environment and society in general. According to WHO (2017) it is estimated that mental health conditions are accountable for 1 in 5 years lived with disability. In fact, the third cause of greater disability for 2017 were depressive disorders.

Likewise, two mental problems that are of interest for any mental health policy, due to their high rates in a country like Colombia, are suicide and substance use. In relation to suicide, it is estimated that globally it is the cause of 800,000 deaths (WHO, 2017), of which 75.5% occur in LMCIs where there are few resources to address this problem. Although suicide has multifactorial causes, this problem may be preventable with interventions associated with the management of depression (Prince et al., 2007). However, in order to achieve the objective of being able to effectively prevent suicide, adequate reporting and monitoring information systems must be developed. On the other hand, one of the most important risk factors for premature death and disability is alcohol, where 85% of deaths attributable to consumption occur in LMICs (Patel et al., 2007). Regarding the use of illicit drugs, by 2012 it was estimated that between 165 million and 365 million people consumed them worldwide. Its use affects not only the health of the individual but its possibilities of entering or remaining in the labor market, as well as being related to low levels of productivity and accidents. When analyzing the latest mental health survey conducted in Colombia, the life prevalence of substance use per thousand inhabitants is of concern: alcohol (87.07%), tobacco (42.07%), marijuana (11.48%), cocaine (3.23%) and inhalants (1, 91%) (MinSalud, 2015).

1.4 UNDERSTANDING THE PROBLEM FROM THE ROOTS: PRIMARY HEALTH CARE

In Colombia, the public mental health policy is intended to provide essential health care based on practical methods and technologies, with scientific and socially acceptable evidence, that is available to all individuals and families. It is important to remember that in Colombia, health is a right, so that adequate mental health is a priority for the population (MinSalud, 2018). This can be achieved under three levels: promotion, prevention and care. It is sought in the promotion model that this allows to host and generate environments and living conditions aimed at recognizing, maintaining and adopting healthy lifestyles; while in the prevention is aimed at reducing risk factors and increasing the protective factors that are related to mental and behavioral events and disorders.

On the other hand, at a level of attention in which the problem is already present, we will seek to use the best strategies based on scientific evidence to help in the recovery process. The mental health care provided within the general primary care services is the first level of care within the formal health system, taking into account the established parameters. The essential services at this level include the early identification of mental disorders, the treatment of common mental disorders, the management of stable psychiatric patients, the referral to other levels where necessary, the attention to the mental health needs of people with problems of physical health and the promotion and prevention of mental health.

In primary care it is common to find that those who support the task of detecting and helping the population when there is a mental health problem are mostly professionals who do not have mental health training (Redondo, 2011). However, worldwide, different cases have been presented or in which other professionals, who are not specialists in mental health, have helped in this specific area. An example of this is Sierra Leone, since in the year 2017 there was a flood that killed more than 500 people and affected more than 5000. This caused the loss of entire communities and the disappearance of many families. In addition to causing negative effects at the psychosocial level such as: post-traumatic stress, increased poverty, abandonment of minors, difficulty in caring for pregnant women and emotional problems due to the loss of loved ones (Harris, Wurie, Baingana, Sevalie & Beynon , 2018).

To solve this problem, 20 nurses trained in psychological first aid, which can be defined as immediate help to support the affected people and reduce the possible risk factors for the development of a mental disorder, made more than 1000 interventions in one week to the individuals who suffered the incident and the subjects who were in charge of other ambulatory aspects in health (collection of dead people, ambulance personnel and funeral equipment). Additionally, these nurses trained others with a minimum of 3 years of experience in the clinical area; besides being intermediaries in psychiatric aspects, and in being the point of reference towards other specialists. Finally, this demonstrated the importance of treatment in mental health and helped reduce stigma by 99.5% in the population (Harris, Wurie, Baingana, Sevalie & Beynon, 2018).

Another of these cases can be observed in a study carried out Clarke, King & Prost (2013) in which they showed that health workers, novices, non-mental health professionals, nurses and doctors could provide benefits to people with perinatal mental disorders (in pregnancy and after this) through psychological interventions in which they were trained. Additionally, they pointed out the need to study this type of situation much more in low-income countries, in addition to making comparisons between preventive and treatment approaches.

The foregoing evidences the need to study this type of intervention with professionals not belonging to the mental health area in a low-income country such as ours (Colombia). Finally, in an investigation conducted by Giles & Martini (2017), they mention key points to train other people in a program of primary mental health care. For this they say that it is necessary to understand which service is being pre-written, how to provide quality care to the greatest number of patients, to generate an integration between the patient and his family in which treatments based on Evidence, and in which through collaborative work you can obtain the skills and training necessary to address the needs of the population in the area of mental health. From there it is important to emphasize the importance of having practice sessions to maintain the knowledge, skills and information necessary to adequately attend to the individual.

1.5 SCREENING FOR MENTAL HEALTH: A TRANSDIAGNOSTIC APPROACH

This shows, among other things, that many of the patients who arrive at primary care services require attention and management of behavioral or mental health problems. According to data from Bufka, Crawford & Levitt (2000), primary care doctors see many more patients with psychiatric problems than mental health professionals. Hence the need to find resources for early detection of these problems, because the evidence reports that among the advantages of detection are: improvement in quality of life, reduce costs of care, reduce complications of the co-occurrence of health problems mental health and physical health, and finally, with its detection can promote appropriate strategies of promotion and prevention more effective in mental health that would prevent the increase of human suffering (Mulvaney et al., 2018). Studies support the feasibility and support of screening in mental health, both in adults and in children and adolescents (Bhatta et al., 2017), as well as sustaining them in low-income settings (Tennyson, Kemp & Rao, 2016).

However, there are many obstacles to not screening in a primary care center for reasons such as failure to detect problems such as depression, funding challenges of entities, lack of trained professionals and a de-structured follow-up when they detect this type of problem (Hacker et al., 2014; Patel & Prince, 2010). One of the strategies that has been shown to help improve the previous obstacles is technology (Chorpita el al., 2011). Thus, in recent years a new way to access resources in mental health has emerged. The use of information and communication technologies (ICT) has allowed strategies such as apps, online autoreports and video calls to be of great benefit to the population. In an investigation with 49 studies, it can be concluded that telepsychiatry strategies such as electronic health (eHealth), Mobile-deliver health (mHealth) and Short message services (SMS) are the future for mental health delivery (Naslund et al., 2017). Especially because the use of technologies helps manage issues of individual and public stigma (Malhorta & Shah, 2018), so it would be a useful tool to apply in low-income and middle-income countries as Colombia.

Regarding this, it is important to take into account that to choose appropriate instruments that allow to evaluate mental health problems in an effective way. According to the evidence-based practice (Beidas et al., 2015), the instruments must have certain characteristics such as: validity for multiple populations, reliability, brief, free of use and easy to administer, score and interpret. When talking about screening tests, these can be divided into two: instruments that evaluate multiple disorders and, therefore, more than one behavioral problem and instruments that assess a single mental health problem or a single disorder. A disadvantage of instruments that evaluate multiple disorders is that they are long and difficult to apply; while a disadvantage of instruments that evaluate a single disorder may lose valuable information about another possible existing pathology (Mulvaney et al., 2018). In this way, strategies emerge, with the latest advances in practice based on scientific evidence, as tests that measure dimensions that are common to various mental disorders, that is, transdiagnostic tests.

It is an approach based on the philosophy of science that has a historical precedent of psychology and psychiatry, which is a practical way of approaching treatment options (Mansell, Harvey, Watkins & Shafran, 2009). It is relevant to mention that it does not seek to focus on a specific disorder but on the communalities or comorbidities among a group of mental disorders, in addition to taking into account the cognitive, behavioral and physiological processes that are shared. (Sandín, 2014). On the other hand, it presents a series of characteristics that differentiate it from the approach or model focused on a specific disorder. These are: the maintenance factors that cause the problem to persist are shared through various disorders; In this approach, the assessment of the diagnosis is not always necessary to carry out an effective therapy; this model is convergent and integrative; and it benefits from theories that conceptualize shared processes through different disorders (Mansell, Harvey, Watkins & Shafran, 2009).

The transdiagnostic model arose from studies that found that people with emotional disorders have a 76% chance of having another comorbid disorder (Crascke, 2012).). This happens because, although each disorder has a different manifestation, it has been found in recent studies that all emotional disorders share similarities in etiological, maintenance and vulnerability factors (Rosellini & Brown, 2019). If the importance of conducting evaluations based on scientific evidence is mixed with technology in primary care in Colombia, the importance of improving the detection of mental health problems will be recognized, and strategies to help promote and prevent these problems will be promoted. This if it is recognized that one of the problems of the health systems of the world is the management of the Mental health information systems (WHO, 2005). Therefore, having data about the mental health problems that afflict the country and integrating its detection with the primary care system using technology would maximize the effectiveness of the small number of available mental health professionals and mobilize resources public, private and community to work for the improvement of mental health.

PROJECT WANÖPO

2. PROJECT WANÖPO

2. PROJECT PROPOSAL: WANÖPO

Wanöpo is a word from the harkbut culture that translates as “the center of emotions”. Being considered the place where fear, sadness and happiness are born. Wanöpo is a platform that allows health service providers to carry out screening of mental health problems using evidence-based tools, in a short period of time, generating in turn global indicators about the mental health of patients that they consult through their different services. These indicators will allow the institution to focus its resources on the most prevalent and most impacting problems.

Wanöpo does not limit itself to giving only the referral to the mental health specialist, but also offers the health professional, a series of guides to give the patient recommendations or plans of short interventions based on scientific evidence and that all this can be done by different health professionals. In addition, for those people who do not show symptoms associated with mental health problems, Wanöpo provides the health professional with a series of recommendations to give to the patient, aimed at the development and maintenance of protective factors associated with a healthy lifestyle.

Wanöpo aims to bring people suffering from mental health difficulties closer to those professionals who, through evidence-based tools, can provide relief for their suffering. Being this a very ambitious goal, Wanöpo considers itself as **objectives:**

- Create a tool to detect mental health problems in adults, suitable for application in primary care.
- Train in brief interventions, based on evidence and suitable for primary care in the problems of suicide and consumption.
- Facilitate the referral of people with mental health problems to the most suitable specialists.
- Systematize and consolidate data on mental health issues, so that institutions can focus their efforts and develop programs aimed at responding to the specific needs of the patients they serve.
- Train health professionals in the dissemination of healthy lifestyle guidelines, in order to promote the development of protective factors in the population.

2.1 WANÖPO IN COLOMBIAN HEALTH SYSTEM

Considering that Wanöpo will be framed in the Colombian health system, it is important to explain what it consists of and thus be able to understand how the app can be aligned with each of the actors involved. To begin, the Congress of Colombia, on February 16, 2015, enacted Law 1751 in which it mentions that health is a fundamental right, which must be provided with quality, and must be regulated and protected individually and collectively to all the citizens of the country. Therefore, there are various organizations, institutions and resources that seek to ensure that this right is fully enforced for the entire population and carry out actions to that end. The Colombian health system has a characteristic of regulation at the public level, but executed by entities and institutions, both public and private. First, there is the Ministry of Health and Social Protection, which is responsible for the governance and function of the system; that is, it is responsible for regulating health in the country and is the entity in charge of developing policies on this issue (Guerrero, Gallego, Becerril-Montekio & Vásquez, 2011, South American Institute of Government in Health & Union of South American Nations, 2012).

At the next level are the territorial, departmental, district and municipal entities (the health system has a decentralized characteristic in the country). Then there is the public health function in which actions of promotion and prevention are carried out, identification of risk factors and coordination between departments and municipalities for the achievement of various plans on this subject (South American Institute of Government in Health & Union of Nations Suramericanas, 2012). Then, the Health Promoting Entities (EPS) appear, which may be public or private, which are responsible for offering the mandatory health plan. Finally, there are the Institutional Health Services Providers (IPS) who provide their services to the entire population, there are hospitals and health centers in general that are contracted by territorial entities or EPS. (Guerrero, Gallego, Becerril-Montekio & Vásquez, 2011, South American Institute of Government in Health & Union of South American Nations, 2012). In sum, in order to have a greater viability of Wanöpo this must be properly framed in the Colombian health system. It contemplates from the micro level to the patient who comes to primary care through the IPS, to a macro level of data collection useful for the EPSs and therefore to the Ministry of Health and Social Protection.

2.2 WANÖPO APP AND WEB PORTAL: DESCRIPTION

THE WANÖPO PLATFORM, BEING BOTH A SCREENING TOOL, A DATA CONSOLIDATION AND SYSTEMATIZATION SYSTEM, WOULD HAVE TWO MAIN VIEWS DEPENDING ON THE USER'S ROLE IN THE ORGANIZATION: HEALTH PROFESSIONAL AND HEALTH CARE PROVIDER.

HEALTH PROFESSIONAL

Main functions

- Screeening
- Safety plan
- Consumption information
- Healthy habits

Other functions

- User log in.
- Informed consent.

HEALTH CARE PROVIDER

Main functions

- Indicators
- Training

Other functions

- User log in.

2.2 WANÖPO APP AND WEB PORTAL: DESCRIPTION

2.2.1 HEALTH PROFESSIONAL

When entering the Wanöpo platform, the health professional would find an entry window. After typing your access data, you would find a main menu with 4 sections:

- Screening
- Security plan
- Consumption information
- Healthy habits

After selecting the screening option, a screen with informed consent would appear, in which the consultant voluntarily accepts to participate in the screening. In case of not accepting, the screening is terminated. If it continues, it will proceed to fill out the general demographic data of the patient and the application of the questionnaires. At the end, in case of scoring high in any of the measures, the referral would be given to a mental health professional along with the information corresponding to the problem.In the case of selecting safety plan, information, consumption or healthy habits, resources related to these tools would be accessed to facilitate the information provided by the professional, such as videos and recommendations.

2.2.1 HEALTH CARE PROVIDER

After entering as an institution, the user would find a menu with the following sections:

- Indicators
- Training

In the indicators option, you would find the consolidated information of the screening, in such a way that your visibility can be modified according to the needs of the institution. In the training section, videos and training questionnaires for health professionals on issues related to stigma would appear as well as insights into the approach to mental health problems. Wanöpo is expected to be a multiplatform tool, being suitable for different devices (computers, tablets, smartphones).

2.2.3 SCREENING TESTS

As previously mentioned, Wanöpo is an app that seeks to support health professionals in the detection of possible mental problems of people who attend primary care. The screening will consist of three tests that will assess emotional disorders, substance use and suicidal risk. The justification for screening the above problems lies in that the number of people who have an emotional disorder is more prevalent and are also poorly detected compared to other severe mental illnesses such as schizophrenia or epilepsy that are more visible (Coyne et al., 2002). Likewise, the rates of substance use and suicide are among the highest and with the greatest impact in Colombia (MinSalud, 2015). Therefore, it is essential to cover the main and most prevalent mental problems that can occur in a primary care context. In this way, the following tests that will contain the screening were determined:

• **Multidimensional Emotional Disorder Inventory (MEDI):** Since the comorbidity rates in some disorders are so high, dimensional measurements are required. The MEDI is until now the only validated test that evaluates transdiagnostic dimensions common to emotional disorders and that also generates a specific profile for each person (Rosellini & Brown, 2019). Through 49 items, it evaluates nine dimensions proposed in the approximation of a classification profile of emotional disorders by Brown & Barlow (2009): neurotic temperament, positive temperament, depression, autonomic arousal, somatic anxiety, social anxiety, intrusive cognitions, traumatic reexperiencing, and avoidance. The use of this test for the Geneva Challenge was authorized by its creator Anthony Rosellini. The authorization for commercial use is still pending.

• **Drug abuse Screening Test (DAST-10):** With 10 items seeks to assess substance use and risk of these. The test is of free use and has been validated in clinical and non-clinical population (Bedregal et al., 2006).

•**The Suicide Behaviors Questionnaire-Revised (SBQ-R):** Evaluates past suicidal behaviors including ideation and attempts. The test with its four items is for free use and is validated in the clinical and non-clinical population (Osman et al., 2001, Rueda et al., 2017)

2.2.4 FOLLOW-UP

Since the majority of screenings in mental health fail to have an adequate follow-up, inside the institutions it is important to consider this aspect to have a successful project. At the end of the screening, gross scores will be obtained for each test. Depending on the test, the following strategies will be carried out:

EMOTIONAL PROBLEMS.

If the applied test yields high scores, not only the guidelines associated with healthy habits will be given, but a direct referral to a mental health specialist will also be made.

CONSUMPTION OF PSYCHOACTIVE SUBSTANCES.

If the test yields high scores, it will continue to give short information about possible negative consequences of the short and long-term use of substances. In addition, it will be sent to a consumer specialist and will give numbers of centers that can go in case the patient is willing.

SUICIDE.

Suicide is a complex problem that deeply affects the whole society and is a major issue in public health. Therefore, if the test shows medium or high scores, it will continue to carry out the so-called Safety Plan to prevent suicide attempts (Stanley & Brown, 2012). The Safety Plan consists of six specific steps to take in case of having suicidal ideation, despite its variability from person to person (in content quality) it has a wide acceptance in many clinical settings and is being tested for its use by means of of electronic platforms (Boudreaux et al., 2017).

HEALTHY HABITS.

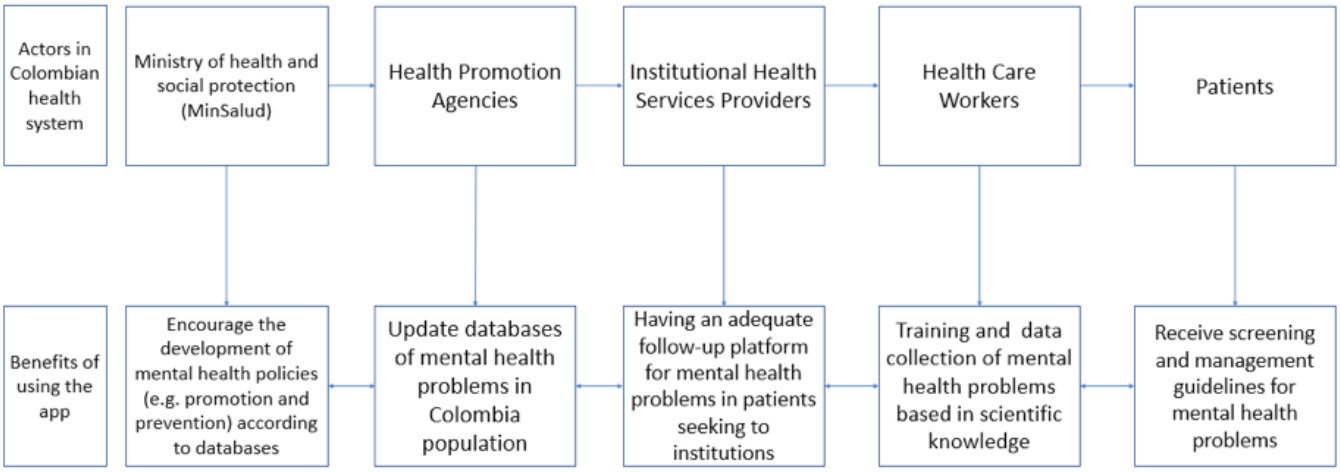
In case the applied tests show low or average scores, basic self-care guidelines associated with sleep, nutrition, physical activity and recreation that seek to increase the protective factors will be given.

3. PROJECT IMPLEMENTATION

3.1 STAKEHOLDERS PERSPECTIVE

For the planning and execution of the project, it is important to take into account some sources of support from national and international institutions and organizations. As mentioned in Figure 1, the app will be focused to benefit the entire Colombian health system.

Figure 1: Benefits associated with the use of Wanöpo in each actor of the Colombian health system



At a national level, it is expected that the purchase of the application by the private Institutional Health Services Providers will help to improve the quality of the information on mental health problems that Health Promotion Agencies need, so they can allocate a heading for mental health. In this way, an economic reduction of expenses in patient care can be ensured since, on the one hand, health care workers will know what to do in cases of patients with mental health problems (e.g. how to send or make an effective follow-up for each person); On the other hand, by providing accurate and specific information on management guidelines, especially self-care, will contribute to reduce monetary burdens associated with hospitalizations and medications.

Likewise, at the governmental level, the Ministry of Health and Social Protection, with the information collected, will be able to update and improve mental health indicators for its Mental health information systems. Likewise, based on this information, you can propose strategies and campaigns to improve the mental health of the population (e.g., promotion and prevention) of the most common problems: emotional problems, suicide and substance abuse. Finally, another possible potential interest would be universities in the country, with mental health professionals (e.g. psychologists) who are willing to carry out the training in the IPS about the use of the application. It is important to remember that the idea is that any health professional can make use of the app, since around the world the first person who attends or detects mental health problems is not a specialist in the subject.

At the international level, the following stand out: Inter-American Development Bank (IDB), which has previously supported telemedicine, telecare and tele-education projects in Colombia (e.g. University of Antioquia); Strategic Fund of the Pan American Health Organization, which among its main objectives is the adoption of new technologies of low therapeutic value; finally, institutions specialized in mental health, interested in projects that involve dimensional evaluation studies such as the National Institute of Mental Health (NIMH) (see, for example, studies about the Research Domain Criteria RDoC).

3.2 FINANCE MODEL

Table 2 summarizes the main assumptions of the economic model. The analysis is based on the information of the affiliated population according to data from the Colombian Ministry of Health and Social Protection. The projected inflation data for the next 5 years of the Bank of the Republic of Colombia is used.

Table 2: Assumptions of Wanöpo's financial model

Assumption	Data	Source
Para-fiscal Contributions	50,68%	Calculated
Inflation Rates	3%	Bank of the Republic
Colombian Population	50.058.159	Ministry of Health
Number of affiliates to the National Health Care System	47.549.646	Ministry of Health
Underage Population Rate	31%	Ministry of Health
Number of Adult Affiliates	32.904.355	Ministry of Health
Avg. Number of medical appointments per Person	3,8	Calculated

The main expense of the project is related to the monthly salaries of the people involved. In Table 3, the estimated payroll for the first 5 years of operation is presented. This includes personnel dedicated to software development and maintenance. It takes into account resources with technical knowledge for the creation of screenings, training and other needs related to the development of the product. In addition to the people needed for the administration and sale of Wanöpo.

Table 3: Staff monthly salaries Wanöpo

Staff	Salary	Para-fiscal Contributions	Total Salary
Project IT Coordinator	1.000	507	1.507
IT Development Analyst	625	317	942
IT Support Analyst	469	238	706
Scientific Coordinator	1.250	634	1.884
Mental Health Profesional	625	317	942
Mental Health Profesional	625	317	942
Sales Force Coordinator	1.250	634	1.884
Manager	1.563	792	2.354
Total			**11.160**

Table 4 shows the cash flow of the project. In this, a 5-year projection is made. Regarding the calculation of the income of the project, the decision is made that the collection will be made by effective screening. The assumption is calculated taking as a target market the population of age affiliated to the Colombian public health system. An initial adoption of 0.5% is assumed in year 1 until reaching a maximum of 3% at the end of year 5. Additionally, it is assumed that only 25% of the affiliates to whom they are asked to carry out the screening are willing to give the information. A minimum price of USD 0.31 is estimated for screening. It also includes expenses related to leasing, services, hardware maintenance, as well as costs associated with the purchase of technical material to support the work of the company's professionals.

It should be clarified that the project is expected to begin to have profits in year 3, achieving a return on investment at the end of year 5. A net present value of 0 is calculated during the first 5 years of operation, this in order to prioritize the expansion over the generation of profits.

Table 4: Cash flow Wanöpo

Project Cash Flow					
USD / Year	**1st**	**2nd**	**3th**	**4th**	**5th**
Income					
Unit price per screening	0,31	0,32	0,33	0,34	0,35
Adoption rate	0,5%	1,1%	1,8%	2,4%	3,0%
Potential number of screenings	625.183	1.406.661	2.188.140	2.969.618	3.751.096
Screening acceptation rate	25%	26%	27%	28%	29%
Number of effective screenings	156.296	365.732	590.798	831.493	1.087.818
Total	**48.645**	**117.244**	**195.076**	**282.788**	**381.062**
Expenses					
Salary Expenses	133.917	137.934	142.072	146.335	150.725
Fixed Cost					
Rent	7.500	7.725	7.957	8.195	8.441
Utilities	3.750	3.863	3.978	4.098	4.221
General Expenses	2.432	5.862	9.754	14.139	19.053
Psychological Advisory Cost	2.432	5.862	9.754	14.139	19.053
Software Maintenance Cost	3.125	3.219	3.315	3.415	3.517
Total Expenses	**153.156**	**164.465**	**176.830**	**190.321**	**205.010**
Profit Before Taxes	- 104.511	-47.221	18.245	92.466	176.052
Tax Rate	32%	32%	32%	32%	32%
Tax Expenses	0	0	5.839	29.589	56.337
Net Profit	-104.511	-47.221	12.407	62.877	119.715

3.3 LEGAL AND INSTITUTIONAL FRAMEWORK

On November 7, 2018 was launched the new mental health policy for the country, which seeks to establish mental health as an individual, group and family law (Minsalud, 2018). It is important to mention that this policy is embedded in the Law 1616 of January 21, 2013, which seeks to guarantee this fundamental right for all Colombians (Congress of Colombia, 2013) and the Ten-Year Public Health Plan (Resolution 1841 of 2013), in which one of its dimensions -focused on coexistence and mental health- seeks to contribute to the development of opportunities and capacities in which individuality, collectivity and the strengthening of mental health in Colombians; in addition to intervening in the risk factors and in substantially improving the response capacity of the institutions and the community regarding mental health.

On the other hand, politics is based on 5 approaches: development based on human rights, life course, gender, population-territorial differential, and psychosocial. But we consider that the last one is the one that is more related to our app, because it seeks to recognize the integrality of people, through the experiences they have lived, the context where they occurred, the meaning they have given them, the pain or suffering they may have experienced, and the way in which people or communities can recover from these events and achieve their life projects (Ministry of Health and Social Protection, 2018).

In addition to the above, the policy presents 5 axes that will guide sectoral, intersectoral, community and social actions that seek to guarantee the mental health of the population as part of the fundamental right to health. These are: promotion of coexistence and mental health of the environments; prevention of mental problems and disorders, epilepsy and interpersonal violence; integral attention; community-based rehabilitation and social inclusion; and management, sectoral and intersectoral articulation (Ministry of Health and Social Protection, 2018).

Of these, we consider that the ones that most relate to the app are prevention, since through this the early detection of various problems or mental disorders will be achieved; suicidal risk and consumption of psychoactive substances, besides promoting the importance of psychological first aid and interventions in crisis; rehabilitation, since individuals with mental disorders will be more easily identified according to their environment and a channel to health services can be made; and finally, the management or intersectoral articulation, since different health professionals can use the app for screening and as a guide to implement crisis plans (Ministry of Health and Social Protection, 2018).

Finally, it can be said with certainty that Wanöpo is oriented on the basis of a legal institutional framework that supports the viability of the project, since through this it would be guaranteeing the right to mental health of many people, through the identification of various problems, and the data needed to take actions in health regarding the most prevalent disorders. Additionally, this would be related to the 10-year public health plan and the search for expansion in services.

4. EXPECTED OUTCOMES

4.1 SHORT-TERM OUTCOMES

In the short term, it is expected to encourage the use of the app in healthcare institutions by health professionals so that they can carry out an adequate screening and provide effective tools for patients who come to the clinic. The main idea is that the screening and timely follow-up is not performed only by mental health specialists, but by any other health professional such as doctors, nurses, social workers, among others. The above would reduce the risk that a present problem could be aggravated (eg consummated suicide) by having a safer, more effective and effective approach with the patient that requires it, since they have resources and temporary tools for handling risk situations. Likewise, Wanöpo will allow to organize the information on the mental health of the patients, to later build better global indicators to improve this problem at the institutional level.

INDICATORS OF SHORT-TERM EXPECTATIONS

1. Increase in the number of uses of the app by health professionals.
2. Adequate follow-up for each patient in particular.
3. Greater use of mental health strategies such as higher rates of consultations with mental health specialists.
4. Timely management of risk behaviors such as suicide and substance use based on scientific evidence.
5. Consolidation of reports about global mental health indicators at the institutional level

4.2 LONG-TERM OUTCOMES

Due to the constant use that will be given to Wanöpo, it is expected that the stigma around Mental Health on the part of the population will decrease, perceiving more the need to accept healthy habits to prevent, for example, emotional crises. In this way, consultations with mental health specialists will be requested at a higher rate by initiative of the population and not necessarily by a referral. When considering all this from an application with a transdiagnostic approach, it will help reduce the labeling to which people who attend primary care (e.g., have depression) are subjected.

INDICATORS OF LONG-TERM EXPECTATIONS

1. Decrease public stigma and self-stigma around mental health.
2. Higher rate of mental health consultations with a focus on promotion and prevention to improve the quality of life.
3. Decrease in completed suicide rates.
4. Develop an adaptation of the app for screening with children, adolescents and pregnant mothers.
5. Disseminate screening in other contexts, such as educational centers, colleges and universities.

5. CONCLUSION

After several years of trying to manage mental health, it is still one of the problems that afflicts the world's population and the health system of each country in particular. Given the numerous public health issues around the world related to mental disorders and their failure to detect and treat them in a timely manner, Wanöpo emerges as an initiative that would help counteract several of the drawbacks of these difficulties in primary care settings. Wanöpo allows adults attending health services to be screened for possible mental problematics from a trans-diagnostic perspective and to receive appropriate follow-up on specific management guidelines for each person. Framed within each actor of the Colombian health system, Wanöpo will allow easy access to specialized and non-specialized staff on mental health issues. In addition, it would contribute to having organized information and create global mental health indicators that can be scalable around the country. Finally, the development and implementation of this proposal is supported by: compilation of information based on scientific evidence, financial model analysis, legal and institutional feasibility in Colombia and the possibility of replication in other low and middle income countries.

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