

HEALTH PROMOTING SCHOOLS: A MULTICOMPONENT PROGRAM TO PREVENT BEHAVIORAL RISKS AMONG ADOLESCENTS (2014-2017)

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Recibido: 10 de diciembre del 2019 / Aceptado: 23 de abril del 2020

doi: 10.26439/persona2020.n023(1).4834

Abstract. This article is based on the analysis of the systematization of the Health Promoting Schools project implemented in Lima, Peru, from 2014 to 2017 by an agreement between the International Cooperation Agency of South Korea and the Ministry of Health of Peru. A description of the phases developed, the strategies used and the alliances built for their implementation will be presented. For that purpose, a review of secondary sources and interviews to key players as primary sources were conducted. The project's prevention and health promotion paradigms should be considered as complements.

Keywords: health promoting schools / health promotion / health education / intersectoral cooperation

ESCUELAS PROMOTORAS DE LA SALUD: UN PROGRAMA MULTICOMPONENTE PARA PREVENIR LOS RIESGOS CONDUCTUALES EN ADOLESCENTES (2014-2017)

Resumen. Este artículo se basa en el análisis de la sistematización del Proyecto de las Escuelas Promotoras de la Salud, implementado en Lima, Perú, del 2014 al 2017, a través de un acuerdo entre la Agencia de Cooperación Internacional de Corea del Sur, y el Ministerio de Salud del Perú. Se describe el desarrollo de las fases del proyecto, las estrategias que se usaron, así como las alianzas que se construyeron para la implementación del proyecto. Para el análisis se revisaron fuentes secundarias y se entrevistaron a los agentes clave, como fuentes primarias. Consideramos que los paradigmas de prevención y promoción de la salud deben ser considerados como complementarios.

Palabras clave: escuelas promotoras de la salud / promoción de la salud / educación de la salud / cooperación intersectorial

INTRODUCTION

According to data from the National Institute of Statistics and Information (INEI), the main problem among adolescents is alcohol consumption, cigarette smoking and illicit drug use. Bullying and depression rates are also high among adolescents who come from dysfunctional families, suffer exclusion and social inequality, have limited access to social services or basic services, among other reasons (INEI, 2015).

The World Health Organization (WHO) and the Pan American Health Organization (PAHO) pointed out that the goal of the Health Promoting Schools (HPS) project is “to form new generations that have the abilities, knowledge and skills needed to promote and take care of their health, their family’s health and the community’s health, as well as to create and maintain a healthy study, work and community environment.”

In Peru, the HPS project arose from the agreement between the Ministry of Health (MINSAL) and the Ministry of Education (MINEDU) in 2002. Its main objective was to “contribute to the comprehensive human development of students and the school community through the enhancement of health promotion actions” (General Directorate of Health Promotion [DGPS], 2005). The HPS project was first implemented in primary schools in 2003. From 2004, the program has been implemented in secondary schools nationwide.

The agreement highlights the appropriate control of growth and development during childhood, through a preventive nutrition, the timely care and treatment of people under 18 years old, especially those aged under five. Furthermore, it aims at generating knowledge and abilities in the school community for the development of healthy practices, both individually and collectively. Moreover, it encourages the dissemination of information on food, nutrition and hygiene (MINSAL-MINEDU Agreement, 2002).

In the new 2017 school curriculum, the graduate profile indicates that, during the teaching-learning process, students should have an active and healthy life to improve their wellbeing, taking care of their body and respectfully interacting in the different physical, daily or sports activities (MINEDU, 2017).

Parents, teachers, school leaders, i.e. the whole school community, are considered important socialization agents and, therefore, key players in the proper implementation of the project. The articulation with the health sector is important for implementing the HPS project. Nevertheless, this initiative requires an active involvement of the Ministry of Health through technical assistance, e.g. training the members of the school community in health issues, performing early diagnoses and delivering timely care to adolescents with risk factors. In Peru, the lack of exercise, obesity, unhealthy eating habits, environmental pollution and stress are factors that increase the prevalence of chronic diseases, cardiovascular diseases, diabetes and cancer (Health Promoting Schools Action Plan, 2015).

The HPS project focused on secondary school. It used strategic components based on the strategies recommended by PAHO and included in the technical standard "Comprehensive Health Care in Adolescence" by MINSA (2005). It also took into account the new curriculum approved by MINEDU (2017), and the regulations and procedures from the "Guide for Strategy Management of Health Promoting Schools" by MINSA (2006).

This paper is based on the systematization document which describes and analyzes the process and phases of the HPS project by reviewing the secondary sources and interviewing the main parties involved. Said parties were interviewed to collect their perceptions, evaluations and contributions, emphasizing their degree of connection and involvement in the entire process.

LOGICAL FRAMEWORK OF THE HEALTH PROMOTING SCHOOLS ACTION PLAN

The logical framework of the HPS project took as a reference the six strategic areas recommended by PAHO/WHO and the six essential elements of promoting health in schools established by the International Union for Health Promotion and Education (IUHPE) in 2010: 1. Healthy school policies, 2. The school's social environment, 3. The school's physical environment, 4. Individual health skills and action competencies, 5. Community links, 6. Health services.

The logical framework was developed with data gathered through an initial diagnosis performed in the selected schools of Northern Lima and Callao. The project was conducted in Lima region, (Comas district) and Callao region (Ventanilla and Bellavista districts), areas inhabited by poor population.

In Peru, the lack of exercise, obesity, unhealthy eating habits, environmental pollution and stress are factors that have mainly generated the prevalence of chronic diseases, cardiovascular diseases, diabetes and cancer (Health Promoting Schools Action Plan, 2015). Given this situation, the HPS project could contribute to develop an intervention plan not only to reduce diseases but—above all—to help prevent and promote health self-care.

Alcohol consumption, cigarette smoking and illicit drug use, bullying, feelings of depression, suicidal thoughts, learning problems, gangs, drug abuse, violence and depression rates are high among adolescents, as a result of dysfunctional families, exclusion and social inequality, limited access to social services or basic services, etc. (Health Promoting Schools Action Plan, 2015).

According to these data, the logical framework was the following (see Figure 1):

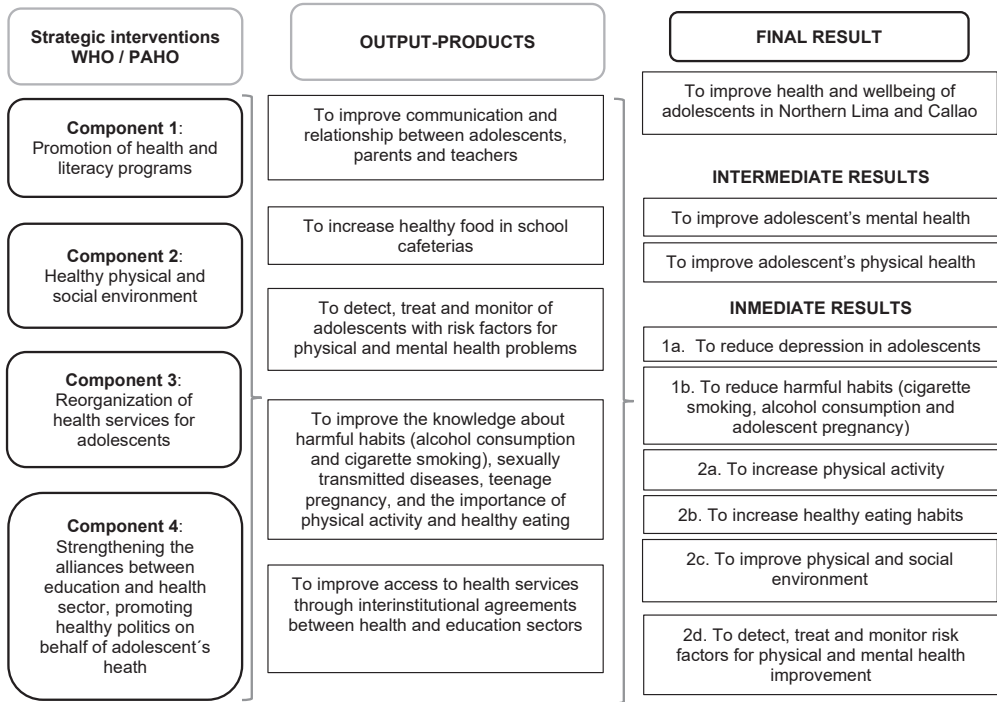


Figure 1. Logical framework of the Health Promoting Schools action plan

The HPS project implemented the following strategies to promote healthy lifestyles and habits in adolescence (see Figure 2).

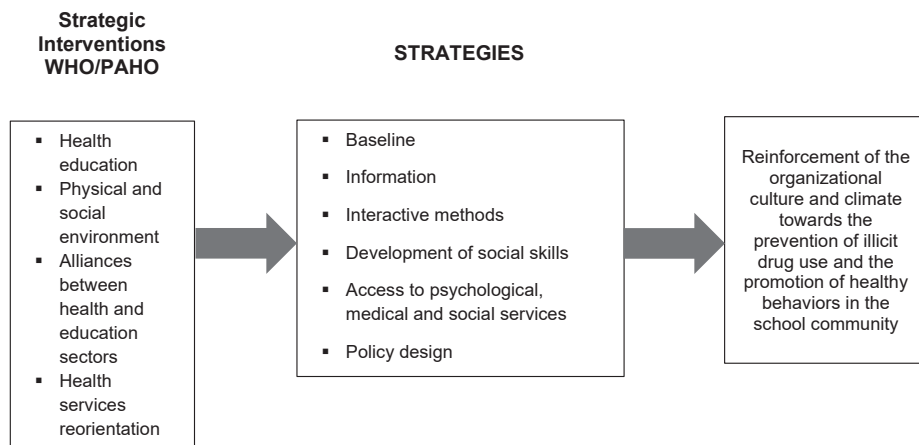


Figure 2. Health Promoting Schools (HPS): A multicomponent program to promote healthy lifestyles

The HPS project was aimed to improve healthy behaviors and to reduce the risk factors that are behind those unhealthy behaviors. Its purpose, according to the health promotion framework, is to implement strategies involving the whole school community, upgrade the school culture and its environment to a healthy one, and therefore impact on the quality of life of the adolescents, their families and their communities.

Addressing the risk factors and reinforcing the protective factors of the educational environment contribute to improve adolescents' lifestyles. However, this depends on multisectoral and multidisciplinary actions to change the knowledge of health problems by adolescents, and the settings where they study, entertain, feed, wash themselves, which directly affect healthy lifestyles. (Health Promoting Schools Action Plan, KOICA, 2015)

INTERVENTION AREA OF THE HPS PROJECT

The project was conducted in Lima region (Comas district) and Callao region (Ventanilla and Bellavista Districts) with the support of health authorities and officials of the General Directorate of Health Promotion and the Túpac Amaru Health Network in Callao (see Figure 3).

The public secondary schools Alborada Francesa and Presentación de María (Comas District), San Pedro 5050 (Bellavista District) and Perpetuo Socorro (Ventanilla District) were selected, among other criteria, because they were located near four maternal and child health centers that KOICA had been supporting to improve their infrastructure and organization.

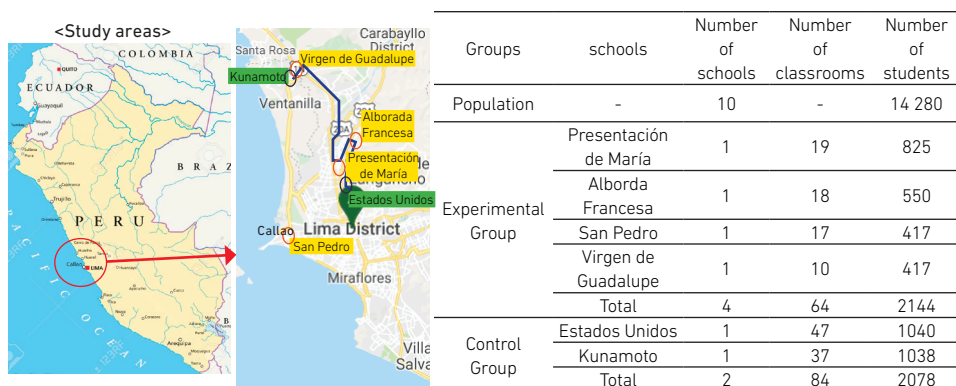


Figure 3. Study areas and schools

a. Ventanilla district

Ventanilla district is located in the constitutional province of Callao. According to data from INEI (2013), it has approximately 277 895 inhabitants. Adolescents from 12 to 16 years old account for 10,8% (30 098) of the total population.

Perpetuo Socorro school was within the intervention area of the Maternal and Child Health Center Pachacútec, which was built and equipped by the HPS project.

b. Bellavista district

Bellavista district is located in the constitutional province of Callao and consists of the lowest-income population. It has approximately 75 163 inhabitants. It has five public secondary schools with a total of 3802 students.

The project's beneficiary school was San Pedro 5050, which had a total of 417 students. This school was within the intervention area of the Maternal and Child Health Center Bellavista, which was built and equipped by KOICA.

c. Comas district

Comas District is in the department and province of Lima. According to data from INEI (2004), it has approximately 522 760 inhabitants. Based on data from the Comas Coordinated Development Plan 2011-2021, it is the third most crowded district in Metropolitan Lima.

The HPS project was implemented in two health centers: Maternal and Child Health Centers Laura Rodríguez Dulanto and Santa Luzmila II. The first health center assisted a population of 34 346 inhabitants and had two nearby public secondary schools with a total of 939 students. The second one assisted a population of 33 269 inhabitants and had one nearby public secondary school with a total of 1318 students.

The two beneficiary schools were Alborada Francesa, located near the Maternal and Child Health Center Laura Rodríguez Dulanto, and Presentación de María located near the Maternal and Child Health Center Santa Luzmila II.

GENERAL OBJECTIVE OF THE HPS

To foster the health and well-being of the adolescents and school community by promoting healthy settings and lifestyles in the area of intervention of the health promotion program in Northern Lima and Callao.

STRATEGIC OBJECTIVES

To improve the levels of knowledge of healthy habits and behaviors, and prevention of diseases in the adolescents participating in the project.

To strengthen the competencies of the health and teaching staff to promote, protect and improve the comprehensive health of the adolescents with the participation of the entire school community, the community and local actors.

To promote the development of healthy settings that foster, strengthen and facilitate healthy habits and behaviors in the adolescents of the project.

IMPLEMENTATION PHASES

The program was developed from 2013 to 2017. Every year, it followed an action plan according to the established targets.

The HPS project was implemented by the Ministry of Education (MINEDU), the Ministry of Health/Directorate of Health Education and Participation (MINSAs/DEPS), health centers located in the intervention areas, and the school community. The Korea International Cooperation Agency (KOICA), the Yonsei University Global Health Center (YGHC) and the Pan American Health Organization (PAHO/WHO) gave technical support during the process.

"We are concerned with decreasing the tendency to obesity among the adolescents; improve the eating habits, increase physical activity and improve mental health"

(Dr. Nam, Eun Woo, leader of the HPS project, professor of Yonsei University)

The methodology was based on the empowerment of the social actors, who played an active role in the decision-making process of the activities and, therefore, in the implementation phases of the HPS project.

Forty-four (44) health professionals and teachers were both beneficiaries and benefactors, and took the responsibility for managing and executing the activities of the HPS project with the technical support of KOICA and PAHO. For that reason, they were trained at different levels from 2014 to 2017 in health promotion, determinants of health, mental health, nutrition and comprehensive health counseling.

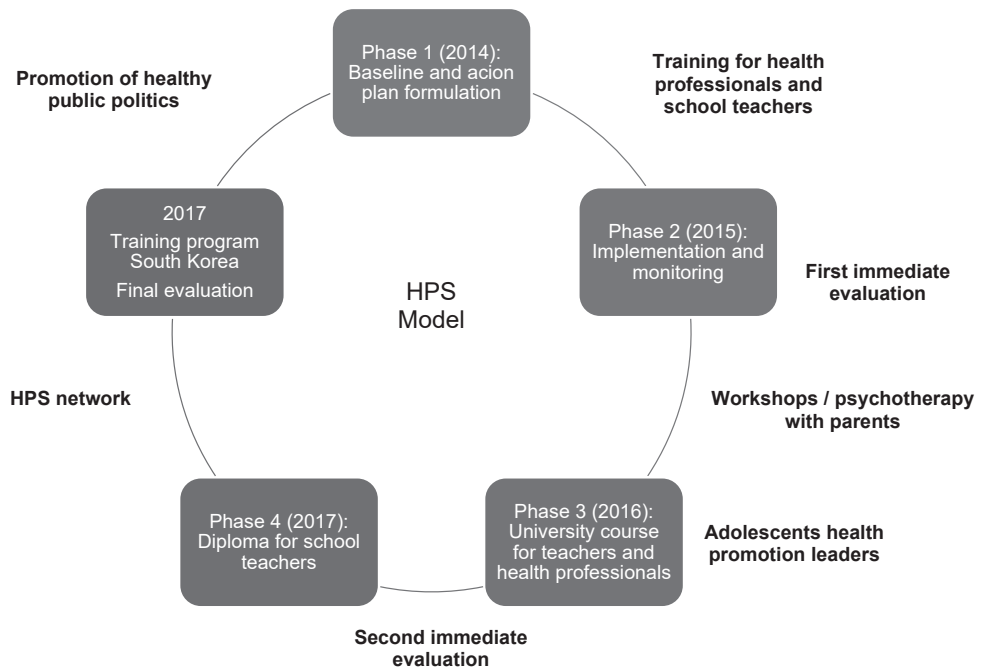


Figure 4. Phases of implementation of the HPS project, 2014-2017

Phase 1: Baseline diagnosis

This stage consisted in the formulation of a research protocol for the baseline survey. Its objective was to gather information regarding the behaviors, habits and health status related to anemia, overweight, illicit drug use, among other issues.

The research methodology was developed by the National Institute of Information and Statistics (INEI). The study population consisted of 14,787 students from 17 public secondary schools. They were selected using a stratified random sampling and lived in the intervention area.

In the first stage of the research, the classrooms were chosen by proportional probability sampling (PPS). The students were chosen in the second stage based on a simple random sampling. The sample size had a 95% confidence level and a maximum permissible sampling error of $\pm 3,15\%$, leaving 981 students in 55 classrooms of 11 schools.

The questionnaire used in this survey took as a reference the Global School-Based Student Health Survey (*Encuesta Global de Salud Escolar. Resultados - Perú, 2010*) and was reviewed by the Ministry of Health and PAHO/WHO. The survey was approved by the

Ethics Committee of the Regional Health Directorate of Callao (DIRESA Callao) and Yonsei University.

The questionnaire consisted of 180 questions regarding demographic characteristics, subjective perceptions, eating habits, personal hygiene, physical pressure, mental health, cigarette smoking, alcohol consumption, illicit drug use, gender-related characteristics, STDs and AIDS, physical activities, school life and physical examination. This questionnaire was used in the intervention and control schools, not only at the baseline but also at the annual evaluation from 2014 to 2017. At the same time, during the first year, training courses were delivered to both health professionals and teachers.

Phase 2: Implementation

The second stage consisted in the implementation process. In this stage, action plan documents were essential to include health promotion activities in the schools' curricula.

As a result of the analysis and results of the baseline data, the 2015 Health Promoting Schools Action Plan was prepared, which contains four components with strategies for achieving the established objectives and goals (see Figure 5).

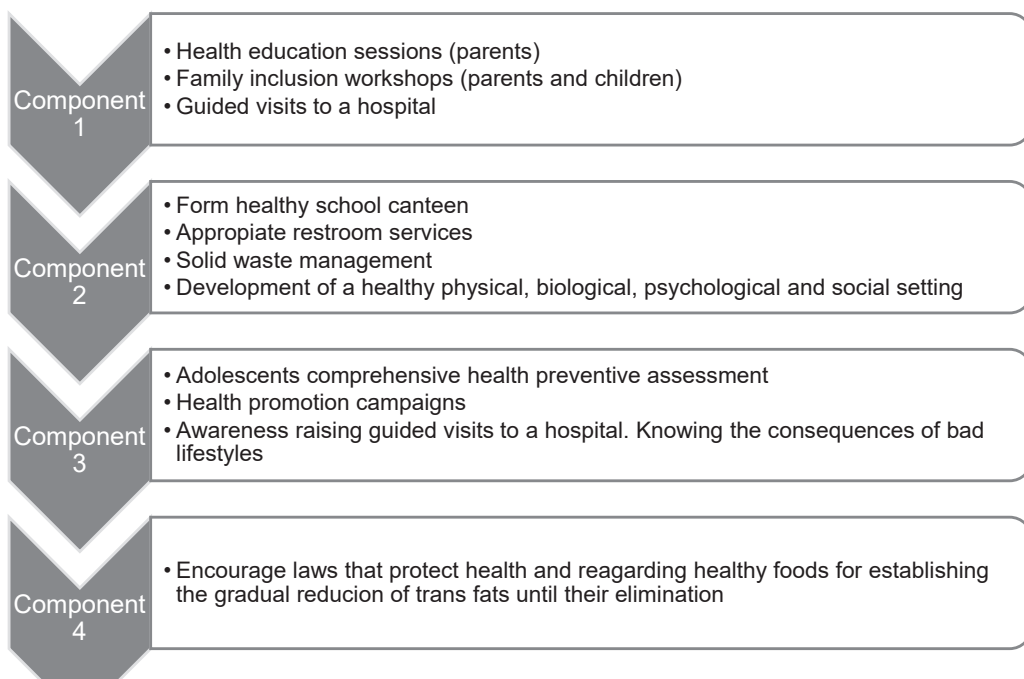


Figure 5. Components of the Action Plan (2015)

Students' training

The thematic areas had a cross-sectional approach and were to be used in the education of all the students who participated in the HPS project. However, the way in which they were developed varied according to the school grade.

The contents were focused on the prevention of non-communicable diseases and health promotion for healthy lifestyles.

Thematic areas:

1. Healthy diet
2. Prevention of alcohol consumption, cigarette smoking and illicit drug use
3. Sexual and reproductive health
4. Physical activity
5. Hygiene habits
6. Mental health and culture of peace

Parents' training

Parents received sessions twice a month and were distributed into different groups (parents whose children were in the first and second grades/parents whose children were in third, fourth and fifth grades).

The HPS project considered important to focus on parents as key influential players in the health and behavior of their children, so that three important functions for a proper development of the HPS model can be achieved: provision of support, role models, establishment of limits.

The sessions' contents were directly related to the topics used in the education of the students.

Thematic areas:

1. Healthy diet
2. Prevention of alcohol consumption, cigarette smoking and illicit drug use
3. Sexual and reproductive health
4. Physical activity
5. Body hygiene habits
6. Mental health and culture of peace

Phase 3: Execution

In this third stage, nurses, psychologists and nutritionists were responsible, together with the teachers, for implementing the activities and strategies of the Health Promoting Schools Action Plan.

Compliance monitoring, needed supplies, technical support and supervision of the activities were provided by the KOICA executive team.

Phase 4: Evaluation

This stage includes the annual evaluation of the HPS project indicators to monitor progress. The survey was conducted in the intervention and control schools to keep track of the impact of the strategies. Each year, the results were disseminated and the difficulties identified, in order to reorient the activities, if needed (Health Promoting Schools Action Plan, 2015)

Beneficiary population

The HPS project's beneficiaries were all the members of the school community: students, parents, school leaders, teachers, school cafeteria food service providers, members of the neighboring communities and health staff of the selected health centers, but the main beneficiaries were the teenagers.

RESULTS

The results were organized in five factors with some categories each: Predisposing (intention to change), reinforcement (close relationships with parents and friends), facilitating (information on alcohol consumption, cigarette smoking, illicit drug use, sexual intercourse), behavioral (licit or illicit drug use, sexual intercourse, fighting), environmental (bullying, verbal bullying, physical or verbal violence between parents) and psychological (suicidal thoughts, depression, subjective happiness, self-evaluation health).

Some interesting results, mainly in terms of trends, were found because behavioral changes take a long time to happen. Figures 6, 7 and 8 illustrate some of the main results.

Significant differences were found regarding cigarette smoking, illicit drug use and sexual intercourse

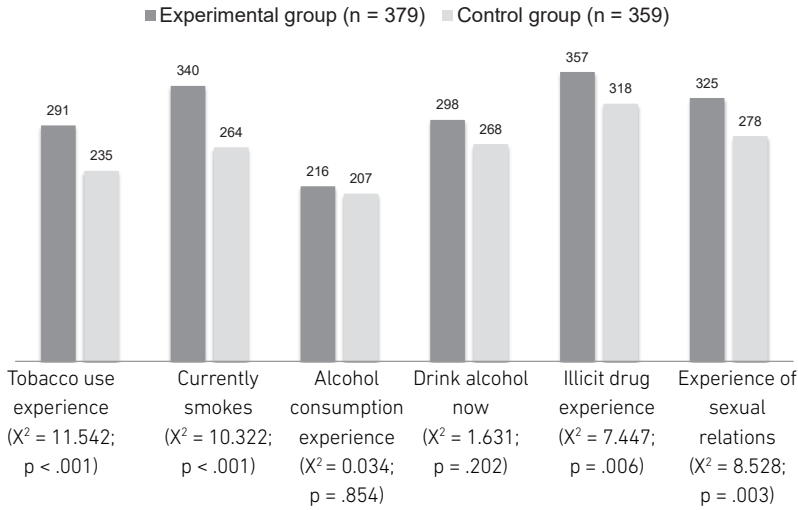


Figure 6. Effectiveness of the HPS project concerning the behavioral factors

There was an increase in the number of friends and parents who showed more sympathetic attitudes regarding the adolescents' needs.

Significant differences were found regarding the number of close friends and parents' sympathetic attitudes

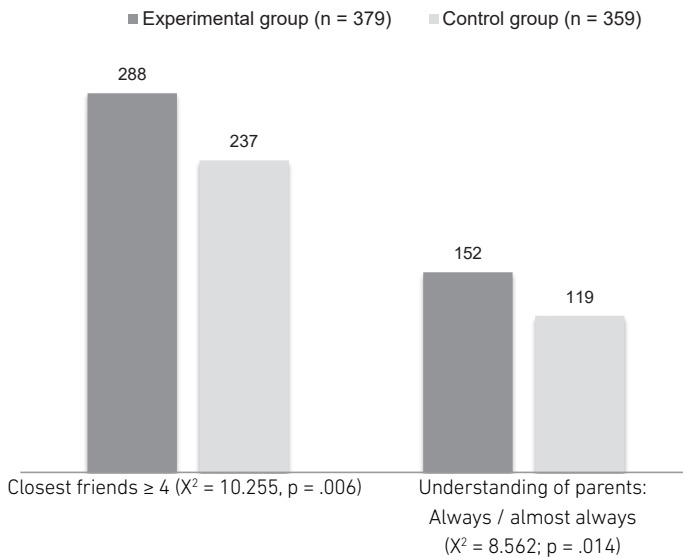


Figure 7. Effectiveness of the HPS project concerning the reinforcement factors

The HPS project had a positive influence on the motivation of the adolescents to look forward for information on key topics for their health and development.

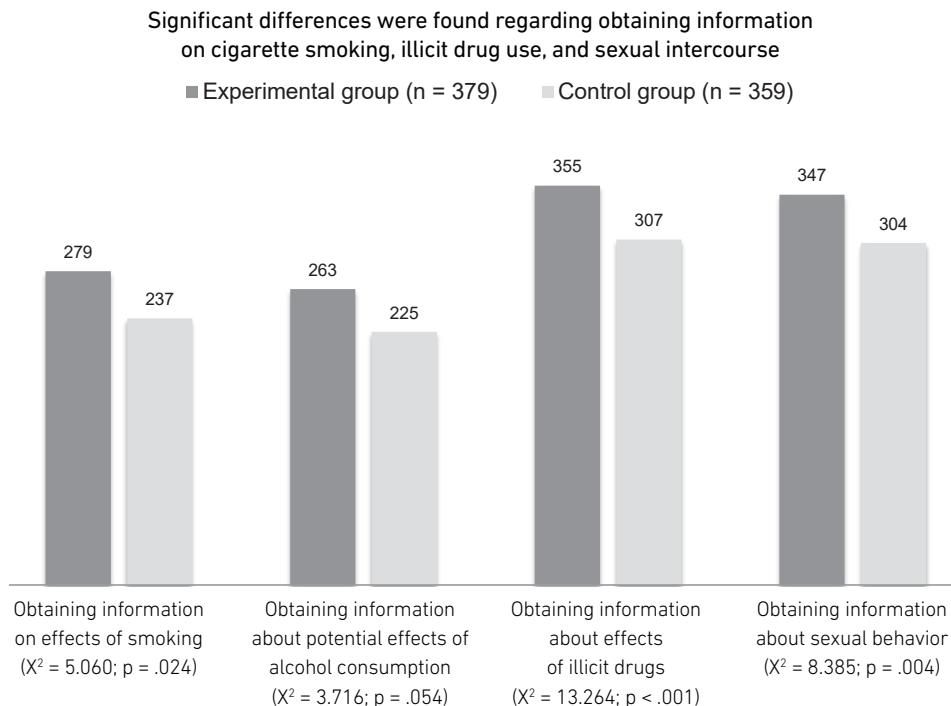


Figure 8. Effectiveness of the HPS project concerning the facilitating factors

The HPS project showed a significant influence in adolescents' behavior regarding cigarette smoking, illicit drug use and sexual intercourse.

INNOVATIVE ELEMENTS PERCEIVED BY KEY PLAYERS FROM THE SCHOOL COMMUNITY

a. Training and focus on health promotion

“Now teachers give sessions on violence, bullying, sex education and illicit drug use, and, in these sessions, students become more confident with their tutors and begin to talk” (Director of Alborada Francesa School).

“This space is very important, because they find that adults are interested in their problems” (Director of Alborada Francesa School).

"The information received about healthy practices: tooth brushing, hand washing, healthy eating, personal hygiene. Training on the importance of self-esteem, self-control, emotional management, assertive communication styles to take better care of ourselves and prevent risky behaviors, illicit drug use, alcohol consumption, unprotected sex, among others" (Students' opinions)

b. Multicomponent approach and psychotherapy workshops

"The approach of working with the whole school community, articulated with the health center, and the local and regional governments, was innovative and useful" (Teachers' opinion)

"Having a comprehensive diagnosis as a baseline: mental health, feelings of loneliness, depression, bullying, suicidal ideas, illicit drug use, addictions, risky behaviors in general" (Parents' opinion)

c. Articulation between sectors and early detection

"The articulation between health centers and educational institutions improves the coverage and quality of care of the adolescent population" (health personnel)

"It helps to identify risk factors in students who are apparently healthy. Teenagers come because they are healthy. However, if any disease is detected, the teenagers can be assisted in early stages" (Physician, Maternal and Child Health Center Santa Luzmila II)

CONCLUSIONS, LESSONS LEARNED AND RECOMMENDATIONS

Conclusions

- The HPS project improved the knowledge about adolescents' health, intention to change behaviors, ability to obtain health information, family bond through the improvement of parents' sympathetic attitudes, and subjective happiness.
- Significant differences were found between the experimental group and the control group regarding the number of close friends and parents' sympathetic attitudes.
- Significant differences were found between the experimental group and the control group regarding cigarette smoking, illicit drug use and sexual intercourse.

Key players perceptions regarding the benefits of the HPS Project

- The involvement of the entire school community guaranteed the sustainability of the HPS project.

- The agreement between schools and health services allowed the delivery of early care to adolescents with risk factors.
- Psychotherapy workshops with parents contributed to their awareness of the characteristics of adolescence and its risks factors.
- Professionals from health and education sectors agreed that the HPS model is a very good strategy to promote healthy lifestyles in the school community.

Lessons learned

- Strategic alliances between the Ministry of Health, Ministry of Education and local government are necessary to impact positively in adolescents' health.
- Having an initial database of adolescents' health at school is very useful to identify early those with risk factors and, offer them timely and personalized medical and psychological care.
- Psychotherapy workshops aimed at parents have demonstrated them how important it is to have a closer emotional relationship with their teenage children.
- Without an adequate training on adolescent health topics to teachers and health professionals, it cannot be expected to have the appropriate results on adolescents' health.

Recommendations

- Taking into account that the project includes the need to give sustainability to the HPS project, it is necessary to design policies that guarantee economic support and political commitment to the HPS strategies.

APPENDIX

ACHIEVEMENTS FROM 2014 TO 2017

Goals	Objectively verifiable indicators	Achievements				Final achievement
		Baseline survey 2014	2015	2016	2017	
Goal Contribute to improve the physical, mental and social health of Peruvian adolescents						
1. Improve mental health	1-1 Suicidal ideation rate	26.4%	29.3%	26.9%		25.1%
2. Improve physical condition	2-1 Overweight rate	20.6%	17.9%	19.1%		19.2%
IMMEDIATE RESULTS						
1-a Reduce depression in adolescents	1-a-1 Depression rate	62.1%	50.3%	49.6%		55.3%
1-b Reduce harmful habits in adolescents	1-b-1 Consumption of cigarettes (last 30 days).	17.9%	41.7%	25.6%		17.0%
	1-b-2 Consumption of alcoholic beverages (last 30 days).	53.1%	49.3%	35.8%		50.4%
2-b Improve dietary habits in adolescents	2-b-1 Percentage of adolescents who have consumed all kinds of cookies, sodas, duces, more than once in a day during the last 7 days .	78.5%	81.5%	81.2%		70.7%
2-c Improve healthy habits	2-c-1 Percentage of hand washing with soap after using the SS.HH	90.4%	90.8%	88.3%		94.9%
1-b-1 The level of knowledge about the prevention of harmful habits in adolescents is improved.	1-b-1-1 Level of knowledge about health problems caused by cigarette smoking **	77.0%	93.0%	72.0%>99.2%		85.0%
	1-b-1-2 Level of knowledge about health problems caused by the consumption of alcoholic beverages **	77.0%	93.0%	72.0%>99.2%		85.0%
	1-b-1-2 Level of knowledge about the health consequences of teenage pregnancy **	62.0%	70.0%	77.1%>96.1%		85.0%

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