UNIVERSITY PUBLIC HEALTH EDUCATION AT SAN JORGE UNIVERSITY THROUGH PARTICIPATION IN A REAL CAMPAIGN FOR THE PROMOTION AND PREVENTION OF INFECTIOUS DISEASES IN THE DOMINICAN REPUBLIC

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Abstract

Public Health is a transversal subject to several degrees at the Faculty of Health Sciences in Universidad San Jorge: Pharmacy, Nursing and Physiotherapy.

This academic season, the final assessable task of the subject "Public health" has been framed within the project "Campaign of promotion and prevention of infectious diseases in the Dominican Republic". This Project, participated by the University, has been funded by IberCaja and Fundación San Valero in the II Call for Assistance for Service Learning Projects, for the 2018-19 Course.

The learning objectives of this venture are focused first of all on evaluating the socio-sanitary reality of the Dominican Republic through the information available in the bibliography and in the information provided by the health collaborators of the 5 participating Dominican hospitals coordinated by the doctor of the San Valero Center of the Dominican Republic. The characteristics of the population, health indicators and characteristics will be analysed.

Secondly, developing a set of measures to prevent the transmission of infectious diseases, not only from the academic perspective, but also by analyzing the socioeconomic reality of the population they are intended for and evaluating their feasibility with the available health resources, as well as the characteristics and special reality of the existing health service.

Finally, developing a health promotion strategy through the design of distribution and awareness materials for the use of healthcare professionals of the participating hospitals, the students of the "Bachelor of Nursing Technician" (Polytechnic Center Aragón of the San Valero Foundation in the Dominican Republic) and the population in the area of influence of the five participating hospitals.

Students should bear in mind that promotion measures should be adapted to the receiving public reality (possible illiteracy, lack of training on good habits, basic knowledge about hygienic-sanitary practices, a different language ...).

Therefore, the development and evaluation of the described activities will mean a significant and very positive added value in the context of the topic, since, at the end, the participants will have a wider and practical vision of the tools of "Public Health" and its actual application depends on the area or the target audience.

The evaluation is addressed in different ways. First, the learning assessment, in which the work done by the students of the degree will be the final work mark of the Public Health subject of the 2018-2019 academic year. In addition, the three best proposals and materials will be selected to be sent to the coordinators of the participating hospitals and to the nursing students of the San Valero Center in the Dominican Republic. Secondly, a survey will be provided to students to assess what the ethical and social dimension of learning have meant for students when they have been in contact with a real population and their health problems. Finally, the service will be evaluated through a survey among the participants of the Dominican Republic to evaluate the degree of utility and satisfaction of the project.

Keywords: hospital, poverty, disease, learning, service, infectious.

1 INTRODUCTION

The learning of the infectious diseases supposes a central aspect of the contents in the Sciences of the Health. One of the problems at the time of imparting these subjects is the great density of existing pathologies and the difficulty of connecting learning with a real social context that allows the students to apply the contents to real cases. Likewise, subjects such as Public Health require the handling of a
large amount of data in order to work from a statistical point of view that, on the one hand, are difficult
to obtain from real cases and, on the other hand, data management it moves away from the
humanistic aspect of the social and health problems that are being studied, making it difficult for
students to apply the concepts taught in the subject.

This project aims to develop an innovative methodology for student during the studying of infectious
diseases in real contexts beyond the classroom. For this, the learning was connected with the real
social context of the Dominican Republic, promoting citizenship competences approaching the
problem from the population point of view, deepening in the epidemiological aspects.

The different teaching-learning activities were based on active collaborative methodologies carried out
in groups, specifically; service learning was used as a fundamental methodological strategy.

The tasks that students carried out, aimed to perform a service to the population under study from
both clinical and population perspectives. Since many infectious diseases are associated with poverty,
the student of San Jorge University perceives them as part of a problem alien to their professional
development. However, globalization forces health personnel to have training that allows them to carry
out their professional activity in diverse environments.

With this objective, we had access to a real population of the Dominican Republic, characterized by
conditions of poverty and high prevalence of infectious diseases, thanks to the collaboration with the
San Valerio Center located in this country. The doctor responsible for this institution coordinated the
contact with five health officials from 5 hospitals in Santo Domingo who are in daily contact with
patients from the Dominican population.

The Dominican Republic has a population of 9,625,207 residents in an area of 48,442 km2. In recent
decades, mainly due to the progressive urbanization of the country, the increase in educational level,
improvements in basic sanitation and nutrition has led to an improvement in the gradual public health
that has placed life expectancy at 71 years. Child mortality has declined in recent years, but it
continues to be higher than that of Latin American and Caribbean countries with similar economic
conditions. Likewise, there has been greater access to health services (Pons 2010). However, these
fundamentally public services that depend on the National Social Security Council are not yet able to
address all the health needs of the population, so 54% of the total population does not yet have health
coverage (Block, Robledo and Hernandez 2013) and very few have the capacity to pay for private
services (Rathe and Moline 2011).

The population living in poverty continues to suffer from infectious diseases with a very high
prevalence and characteristic of developing countries. In the Dominican Republic, there is a high
incidence of digestive infections (especially gastroenteritis), respiratory infections (especially
tuberculosis), HIV, Hepatitis B and a variety of infections transmitted by vectors (mainly rabies,

The health strategy of the students were pointed to propose prevention measures in the transmission
viable in the area, which could lead to a decrease in the incidence of these diseases and, consequently, help prevent the collapse of a health system still in development, reduce health
spending and increase the life expectancy of the population (Baker et al. 2007, Tappero and Tauxe
2011).

The project not only contributes to the integral formation in values of the students, but it also
generates a realistic learning scenario in which to develop their professional competences, reaching a
more applied vision of the tools of public health.

2 METHODOLOGY

The different teaching-learning activities were based on the case study method and the service-
learning methodological strategy and were developed through active collaboration methodologies
carried out in groups.

The project began with a talk by the coordinating doctor from the Dominican Republic. He gave a talk
to students highlighting the health reality in the Dominican Republic so that students can get close to
the socioeconomic context of the study population.

Students enrolled in Public Health designed a public health strategy aimed at identifying the health
determinants of infectious diseases in this country. Later, they elaborated a proposal of measures of
prevention of infectious diseases taking into account the socioeconomic reality of this country. Finally, they implemented a health promotion campaign through the design of dissemination and awareness materials aimed at the use of the health personnel of the hospitals participating in the project, and of the population in their area of influence.

For the development of their projects, the students had the possibility to contact (coordinated by the teachers responsible for the subjects) both with the San Valero Foundation coordinator and with the five health services of the 5 participating hospitals.

**Learning objectives:**

- To Allow participating students to connect and apply the knowledge taught in class in a real experiential context.
- To Improve the understanding of the impact of infectious diseases by being able to study a specific population.
- To Enhance the knowledge of sanitary realities different from those of our environment
- To Train the student’s skills in solving proposals for control and prevention of infectious diseases that are viable for specific socioeconomic realities.

The service consisted on selecting the best prevention and treatment proposals at a population level as a basis for the design of promotional materials (both audiovisual and graphic material) that were allocated to the 5 collaborating hospitals to serve as tools for improvement of health actions on infectious diseases within the radius of action of the project.

**Service Objective:**

- Promote strategies for prevention and control of infectious diseases and health promotion among the population in the area of action of the five participating hospitals, through the design and donation of graphic and audiovisual material that includes specific recommendations for the most prevalent pathologies in study area.

Several evaluation methodologies were applied. The project was part of the final subject work being evaluated within the teaching curriculum. The learning outcomes were evaluated using rubrics as an assessment tool for project memory and defense. A questionnaire was also passed to the participants with which to induce reflection on social learning by contacting the real population. The dimension of the impact of the service provided was evaluated through a perception survey to the coordinators of the 5 participating hospitals.

### 3 RESULTS

This project will involve approximately 160 students from the USJ (3 physiotherapy groups)

**3.1 Learning results**

- Improve the understanding of the theoretical concepts of the subjects when applied to a real case.
- Increase the skills of students related to the evaluation, diagnosis, control and prevention of infectious diseases.
- Acquire new abilities to solve health problems in socioeconomic contexts different from ours.

On the one hand, the student learned to study a developing society, determine their health characteristics, the characteristics of their health service, identify the most prevalent diseases and their evolution and finally understand their determinants (causes). In addition, the students acquired the skills to propose prevention measures on the evaluated diseases, not only from the academic perspective but also by applying the socioeconomic reality of the country to which they are destined and assessing their viability with the means and available health resources, as well as with the particularities and possibilities of the existing health service. The student learned the need to adapt the promotional measures to the receiving public (possible illiteracy, lack of training on good habits or basic knowledge about hygienic-sanitary practices, a different language ...).

Therefore, the learning outcomes were oriented not only to contribute to the integral formation in values of the students, but it generated a realistic and very enriching learning scenario in which to
develop their professional competences, reaching a more applied vision of the tools of public health in a real way and not only academic.

3.2 Service results

The products of the service are the following.

- Posters with prevention tips for the 10 main microbial and parasitic infections of the Dominican Republic evaluated by the students of the subjects involved.
- 5 small audio-visuals on tips for the prevention of the transmission of infectious diseases.

The project had a wide impact among the population of Santo Domingo thanks to the means of dissemination potentially available to participating hospitals, which will contribute to the improvement of public health related to infectious diseases in the area of action. The designed materials have access not only to doctors, auxiliary and nursing personnel or to direct patients, but also to companions and other users through the following actions:

- Loop projection in waiting rooms (audiovisual material)
- Dissemination of the graphic material elaborated in points of attention to the public.
- Support for the dissemination of the material prepared for the prevention and health promotion campaign by the staff of the hospital itself

These actions allow the access of the messages of prevention and promotion of infectious diseases to the following number of recipients:

1. Personnel of 5 participating hospitals: 4288 people, including health and non-health personnel.
2. Patients from the 5 participating hospitals: a minimum of 728,881 direct patients (estimated from the annual consultations that are detailed below).
3. Population in the radius of action of the 5 hospitals: companions and other users of hospitals that would multiply at least x 2 the previous figure.

An estimate of the patients who reach the service actions of this project can be calculated from the number of consultations attended in 2018 in the participating hospitals. The figures include the following specialties: allergy, cardiology, pediatric surgery, endocrinology, hematology, nutrition and gastroenterology, mainly.

<table>
<thead>
<tr>
<th>Participating hospital</th>
<th>Number of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Pediátrico Dr. Hugo Mendoza</td>
<td>133,266</td>
</tr>
<tr>
<td>Hospital Materno Dr. Reynaldo Almánzar</td>
<td>92,482</td>
</tr>
<tr>
<td>Hospital Traumatológico Dr. Ney Arias Lora</td>
<td>97,133</td>
</tr>
<tr>
<td>Hospital Docente Semma Santo Domingo</td>
<td>156,000</td>
</tr>
<tr>
<td>Hospital Moscoso Puello</td>
<td>250,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>728,881</td>
</tr>
</tbody>
</table>

3.3 Evaluation of the results

This project assumes the final work of the subject were carried out by groups and will include a complete evaluation of the public health case chosen: evaluation of the population, the pathology, its determinants, its evaluation and a proposal for action focused on protection, prevention, promotion and restoration measures. In addition, these students completed the presentation of the work in the classroom. The students obtained good grades in their works (average of 7,5). This has meant the improvement of a point in the notes compared to last year.

The learning outcomes will be evaluated using rubrics as an assessment tool for project memory and defense.
Social and value learning derived from contact with a real population, will be assessed through a questionnaire that will be passed on to the participating students in order to reflect on what the project has contributed to them on their citizenship skills and their vocation to social service.

Regarding the service provided, it is estimated that the project will generate a positive impact on the prevention of Public Health on 728,881 patients from the 5 participating hospitals, in addition to the indirect benefits through the dissemination of good practices to the population in the area of influence of these hospitals. This dimension of the impact of the service provided will be evaluated through a perception survey to the coordinators of the 5 participating hospitals.

4 CONCLUSIONS

The project has contributed to an improvement in the learning the concepts of public health of students, has allowed them to apply the concepts acquired in class in a practical way and applied to a real case and, finally, has allowed to bring them closer to health reality of a country in the process of development.

From the point of view of the service, the resulting materials of the project have served to develop a public health campaign that has emphasized the aspects of promotion and prevention and has had a wide scope (728,881 patients).

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REFERENCES


