PROTECT YOURSELF FROM THE SUN, PROTECT YOURSELF FROM LUPUS

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Abstract

Introduction:

Lupus is a rheumatic, autoimmune chronic disease requiring follow-up an adequate pharmacotherapy. Lupus patients are photosensitive: they should not stay under the sun for extended periods and should make an effort to avoid UV rays outside.

The present project hopes to allow curricular integration among the learning experiences in some curricular subjects: Immunology, Physiology, Pharmaceutical Care, Dermopharmacy, Compounding Pharmacy and Clinical Practice across a Service to the community. For this purpose, a collaborative activity of Learning Service has been developed with Lupus Patients Association in Aragón (ALADA).

Learning and service objectives were defined according to the Service-Learning Methodology. The main learning objective was to promote the integration of theoretical and practical contents. On the other hand, the necessity for raising awareness sun protection was identified in patients as mean service needing. In this project, students will contribute to this important task, they’re going to integrate the learning competences acquired in several subjects through the direct contact with patients.

Methods and Activities:

25 students from different levels, 5 teachers and 6 patients took part in this project. Many activities were designed in order to qualify the future pharmacist to analyse and recommend lupus patients and present them the awareness of sun risks through practical seminars, learning while teaching methods, informative videos and workshop with patients.

Results:

All the results of the projects, videos, sun safety information, pictures and references were collected into a website format for patients use (https://sites.google.com/view/solylupus).

Students and patients value this results very highly: Patients gave very high assessment (9.8/10) the questions proposed to patients about the usefulness of the activities in the project. The 100% state they will recommend the activity and will participate again in any similar project. The 95.4% of the students answered that the activity should be repeated the following years.

Conclusion:

As a conclusion, at this project we have considered the lupus patient as a core axis for curricular integration; also, we have used the service-learning as a didactic strategy. Students have achieved skills for clinical intervention in patient care. Through this teaching methodology it has been possible to go beyond professional training and emphasize in the social dimension of university education.

1 INTRODUCTION

Change of pharmacists’ role: In the past years, a development in the pharmacist professional practice towards a clinical orientation has been promoted. Pharmacists working in the community pharmacy and hospital settings should demonstrate ability to work as part of multidisciplinary teams (van Mil et al., 2004).

This new approach has been named Pharmaceutical Care (Wiedenmayer et al., 2006). Students should learn the necessary clinical, methodological and communication skills to provide professional pharmacy services and Evidence Based Practice. In this context, there is a need to design learning activities that contribute to the integration of contents between basic and specific pharmacy subjects, in order to enhance students’ professional qualification. Teaching-learning activities developed in
collaboration with patients’ associations provide a practice theoretical framework of great pedagogic value for the future health professional. Lupus erythematosus (LE) is a rheumatic health problem affecting 40,000 people in Spain. LE is a chronic autoimmune disease with no definitive treatment. For this reason, an appropriate medication review should be performed for these patients. Based on this, the Spanish Hospital Pharmacy Society has recently proposed a model to provide pharmaceutical care to chronic patients.

Pharmacy students should know LE clinical symptoms, the available treatments as well as etiology and impact of LE. Since this patient approach could not be made from one single discipline, the use of teaching methodologies that enable curricular integration is crucial in order to train professionals qualified to continue learning throughout life (“Life-Long Learning”).

For this reason, the search of methodologies than allow an effective learning is essential for the current teaching practice (Abadía et al, 2011). Group participatory methodologies improve knowledge integration (Walters, 1999; Waters, J et al., 2005). On the other hand, activities included in the so-called pedagogies of experience seek to allow students to get a closer contact with reality, providing significant learning processes (Puig, et al., 2006). Among the different methodologies used in this setting, Service Learning (SL) combines a service to the community with an academic instruction. The bases of SL are the experience, reflection and reciprocity to enable the students not only the acquisition of knowledge and professional competences but also the enhancement of their social and civic responsibilities (Eyler y Giles, 1999). The service expressed as answer for a real need in the society and combined with the learning that students experience, has an additional value for both of them (Honnet y Poulsen, 1989; Puig et al., 2006). Besides, qualification and social responsibility must be an inseparable pairing (Lucas y Martínez, 2012). For this reason, this project aims to improve pharmacist education, providing them with high qualifications and ethical standards. Thus, placing the patient with LE as a vertebral axis of the curricular integration and using SL as a didactic strategy in collaboration with ALADA (LE patients association in Aragon), pharmacy students will acquire important competences to provide pharmaceutical care to chronic polypharmacy patients. In this way, LS methodology will enable us to go beyond professional training, highlighting the social dimension of university education.

Patients affected by lupus have a high degree of photosensitivity that derive reactions photosensitive as rash, fever; fatigue or joint pain can even trigger outbreaks. Therefore, patients should minimize exposure to the sun. After several meetings with the association of this it became clear its need to carry out initiatives and provide information allowing to educate the patients of the importance of the sun protection as basic preventive strategy. Future pharmacist in the context of the clinical pharmacy as a health professional nearby and easily accessible to the patient can contribute significantly to this task.

This should integrate the learning experiences made in different materials:

- Immunology: addresses the physiological basis of autoimmune disease like Lupus.
- Physiology: provides the at foundations necessary to understand the importance of skin as a barrier and its relationship to the immune response.
- Dermopharmacy: theoretical learning will be held / concepts related to practical: the solar radiation, the damage that this generates in the skin and dermatological care and sun protection strategies.
- Individualized medicines: enables the student to the elaboration of compounding, medication tailored to the specific needs of a patient.
- Clinical practices: implementation in a real scenario, as the community or hospital, pharmacy of learning and generalization of the intervention strategy is dermopharmaceutic and pharmacotherapy to Lupus and other chronic diseases.

The implementation of this project is to answer to the training needs of the pharmacy student as professional health care through service learning team to cover specific needs of patients that are part of ALADA. Thus, once identified and defined the learning of students and service needs patients Association are designed a set of activities whose ultimate goal is educate the future pharmacist to give dermopharmaceutical advice and analysis of skin in patients with lupus and to help educate patients about the importance of UV protection.
2 METHODOLOGY

2.1 Teaching and learning activities

Figures 1 describes the whole planning of teaching and learning activities of the present Project, and table 1 shows the schedule of their implementation.

![Diagram](image)

*Figure 1. Learning and teaching activities planned for this project.*

<table>
<thead>
<tr>
<th>Table 1. Schedule of project activities.</th>
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<tbody>
<tr>
<td>Activity 1: Theoretical practical seminar on sun protection.</td>
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<tr>
<td>Activity 2: Learning by teaching other people.</td>
</tr>
<tr>
<td>Activity 3: Designing informative videos for ALADA</td>
</tr>
<tr>
<td>Activity 4: Workshop “Protect yourself from the sun, protect yourself from LE.”</td>
</tr>
<tr>
<td>Activity 5: Applying the learnt skills to a real setting.</td>
</tr>
<tr>
<td>Activity 6: Project impact assessment and communication of results</td>
</tr>
</tbody>
</table>
2.1.1 Activity 1: Theoretical practical seminary about sun protection.

Participants: 5th year Pharmacy students attending Dermopharmacy and Personalized Medicine subjects.

Objectives:

1. Project introduction to students. Awareness of the real usefulness of their implication.
2. Review of the knowledge acquired on LE: etiology, treatments, importance of sun protection for patients.

Description: Problem Based Learning by means of clinical cases on solar protection, advise and dermocosmetic composition for skin care and protection from sun. Students will be provided with all the documentation as well as with specific bibliography. On the other hand, a practical demonstration will be performed so that students learn how to use the equipment “skin analyzer”. This equipment allows to determine the level of skin pigmentation, identify tissue damages and constitutes a very useful tool to identify the most appropriate sun protector for each patient.

2.1.2 Activity 2: Learning by teaching others

Participants: 5th year Pharmacy students attending Dermopharmacy and Personalized Medicine subjects.

Objectives:

1. To reinforce the knowledge acquired during the seminar, by means of developing didactic materials for 3rd year Pharmacy students.
2. To promote a vertical integration of the Pharmacy curriculum.
3. To increase the quality of the Service that will be provided to ALADA patients.

Description: With the information acquired in the seminar/workshop, students must develop a wiki (collaborative tool). By means of this virtual resource, they will communicate to 3rd year students the basic concepts they’ve learned:
- What is sun radiation, namely the ultraviolet (UV).
- Skin damage induced by solar radiation.
- What are UV protectants and different kinds of UV protectants

2.1.3 Activity 3: Design of informative videos for ALADA

Participants: 3rd year Pharmacy students attending Physiology III and Immunology subjects.

Objective: To enhance significant learning processes of concepts acquired in basic subjects by means of designing informative videos for patients with lupus.

Description: 3rd year Pharmacy students must create a video by groups, in which they explain to patients in a simple and amuse way why UV radiation is harmful and how they should protect themselves. When preparing the video, they will be able to use the virtual tool developed by 5th year students. This activity will be assessed by teachers as well as by an expert committee made up of professionals and patients. 5th year students will also collaborate in this evaluation, in such a way that they will be able to reflect on their own learning process, since they will be able to assess the quality of their own work. Finally, the Association will select the best videos and they will be broadcast on their web.

2.1.4 Activity 4: Workshop “Protect yourself from the sun, protect yourself from LE.

Participants: 3rd and 5th year Pharmacy students, teachers, 10 patients for ALADA Association, pharmaceutics and representatives of the Official College of Pharmacists in Zaragoza.

Objective: By means of an intervention supervised by teachers and community pharmacists, students will perform a diagnosis of the skin and they will provide a dermocosmetic advise to LE patients.

Description: The activity will be performed at the University of San Jorge. Students from different courses will work together in groups, being supervised by teachers and tutors from community
In this workshop, students will apply the acquired knowledge, analyzing their skin and proposing individualized interventions for patients. The activity will be divided into different stations, and students will rotate among them in groups. Each team will be made up of patients, students and supervisors (teachers and tutors). The stations will be:

- Projection of videos developed by students.
- Use of the equipment Skin analyzer: Assessment of the level of skin pigmentation and recommendation of the most suitable solar protector.
- Individualized dermocosmetic counselling on solar protection: Types of solar protectors, different types of chemical and physical filters, different types of textures and cosmetics, how to administrate them and protect skin from sun.

The service provided to each patient, during this session, will consist on an individualized intervention, as well as an explanation on how to improve their quality of life and manage their health problem. This activity constitutes an opportunity for students to demonstrate what they have learned and to offer their knowledge to patients.

2.1.5 Activity 5: Practice in a real setting.

Participants: 5th year Pharmacy students, tutors of their training period, teachers and representatives of the Official College of Pharmacists in Zaragoza

Objective: As part of their training period in community pharmacies, the students will apply the knowledge acquired in this project and they will be able to repeat the experience learned in activity 4 with real patients.

Description: Students may identify LE patients, both in the community and hospital setting (ambulatory patients). Besides, some of the community pharmacies in which they carry their training period collaborate in a national program named “Stop the sun, Stop the Lupus”. Students, will register their experience during their stay.

2.1.6 Activity 6: Project impact assessment and communication of results

Participants: Teachers, students and patients.

Objectives: To establish the real impact of the project in all the implied agents.

Description: Throughout the project, several assessments of the learning process will be performed with the aim of identifying and correcting potential problems and deviations of the planned objectives. At the same time, different specific assessment tools will be design to analyze the impact of the project in every participant, from both a qualitative and quantitative perspective. The obtained results will be published by means of different communication channels.

3 RESULTS

All the results of the projects, videos, sun safety information, pictures and references were collected into a website format for patients use (https://sites.google.com/view/solylupus).

Student’s and patient’s assessment results were very positive; both data are collected in Table 2 and Table 3.

Table 2. Student’s assessment results.

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The activities allowed me to develop useful professional skills. Value from 1 to 10</td>
<td>8.95 (DS=1.16)</td>
</tr>
<tr>
<td>The activities will improve your professional practice as pharmacist? Value from 0 to 10</td>
<td>8.91 (DS=1.41)</td>
</tr>
<tr>
<td>The difficulty of the activities done, value from 0 to 10</td>
<td>4.41 (DS=2.22)</td>
</tr>
<tr>
<td>Give your opinion about working with students of other courses for your educational process, values from 1 to 10.</td>
<td>8.84 (DS=1.50)</td>
</tr>
<tr>
<td>The activity should be repeated in next years?</td>
<td>95.45% answered yes</td>
</tr>
<tr>
<td>Do you recommend the activity to another student?</td>
<td>95.45% answered yes</td>
</tr>
</tbody>
</table>
Table 3. Patient’s assessment results.

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The usefulness of the videos, created for the students, for lupus patients. Value from 0 to 10.</td>
<td>9.6 (DS=0.55)</td>
</tr>
<tr>
<td>The usefulness of the information I’ve received about sun protection. Value from 0 to 10.</td>
<td>9.8 (DS=0.45)</td>
</tr>
<tr>
<td>The usefulness of the information I’ve received about sun effects in lupus patients. Value from 0 to 10.</td>
<td>9.8 (DS=0.45)</td>
</tr>
<tr>
<td>The usefulness of the information I’ve received about skin analysis. Value from 0 to 10.</td>
<td>10 (DS=0)</td>
</tr>
<tr>
<td>The explanations of the students during the activities of the workshop. Value from 0 to 10.</td>
<td>10 (DS=0)</td>
</tr>
<tr>
<td>Will you recommend the activity to other lupus patients?</td>
<td>100% answered yes</td>
</tr>
<tr>
<td>Will you participate again in any similar project?</td>
<td>100% answered yes</td>
</tr>
</tbody>
</table>

4 CONCLUSIONS

As a conclusion, at this project, we have considered the lupus patient as a core axis for curricular integration; also, we have used the service-learning as a didactic strategy with the collaboration of ALADA (Asociación de Enfermos de Lupus y Antifosfolípido de Aragón), a Lupus Patients Association in Aragón.

ALADA has received helpful information for its reporting function among the lupus patients. Lupus participant patients had the opportunity to have a deeper knowledge about their skin analysis, sun injuries related with their disease and the way to prevent it. Also, pharmacist-patient contact generated an important link that allows the students to become aware of the real impact of their learning and also, allows the patients to be able to count with the help of the pharmacists in the prevention and care of their health.

Students have achieved skills for clinical intervention in patient care. Through this teaching methodology it has been possible to go beyond professional training and emphasize in the social dimension of university education.

ACKNOWLEDGEMENTS

We thank ALADA (Lupus Patients Association in Aragón) for its contribution and participation on the project.

REFERENCES


