Design of an educational programme for parents of premature infants

Diseño de un programa de educación para padres de niños prematuros

Jesús Delgado Morera

Curso 2016-2017- Julio
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En Santa Cruz de Tenerife, 15 de Julio de 2017.

LOS TUTORES

SR. PRESIDENTE DEL TRIBUNAL DE EVALUACIÓN

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ABSTRACT

Premature births have a high incidence in developed countries, so it has become a current issue that needs to be solved. As a consequence, the number of parents of premature infants who do not know how to manage the situation is increasing, so that they have to deal with insecurity and stress.

As an answer to this need, the objective of this project is to design a School of Parents for premature infants. The methodology has consisted of carrying out a revision of updated articles about Premature Care Programmes which have been published in official databases: PEDro and PubMed all around the world. Finally, different intervention methods have been collected and, as a result, a Programme has been designed in order to give parents all information about what a premature baby is, what characteristics they have, and what special care they should receive after hospital discharge. Parents will also have a formative course with all that information. This Programme will be offered throughout different talks by skilled health carers. In addition, a monitoring plan will be added to the general programme until the preterm infant reaches two years of age.

As a conclusion, for following research, it will be interesting to design a pre-post study, in order to compare levels of stress before and after the execution of the programme, together with the ability of learning about the knowledge of the course.

**Key words:** physiotherapy, premature infant, parents, educational programme, design.
RESUMEN

El nacimiento de niños prematuros con una alta incidencia, sobre todo en los países desarrollados, se ha convertido en un tema de actualidad. A raíz de esto, son cada vez más los padres de niños prematuros que no saben cómo afrontar esta situación, siendo desbordados por la inseguridad y el estrés.

Como respuesta a esta necesidad, el objetivo de este trabajo es diseñar una Escuela de Padres para niños prematuros. El método utilizado ha sido llevar a cabo una revisión de artículos actualizados sobre Programas de Atención al Prematuro publicados en bases de datos oficiales: PEDro y PubMed, en diferentes partes del mundo. Finalmente, han sido recopilados distintos métodos de actuación y, como resultado, se ha diseñado un Programa en el que se informará y formará a los padres de los niños prematuros en relación a sus características generales y los cuidados específicos que precisarán después de la alta hospitalaria. Este programa se desarrollará en seminarios, los cuales serán impartidos por profesionales competentes en la materia. Dicho diseño se acompaña de un plan de seguimiento activo en centros de Atención Temprana, hasta que los niños prematuros cumplan dos años.

Como conclusión, para próximas investigaciones, sería interesante llevar a cabo un estudio pre-post de Atención en la Escuela de Padres, en el que sean comparados los niveles de estrés de los padres, así como la capacidad de aprendizaje de los conocimientos impartidos.

Palabras clave: fisioterapia, niño prematuro, padres, programa de educación, diseño.
1. BACKGROUND

1.1. What is a premature infant?

The American Academy of Paediatrics and The American College of Obstetricians and Gynaecologists establish the definition of preterm as any neonate whose birth occurs through the end of the last day of the 37th week, following the onset of the last menstrual period. (Lopez, Anderson et al. 2012)

On the one hand, the WHO (World Health Organisation) classifies preterm babies according to their gestational age. If it is a preterm whose birth occurs before the 28th week, it is an extreme preterm. If the birth takes place between the 28-32nd weeks it is a very preterm baby. Finally, late preterm babies are called all those whose birth occurs between the 32-37th weeks. (OMS | Nacimientos prematuros 2016)

On the other hand, the AEPED (Asociación Española de Pediatría) does not classify preterm babies by their gestational age but by their weight. They are classified as low weight preterm, e.g.: those whose weight is less than 2.500 g, very low weight when they cannot reach 1.500 g, and those whose weight is lower than 1.000 g, who are called extreme low weight. (Revista Rey Desnudo 2016)

1.2. Influence

In line with a report written by WHO in 2010, called “Born too soon: Global Action Report about Premature Birth”, one out of ten births in the world is preterm. It is declared by the report that “more than 60% of the premature births take place in Africa and Southern part of Asia. (figure 1.1)”. (Howson, McDougall et al. 2012)
Moreover, premature births are not exclusive of undeveloped areas, since countries like United States of America or Brazil have a high level of premature births, as well as India and Nigeria. In the same way, it is observed that nine out of eleven countries which have premature birth rates above 15% are located in sub-Saharan Africa (figure 1.2.). These data confirm the global nature of this issue. (Howson, McDougall et al. 2012)
With these data, it is confirmed that in Europe the premature birth rate in 2010 was lower than 10%, but not in some countries like Austria and Moldavia where the rate was between 10-15%.

According to the data collected from INE (Instituto Nacional de Estadística), in 2014 419,209 babies were born in Spain, 27,992 of which were premature. In 2015, 23,050 babies were premature from the total of the country.

According to the data collected from INE related to the Canary Islands, in 2015, from a total of 16,146 births, 1,043 were premature and 428 were born in Santa Cruz de Tenerife.

At the HUC (Hospital Universitario de Canarias), 2,702 births were registered in 2016, 262 of which were premature (less than 37 weeks). From these number of births, 189 were hospitalized and they had to be attended by the Intensive and Medium Care Unit.

At the HUNSC (Hospital Universitario Nuestra Señora de la Candelaria), 3,010 babies were born in 2016, 190 of which were premature type. Every one of them needed admission into hospital, having been assisted by the Intensive and Medium Care Unit.

To sum up, the Doctor Guigou Infant Rehabilitation Unit from Santa Cruz de Tenerife, which depends on HUNSC, accepted those children who were discharged from hospital. From its foundation, February 2016, 88 infants have been taken care of.

1.3. Characteristics of the newborn premature

According to some published studies (Casey, 2008; Eliakim and Nemet, 2005; Stephens and Vohr, 2009), premature babies are usually affected by a high number of health problems due to the lack of some gestational weeks. This is one of the main causes of death.

Compared to non-premature babies, premature ones have a high rate of incidence in cerebral palsy, sensorial and leaning deficiency, as well as a high incidence to suffer from respiratory conditions. (Beck, Wojdyla et al. 2010)
The AEPED prognosticate that one of the causes of mortality in premature babies is the result of the combination between their weight and their gestational weeks. If only the gestational weeks are taken into account, mortality is higher than 90% if the premature has a gestational age of 24 weeks. This percentage is decreasing at the same time as the gestational age is increasing. But, if weight was the only parameter to be taken into account, the mortality rate would be higher than 70% when the weight is not above 750 g. This percentage is decreasing at the same time that weight is increasing proportionally. (Revista Rey Desnudo 2016)

1.3.1 Sensorial integration

The Social Integration Theory was designed by the occupational therapist Jean Ayres, in the decade of the 60’s, in the United States of America. (Ayres 1979) She worked with this Theory for two decades with children whose emotional, learning and developing capacities were not as usual as the other children. Her Theory was made according to the number and the quality of the sensorial experiences of the child and how they affected their development and their relationship abilities. Thus, the more experiences or higher quality they have, the more learning and relationship abilities they will develop. However, if their experiences are not so numerous and their quality is not as good as the others, their learning and relationship abilities will make them have more difficulties. (Moya Rosendo, Matesanz García 2012)

In accordance with the Social Integration Theory, this consists of a neurological mechanism which is in charge of the organization of the multiple inputs that the human being is receiving all the time. Moreover, it expounds adapted actions to different situations, so it can generate emotions, perceptions and thoughts. The proper functionality of the Neurological, Tactile and Balance System brings us the ability to give answers which have an influence in our social and academic development. For that reason, this Theory can be understood under a theoretical frame or as an evaluation and treatment tool for infant population. (Romero-Sánchez 2016)
Depending on the premature’s sensorial interaction with what there is around, three types of behaviour are known: the over-responsive, under-responsive and sensory craving/seeking. The first one has the most intensive reactions to the inputs, since babies belonging to that category have a very extensive type of behaviour from the most responsive to the most passive. Referring to the second type, the under-responsive behaviour, it is well known because of infants' lack of interest about what is around them, thus, they seem to be apathetic. The last type is the sensory craving/seeking, and babies who are related to this category try to look for pleasant inputs without taking into account the consequences of their search. They do not complete those tasks which are not within their preferences. (Miller, Anzalone et al. 2007)

1.3.2 Feeding

According to the WHO, breastfeeding is the best method to give the proper nutrients for the new-born’s growing and ideal development. In the same way and with the collaboration of AEPEDE, it is recommended that breastfeeding be exclusive until the first six months of age. After that, and until two years of age, milk can be supported with another foodstuff. (Guía de Lactancia Materna. 2009)
The most indicated nutrition for a premature is considered to be the one which gives them all the nutrients needed for a correct development, at the same level as if they were inside the uterus. Their metabolic functions and organs have to be untouched by stress. In these conditions, breast milk would achieve some objectives like helping the premature baby to reach nutritive rates of reference, improving their ability to face illnesses and controlling morbidity. In this way, they can reach an ideal neuromotor level and they can reduce future’s impact problems in their adulthood. (Gómez Papí 1997)

1.3.3 Respiratory system

The premature’s respiratory system does not allow them to adapt themselves to what is outside the uterus, so they are susceptible to endure some conditions produced by this inadaptability. This is called respiratory immaturity. (López, Sepúlveda)
Immaturity can be revealed like: apnea, respiratory noises, cyanosis, tachypnea, nose flapping and retractions from the chest muscles. Those signals can be a direct cause of one of these diseases: transitory tachypnea, lungs malformation, pneumonia, premature apnea, and Respiratory Distress Syndrome also called Hyaline Membrane Disease. (Problemas respiratórios do bebé prematuro)

From all of them the Respiratory Distress Syndrome is the most important. In this case, respiratory immaturity is reflected at morphologic, functional and biochemical levels. It becomes into a deficit on the Surfactant Factor’s production. This Factor has a lipid nature and it is synthesized into the type II cells of the alveolus, approximately around 24th-28th weeks of gestation. Its principal function is to increase the distension capacity of the lungs tissue. If it is overlooked it can degenerate into a respiratory Syndrome. (MedlinePlus enciclopedia médica. López de Heredia Goya, J., Valls i Soler, A.)
1.3.4 Neuromotor system

According to the *NIDCAP (New-born Individualized Development Care and Assessment Programme)* International Federation, this programme looks for “a compressive approach to the infant’s care […]”. It is considered in an individual way and taking into account the stability level. It is also regarded as the support to the families and the preparation for the health carers. A very important part of the process is called the “NIDCAP observation” which consists of doing the observation over the patient, in order to know about their interactions with what is around them, their behaviour, and the care that is given to them. According to what is collected, results are obtained so an interventional programme can be designed with the health’s objectives and auto-regulation efforts included. This kind of observation reported interaction data between the patients and the health’s carers team as well as the behaviour of the family and the education which is given by them. In general, *NIDCAP* is contemplated as a very useful tool for families and professionals who are in charge of the infant’s neuromotor development. (Federation International)

The neonates who were attended in the intensive care units, where the *NIDCAP* programme was already installed, showed a better development on their upper limb and trunk, and a lower head’s deviation at four months of age. Those results were compared
with hospitals where the NIDCAP programme was not installed yet. (Sánchez-Rodríguez, Quintero-Villegas et al. 2010)

Figure 1.7. International standard of intrauterine and neonatal growing
Source: Own elaboration based on (Pedagogymas 2016)

1.4. What is a School of Parents?

The School of Parents for premature babies is defined as an illustrative and informative tool for those parents whose babies were born as premature. At the School of Parents, many issues are explained. Some of them are related to the parents’ role at the beginning of the hospitalization of their baby in the Intensive Care Unit, and other ones are focussing on the end of this process.

It is a resource that can be used in a hospital, in order to involve the parents directly in the programme of their baby’s care, so they can take an active role in their baby’s education and reduce their stress level. It is on them the opportunity to give tactile information and a variety of effective lines of communication through their skin. An example is the Kangaroo Mother Care.

It can be installed in other facilities, which the parents can visit after hospital discharge in order to follow a monitoring and evaluating programme. The programme is
completed when the infant reaches two years of age, because it is known that around that age the baby has the same characteristics as a non-premature baby.

1.5. Reasons for the implementation of the School of Parents

On the one hand, the fact of becoming a father or a mother brings happiness and emotional feelings but the fact that the baby would be a premature also brings insecurity, anxiety and stress feelings. It can be a reason for parents, to feel overstressed by their feelings. (Lopez, Anderson et al. 2012).

The levels of stress can be increased by the enlargement of the hospitalization time, the consciousness of their babies’ specific care, the lack of influence in the control over these cares and the distance they have to keep because of their babies’ health problems. The stress level is higher on the first week of admission. (Beheshtipour, Baharlu et al. 2014).

On the other hand, when the hospital discharge is given, the next destination of the infant is the Outpatient Care. But, this is not an automatic step because parents have to give some care support to their baby at home until they are admitted on the Outpatient Care facility. In this period of time, the baby is not receiving the same level of care than in a hospital, because of a lack of supplies.

In these types of situations, parents of premature infants are in charge of their babies without the appropriate knowledge and care preparation, so it leads them to a stressful situation. As a result, a variety of difficulties come to the front which can be generated because of the lack of communication with the health carers. This can affect directly on a worse health situation of the premature.
2. JUSTIFICATION

Because of the high incidence of premature births in Spain, and particularly in the Canary Islands, a programme is needed to be designed in order to respond properly, from an educational point of view, to this reality.

So many times, the fact of being parents of a premature baby is a synonym of insecurity and confusion on a short, medium and long term. This situation can generate diverse emotional responses, because of the high levels of stress which are growing on the premature’s parents and close relatives.

This programme tries to provide in a continuous and structured way, the main information in order to give parents some therapeutic and care techniques, that can help them to know how to manage the situation.

As a consequence, new methods that are being used around different hospitals of the world have been searched about together with their usefulness in order to design a common strategy for the prematurity issue and the lack of information about it.

As a result, it is concluded that a School of Parents is needed. It has to combine basic information about the prematurity issue and the newest and best methods to explain such important information. Parents can see their doubts solved and their needs covered, so it means that if they follow the programme, they will have the correct resources for the development of their premature infants’ care.

The design of the School of Parents will be launched with the collaboration of the Infant Rehabilitation Unit of the HUNSC, the Intensive Neonate Unit Care, and the Doctor Guigou Infant Rehabilitation Unit in Santa Cruz de Tenerife, which is an Outpatient Care Unit that depends on the Infant Rehabilitation Unit of the HUNSC.
3. OBJECTIVES

3.1 General objectives

- To design a School of Parents according to the needs and characteristics of premature infants.
- To give advice and a monitoring programme in order to assess the evolution of the premature baby until the two years of age.

3.2 Specific objectives

- To reduce the level of stress in both premature babies and their parents during the whole process.
- To solve the doubts that can raise in the talks the School of Parents would organize.
4. MATERIALS AND METHODS

4.1 Type of study

A descriptive study has been performed, by means of which, a review of information was undertaken about the different types of School of Parents around the world, so that a new one has been designed with the collected data. It has been possible thanks to the collaboration of the HUNSC and the Doctor Guigou Infant Rehabilitation Unit, both of them located in Santa Cruz de Tenerife, Canary Islands.

4.2 Population and sample

The population of the study will be achieved with the majority of the premature babies which will be born at the HUNSC, during 2018, in Santa Cruz de Tenerife. The sample will be obtained by the use of some inclusion and exclusion criteria, which will help us to select those who are ideal for the study.

4.3 Inclusion and exclusion criteria

These are the inclusion criteria:

- Those preterm infants who will be born at the HUNSC, in Santa Cruz de Tenerife in 2018.
- Those preterm infants who will be born throughout the period of time the study is operative.
- Those preterm infants who are in a haemodynamic health condition.

4.4 Data collection methodology

In order to conduct the bibliographic review, the searching for information was done through official databases on the Internet such as: PubMed, PEDro, Punto Q of University of La Laguna, Google Scholar, and some websites.
- **PEDro.** Articles were chosen according to the qualification that the website gave to every one of them. Thus, only scientific articles with a qualification of 7 or above were collected.

- **PubMed.** Articles were chosen using some filters: They had to be written between the years 2000-2016, had to be provided complete with free access, and should have a direct connection with the main issue.

- **The Q point** tool of the University of La Laguna and Google Scholar were also used in order to search the title of some specific articles so their addition to the bibliography could be assessed.

- Web sites with remarkable evidence were utilized as well to do a complementary search of information, which was added by the articles that had been previously chosen.

In all of them Spanish and English key words were used, as well as booleans connectors as and/or. Here are the key words in both languages:

- In Spanish → fisioterapia, fisioterapeuta, recién nacido pretérmino, recién nacido prematuro, niño pretérmino, niño prematuro, escuela de padres, educación.

- In English → physiotherapy, physiotherapist, preterm infants, low birthweight, premature, parents’ education premature, parents care education, premature educational programme.

### 4.5 School of Parents programme’s design

In order to carry out the Programme of School of Parents it is necessary to organize the information that is going to be explained in several sessions or talks, during the hospitalization period of each patient.

For that reason, in each session a different issue will be explained so that, at the end of the programme, parents would have in their hands the ideal resources and tools to face the prematurity of their infant.
In the same way, the sessions or talks will be organized in priority order, to give an explanation to the most important issues. This priority is needed due to the lack of information about the time the premature will be admitted in the hospital, so it makes possible that the hospital discharge would be given before the end of the programme. In this case, the Outpatient Care will continue with the educational programme for the parents, in those talks they had missed.

In order to give the information contained in the programme, some of those contrasted methods which are being employed in others parts of the world with the same purpose are going to be used. Moreover, both its application and its use are going to be detailed. Some of them will need specific devices which are going to be named and it will be explained its use.

The tutelary process of the School of Parents will be performed through the presence of the physiotherapist, with the collaboration of the occupational therapist, who is going to carry out the plan and to manage the monitoring process. The physiotherapist will give the talks, organize the parents into several groups as well as design the schedule with them.

In a certain way, the physiotherapist accomplishes their educational role and influence on the premature’s health through the direct information to the parents. This process reinforces the physiotherapist’s competence.

Finally, a schedule will be made according to the organization of the days and hours of the talks, thus both the physiotherapist and the parents will be able to have a better adaptation process to the School of Parents.

The work shift of the physiotherapist will be taken into account as well as the free hours the parents have along the day. It does not matter whether it is working in the HUC or in the Doctor Guigou Infant Rehabilitation Unit of Santa Cruz de Tenerife. For that reason, the establishment of two schedules are needed, each one according to the characteristics of both facilities.
4.5.1 Type of information

This School of Parents for premature infants’ programme, divides the information into five groups, which are going to be explained on a preference order so that can favour the adhesion of the parents to the programme indeed. It is a relevant concept due to that it allows us, in a short period of time, to prepare a summary of the most important ideas for parents, explain them what it consists of and how to use it with their baby. The organization is going to be in this way:

- The first seminar will be about the correct position of the new-born, the Kangaroo Mother Care and Shantala Massage.

It will begin with the description of the ideal positions for the baby’s rest and appropriate development, in the case of using an incubator. Positioning rules will be reminded related with the pillow, if the baby has to be face up, face down or in a lateral position taking into account the position of the head. Then, it will continue describing briefly the next two methods.

The Kangaroo Mother Care is a method the origin of which is located in Bogotá, Colombia. Based on evidence, its application can reduce babies’ morbidity and mortality. According to the WHO, the Kangaroo Mother Care is based on several important points. Among them there is an extensive skin-to-skin contact between the mother and the baby which allows them a direct interaction. This will increase the information exchange, the development of the baby and the decrease of the stress level of both. The breastfeeding has to be continued most of the time, if it is possible in the hospital as well as at home. (Seidman, Unnikrishnan et al. 2015)
**Figure 4.1. Vija design skin-to-skin Kangaroo T-shirt**
Source: Own elaboration based on (Alison)

<table>
<thead>
<tr>
<th>Steps</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Put your baby on one shoulder</td>
</tr>
<tr>
<td>2</td>
<td>Slip the opposite side leg inside the upper cross panel and pull out the foot of the panel (inside T-shirt)</td>
</tr>
<tr>
<td>3</td>
<td>Pull and spread the fabric to cover the buttocks and back up under the baby’s knees</td>
</tr>
<tr>
<td>4</td>
<td>Rotate the baby on the other shoulder and repeat the same thing on the other side</td>
</tr>
<tr>
<td>5</td>
<td>Spread the fabric to cover baby’s buttock</td>
</tr>
</tbody>
</table>

**Table 4.1. Positioning of a baby inside a Kangaroo T-shirt**
Source: Own elaboration

**Figure 4.2. Vija design skin-to-skin Kangaroo T-shirt**
Source: Own elaboration based on (Alison)

<table>
<thead>
<tr>
<th>Steps</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spread the other section over baby’s body. Keep spreading until the fabric is to the hollows of baby’s knees and the bottom/shoulder are tight into the two fabric layers</td>
</tr>
<tr>
<td>2</td>
<td>Pull the front fabric over the baby for more security</td>
</tr>
<tr>
<td>3</td>
<td>For babies who need head support, you may tuck baby’s head under one of the shoulder sections</td>
</tr>
</tbody>
</table>

**Table 4.2. Positioning of a baby inside a Kangaroo T-shirt**
Source: Own elaboration
The Shantala Massage is from the Kerala region, India. Initially, it was used by monks in monasteries, however the massage was popularly used by the society until it was part of a tradition passing from parents to sons. In the last years, this massage has been the alternative of some therapeutic methods with secondary effects, moreover it has been used in order to take care of the babies. Its use is associated with the increase of weight and the development of the baby. In addition, the application of this type of massage has the ability to reduce the stress levels which are measured by the amount of cortisol in the saliva. For that reason, some samples of saliva were obtained at different hours before the application of the massage and then they were compared with other samples taken after the massage. The improvement was observed over the days and weeks. (De Cássia Fogaça, Brunow Carvalho et al. 2005)
In the second one, the Tactile System and mouth data will be shown.

Due to the fact that this part could be very technical, and neither anatomy knowledge nor the baby’s physiology are going to be explained, the seminar will be based on the importance of how the baby has to deal with what is around using the tactile sense and the mouth.
In the first case, it is very relevant to assure that parents know how important is the skin-to-skin contact which is used to stimulate the search of information of the baby. It is also encouraged by massage.

In the case of the mouth, it has a very special importance its relation with feeding and breastfeeding. For that reason, some stimulation techniques for the baby in order to motivate his/her placing the mouth on their mother’s nipple are going to be explained. In case of need, the occupational therapist can be consulted about that issue in order to complete the information.

- On the third, the seminar will be about the Labyrinthic System and balance.

A brief but complete explanation about what the Labyrinthic System and the balance is, will be given. Some techniques about how to progressively stimulate the baby in order to achieve a kinetic integration, will be also carried out.

For example, one of the techniques consists of grabbing the baby on your arms vertically facing on who is grabbing him/her. Then the carrier will describe some horizontal and bonding movements. These movements will let the baby assimilate those movements in the space and make them bearable for the baby. The rules for carrying babies will always be followed.

- On the forth one, the main topics will be sensibility (light and sound) and stress signs in the new-born.

The main points of this seminar are going to be about the possible sources of stress of premature babies, as well as the ways they have to communicate those levels of stress.

It is well known that in the NICU the babies are surrounded by a stressful atmosphere where illumination, noise, movements and the unpredictable touches play an active role together with a poor or excessive tactile stimulation. Changes on the skin colour, on their heart rate, on their face expression on their behaviour are symptoms of stress. Moreover,
retraction on their trunk, or on their lips, grimaces and the separation of their fingers are also taken into account. (Schapira, Iris T., Aspres N., et al. 2004)

- Finally, on the fifth seminar doubts about carrying the baby will be solved and some concepts about neuromotor development will be explained.

In the first part, photos are going to be used to explain how to carry a baby properly, taking into account that premature babies are smaller than non-premature ones, so the materials have to be adapted to them and not the other way round.

Similarly, parents will be explained the characteristics of a good carrying practice, which are the specific rules that define it. Moreover, some examples will be given and the doubts about common but mistaken techniques will be solved.

In the second part, without touching any technical knowledge, some illustrative rules will be given about the proper development the baby has to follow in the neuromotor area.

### 4.5.2 Methods of information disclosure

In order to spread the information, a new strategy based on three methods will be explained by the physiotherapist in two seminars. The first one is the informative part of the School of Parents programme, which consists of the explanation and the resolution of the doubts that were related with the issues that the physiotherapist was talking about before. In the second part, the interactive one, parents will be able to talk with other parents who have already experienced this situation.

Fort the first part, some informative talks and video sessions are going to be used in order to guide the parents in the learning and orientating process.

Related to the informative talks, the physiotherapist would have organised the information in a simple and coherent way, with a technique vocabulary but at the same time easy to understand. Finally, parents’ participation in the seminars should be encouraged.
For the second part, the VIG (Video Interactive Guidance) method is going to be used. It consists of holding some video sessions in order to guide the parents but also to support the bond with their infant, which improves and makes easier the hospitalization process. It is used as a theoretical and practical resource for parents so they can take advantage of them as well as analyse and solve different situations. From 3-5 sessions are needed. (Tooten, Hoffenkamp et al. 2012)

In the interactive part, it will be likely to invite to the School of Parents programme those parents who had the experience of having a premature baby in order that they can give their opinion and explaining their case in groups. In that situation, both groups the parents who had the experience as well as those who not, can empathize between them and they will have a positive feedback.

In Brazil, there is a School of Parents called “Circle of Culture” where parents who had the experience of having a premature baby meet with other parents who are in the hospitalization process and have conversations in group about prematurity. The “Circle of Culture”, permits both parents to enjoy a socialization opportunity with those who have undergone the same situation. They can share experiences, opinions at the same time that they are decreasing their stress level and feel comfortable. Indeed, these meetings can be taken as specific information seminars where some doubts or erroneous concepts which are deeply taken into account in our society can be solved. (Couto, Tupinambá et al. 2014)

According to the devices needed to carry out the seminars, there will be appliances and objects directly related with the talk and the concepts which will be explained in each session. In those seminars which are needed, a computer will be used with an image projector, for a presentation, videos and several photos that can be useful in order to catch the attention and improve the explanation.

Additionally, in the first seminar will be needed a baby mock-up, a blanket or a bed sheet in order to pretend the different positions with the baby of the Kangaroo Mother Care, as well as the Shantala massage application. In the second and third seminar, a mock-
up of the main idea will be necessary. Finally, in the fifth one some examples of different types of baby carriers will be showed as well as how to use them, in order to make them comfortable for the baby and ergonomic for the person who carries the baby.

4.5.3 Tutors of the programme

Several health carers are going to be included in the care programme of the premature baby, such as doctor, occupational therapist, nursing team, speech therapist and psychologist. However, the figure of the physiotherapist will be the most important one for the development of the School of Parents programme.

In other parts of the world like in the University of Chicago, Illinois, the physiotherapist is part of the School of Parents project they have, although in a minor level. Their function is to give a talk or seminar before the labour in order to give the parents some care rules due to the special characteristics of the baby, because it is already known that it is going to be a premature baby. (Kavanaugh, Moro et al. 2010)

However, in the HUNSC of Santa Cruz de Tenerife, the physiotherapist is in charge of giving the seminars and he or she also solves doubts during the meeting or the physiotherapy session. Due to this fact, in this School of Parents programme, the physiotherapist is going to be the figure in charge of developing it, since the physiotherapist is accomplishing, as part of their competences as a health caregiver, an educative function with parents. These actions will affect the premature infant.

4.5.4 Schedule

In order to carry out a proper development of the School of Parents programme, the design of two schedules is needed. One for the Rehabilitation Unit of the HUNSC, at the Infant Rehabilitation ward of the HUNSC, with the School of Parents of the NICU, and the second one for the Doctor Gigou Infant Rehabilitation Unit, both of them in Santa Cruz of Tenerife. On its elaboration, it will be taken into account the Schedule of the
physiotherapists whose are going to be part of the programme as well as the availability of the parents. In addition, it is very important the state of health of the premature because it will not be appropriate to join parents of babies with different health condition in the same group.

In the case of the NICU of the HUNSC, the physiotherapists will be able to have between two and three days in which they can allocate one hour for the School of Parents Development, at the end of their work shift. It will be the physiotherapist who has to write a register of assistance for the parents to know who is coming to the seminars and which ones they are going to, for a better organization. Likewise, parents will be classified according to their baby’s health condition.

The physiotherapist can organise the seminars in such a way that in the first week it will be given three and in the second week the two left, or two seminars per week and leave the last one for the last week. This organization will allow to improve the availability of hours for parents and a better organization for the physiotherapist.

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Table 4. Seminar organization for the physiotherapists of HUNSC
Source: Own elaboration

However, in the case of the Doctor Guigou’s Infant Rehabilitation Unit, the School of Parents will be different. Instead of having only one day per week for attending the parents
from 2 to 3.30 pm, it will be one hour and a half two days a week according to the physiotherapists’ work shift. The physiotherapist will choose the days depending on the number of patients in order to improve the organization. Thus, a better availability of days will be achieved for the assistance of parents and an excessive work shift will be avoided.

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Table 5. Seminar organization for physiotherapists of Doctor Guigou Infant Rehabilitation Unit
Source: Own elaboration

Finally, in order to obtain a proper development of the School of Parents, some communication is needed between the health facilities: the NICU of the HUNSC and Doctor Guigou Infant Rehabilitation Unit. In particular, between physiotherapists from both institutions.

It is established that at least once in a term, the physiotherapists of both institutions will officially meet in order to compare, evaluate the treatments and evolution of the patients as well as some relevant data. Non-officially, they can keep in contact so they can clarify some important situations for the infant’s health condition or some relevant information for the parents.
5. DISCUSSION

When a premature baby is born it is an unexpected event for the parents, thus it is not odd that those parents will try to search information about prematurity, or a health carer who can provide them advice and help them to face the new situation. In that moment is where this School of Parents for premature babies’ programme is going to be useful.

Throughout the bibliographical search, so many articles, reports, and authors were found. All of them are immersed in that field and they can be taken as a guide in order to design a project like this. Most of them are based on documents, books and papers which are updated and collected for another type of projects. All of them have been extremely useful for drawing up this programme.

Some of these papers come from institutions which are in the front page of research on this issue as well as the communication of the progress that is obtained as a result of years of investigation. Thanks to different initiatives from WHO and AEPED, each one in its field, the characteristics and peculiarities of premature infants are known. Due to the work of these institutions there is a public recognition of this health issue, remaining a very important source of information for people who are in contact with prematurity research.

However, apart from the creation of awareness campaigns, these organizations also set up investigation studies in which they are obtaining diverse and rewarding results due to the need of updating some concepts and statistics. In the case of the latter, national organizations such as INE are particularly relevant because of the data they gather and spread to the scientific community.

On the other hand, there are the studies that are carried out by an investigation team from which this programme had collected some references. In order to design a programme like this it was necessary to collect information about the different projects from diverse parts of the world before verifying their veracity, application and results, as well as their variety. In some of the cases, the technological advances are needed in order to carry out
the meetings with the parents of premature babies. Its application is not difficult; however, the point of view that originated the idea is essential.

It is incorrect to think that only developed countries is where research is more complete or where all the methods which are being used nowadays are designed. An example could be the Kangaroo Mother Care that was designed in Bogotá, Colombia as an answer to a special situation that was affecting a high number of premature infants. (Seidman, Unnikrishnan et al. 2015).

For that reason, it is very interesting but also an obligation the fact that the scientific community has to investigate which methods are being used in different parts of the world, allowing us to have information or new techniques and whether is possible to employ them into a real case. Indeed, if it is possible to get in touch with those people that have developed the idea in the first place. The main reason that the investigations or the health programmes are taken into account, is the search of new knowledge in order to apply it and improve the patients’ health, as well as the inner organization of the institution where is going to be employed. In addition, that can be a way to train health carers and in consequence to improve the service for the patient.

With the intention of improving a future project similar to this, some fields are needed to be extended. One of them is the measurement of the stress levels of the parents who attended the seminars before and after the programme. This has to be evaluated with validated tests. Another field is to design a theoretical test in order to assess the knowledge of the parents before and after the programme since the practical part can be evaluated and corrected during the hospitalization process.
6. CONCLUSIONS

1. This programme pursues the information learning and training process of the parents about what a premature baby is, as well as the care that the baby needs in order to reach a proper motor development and the suitable adaptation to the environment.

2. It is very important to share the intervention with the parents of premature infants in an Interventional Programme during the hospitalization process with some particular objectives and an Outpatient Continuous Programme with a plan adapted to the specific situations of the premature’s development, until the infant reaches two years of age.

3. The development and the establishment of a School of Parents programme will respond to the lack of information of the parents of premature infants, decreasing the stress levels and the anxiety of this unexpected situation.

4. The function of the Multidisciplinary Team is recognised, with the physiotherapist as the principal health educator leading this programme and being the most important figure in the parents’ learning process. In most of the facilities, the nursing team is in charge of this educational role.

5. Expecting to carry out this School of Parents Programme for premature infants, the prospect is that this action plan will be the solution for the present situation, being used as a model for the establishment of further programmes, as well as helping to create consciousness about this important issue.
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