



REVISIONES

Advantages of the presence of the family in pediatric resuscitation

Vantagens da presença da família numa reanimação pediátrica ou em procedimentos dolorosos

Ventajas de la presencia de la familia en la reanimación pediátrica

***Vaz, Judite **Alves, Rita **Ramos, Vera**

*Specialist of Child Health and Pediatric Nursing. Adjunct Professor of the Institute of Health Sciences Universidade Católica Portuguesa de Lisboa E-mail: jvaz@ics.lisboa.ucp **Nursing. Hospital Dr. Fernando Fonseca, EPE. Master of Nursing in Child Health Nursing Expertise area and Pediatrics at the Institute of Health Sciences. Universidade Católica Portuguesa de Lisboa. Portugal.

Keywords: Family presence; Resuscitation; Invasive Procedure; Pediatrics; Advantages

Palavras chave: Presença da família; Reanimação; Procedimento invasivo; Pediatria; Vantagens

Palabras clave: Presencia de la familia; Reanimación; Procedimiento invasivo; Pediatría; Ventajas;

;

ABSTRACT

Introduction: The presence of parents or others relatives during the painful procedures to the child, as well as during the pediatric resuscitation has raised discussion among health professionals, both for its advantages and disadvantages.

Objective: Considering this subject, the main goal of this investigation consists in identifying scientific studies that are oriented for the advantages of having family members at hand during resuscitation and/or painful procedures.

Method: It was performed a systematic review of the literature with the following research question: What are the advantages of having family members in the resuscitation room and/or painful procedures?

Results: All the articles identified advantages in having the presence of family members in the resuscitation room and/or during painful procedures.

Conclusions: This research reinforces the debate and reflection among the multidisciplinary team about the presence of family members during the painful procedures or resuscitation performed to a child. However, in order for this process to be executable it is necessary to train all the health team, enabling them to explain the procedure to the family and accompany them throughout the process.

RESUMO

Introdução: A presença dos pais ou outros familiares perante a prestação de procedimentos dolorosos à criança bem como na reanimação pediátrica tem suscitado discussão aos profissionais de saúde, pelas vantagens e desvantagens que apresenta.

Objetivo: Tendo em conta esta problemática, o objetivo desta investigação consiste em identificar estudos científicos orientados para vantagens da presença dos familiares na sala de reanimação e/ou em procedimentos dolorosos.

Método: Foi elaborada uma revisão sistemática da literatura com a seguinte questão de investigação: Quais as vantagens da presença dos familiares na sala de reanimação e/ou em procedimentos dolorosos?

Resultados: Todos os artigos identificam vantagens da presença dos familiares na sala de reanimação e/ou em procedimentos dolorosos.

Conclusões: A pesquisa favorece o debate e a reflexão entre a equipa multidisciplinar sobre a presença dos familiares de crianças perante a realização de procedimentos dolorosos ou de reanimação. No entanto, para que este processo possa ser exequível, é necessário a formação e treino de toda a equipa de saúde, para que estes possam estar disponíveis para explicar os procedimentos aos familiares e acompanhá-los durante todo o processo.

RESUMEN

Introducción: La presencia de los padres o de otros familiares ante la prestación de procedimientos dolorosos para el niño, así como en la reanimación pediátrica, ha provocado discusión entre profesionales de la salud, por las ventajas y desventajas que presenta.

Objetivo: Teniendo en cuenta este problema, el objetivo de esta investigación consiste en identificar estudios científicos orientados a las ventajas de la presencia de los familiares en la sala de reanimación y/o en procedimientos dolorosos.

Método: Fue realizada una revisión sistemática de la literatura con la siguiente pregunta de investigación: ¿Cuáles son las ventajas de la presencia de la familia en la sala de reanimación y/o procedimientos dolorosos?

Resultados: Todos los artículos identifican ventajas de la presencia de la familia en la sala de reanimación y/o procedimientos dolorosos.

Conclusiones: La investigación favorece el debate y la reflexión entre el equipo multidisciplinar sobre la presencia de los familiares de los niños frente a procedimientos dolorosos o reanimación. Sin embargo, a fin de que este proceso sea factible, es necesaria la formación y capacitación de todo el equipo de salud, para que puedan estar disponibles para explicar los procedimientos a los familiares y acompañarlos en todo el proceso.

INTRODUCTION

The participation of parents or legal representatives in children's health care is already a reality in the health care services. The parents have adopted an active and interventionist role in the care of their children, as opposed to the role of observer previously adopted. In this context, the partnership in care emerged known as "(...) *the formalization of parents participation in the care of their hospitalized children*"^(1:28), which has the basic principal of family-centred care model. This concept is supported by beliefs and values advocating that parents are the best care providers of their children through an effective negotiation of care between the nursing team and parents⁽²⁾. "*It is important to highlight that the family-centred care practice does not replace or dismiss health care professionals of their duties, this should, rather create*

conditions to facilitate family involvement and participation in the treatment process and adaptation to the disease, it should be understood as a challenge and not as a threat^(3:62).

This partnership reinforces the security and confidence of the parents in the performance of their parental functions, promoting their adaptation in the care of their children, but “(...) *participation, although desirable and beneficial to the child, should not be forced but rather encouraged*”^(4:154). This provides the parents, the possibility of choosing to be present in the different procedures performed to the child⁽⁵⁾, giving them the opportunity to learn and be involved when confronted with similar situations at home.

The partnership between parents and health care professionals calls for an involvement of the family members on procedures and decision making, after they have been properly informed⁽³⁾, allowing the parents to decide if they want to remain present during painful procedures and pediatric resuscitation^(6,7).

The presence of parents or others relatives during the painful procedures to the child, as well as during the pediatric resuscitation has raised discussion among health professionals, both for its advantages and disadvantages, but only the possibility to make the decision to remain present is in accordance with the Instituto de Apoio da Criança, which states that “ (...) *a hospitalized child has the right to have their parents or their substitutes with them, day and night, regardless of their age or medical condition*”^(8:7).

The pediatric resuscitation is a moment of great stress for both the parents and the team, because the child's life may depend upon that moment. The team feels the obligation to respond to the situation without falling, and the presence of family members may raise the level of stress and work for the health professionals, due to the need for support that they also require. There are a number of associations advocating for the importance of presence of family members next to their children during pediatric resuscitation or invasive procedures:

1. The Emergency Nurses Association issued an opinion approving the parental presence during invasive procedures and pediatric resuscitation, promoting the creation of guidelines for the multidisciplinary team involved and the development of protocols and procedures in accordance with the family-centred care, as well as, the development of skills of health professionals towards this philosophy of care⁽⁹⁾.
2. The American Heart Association has developed guidelines giving the parents the option of being present during invasive procedures and/or resuscitation⁽⁷⁾.
3. Since 2006, the Grupo de Reanimação Pediátrica in Portugal has advocated that parents should be with their children, even while providing more complex and advanced care. Their presence can reduce the fear and anxiety of the children before the procedures are performed⁽¹⁰⁾.

Thus, due to the difference of opinion experienced amongst health professionals and in an attempt to address this problem, or at least provoke discussion and reflection in our context of care, we proceed to perform a systematic review of the literature. This is based on a “ (...) *type of research that provides sources of evidence related to a specific intervention strategy, by applying systematic and explicit methods, critical appraisal and a summary of selected information*”⁽¹¹⁾.

The systematic review of literature started with the definition of a question as “(...) *it is from this that unfolds all the integrating parts of the methodology.*”^(11:204). The question was formulated from the “(...) *acronym PICO (participants, interventions, comparison and outcomes*”^(11:204) as shown in the following table:

Table I: Table PICO

P	Participants	Subject of study?	Family Members
I	Interventions	What are the actions?	Advocate to the presence of family members at the resuscitation room and in painful procedures.
C	Comparison	What is the alternative?	Disadvantages
O	Outcomes	What are the results?	Advantages of presence of family during pediatric resuscitation or in painful procedures.

Thereby, associated with the academic framework described above, the following research question arises: What are the advantages of the family presence in the resuscitation room and/or painful procedures?

The purpose of this research is to identify scientific studies focused on the advantages of the presence of the family members in the resuscitation room and/or painful procedures.

METHODS

The gathering of information took place between April and May 2014. The selection criteria of the articles were based on the following: qualitative and quantitative scientific articles published in full from January 2009 to May 2014, written in Portuguese, Spanish or English and articles that answers the question above mention. Systematic review of literature, dissertations and thesis were excluded from the selection process.

Within the first stage, we completed an initial search to identify grey literature on Google and on the *Repositório Científico de Acesso Aberto de Portugal*. This permitted a selection of the most adequate key words. Subsequently, a search was completed on SciELO – *Scientific Electronic Library Online*, SciELO Portugal, Biblioteca do Conhecimento Online (b-on) and at EBSCOhost.

The following key words were selected in Portuguese: “presença da família”, “reanimação”, “pediatria”, “procedimentos invasivos” and “vantagens”. The search started with these key words in an attempt to obtain national research, but this was not successful.

We continued the search with the key words written in English: “family presence”, “resuscitation”, “pediatrics”, “invasive procedures” and “advantages”, and we were able to obtain relevant results on the electronic databases SciELO and EBSCOhost, on studies publish in: CINAHL Plus with Full Text; MEDLINE with Full Text; Nursing and

Allied Health Collection: Basic; Cochrane Central Register of Controlled Trials; Cochrane Database of Systematic Reviews; Cochrane Methodology Register; Nursing & Allied Health Collection: Comprehensive; MedicLatina; Health Technology Assessments.

The search for key words in English was carried on, and in the first instance the following Boolean words were crossed (*Child OR pediatric OR infant*) with (*Resuscitat* OR Invasive proced**) in order to obtain all the possible results. One thousand and three hundred twenty two articles were found. The research was then narrowed to the Boolean phrase (*parent* presence OR family presence OR (role and parent*)*) and nineteen scientific articles were obtained. The words “*advantages*” and “*benefit**” written in English did not produce relevant results; hence they were not used as key words on this search. These articles were found on the electronic database above described.

After examining the titles and abstracts, eleven references were selected from the nineteen articles found. Two expert reviewers examined these in separate. Based on the examination of the full article and the application of the selection criteria, three articles were selected.

From this stage we proceeded to assess the quality of studies, and it has been chosen as an instrument an adapted critical evaluation grid ⁽¹²⁾. Items related to the validity of the results, importance and applicability of the results were analyzed. One score was assigned to each article and applied a formula taking into account relevant questions and maximum possible score, the final rating is the ratio between the total score and maximum applicable ⁽¹²⁾. The articles analyzed obtained a final mark between 90 and 100%. The evaluation was performed by two separate expert reviews, it was consistent the inclusion of three studies in the sample.

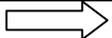
This process was developed by two separate expert review by metasynthesis because it was considered “(...) *a kind of rigorous scientific evidence in the construction of knowledge*” ^(13:3). After critical evaluation of studies, we proceeded to the new full reading of the articles in order to “(...) *make the results more accessible and organized*”^(14:545).

Later articles were related (identifying advantages over presence of family members in the resuscitation room and / or in painful procedures), creating more cohesive statements, which are described in synthesis in order to respond to our research question. ⁽¹⁴⁾

PRESENTATION OF RESULTS

The selected studies (Table II) are not uniform in their goal study since one exclusively refers to procedures for pediatric resuscitation and the remaining two only to painful procedures.

Table II - Search Results

EBSCHO				
Cinahl	Medline	<u>Nursing and Allied Health Collection: Basic</u>	<u>Nursing & Allied Health Collection: Comprehensive</u>	MedicLatina
12	10	4	4	1
↓ Application of inclusion and exclusion criteria / Read titles and abstracts				
10	0	0	1	0
↓ Studies included after full reading				
3	 (Matziou, Chrysostom & Cerdikaris, 2013), (Jones, Parker-Raley, Maxson & Brown, 2011), (Jawahar & Scarisbrick, 2009)			

The study referred to pediatric resuscitation procedures aims to analyze the conflicting perceptions that health professionals have about the presence of the family during pediatric resuscitation ⁽¹⁵⁾. The remaining items investigated if the presence of parents is a distraction factor for children undergoing a painful procedure ⁽¹⁶⁾ and identifies the perceptions of parents or caregivers about their presence in the post - operative period ⁽¹⁷⁾. The studies considered are shown in Table III:

Table III: Table of selected studies

Study Identification	Study Objective	Number and type of participants	Design and study duration	Outcomes And Interventions	Outcomes and Conclusions
Parental presence and distraction during painful childhood procedures (Matziou, Chrysostom & Perdikaris, 2013, Grécia, Atenas)	Investigate whether the presence of parents is a child distractor undergoing a painful procedure.	Study of three experimental groups (64 girls and 66 boys) who were randomly assigned	Randomized study, conducted between September 2006 and February 2007		This study indicated that the presence of parents can cause stress and pain reduction experienced by children during an invasive procedure. The presence of parents should be understood as an important and effective factor in reducing negative behaviors of children during painful procedures performed by nursing staff.

<p>Understanding health care professionals' views of family presence during pediatric resuscitation (Jones et al., 2011 Texas, usa)</p>	<p>Analyze the conflicting perceptions that health professionals have about the Family presence during pediatric resuscitation</p>	<p>One hundred and thirty-seven health professionals</p>	<p>137 Health professionals answered a questionnaire of 23 questions about their perception on family presence during pediatric resuscitation. Later twelve of these participants were interviewed about the effects that the presence of the family may have on the families of patients and in trauma teams.</p>	<p>The benefits for families are to support children, perception of participation, trust in the team and facilitate the grieving process. Health professionals have identified that the family can provide information about the child. Doctors and nurses reported that families feel more calm and confident about what was done to his son, being able to witness the health team's efforts to save him.</p>
<p>Parental perceptions in pediatric cardiac fast-track surgery (JaWahar & Scarisbrick, 2009, Londres, Inglaterra)</p>	<p>Identify the perceptions of parents or caregivers about their presence in the immediate post-operative, including the tracheal extubation and the perception of time they were in the ICU</p>	<p>Sent one hundred thirty-eight questionnaires to parents of children up to 18 years. The children had at least 10 kg, healthy; and no heart defect associated. Forty-two answered.</p>	<p>A retrospective study</p>	<p>The presence of parents reduces the anxiety of children and facilitates the surgical process, reducing likewise of parental anxiety. Parents also overestimate the time of certain procedures such as tracheal extubation. There is need for preoperative preparation and education in pre-admission, which will allow parents / caregivers to be more involved in the care of their child</p>

DISCUSSION OF RESULTS

All articles identify benefits in the presence of family in the resuscitation room and / or painful procedures, responding to the initial question:

Table IV: Advantages of the presence of family members in the resuscitation room and / or painful procedures

	<i>Situation control / Confidence in the team</i>	<i>Participate in decisions</i>	<i>Say goodbye and Facilitate the grieving process</i>	<i>Support the children</i>	<i>provide information</i>	<i>Reduce child Stress and anxiety</i>	<i>Reduce parental anxiety</i>
Parental presence and distraction during painful childhood procedures (Matziou, Chrysostome Perdikaris, 2013)						<input checked="" type="checkbox"/>	
Understanding health care professionals' views of family presence during pediatric resuscitation (Jones et al., 2011)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Parental perceptions in pediatric cardiac fast-track surgery (Jawahar and Scarisbrick, 2009)						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

There is a growing tendency to value the presence of parents or other family in resuscitation and / or painful procedures, confirmed by various studies and some issued guidelines, although much of the professionals resist the adoption of this practice. Health care workers who do not agree with the presence of spectators before this type of situation, fear confusion and interference in the proceedings ⁽⁵⁾.

The evidence indicates the benefits of the presence of family members in the resuscitation room and / or in painful procedures because their presence helps them understand the severity of the situation valuing the care provided; can alleviate a sense of guilt and thus facilitate the grieving process. Their presence promotes participation in decisions and the availability to provide relevant information from clinical status ⁽¹⁵⁾. It also proves that the presence of family members in these situations, reduces stress / anxiety in both children and families ^(16,17).

Parents verbalize that because they are present, they have some control on the situation, can participate in decisions and foster confidence in the Team ⁽¹⁵⁾.

Health professionals have identified that the family can provide information about the children and families feel more peaceful, confident about what was done to his son, being able to witness health team's efforts to save him ⁽¹⁵⁾.

The presence of parents leads to reduction of stress / anxiety and pain experienced by children during a painful procedure and it should be understood as an important and effective factor in the reduction of negative behaviors of the children during painful procedures; also decreasing parental anxiety ^(16,17).

Parents do not feel traumatized by observing the resuscitation of their children ⁽¹⁸⁾; on the contrary parents who did not witness the resuscitation of their children may feel more distressed than those who witness, for the resuscitation memories are not lasting and distress is directed to the potential death of the child ⁽¹⁹⁾. Parents fears are replaced by the need to be with their son and the memory of the resuscitation scene is turbid and not long-lasting ⁽²⁰⁾.

Seems relevant to give parents the choice to stay during resuscitation ⁽⁵⁾ or painful procedures, as it is necessary to have a professional assigned to care for the parents ⁽⁷⁾. This professional must be trained to welcome them, comfort them, answer their questions to clarify the procedures performed and ensure the safety of the patient and professionals involved, so as not to interrupt the process of resuscitation and maintain a cohesive and dynamic team ^(7,18, 21).

The studies included in this review are of high quality, as mentioned earlier. Jawahar and Scarisbrick (2009) identified limitations in the questionnaires, particularly in the scales used, the type of questionnaire (e-mail) and the time between the child's hospitalization and administration of the questionnaire; and limitations inherent in qualitative research such as: subjectivity, generalization and interpretation of free text answers. The limitations that Jones et al. (2011) enumerated relate to the homogeneity of the sample and the fact that it was unexplored demographic differences between groups (age, religion, political ideologies); and previous experience of the participants in pediatric resuscitation and the presence of parents was unknown.

CONCLUSION

This research is based on the problem of the presence of family members of children before performing painful procedures or resuscitation.

We believe that the goal was reached, since we can find articles, though few, underpinning the problems identified and felt.

The permanence of parents and / or other reference family while performing resuscitation or painful procedures to the child is becoming more and more a reality. In this research emerge advantages for families, children and health professionals, highlighting: reducing anxiety in parents and children, reduction of negative behaviors in children; added peace of mind of parents before what has been done and decision-making.

The disadvantages are related to the need for support and information that parents have in those moments and therefore the increase in staff costs.

The research gives us strength in order to promote discussion and reflection among the multidisciplinary team in our contexts, on the issued guidelines in order that the presence of family members of children before performing painful procedures or resuscitation becomes a reality.

For this process to be feasible, training and coaching skills of all health staff in the resuscitation room is required (nurses, doctors, assistants), as well as the training team reference elements so that they can be available for monitor, support and explain the procedures to the family.

REFERENCES

1. Keating D, Gilmore V. Shares Care: a partnership between parents and nurses. *Aust J Adv Nurs*. 1996 Sep-Nov; 14 (1): 28-36.
2. Casey A. Development and use of the partnership model of nursing care. In Glasper E, Tucker A. *Advances in child health nursing*. Middtesex: Scutari Press;1993.
3. Santos L. *Acolhimento e estadia da criança e do jovem no hospital*. Lisboa: IAC; 2006. 335 p.
4. Charepe Z, Figueiredo MH. Família e a criança com doença crónica: percursos transformativos e colaborativos. *Nursing*. 2011; 23 (276): 2-8
5. Ferreira A. A presença dos pais em situação de ressuscitação cardio-pulmonar. *Salutis - Scientia Revista de Ciências da Saúde da ESSCVP* [periódico online]. 2011[Recuperado em 23/2/2014]; 3: 24-30. Disponível em: <http://www.salutisscientia.esscvp.eu/Site/Artigo.aspx?artigoId=30689>
6. Santos González G, Jiménez Tomás R, Sanchez Etxaniz J. Family presence during pediatric emergency procedures: the perspectives of family and medical staff. *Emergencias* [periódico online]. 2010 [Recuperado em 13/3/2014]; 22: 175-180. Disponível em: http://www.semes.org/revista/vol22_3/4_ing.pdf
7. Biarent D, Bingham R, Eich C, Piva JP, MacOnochie IK, Rodríguez- Núñez A, et al. European Resuscitation Council Guidelines for Resuscitation 2010. Section 6. Paediatric life support. *Resuscitation* [periódico online]. 2010 [Recuperado em 23/2/2014]; 81:1364-88. doi:10.1016/j.resuscitation.2010.08.012 Disponível em: www.elsevier.com/locate/resuscitation
8. Instituto de Apoio à Criança. *Carta da criança hospitalizada*. Lisboa: IAC; 2008. 2 p.
9. Emergency Nurses Association. *ENA position statement: Family presence at the bedside during invasive procedures and resuscitation*. [acesso em 13/3/2014] 1994. Disponível em http://www.ena.org/about/position/position/Family_Presence_ENA_PS.pdf
10. Grupo de Reanimação Pediátrica. *Curso Europeu de Suporte de Vida Pediátrico*. 3ª Ed. (Versão Portuguesa); 2006. 45 p.
11. Vilelas J. *O Processo de Construção do Conhecimento*. Lisboa: Edições Sílabo; 2009. 399 p.
12. Bugalho A, Carneiro AV. *Intervenções para aumentar a adesão terapêutica em patologias crónicas*. *NOC de adesão terapêutica* [acesso em 23/2/2014]. Lisboa: CEMBE da FML; 2004. Disponível em <http://www.cembe.org/avc/pt/docs/NOC%20deAdes%C3%A3o%20a%20Patologias%20Cr%C3%B3nicas%20CEMBE%202004.pdf>

13. Sousa CF, Castelo Branco MZP. Meta-síntese: Uma revisão da literatura - Contributos para o conhecimento e para os cuidados de enfermagem. Enfermagem em Foco- Revista Oficial do Conselho Federal de Enfermagem [periódico online]. 2013 [Recuperado em 13/2/2014]; 4 (2):1-10. Disponível em: <http://revista.portalcofen.gov.br/repositorio/journals/1/pressrelease/005.pdf>
14. Matheus MCC. Metassíntese qualitativa: desenvolvimento e contribuições para a prática baseada em evidências. Acta Paul Enferm [periódico online]. 2009 [Recuperado em 13/2/2014]; 22(Especial-Nefrologia):543-5. Disponível em: <http://www.scielo.br/pdf/ape/v22nspe1/19.pdf>
15. Jones BL, Parker-Raley J, Maxson T, Brown C. Understanding health care professionals' views of family presence during pediatric resuscitation. American Journal of Critical Care [periódico online]. 2011 May [Recuperado em 13/2/2014]; 20(3):199-207. Disponível em DOI:<http://dx.doi.org/10.4037/ajcc2011181> PMID: 21532040 NLM UID: 9211547
16. Matziou V, Chrysostom A, Perdikaris, EVP. Parental presence and distraction during painful childhood procedures. British Journal of Nursing [periódico online]. 2013 [Recuperado em 24/3/2014]; 22(8), 470-5. Disponível em: <http://www.ncbi.nlm.nih.gov/pubmed/23905228>
17. Jawahar K, Scarisbrick AA. Parental Perceptions in Pediatric Cardiac Fast-Track Surgery. AORN Journal [periódico online]. 2009 [Recuperado em 13/2/2014]; 89(4):725-31. DOI: <http://dx.doi.org/10.1016/j.aorn.2008.11.029> PMID: 19348820 NLM UID: 0372403
18. Litak D. Parental presence during child resuscitation: a critical review of a research article. Journal Perioperative Practice [periódico online]. 2012 [Recuperado 13/2/2014]; 22(2): 63-6. ISSN 1467-1026. Disponível em: <http://www.ncbi.nlm.nih.gov/pubmed/23905228>
19. Maxton F. Parental presence during resuscitation in the PICU: the parents' experience. Sharing and surviving the resuscitation: a phenomenological study. Journal of Clinical Nursing [periódico online]. 2008 [Recuperado em 24/3/2014]; 17(23):3168-76. Disponível em: doi: 10.1111/j.1365-2702.2008.02525.x.
20. Pye S, Kane J, Jones A. Parental presence during pediatric resuscitation: the use of simulation training for cardiac intensive care nurses. J Spec Pediatr Nurs [periódico online]. 2010 [Recuperado em 24/3/2014]; 15(2):172-5. Disponível em: doi: 10.1111/j.1744-6155.2010.00236.x
21. Ferreira CAG, Balbino FS, Balieiro M, Mandetta MA. Presença da família durante reanimação cardiopulmonar e procedimentos invasivos em crianças. Rev Paul Pediatr [periódico online]. 2014 [Recuperado em 24/3/2014]; 32(1):107-13. Disponível em http://www.scielo.br/pdf/rpp/v32n1/pt_0103-0582-rpp-32-01-00107.pdf

Received: January 13, 2014; Accepted: April 22, 2014

ISSN 1695-6141

© COPYRIGHT Servicio de Publicaciones - Universidad de Murcia