FACTORS FOR PHYSICAL AND EMOTIONAL DISTRESS IDENTIFIED BY PATIENTS HOSPITALIZED IN AN EMERGENCY MEDICAL SERVICE

FATORES DE DESGASTE FÍSICO E EMOCIONAL IDENTIFICADOS POR PACIENTES INTERNADOS EM PRONTO-SOCORRO

Tuane Mendes dos Santos1, Tânia Solange Bosi de Souza Magnago2, Carmem Lúcia Colomé Beck3, Patricia Bitencourt Toscani Grecor4, Andrea Prochnow5, Camila de Brum Scalcor6

ABSTRACT

Objective: to identify the factors that cause physical and emotional distress to the patient throughout the time of hospitalization in the emergency medical service. Methodology: this is an exploratory and descriptive study, with a qualitative approach, carried out with adult patients hospitalized in the emergency medical service of Hospital Universitário de Santa Maria. The instruments for data collection were a script for sociodemographic data, with the variables age, sex, origin, diagnosis, and hospitalization date, and a semi-structured interview. The main question presented to the interviewed participants was: "How do you feel about your hospitalization in the emergency medical service?". The interviews were carried out between March and April 2010 and, within this period, 48 patients were hospitalized in the emergency medical service of Santa Maria for more than six days. Of these, twenty patients were interviewed, according to the inclusion criteria proposed. With regard to the analysis, the data underwent content analysis. The research project was approved by the Research Ethics Committee of Universidade Federal de Santa Maria, under the CAAE 0327.0.243.000-09. Results: the study showed that the factors for physical and emotional distress can be related to an inadequate environment, a fragile patient, and the information difficulties experienced by the health staff. Conclusion: the permanence of patients in the emergency medical service for an indefinite period leads to physical and emotional discomfort. This way, the health staff should reflect on the hospitalization in the emergency medical service, in order to plan actions that can minimize the physical and emotional distress of these patients. Descriptors: nursing; hospital emergency service; hospitalization; health profile.

RESUMO

Objetivo: identificar os fatores que causam desgaste físico e emocional ao paciente durante o período de internação no pronto-socorro. Metodologia: trata-se de um estudo exploratório-descritivo, com abordagem qualitativa, realizado com pacientes adultos internados no pronto-socorro do Hospital Universitário de Santa Maria. Os instrumentos de coleta de dados foram um roteiro para dados sociodemográficos, com as variáveis idade, sexo, procedência, diagnóstico e data de internação, e uma entrevista semiestruturada. A questão principal apresentada aos entrevistados foi: “Como está sendo sua internação no serviço de emergência?”. As entrevistas foram realizadas entre março e abril de 2010 e, durante esse período, 48 pacientes ficaram internados no pronto-socorro do Hospital Universitário de Santa Maria por tempo superior a seis dias. Destes, foram entrevistados vinte pacientes, respeitando-se os critérios de inclusão propostos. Quanto à análise, os dados foram submetidos à análise de conteúdo aprovada pelo Comitê de Ética em Pesquisa da Universidade Federal de Santa Maria, sob o CAAE 0327.0.243.000-09. Resultados: o estudo mostrou que os fatores de desgaste físico e emocional podem ser referentes a um ambiente inadequado, um paciente fragilizado e dificuldades de informação da equipe de saúde. Conclusão: a permanência dos pacientes no pronto-socorro por tempo indefinido leva a desconforto físico e emocional. Nesse sentido, a equipe de saúde deve refletir sobre a internação em pronto-socorro, a fim de planejar ações que possam minimizar o desgaste físico e emocional desses pacientes. Descriptores: enfermagem; serviço hospitalar de emergência; hospitalização; perfil de saúde.

RESUMEN

Objetivo: identificar los factores que causan desgaste físico y emocional al paciente durante el periodo de internación en el servicio médico de urgencia. Metodología: esto es un estudio exploratorio y descriptivo, con abordaje cualitativo, realizado con pacientes adultos internados en el servicio médico de urgencia del Hospital Universitario de Santa María. Los instrumentos para la recogida de datos fueron un guión para los datos sociodemográficos, con las variables edad, sexo, procedencia, diagnóstico y data de internación, y una entrevista semi-estructurada. La cuestión principal presentada a los entrevistados fue: “¿Cómo está siendo tu internación en el servicio médico de urgencia?”. Las entrevistas fueron realizadas entre marzo y abril de 2010 y, durante ese periodo, 48 pacientes estuvieron internados en el servicio de urgencia del Hospital Universitario de Santa María por más que seis días. De estos, fueron entrevistados veinte pacientes, según los criterios de inclusión propuestos. En cuanto al análisis, los datos fueron sometidos al análisis de contenido. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación de la Universidad Federal de Santa María, bajo el CAEE 0327.0.243.000-09. Resultados: el estudio mostró que los factores de desgaste físico y emocional pueden estar relacionados a un ambiente inadecuado, un paciente debilitado y dificultades de información del equipo de salud. Conclusión: la estancia de los pacientes en el servicio médico de urgencia durante tiempo indefinido conduce a malestar físico y emocional. En ese sentido, el equipo de salud debe reflexionar acerca de la internación en el servicio médico de urgencia, con el fin de planear acciones que puedan reducir al mínimo el desgaste físico y emocional de estos pacientes. Descriptores: enfermería; servicio médico de urgencia; hospitalización; perfil de salud.

Nurse. Federal University of Santa Maria/UFSM. Santa Maria (RS), Brazil. E-mail: tuanemen@uol.com.br; 1Nurse. PhD in Nursing. Adjunct Professor of Nursing Department of Federal University of Santa Maria/UFSM. Santa Maria (RS), Brazil. E-mail: mtpenagotiteria.com.br; 2Enfermera. PhD in Nursing. Associate Professor II, Department of Nursing, Federal University of Santa Maria/UFSM. Santa Maria (RS), Brazil. E-mail: carmencalome@uol.com.br; 3Nurse. Masters Program Graduate Nursing, Federal University of Santa Maria/UFSM. Santa Maria (RS), Brazil. E-mail: andreaviscott@hotmail.com; 4Nurse. Master’s Program Graduate Nursing, Federal University of Santa Maria/UFSM. Scholarship CAPEO-MEETING, Santa Maria (RS), Brazil. E-mail: pfotoscan@hotmail.com; 5Nurse. Masters Program Graduate Nursing, Federal University of Santa Maria/UFSM. Santa Maria (RS), Brazil. E-mail: andreaviscott@hotmail.com; 6Nurse. Universidade Federal de Santa Maria/UFSM. Santa Maria (RS), Brazil. E-mail: camila_cbdalcant@hotmail.com.br

Study developed with funding from FIPER Júnior / UFSM (aid scholarship of scientific initiation)
INTRODUCTION

The Emergency Care Units (UPAs) and Emergency Service (PS) are important as in many situations the population looks to them for medical consultations, regardless of the complexity of their disease process. The lack of political definitions, the low resolution and quality of services, coupled with the difficulty of changing the population's cultural habits and beliefs have led users to seek assistance wherever there is an open door, which may favour the overcrowding of these units.

Some studies indicate that the demand for care in UPAs or PS, for the most part, is made by users who are not in a serious clinical condition, but seek readiness in attendance, resoluteness in attention, as well as successful referrals. Hence, the care for health problems that could be solved in other areas of the national health system is performed in these locations, which causes overcrowding in these units.

Therefore, the lack of hospital beds that can account for this demand and the delay in transferring to high complexity hospitals patients who require this type of treatment may reflect in the worsening of many patients, with risk of death for many of them. The consequences can be severe, as these units do not have the sufficient infrastructure and personnel to adequately and simultaneously meet the demands of inpatients and of critically ill patients in emergency situations that continue to come to the units.

Thus, the inadequate structure to accommodate the patients added to the clinical instability and sudden changes in health condition can affect the emotional balance of both patients and their families. The situation of being admitted to an emergency service, even temporarily, means that patients will enter into a stressful environment, where the movement of staff, submission to rules and routines of the service and their own health condition may cause doubt, uncertainty and increased anxiety, as well as other events which may have negative impact on their recovery.

Considering that human care should provide a favourable environment for the patient’s physical and emotional rehabilitation, it is believed that by expanding knowledge about the process of admission of patients in PS units we can promote better understanding of the situation experienced by them, helping to promote the development of assistance that meets these specifications and promotes well-being. This can also contribute to the health staff rethinking the ways of working and caring for people admitted to emergency units.

This study is justified by the need to implement actions based on the identification of stressful factors which make hospitalisation less uncomfortable, promoting patients’ welfare and helping their recovery.

In this context, this study was proposed with the following objective: to identify factors that cause physical and emotional distress to the patient during the admission in the Emergency Room.

METHODODOLOGICAL APPROACH

This is an exploratory-descriptive study with a qualitative approach. The research setting was the emergency room of the University Hospital of Santa Maria (PS/HUSM), a benchmark in emergency care for the Midwest region of Rio Grande do Sul.

According to data from its statistics sector, the PS/HUSM attended 14,515 users in 2010, of whom 12,849 were attended in the adult PS, of which 2,787 cases resulted in hospitalisation, with an occupancy rate of 160%.

The PS/HUSM has 22 observation beds, including three isolation beds. However, due to the lack of beds, the accommodation of patients in stretchers is frequent. These are housed next to the beds, in the space that should be used for transit of health professionals, patients and relatives. This situation complicates the access to the patients and reduces their privacy, as the distance between beds is sometimes 15 cm.

This study was developed with funding from FIPUEFSM (Research Incentive Fund, which provides scientific initiation scholarship for academics) and was approved by the Research Ethics Committee of UFSM under process number 23081.016965/2009-11 and Certificate of Presentation for Ethics Consideration (CAAE) No. 0327.0.243.000-09 on 18 January 2010.

The study subjects were adult patients admitted to the PS in question, and the inclusion criteria were: being hospitalised in the unit for a period greater than or equal to six days and wanting to participate in the research, as well as being in a clinical state that allowed for responses to the interview (level of consciousness and capacity to consent). The choice of the number of hospitalisation days considered the fact that,
Factors for physical and emotional distress... followed by numbers in the order of the interviews (I1, I2, I3 ...).

Interview data was subjected to content analysis, whose sequential phases are pre-analysis, exploration of the material, the processing of data and interpretation.12

Thus, the analysis of data was around three main themes: factors of physical and emotional distress due to environment inadequacy, frail patients, and the burden of the health team.

RESULTS AND DISCUSSION

The patients interviewed were ranging in age from 25 to 75 years, predominantly male (60%) and from Santa Maria (50%). Concerning the reason for admission, 18 different diagnoses were obtained among the 20 respondents, pointing to the diversity of diseases and individual needs. It should be noted that the hospital is a regional and highly complex institution of note, and receives patients with a variety of diagnoses and different specialties.

In the first main theme, factors of physical and emotional stress related to inadequate environment, issues were highlighted related to inadequate rest and living with the suffering of others, influenced by the environment.

It is important to point out that the environment experienced by patients in the emergency room of the University Hospital not only refers to the physical structure, but includes the way people interact in the limitations of this space. Therefore, it is a complex condition, inherent to the PS itself and human beings who care and are cared for, who experience and also endure the complex human relationships in the process of caring/being cared for.3

It can be highlighted that factors of distress cited by patients accommodated on stretchers were the frequent noise in the environment and the constant change of place within the unit. The statements reflect the reality experienced:

[... ] 20 days living in a corridor being thrown back and forth all day [...] sent to and fro! You are never settled. [...] (I1)

[... ] The only problem here is the place [...] It is very crowded and is making me more and more depressed. I've been in this hall for 20 days [...], What bothers me most is not having a place to go [...] (I1)
Factors for physical and emotional distress...

These reports describe the everyday life experienced by patients who remain hospitalised in the PS regarding the discomfort of being a stretcher (thin mattress), and on the coming and going from one place to another within the unit. This latter situation occurs because patients are often moved according to their change in clinical status, that is, from the corridor to other places that allow greater visibility for health professionals, or vice versa.

The fact that patients are constantly been repositioned within the unit and therefore not having adequate rest should be cause for concern among health professionals working in the PS. Often, the rapid pace of work in these units deprives the health professional from a more reflective action and from critical remarks about their practice.

Patients also pointed out the noise as a cause for the difficulty of rest and sleep, as can be seen in the following statements:

Lots of noise! Lots of movement! (I6)

[…] You can’t sleep! You can’t! It is very noisy here! […] (I17)

The noises reported by patients are caused by both dialogues between professionals, patients and families, and the handling of equipment and materials. This is another situation that should receive greater attention from the health staff, because sleep is vital to humans and is therapeutic for the individual, i.e. it is refreshing for body and mind. Furthermore, patients signalled the difficulty of moving within the environment due to the overcrowding.

From this, they evoke feelings related to the lack of privacy and living with the suffering of others:

[…] I feel bad because there is no freedom. […] See for yourself [shows the other patients around] the freedom that I have! So, it’s hard! (I1)

[…] Just the fact of being locked up in here, seeing these things [shows the environment], many people bedridden and in pain, I kind of go into depression, gives me an annoying feeling! (I5)

[…] actually I never really imagined having so many sick people around me, with even more serious problems than mine. […] (I12)

[…] the deaths […] [Long silence after reply] (I13)

From these statements, it is understood that the patients have their privacy compromised when they are admitted into the PS, and this is manifested through physical and emotional discomfort. The inadequate environment provides the coexistence of the admitted patients with the suffering of others, which is enhanced with the severity of disease and the patient’s degree of dependency.

These testimonies are due to the fact that in the studied PS, as the admissions are occurring, stretchers end up getting closer and closer, lined up alongside one another in order to accommodate all patients. This accumulation of patients distorts the real purpose of this type of unit, since the PS is a site dedicated to attending patients in life-threatening situations. When individuals in less serious conditions remain hospitalised at these sites, the environment becomes even tenser, as they become spectators of events, especially of the care of critically ill patients.

The human being is conceived as a single indivisible being, possessing characteristics such as uniqueness, individuality and totality, but in the context of the PS, their need for individuality and privacy may not be recognised, as they are forced to deal with several unknown persons in the same environment4. The accommodation on stretchers next to each other very often exposes patients, especially in the situation of performing some procedure.

In an attempt to alleviate overcrowding in PSs, the Ministry of Health implemented, with the National Humanisation Policy, the Risk Classification Admission System14. However, the overcrowding panorama in PSs is still alarming. It is noteworthy that the occupancy rate of the unit under study, in 2010, was 160%.

Considering care as an object of nursing work, these stress factors (inadequate environment and living with the suffering of others) should be carefully observed and are subject to the search for solutions. For this, small actions, such as reducing ambient lighting to the minimum, turning off unnecessary lights, reducing the tone of voice and organising the environment so that it becomes more peaceful, quiet and private (using screens), may contribute to decreasing the discomfort. Such actions may promote the humane care in which the human being is perceived in its entirety.

Still with regard to this issue and the prospect of long-term actions, the organisation of a stream of referral of patients to other services in the county or region
In the second main theme, factors related to frail patients, questions have emerged regarding the feelings aroused during hospitalisation, lack of family and expectancy of hospital discharge.

In this theme, the need for the vision of the human being as a holistic being, for whom illness is a component that can affect their physical, economic, social, religious and emotional security, is evident, especially when the disease manifests itself suddenly.

However, at the PS, talking and listen to the patient are more difficult actions to carry out, mainly due to the fact that it is an open unit, with many patients and rapid pace of attending, which may favour the emergence of feelings of abandonment and neglect in the patients. In the context of emergency, the patient’s family may also be overlooked and stigmatised, which can weaken and hinder the knowledge about what is happening with their relative.

With regard to the feelings aroused by the illness and hospitalisation in PS, the presence of feelings such as sadness, despair, loneliness, anxiety, depression and impotence was identified. These feelings were reinforced and made explicit in the statements by non-verbal language, such as crying at some moments of the interview.

There are moments of despair, anguish, because actually, I’ve never been hospitalised […] (I12)

[…] It’s as if I were a bird in a cage. (I5)

In addition, the hospital may be responsible for arousing feelings such as fear of the unknown and discouragement in patients, as they are in a strange environment, with different routines related to food, leisure, rest and sleep, among others. This can become more complex when it’s their first admission, since being hospitalised may represent an important part of instability in their health, as well as coping with an unfamiliar situation.

Anger, sadness and desire to drop everything were evident in the interviewees’ statements:

[…] I feel angry! The emotional part is very bad, there are days that if it wasn’t for my wife, I would drop everything. Depression […] (I11)

Factors for physical and emotional distress...

 […] I feel such a sadness! Depression hits because we feel lonely! silence (I10)

This result corroborates a study conducted with victims of traffic accidents in an emergency hospital in Fortaleza/Ceará15. In this study it was identified that, during hospitalisation in this environment, patients expressed feelings such as depression, anxiety, sadness, fear, worry and misinformation about the severity of their condition and prognosis.15

Regarding the sentiments expressed, also revealed were the impotence in the facing of and the acceptance with the situation experienced:

[…] Being angry does not help! You have to wait, have to calm down. Eventually they will take you upstairs [surgical unit] and operate! (I3)

[…] I think every day we’ll get more used to the situation! […] (I12)

[…] One must have patience, because the service is good. They do everything you need, it just takes too long […] (I1)

Therefore, there is a need on the part of both health professionals and patients to transcend this perspective beyond the care of the body, rediscovering the magnitude of being, recognising their social and family dimension and proposing to assist them in full.14

Family participation in the process of illness and hospitalisation is essential for patients’ recovery, and the lack of the family was cited by several respondents, indicating that they would appreciate the presence of their relatives during the hospitalisation. However, as in the PS caregivers remain seated in chairs, some patients avoid requesting the stay of family members during hospitalisation:

Ah! The lack of family! But I ended up telling them to go, so they wouldn’t sleep in a chair. Staying in a chair: this bothers me! […] (I5)

The negative influence of lack of communication with the family during the hospitalisation was also felt in the interviewees’ statements. This situation creates concern and emotional distress, and was expressed as follows:

[…] The emotional part is not very good, because we do not talk with the ones at home, with relatives […] (I9)

[…] I miss my family. Because they are not here and it gets complicated as I
Factors for physical and emotional distress...

have a little baby! My daughter! I miss my daughter! [...] (I20)

The interviews reveal the importance of family as a source of security during hospitalisation, especially the lack of suitable accommodation for the family's stay in this unit, as well as the difficulties of some patients to communicate with them.

Patients' expectancy for hospital discharge was evident during the study, being manifested by anxiety and desire to return home, but many patients are aware about the need to remain hospitalised.

A study conducted in a general hospital in Campinas found that it appeared to be more difficult to stay in hospital at the beginning of hospitalisation, due to the impact of an unexpected situation16. However, when patients began to understand the extent of their health impairment and the need for hospitalisation, they became more resigned, finding some sense in their stay16. This result is consistent with this study, as shown in the statements below:

[…] The only thing that bothers me is the desire to go home, but I have to go healthy! (I2)

[…] If I was OK I'd be out there. It's only the question of discharge, when she [the doctor] lets me go it's a score of 100%, but while I'm here it's 99%. (I14)

The third main theme, health care team overload, can reveal information difficulties of the health team, pointing to the uncertainty of medical conduct and delay in solving the health problems.

This third theme reveals the fear and uncertainty about the delay in the approach to be adopted and care provided by health staff, especially by physicians.

Uncertainty regarding the procedure to be established and the delay in resolving the health problem or making the diagnosis were points highlighted at various times during the interviews. This situation proved to be generating anxiety in patients:

[…] Uncertainty, because you never know! Each case is different, I am waiting [...] what will happen? I don't even know if I'll get out of this [...] [Crying] (I4)

[…] It's all very time consuming, the weeks pass and nothing is done! I have to pay someone to take care of my house, otherwise everything will be taken! I live alone! Not during the day, but at night I have to pay a [homecare] to look after my house, I have close neighbours, but there is no neighbour for thieves! [Crying] [...] (I6)

The increased length of stay of patients in the PS service is the main factor responsible for the overcrowding. In addition to that, the lack of beds for hospitalisation and the delay in diagnosis and treatment are also mentioned as the main consequences of overcrowding.4

Information, support and the closeness of the health professional to the patient and their family are essential for successful treatment, and in this study misinformation of patients and families was evident:

[…] I have to take the exam for my recovery [...] It is very disturbing not knowing what they'll do to me [...] (I1)

[…] I'm just waiting for what they will decide [...] if they will operate on me, if not, I don't know what will happen to me! [...] (I4)

In a study performed in a hospital in Fortaleza (CE), which describes the context of hospitalisation experienced by patients and their families/caregivers, it is pointed out that lack of knowledge about the pathology, the treatment to be performed and prognosis have been reported as a source of instability, both in the emotional aspect and in interpersonal relationships of those involved.13

Despite the difficulties related to information of the medical staff to patients and their families, it is understood that nursing is co-responsible for this process, by participating and seeking information, sharing it with patients, respecting ethical and legal precepts.

A study15 brings the words of the respondents about the availability of health staff to address the most immediate needs, both from patients and accompanying persons. Nursing is the link that articulates and connects the network of interactions that make up the care system in the emergency environment.3

Despite the lack of information and delay in diagnosis, this situation is mitigated by the fact that respondents reported good attendance (being well cared for) by the health team, as well as the recognition of the work done by professionals in the PS, which was described as follows:

[…] Everything comes with love, I can only thank [...] God help them, may they have health and continue working
Ah! The treatment from the nursing team is excellent! (15)

My hospitalisation is great! I’ve been here for over five days and I’m being well received and well treated. Despite being on a stretcher, I feel great being here [...] (114)

Very good care! This contributes greatly to the improvement of the patient. Here we have a very good professional staff! [...] (17)

The importance of team work goes beyond the competence to perform their actions, scientific knowledge and technical skills. Attitudes permeated with warmth, love, kindness and attention become necessary, enabling the patient and their family members to feel welcomed and cared for in the hospital, even if that place is overcrowded.⁴

In this respect, some interviewees’ statements refer to the responsibility of educational institutions, to train sensitive and caring professionals.

If you’re going to be a nurse, look and see that you are dealing with the human being and remember that one day, you can be in the place of the patient! (111)

I will be another person when I leave. I am a nursing technician and nursing student. To be a patient and to treat a patient is different. Unfortunately there are professionals here who are not prepared to work with humans, but there are some that you have to take your hat off to [...] (120)

It should be noted that some issues presented here stimulate reflection and discussion regarding the training of nurses, given that nursing students will be joining the professional area. As for professional technicians and nurses working in service and in training institutions, it is essential to identify factors capable of generating physical and emotional distress arising from hospitalisation in order to plan actions that can minimise these processes.

SOME CONSIDERATIONS

This study showed that hospitalisation of patients in the PS unit may facilitate changes in sleep and rest, and living with the suffering of others may cause the emergence of feelings like sadness, anxiety and loneliness. This type of hospitalisation causes the patients to face the lack of family or the lack of accommodation for the family, besides the expectation of discharge, the uncertainty of the medical conduct and delay in the resolution of their health problem.

The stay of patients in the PS indefinitely produces physical and emotional discomfort, being evidenced by the change in sleep and rest, mobility deficiency, constant moves, noise and overcrowding. With respect to emotional distress, it was found that feelings such as anxiety, fear, loneliness and uncertainty are exacerbated, demonstrating that this environment is not suitable for hospitalisation of patients.

There was also the need to reflect on the accommodation of patients, the presence of noise and constant illumination, little privacy and constant movement of the bed or stretcher in the physical space of the PS during hospitalisation.

With regard to emotional factors, the health team should reflect on the context in which patients are when admitted to a PS, in order to plan actions that can minimise the emotional distress of these patients.

Despite the identification of the PS as a complex and turbulent environment that has physical and emotional factors that provide distress, care was considered good by various patients, which leads to the recognition of the health staff’s work by patients and relatives.

During the data collection, limitations of the study were found to be, among other things, the difficulty of maintaining patients’ focused attention to the interview and their transcripts, due to external noise and high level of handling in the environment; interference of residents and health care academics with the patients to perform physical examinations and other procedures, and administration of medications by nursing staff.

It is worth noting that despite the difficulties imposed by the context of the unit during data collection, such as external noise, movement of patients and staff, difficulties in maintaining patient’s attention in the interview, and transcripts of interviews, the research findings are relevant to stimulate health professionals to act while considering the need to search for comprehensive assistance. It reinforces the need for new studies that may contribute to the understanding of the complexity of being admitted to an emergency unit and emergency room, as well as studies evaluating...
the consequences of prolonged hospitalisation of patients in these units, with regard to the health of workers.

REFERENCES


English/Portuguese J Nurs UFPE on line. 2012 Apr;6(4):779-87

Factors for physical and emotional distress...
Factors for physical and emotional distress...

Sources of funding: FIPE Jr/UFSM
Conflict of interest: No
Date of first submission: 2011/11/06
Last received: 2012/03/23
Accepted: 2012/03/24
Publishing: 2012/04/01

Corresponding Address
Patrícia Bitencourt Toscani Greco
Duque de Caxias, 517, Ap. 102, bloco D1
CEP: 97700-000 – Santa Maria (RS), Brazil