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Factors linked to the increased vulnerability of research subjects

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Abstract

A cross-sectional study was carried out that aimed to assess the prevalence of factors associated with the increased vulnerability of research subjects. A total of 116 patients and 18 doctors were interviewed. A proportion of 15% of patients were illiterate, 27% did not know the reason for their hospitalization and 45% did not know what treatment they were receiving. Of the total sample, 43% were from rural areas and 70% had at most an elementary level education, factors that make this population especially vulnerable. The percentage of correct answers on issues related to the understanding of free and informed consent and prescriptions were 12% and 7%, respectively. Among the doctors, 44% were not aware of all the research projects being carried out in the ward for which they were responsible, and 17% said that the hospital stays of patients participating in research were longer. The prevalence of factors that increased the vulnerability of subjects in medical research was high.

Keywords: Health vulnerability. Ethics, research. Humans. Literacy-Comprehension.

Resumo

Fatores associados ao aumento da vulnerabilidade de participantes de pesquisa

Trata-se de estudo de corte transversal cujo objetivo foi avaliar a prevalência de fatores associados ao aumento da vulnerabilidade de participantes de pesquisas. Foram entrevistados 116 pacientes e 18 médicos. Entre os pacientes, 15% eram analfabetos, 27% desconheciam o motivo do seu internamento e 45% não sabiam qual tratamento estavam recebendo. Do total da amostra, 43% procediam de zona rural e 70% haviam cursado, no máximo, ensino fundamental, fatores que tornam essa população especialmente vulnerável. Os percentuais de acerto em questões relacionadas à compreensão do termo de consentimento livre e esclarecido e de prescrição médica foram, respectivamente, 12% e 7%. Entre os médicos, 44% não conheciam todas as pesquisas realizadas na enfermaria pela qual eram responsáveis e 17% afirmaram que a permanência hospitalar de pacientes que participam de pesquisas é maior. É elevada a prevalência de fatores que aumentam a vulnerabilidade de participantes em pesquisas médicas.

Palavras-chave: Vulnerabilidade em saúde. Ética em pesquisa. Humanos. Alfabetização-Compreensão.

Resumen

Factores asociados al aumento de la vulnerabilidad de los participantes de la investigación

Se trata de un estudio de corte transversal que tuvo como objetivo evaluar la prevalencia de los factores asociados con el aumento de vulnerabilidad de los participantes de investigación. Fueron entrevistados 116 pacientes y 18 médicos. Entre los pacientes, el 15% eran analfabetos, el 27% desconocía el motivo de su hospitalización y el 45% no sabía qué tratamiento estaba recibiendo. Del total de la muestra, el 43% era de zonas rurales, y el 70% había cursado, como máximo, la educación básica, factores que tornan a esta población especialmente vulnerable. El porcentaje de respuestas correctas en cuestiones relacionadas con la comprensión del consentimiento libre e informado y de la prescripción médica fue de, respectivamente, 12% y 7%. Entre los médicos, el 44% no conocía todas las investigaciones realizadas en la enfermería de la cual eran responsables y el 17% afirmó que la permanencia hospitalaria de los pacientes que participan de investigaciones es mayor. Es elevada la prevalencia de factores que aumentan la vulnerabilidad de los participantes en investigaciones médicas.

Palabras clave: Vulnerabilidad en salud. Ética en investigación. Humanos. Alfabetización-Comprensión.

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CNS Resolution 466/2012, which discusses ethical aspects of research involving human beings in Brazil, has been in force since June 13 2013. It defines "vulnerability", in Item II.25, as the *state of persons or groups who, for any reason or motive, have their capacity for self-determination reduced or impeded, or are in any way prevented from resisting, especially with regard to free and informed consent* [1].

In addition, it also incorporates, from the point of view of individuals and communities, references to bioethics - autonomy, non-maleficence, beneficence, justice and equity - and aims to ensure the rights and duties of research participants, the scientific community and the state. However, research involving human beings is an example of an activity in which consent is a necessary condition, but is insufficient for ethical practice.

Vulnerability has been increasingly associated not only with the conditions of the individual itself, but with surrounding conditions (environmental, social or otherwise), and so it is necessary to incorporate sociocultural aspects into the understanding of the concept. Therefore, it should be noted that there are at least two types of human vulnerability: anthropological, understood as a condition of fragility intrinsic to the human being as it is biological and psychic; and socio-political, when an individual belongs to a group, gender, locality, culture, environment or socioeconomic condition that makes them vulnerable.

Vulnerability refers not only to the biological dimension, but also to the individual's history in relation to others and to the harm caused by a relationship with others, which has been called "social vulnerability." The latter presupposes anthropological vulnerability, but intensifies it due to environmental or social factors that are interrelated to the point of making the attribution of damage to a single cause highly complex [2]. Taking this broader concept of the concept, Article 8 of the *Universal Declaration of Bioethics and Human Rights* (*UDBHR*) determines that *in applying and advancing scientific knowledge, medical practice and associated technologies, human vulnerability should be taken into account.* [3].

In addition, it insists on the observance of specificities, demonstrating the importance of the consideration of the peculiarities inherent to each research participant. For this reason, the same article establishes that *individuals and groups of special vulnerability should be protected and the personal integrity of such individuals respected* [3]. Behind this manifest preoccupation with the individual and the community is the respect for human dignity, a principle adopted by UDBHR and which supports all the recommendations contained in the text, in order to extend the protection and ensure the autonomy of the research participants.

It is based on the premise that the patient cared for by public health care services, even if able to consent to participate in a given research project, is more susceptible to harm as a result of factors linked to the environment in which they live, including the health service itself. Thus, the objective of this study was to evaluate the socioeconomic and cultural conditions of the patients and the institutional characteristics that might put an individual hospitalized in a public university hospital in conditions of greater vulnerability in medical research.

Method

A cross-sectional study was carried out in which 116 hospitalized individuals aged over 18 years, without cognitive or verbal expression difficulties, and 18 doctors, each of whom was responsible for a ward used for the hospitalization of adults, were consecutively interviewed. The interviews were carried out between April and June 2014 in the hospital wards using a questionnaire of open and closed questions. The inpatient sample was obtained by convenience, and those who agreed to participate signed a free and informed consent form (FICF), an instrument responsible both for clarifying the objectives and procedures of the research and for guaranteeing the rights of confidentiality, withdrawal, care and compensation of the participant, among others.

All the doctors responsible for adult wards agreed to participate in the study and were included. The research was conducted in a public university hospital with exclusive access through the Unified Health System. The hospital is considered to be large, with 411 beds and mainly outpatient, surgical and intensive care services. The questions addressed to the patients were related to demographic characteristics, socioeconomic conditions, level of knowledge regarding the disease and comorbidities that led to hospitalization, the relationship with the attending

doctor, the length of stay and current or previous participation in clinical research trials.

Such trials are defined as any research involving humans that aim to discover or verify the pharmacodynamic, pharmacological, clinical and/or other effects of products and/or identify adverse reactions to products under investigation for the purpose of ascertaining their safety and/or efficacy [4]. The questions addressed to the physicians were regarding their knowledge of the research carried out in the ward, the care given to the research participants and the level of preparation of the medical team to treat patients with adverse reactions arising from a study performed in the hospital.

According to the good clinical practice manual, any unanticipated harmful response is considered to be an adverse reaction in any dose to a new medicinal product. In relation to already marketed medicinal products, an adverse reaction is considered a harmful and unintended response that occurs at doses normally used in humans for prophylaxis, diagnosis or treatment of diseases or to modify physiological function [5].

Literate individuals were divided into two groups according to the number of correct answers to five questions related to the comprehension of a section of the FICF and four questions about medical prescriptions, typed on a prescription form to avoid problems related to calligraphy. The demographic, socioeconomic and cultural conditions were evaluated as independent variables between the groups with and without errors in the understanding of the FICF and the prescription, establishing a value of p <0.05 as statistically significant.

Results

The sample consisted of 81 women (70%) and 35 men (30%), whose average age was 43 years (18-84 years), with the majority (57%) from urban areas. In terms of religion, 54 (47%) were evangelicals, 48 (41%) were Catholic, five (4%) did not profess to any religion, two (2%) were spiritists and seven (6%) belonged to other faiths. The mean hospital length of this population was 13 days (1 to 210 days). Table 1 shows the level of schooling, the housing and communication conditions, the means of transportation used to travel to the hospital, and the average monthly income of the population studied. Data on the patient's knowledge about the pathology that led to their hospitalization, the treatment they were receiving at the hospital and their relationship with the institution and the health team are also shown in Table 1.

Among the individuals in this sample, 32 out of 114 (28%) reported having previously participated in scientific research. Only 9 of 31 (29%) were able to identify the research they had participated in. Of the individuals who had already signed a FICF for participating in research, 9 (out of 12, or 75%) said they understood the content of the document. The majority (17 of 19, 89%) did not receive any compensation for having participated in trials. The data resulting from the evaluation of the understanding by the interviewees with more than five years of schooling of a section of the FICF and their understanding of a prescription on a prescription form are shown in Table 2.

Among those who demonstrated that they understood all the medical prescription information, the majority had an individual monthly income less than a minimum wage (p = 0.044). No other statistically significant associations were found between the number of correct answers in the questions related to the FICF and prescription (Table 2) and the other socioeconomic and cultural variables studied. Of the 18 physicians responsible for the wards in which the patients who composed the study sample were hospitalized, only six (33%) performed exclusively academic research (without the participation of the drug industry). Regarding the research designs, observational studies were most often performed by seven of the doctors (39%), while six (33%) undertook clinical trials with the participation of the pharmaceutical industry. Table 3 shows the responses of these doctors to the surveys conducted in the sectors for which they are responsible.

Table 1. Distribution of hospitalized patients according to socioeconomic and cultural conditions

Variable	n	%
Schooling		
Illiterate	17	15
Up to 5 years of study	32	28
Between 6 and 9 years of study	33	28
Between 10 and 12 years of study	30	26
Higher and post-graduate	4	3
Residence		
Masonry	115	99
Mud	1	1
Phone		
Yes	95	83
No	20	17
Form of transport to hospital		
Public transport	56	49
Own car/ride from other	23	20
On foot	25	22
Other	11	9
Individual income		
Below 1 minimum salary*	44	38
> 1 and < 2 minimum salaries	66	57
Two or more minimum salaries	6	5
Family income		
No income	14	13,1
> 1 and < 2 minimum salaries	71	66,3
Two or more minimum salaries	22	20,6
Knew reason for hospitalization		
Yes	85	73
No	31	27
Knew about treatment that was receiving		
Yes	63	55
No	52	45
Knew about main pathology and associated illnesses		
Yes	53	46
No	62	54
Was accompanied during hospitalization		
Yes	70	61
No	45	39
Knew name of doctor providing care		
Yes	61	53
No	54	47
Described relationship with doctor as		
Excellent	42	37
Good	62	54
Poor	2	2
Indiffirent	8	7
Knew name of hospital		
Yes	101	88
No	13	11
Knew that was hospitalized in teaching hospital		
Yes	93	82
No	21	18

**Brazil (2013) = R$ 678.00*

Table 2. Distribution of hospitalized patients according to their understanding of a section of a FICF and a medical prescription

Variables	n	%
Understanding of participation in research		
Correct	13	18
Errado	60	82
Understanding ofthe voluntary nature of research participation		
Correct	70	96
Errado	3	4
Understanding of the confidentiality of personal information		
Correct	54	74
Errado	19	26
Understanding of the lack of financial reward for participating in the research		
Correct	71	97
Incorrect	2	3
Understanding of the lack of financial expense in participating in the research		
Correct	71	97
Incorrect	2	3
Understanding of the possibility of withdrawing consent at any time		
Correct	54	74
Incorrect	19	26
Overall evaluation		
1 to 3 correct understandings	9	12
4 to 5 correct understandings	55	75
All correct	9	12
Understanding of the number of medications prescribed		
Correct	38	52
Incorrect	35	48
Understanding of the dosage of the first medication prescribed		
Correct	51	70
Incorrect	22	30
Understanding of the dosage of the second medication prescribed		
Correct	9	12
Incorrect	64	88
Understanding of the dosage of the third medication prescribed		
Correct	52	71
Incorrect	21	29
Overall Evaluation		
All incorrect	11	15
1 to 2 correct understandings	23	32
3 correct understandings	34	47
All correct	5	7

n = 73 (number of interviewed people)

Table 3. Distribution of doctors responsible for clinical and surgical wards according to the knowledge of the research carried out in the hospital

Variables	n	%
Know about all the research studies in the ward for which they are responsible		
Yes	10	56
No	8	44
Hospital treats adverse effects arising from research studies		
Yes	12	67
No	2	11
Don't know	4	22
Are there professionals trained to treat patients presenting adverse effects arising from research studies		
Yes	15	83
No	1	6
Don't know	2	11
Duration of hospitalization of research participants in relation to patients who did not participate in studies		
Semelhante	10	56
Menor	1	6
Maior	3	17
Don't know	4	22

n=18

Discussion

The socioeconomic and cultural conditions of this population place it in additional situations of vulnerability, in terms of participation in medical research. Most of the individuals studied had individual and family incomes below two minimum wages, which were below the national average (2.46 minimum wages, according to the 2010 Census [6]). In addition to the risks arising strictly from the procedures used in the surveys which would affect any individual, it is necessary to consider those that place participants in particular conditions of vulnerability.

For example, a lack of access to emergency medical care in the event of adverse effects arising from clinical research or a lack of guidance from the researcher in charge of the study because of the unavailability of telephone communication increases the vulnerability of the participant. The distance between the municipality where the participant resides and the place where they receive medical care and participate in research, plus the lack of knowledge about the illness that affects them, the treatment they receive and the name of the treating doctor or hospital in question also influences conditions of vulnerability.

We consider that the risks to which individuals are subject, even in case of mathematically low percentages for some variables, are significant for research participants as an additional risk to their basic condition and, therefore, a factor of increased vulnerability. Conditions such as these serve to support arguments by some authors who argue that participants from developing nations need additional guarantees to protect them against harm or exploitation in research [7].

Often it is the characteristics that make a particular population particularly vulnerable that make it the preferred target in clinical trials with placebo. An example of this was a study conducted in South Africa and other developing countries involving poor women led by researchers who stated that research could only be conducted among women with few choices regarding the treatment they would be offered [8]. In Brazil, according to Resolution CNS 466/2012, a new therapeutic method should be tested in comparison to the best current prophylactic, diagnostic and therapeutic methods. This does not exclude the use of placebos or any treatment in studies that do not have proven methods of prophylaxis, diagnosis or treatment [1].

Health care is more accessible in urban areas than in rural areas because of the greater availability of health institutions and specialized professionals. Moving to and even within urban centers may be difficult for some individuals, which makes them even more vulnerable. A very high percentage of individuals in this research came from the rural area (43%): almost half of the population studied depended on public transport, which in Brazil is still lacking, with irregular, overcrowded lines,

expensive fares, and insufficient access for those with locomotion difficulties [11].

More than 20% of individuals interviewed walked to the hospital. If we consider that the majority of research participants are not compensated for the expenses they incur through transport to the hospital, this data assumes even greater relevance.

Garrafa and Lorenzo [12] emphasize the importance of guidelines that require proof that the medical centers responsible for the clinical supervision of participants are able to treat them in a timely manner and at levels of complexity appropriate to the risks. In addition, they must have rapid and adequate means of transferring patients and maintain efficient communication with the network offered to participants included in clinical trials living in the outskirts and poor neighborhoods of large Latin American cities.

Researchers are advised to provide a telephone number on the FICF so that research participants can contact them. According to our results, 17% of the interviewees are in a situation of greater vulnerability because they do not have a telephone, through which they could receive guidance from the person in charge of the research. More than 70% of the sample population attended elementary education at most, making them particularly vulnerable as education has the potential to protect against risks arising from any research. This percentage is well above the national average (50.2%) reported by the 2010 Census [6].

This low level of schooling reflects the high degree of disinformation about their own health conditions, the treatment established for the illness that led to their hospitalization, and even more elementary information, such as the name of the attending physician and the hospital where they are hospitalized. As already mentioned, although some of the percentages of the analyzed variables are low, it is considered that the risks of harm to which the participants are subject are significant.

It is, of course, the duty of the health professional to provide information to the patient in clear language and to help establish a relationship in which the patient participates in decisions about their health and treatment. However, it is expected that the patient themselves play an active role, by taking an interest in this information. The hypothesis that disinformation results from social and economic conditions can be corroborated by the high percentage of patients who described their relationship with the attending physician as excellent or good.

The question culturally rooted in the idea of "the doctor is the person who asks, and the patient is the one who answers" can justify part of the results. Some authors point out that effective communication with the participant is also a way of enhancing the protective action of the FICF [13,14]. It is likely that both social and cultural conditions have a similar influence on the high percentage of individuals who are unable to identify the surveys in which they participated and therefore do not know how to assess the risks to which they were subjected.

It is expected that the likelihood of research-related harm will be lower for participants accompanied by family or friends during hospitalization. The mean age of the population surveyed may justify the absence of accompanying persons during the hospitalization of almost 40% of the patients, as, in general, they are allowed to stay only with children or the elderly.

The FICF, as the basic instrument that ethically grounds the respondent's rights and agreement to participate in the research in question, must be clearly understood by the research participant. Problems related to the extent of the TCLE, the sophistication of some information, and the participants' capacity to understand are some challenges to obtaining consent in an appropriate manner, which has generated opinions that while the FICF is *useful and valuable, and a necessary condition, it is not enough* [15].

Our data show that a very low percentage of respondents (12%) understood all the questions in the section of the FICF presented to them. We consider that, regardless of the deficiencies of understanding or the question addressed, this percentage of understanding indicates a considerable increase in the vulnerability of all the others.

The high percentage of people who did not understand what their participation in the research would involve was notable not only because of its magnitude (82%), but because of the importance of the question. The possibility that the agreement to participate derives from irresistible indirect compensations – the guarantee of care, the access to complementary exams and medications, for example - cannot be discarded, especially in relation to low income populations and those with difficulty in access to health services, such as the group studied. In developing countries, people are more likely to

participate in studies, as they have low economic and educational status, little ability to understand risks and report complaints or to take legal action in case of loss [16,17].

However, one of the basic requirements for participating in research is that consent is given only if there is an adequate understanding of the risks of the study [18]. In this respect, under no circumstances should it be assumed that ignorance about science results in an inability to understand or pass judgment [19]. More dangerous may be the situation where the researcher is unable to understand the community or selected population [20]. Some studies have shown that people often participate in research without properly understanding the purpose and risks of the study [21-24], and that a lack of understanding correlates with the educational level [25,26].

However, a better understanding of scientific terms leads to greater resistance to participating in research, as shown in a study in which only 19% of doctors were willing to participate in research, compared to 50% approval among lay people [27]. Still, some authors have reported that the understanding of the FICF is insufficient even among culturally enlightened individuals with better socioeconomic conditions [21,28,29].

The present study identified an even lower percentage (7%) of individuals who demonstrated an understanding of all the medical prescription items. Considering that only individuals with at least five years of study responded to these questions, the percentages of errors in each of the prescription items reveal an alarming problem and serious repercussions for the health of the participant. The vulnerability expressed in this issue also goes beyond the question of research involving humans, and provides an explanation for the lack of adherence to the prescribed treatment and for the lack of response to treatment and the "inefficacy" of medications.

Data from the Instituto Brasileiro de Geografia e Estatística (the Brazilian Institute of Geography and Statistics) (IBGE) revealed that approximately 62% of the population of Brazil can be considered functionally illiterate, that is, are unable to interpret texts correctly [6]. The lack of association between the majority of the variables studied in the *with* and *without errors* groups in the understanding of the FICF and the prescriptions may be related to the few individuals who answered all the questions, which may have biased the results. An individual income significantly lower than one minimum wage among those who answered all the questions can corroborate this hypothesis.

If, on the one hand, the conditions of the research participants put them in a greater degree of vulnerability, on the other, those connected with the institution are not much different. Data from the interviews with the doctors responsible for the wards show that disinformation related to the topic "research with human beings" is not exclusive to the participants. A significant percentage (8 out of 18, about 44%) of research is developed without the knowledge of those in charge of the ward. These data are even more relevant if analyzed taking into account the information that more than 30% of research studies performed in the hospital are intervention studies with the significant participation of the drug industry.

Finally, we know that a longer period of hospitalization results in greater risks to the patient's health. As 17% of the doctors interviewed stated that research participants are hospitalized for a longer period of time, it can be concluded that the study population is even more vulnerable. Although there are differences between institutional vulnerability and the vulnerability of the individual, especially regarding risks to the health and life of the research participants, we must recognize that the hospital institution is also in a worrying condition of vulnerability.

The percentage of those responsible for the wards who reported not being aware of the research carried out in such locations and not knowing whether the hospital treats adverse effects resulting from research reveals institutional vulnerability. At the same time, it shows that it is more a factor of vulnerability of the participating patients, which further compromises their autonomy.

Due to the associated factors, we identified a relevant aspect that needs to be properly considered in research: communication. We know that health communication is a strategic tool both for the interpersonal relationship between professionals and patients and for the promotion of public health. The same degree of importance of communication must be recognized in the conduct of research.

Good communication between the members of an institution, researchers, and research participants can reduce vulnerability. Information is one of the components of communication, but it does not represent its entirety. In the same way, the good relationship between doctor and patient, while a necessary condition to establish communicability, does not in itself ensure its concretization.

In order for there to be good communication it is important that a dialogical process is structured among all those involved. This process must be permanent and dynamic, as it results from a joint construction. This requires time, dedication and the ability to listen - the latter especially among health professionals in relation to those who are in a vulnerable condition. Listening helps to improve the self-esteem of vulnerable individuals and contributes to their empowerment. In the present case, it means diminishing the relational asymmetry between researchers and research participants, strengthening the autonomy of the latter as they acquire the necessary conditions to manifest their will.

Given the high percentage of patients that come from rural areas, the communicability to be developed should take into account the characteristics of the cultures of the rural populations. For this, it is not enough to ensure good spelling and the use of more accessible vocabulary. In rural communities, orality predominates. As memorization, apprehension and transmission of knowledge are intrinsically linked to daily practices in the oral tradition, it is important that communicative strategies with research participants be used as instruments and forms of communication that are as close as possible to their cultural realities. This is a challenge to be faced.

Final considerations

After analyzing the results, it was verified that the frequency of factors related to the research participant and the hospital institution that increase the vulnerability of the participants of clinical studies is high in all the variables evaluated in this study. This compromises the autonomy of the participants. This situation demands more dedication and attention to the patients involved and to the projects in execution from researchers and the institution. The results of the present study corroborate the belief that the vulnerability condition of the participants makes the FICF insufficient. Although this instrument is essential and of great importance, we cannot under any circumstances conceive it as the only necessary tool capable of ensuring the autonomy of volunteers and promoting their protection.

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Participation of authors

Sandro Gonçalves de Lima conceived the project. Luna Gama Maia, Aline Tenório Dourado and Lívia Cristina Gomes Silva collaborated in data collection. All the authors contributed to data analysis and the writing of the article.

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Research

Annex

Questionnaire for patients

1) Gender:

( ) Female ( ) Male

2) What is your age?

_____

3) In which city and state do you live?

State: _____

_____

City: _____

_____

If you live in Recife, in which neighbourhood do you live?

_____

If you live in another city, do you live in:

( ) an urban area ( ) a rural area

4) Type of residence:

( ) Brick house ( ) Mud house

5) What is your level of schooling?

( ) Illiterate

( ) Literate only

( ) Incomplete primary (up to 3th grade of elementary school)

( ) Complete primary (completed 4th grade of elementary school)

( ) Incomplete elementary school (up to 7th grade of elementary school)

( ) Complete elementary school (completed 8th grade of elementary school)

( ) Incomplete high school (up to 2th grade of high school)

( ) Complete high school (completed 3th grade of high school)

( ) Incomplete higher

( ) Complete higher

( ) Pos-graduate (master/doctorate)

6) What is your monthly individual income?

_____

7) What is the monthly income of your family? _____ (Including all the people who live with you)

8) How many people contribute to this income? _____

9) What is your religion?

( ) Catholics

( ) Spiritists

( ) Evangelical

( ) Afro-Brazilian religious syncretism

( ) Not religious

( ) Other

10) Do you have home or cell phone?

( ) Yes ( ) No

11) How did you usually get to the hospital or health service?

( ) Bus

( ) Taxi

( ) Own car

( ) Motorbike

( ) Bicycle

( ) On foot

( ) Ride from others (neighbours etc.)

( ) Others

12) Do you know what disease is the reason for your hospitalization?

( ) Yes ( ) No

13) Do you know what treatment is being used against your illness?

( ) Yes ( ) No

14) Do you have some other associated disease (besides that which caused hospitalization), such as hypertension, diabetes, asthma, renal failure, chronic obstructive pulmonary disease, etc.?

( ) Yes ( ) No ( ) Don't know

15) How long have you been hospitalized for?

_____

_____

16) Is there a friend or relative to accompany you during your hospitalization? (Not including visitors)

( ) Yes ( ) No

17) Do you know the name of your attending doctor?

( ) Yes ( ) No

18) How would you classify your relationship with your attending doctor?

( ) Excellent

( ) Good

( ) Poor

( ) Indifferent

19) Do you know the name of the hospital where you are hospitalized?

( ) Yes ( ) No

20) Do you know if the hospital where you are hospitalized is a teaching hospital for students and recently qualified doctors?

( ) Yes ( ) No

21) Do you know if you are taking part in or of if you have already taken part in scientific research during your hospitalization or during treatment received from the outpatient clinic?

( ) Yes ( ) No

Do you know what the research studies were?

( ) Yes ( ) No

If yes, in which studies did you take part?

_____

_____

22) Before taking part in the study, did you sign a free and informed consente form (which is a document where you give authorize your participation)?

( ) Yes ( ) No

23) Do you think you understood all the infomation contained in the consente form?

( ) Yes ( ) No

24) Do you receive any form of compensation or pagament for participating in the study?

( ) Yes ( ) No

25) Have you ever suffered some kind of adverse effect resulting from a study in which you've taken part?

( ) Yes ( ) No

26) Have you ever received guidance as to what to do if you experience any side effects?

( ) Yes ( ) No

27) Who were you advised to contact in the event of experiencing a side effect?

( ) The researcher

( ) The attending doctor

( ) The hospital

( ) I wasn't told who to contact

( ) Others

28) Were you given a gurantee that following the end of the study, you would be able to use the medications and/or exams used, either for free or at a lower price?

( ) Yes ( ) No

Questionnaire for the doctor responsible for the ward

1) What type of research is carried out in the hospital?

( ) Drug industry research protocols

( ) Exclusively academic research

( ) Both

( ) Don't know

2) What types of study designs are most frequently used in the research carried out in the hospital?

( ) Observational

( ) Clinical trials

( ) Evaluation of diagnostic methods

( ) Don't know

( ) Others: _____

3) Are you aware of all the studies that are carried out in the ward for which you are responsible?

( ) Yes ( ) No

4) Does the hospital treat patients whose condition arises from a consequence of the study?

( ) Yes ( ) No

5) Are the health professionals in the hospital trained to treat patients who exhibit adverse effects arrising from the study?

( ) Yes ( ) No

6) Are patients who participate in a research study hospitalized for a similar length of time to those who do not participate in such studies?

( ) Yes

( ) No, for longer

( ) No, for less time

( ) Don't know