

Abstract

Both architects and physicians question environmental options observed in most existent hospitals. Research has found that environmental variables affect patient's satisfaction, well-being, anxiety and stress levels as well as hospital associated infection rates and patient's falls, among others. A more appropriate design of hospitals won't heal patients, but may favor a pleasanter and safer experience in the process of healing. This project aims to improve the outpatient visit experience by analyzing the influence of architectural variables in patient's well being and health status. In the first part of the project we assessed patient's perceptions about the quality of the doctor's office and waiting room, with a custom-made survey, which we previously validated. We also conducted an experiment in which the doctor's office was refurbished in order to create a more homely feeling, the impact of these changes in the patients' satisfaction was assessed and compared to the habitual settings. Our preliminary results show that the patients are more critical and demanding about the quality of the waiting room environment. However, in both cases there are several points that can still be improved, according to the patients' feedback. We have developed a questionnaire to assess patients' satisfaction with the spatial environment, which can be used for future studies and in other settings. Using this questionnaire, we identified several aspects of the spatial environment design that are not satisfactory for patients, improvements of which should be considered in future interventions. In this regard, our findings suggest that patients are less satisfied with the waiting room, which can be related with the difference in the spatial quality of the later. However, these findings might also reflect the anxiety and stress associated with the waiting condition. To tackle this issue, we will, in future assessments, include measures of emotional status.

Methods

Until the present moment a two-step experiment was developed focusing on ambulatory facilities (doctor's office and waiting rooms) of the Hospital of Braga. The first field test consisted in the inquiring of patient's satisfaction with the spatial environment with surveys.

Observation and evaluation of existent spatial conceptions:

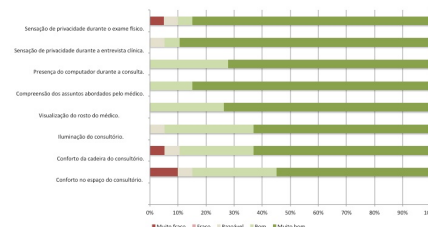
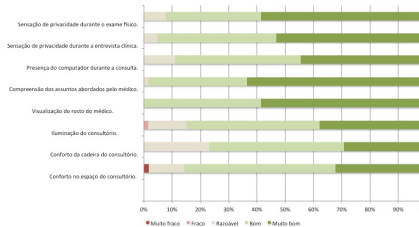
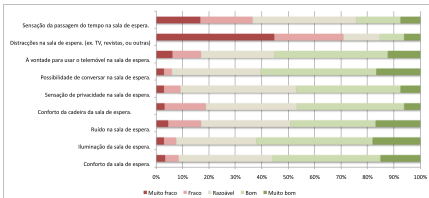
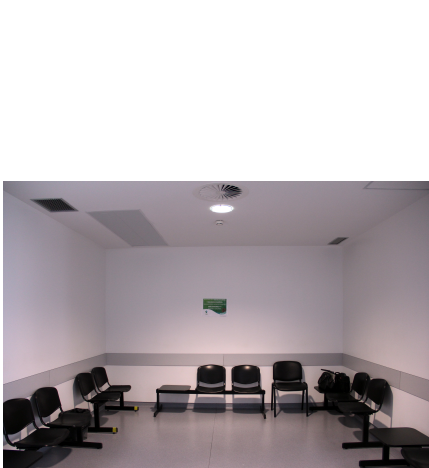
The first step consisted in the survey's elaboration. Pilot surveys were tested in a first phase, in order to conceive a more reliable one. A first survey inquired patients about the consultation room's spatial conception. Patient's answers revealed that it was difficult to distinguish the consultation room from the empathy established with the doctor. Therefore, it was decided to elaborate a survey that inquired patient's satisfaction with both the waiting room and the doctor's office, in order to detract patient's answers from the quality of the consult, concentrating their critic in objective characteristics of the spatial environment. The last version of the survey inquired patients in 1-5 scale (1- very poor, 3- reasonable, 4- good and 5- very good) immediately after the consultation period. The comfort of the consultation room was inquired, questioning illumination's quality, noise, chair's comfort, feeling of privacy, ability to talk with caregivers or other patients, unrestrained use of mobile phone, distractions (tv, magazines or others), patients' perception of waiting time. The doctor's office's comfort was tested through items of chair's comfort, illumination, good visualization of the doctor's face, understanding of the topics discussed with the doctor, computer's presence during the consult, feeling of privacy during the conversation and the physical exam. This procedure was repeated several days in order to accomplish a more extended population. In order to assure similar conditions, 64 patients were inquired under the same circumstances: the same day of the week (Monday), at the same time period (in the morning period).

Assessment of the new proposal's impact:

During the assessment described, some problems were identified, both in the consultation and waiting rooms. Until the present, these issues were only addressed in the conception of an alternative spatial conception of the doctor's office. In this experiment it was decided to interfere only with mobile variables: furniture, light devices and the computer's presence. It was considered the position, configuration and dimension of table and chairs' comfort, as well as the position of the examination bed. The new position of the furniture took in consideration the relationship of exposure/ protection regarding intimacy and privacy issues. The presence of the computer, regarding its position and the good visualization both from the doctor and the patient, was also an important topic that has been taken in consideration. A new spatial conception was proposed through one-day period of doctor's visits, inquiring 20 individuals. The usual furniture was removed and a different spatial conception was proposed in the same doctor's office. The same survey was presented to the patients after the doctor's visit, including an additional item that inquired, in a 1-5 scale (1-substantially worst, 2- worst, 3- the same, 4- better, 5- substantially better), a comparison between the comfort of the usual doctor's office and the new one proposed.

Experimenting a method:

With the experiment described, a method was also being tested. The first pilot surveys allowed the validation of a model that can be appropriated to future experiments. We concluded that patients' satisfaction with the spatial quality of the environment can be assessed and improved using this research method.



WAITING ROOM

The impact of the waiting room environment was tested after the doctor's visit. The waiting room is open to the doctor's office corridor, consisting in an exposed space to the circulation of other patients and health professionals. The natural light is almost inexistent; the few rays of daylight arrive indirectly from a window in the end of the corridor. The existent furniture consists in a U composition of immobile plastic chairs. There is no free space for patients in wheelchairs. There are no distractions, such as TV, magazines or other.

In the presence of this waiting space, the more problematic issues revealed, by the surveys observations, are the perceiving of waiting-time and the, correlated, inexistence of distractions. Less important, nevertheless with clear possibility of improving, we've identified unsatisfactory answers regarding the chair's comfort, the feeling of privacy, noise and the possibility to talk in the waiting room.

The waiting room's environment is possibly insufficient in the ability to impact positively the patient's experience. Furthermore, we believe that patient's exigencies facing the waiting room are also related to the anxiety that precedes the doctor's visit. There is an anxiety regarding the inhabiting of the waiting room. The bad score associated to the perceiving of waiting time is, likely, associated to the inexistence of distractions and therefore to the concentration in the anxiety expected in the inhabiting of this kind of spaces. The act of waiting itself is often, for many individuals, a cause of anxiety. While waiting for a doctor's visit, the patient may focus in his health condition, contributing to an increase of the anxiety state.

DOCTOR'S OFFICE

On the contrary, the existent doctor's office revealed a generalized patient's satisfaction. Issues like chair's comfort, office's illumination, visualization of the doctor's face, the good understanding of the subjects discussed with the doctor, presence of the computer and the feeling of privacy both during the conversation with the doctor and the physical exam, were considered, in the visit experience, generally as good and very good. We observe patient's satisfaction considering the objective-spatial quality of the doctor's office. The Hospital of Braga is a recent hospital with new facilities. The doctor's office has natural light, a window that allows an exterior view. It is modern, proper and it corresponds to patient's current image of healthcare facilities. In comparison to the doctor's offices of the old hospital, or to the majority of doctor's offices of the primary care facilities of the region, it is objectively a better setting.

NEW DOCTOR'S OFFICE: EXPERIMENT

Although patient's satisfaction with the existent doctor's office was well rated, in presence of the new configuration proposed patient's satisfaction was higher. The new doctor's office proposed a more homely environment, which should minimize unsatisfactory aspects we found in the existent room. The exposure of the examination bed was attended by the inclusion of a folding screen that created a more private area of examination. With the introduction of a round table, we aimed to test the importance of a proximity to the doctor in the visit experience. Armchairs were included with the aim of creating a more comfortable and cozy sitting experience. Table and floor light devices were included in order to complement the ceiling light, to help the creation of a more warm, or domestic, environment.

The majority of patients inquired found the transformation of the doctor's office substantially better than the usual room, although their satisfaction level was already high. Before this experiment, the patients inquired manifested their satisfaction in the commentary box existent in the survey. Among commentaries that regretted the lack of distractions in the waiting room, patients referred to the new office in curious ways, such as: "During the visit, I felt like at home", "The doctor's office should have this configuration all the time", "The doctor's office makes us feel better when we enter and during the visit".

THE WAITING ROOM versus THE DOCTOR'S OFFICE

Comparing patient's evaluation of the existent waiting room and the doctor's office, it is clear that they are more satisfied with the doctor's office. There are two motives that should be in consideration in presence of this observation. Analyzing the two spaces, in an objective point of view, we found considerable differences. So patient's answers are coherent with the spatial quality observed. The waiting room is clearly being conceived as a secondary space: it has no daylight, no relationship with the exterior space and chairs are more uncomfortable. The waiting experience isn't being considered in an all-including way. The existent waiting room is only considering the need of physical space to wait; it is not contemplating the time of waiting. In the existent waiting room patients need to entertain themselves during the waiting time. Differently, in the doctor's office, during the visit, they are the center of the action, and, subsequently, the perceiving of time's passage is inverted.

Future actions

The before and after experiment developed in the doctor's office allowed the establishing of a method of diagnosis of patient's satisfaction, as well as the confirmation of the interference of the spatial environment in the patient's experience. The recognition of the waiting room as a more problematic area for patients, points us a reorientation of our subject. There is a clear need for additional studies that examine the impact of the physical environment of the waiting rooms in patient's experience. Our next step, consist in the diagnosis and implantation of new proposals of two important waiting areas of ambulatory patients at the Braga's Hospital.

