Designing Multisensory Therapeutic Environments: Invention in the General Hospital of Chania | Greece

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I. EXTENDED ABSTRACT

The project's objective is the application of innovative design technologies that aim in the amelioration and acceleration of the recovery process of patients at the General Hospital of Chania, Greece. The intervention regards the creation of a therapeutic environment in the recovery room of patients with severe brain injury in the Neurosurgical Clinic of the General Hospital of Chania.

At this stage, our project has been approved by the Administrative Committee of the hospital and we are proceeding with the intervention part.

Theoretical background

Previous research has shown that the environment in typical hospitals may impede or delay significantly the therapeutic outcomes and the patient's well being because of the exposure to stressful conditions, the lack of stimuli and isolation. However, elements like e.g. views of nature and other spatial stimuli could greatly improve the recovery process (Ulrich, 1992).

Our hypothesis is that at the crucial stage of recovery-restoration after a severe brain injury, and because of brain plasticity, reinforcing mental, physical and psychological health of the patient could be done through enriched environments. The counterbalancing spatial factors could not only surpass the negative environmental conditions but also favor positive experiences and therapeutic results.

Research Innovation

Our multidisciplinary team combines research approaches from different fields like architecture, cognitive neuroscience and computational mechanics in order to introduce a model that will upgrade the therapeutic context of the recovery room of patients with severe brain injury. Our proposal is to design and test an application – structure installed in the recovery room of the patient that will offer multisensory stimuli. The innovation relies on the fact that for the first time a multidisciplinary therapeutic context will be created, that will boost the recovery process through enriched environments.

Structure description

This is an evidence-based design intervention and concerns the design-construction of a structure that will propose varying spatial transformations depending on the activity and needs of the user.

The structure will be adjustable and will surround the patient's bed. Its function will be based on the principles of the Therapeutic Environment Theory. Specifically, a collection of action possibilities will be presented to the patient through multisensory stimuli. An action example that could offer relaxation and better recovery outcomes is the simulation of nature through the use of spatial qualities such as organic geometrical forms, illusions of refuge - prospect and discrete nature sounds. Smooth changes in lighting depending on the time of day could give indications for the patient's disturbed circadian rhythms. Structure transformations could give possibilities of privacy and socializing. The stimuli presented will be personalized depending on the patient's background and preferences, to offer familiarity and positive distraction.

The efficiency indicators of the intervention will be measured through a combination of physiological records, time of recovery, amount of painkiller consumption that will be compared with those of patients that did not receive the intervention.

Epilogue

We collected the elements that were shown to have beneficial effects in previous research and we proceeded by introducing a spatial intervention that will boost the therapeutic psychological and physical outcomes of a patient at the recovery room of the Neurosurgical Clinic of the General Hospital of Chania. Our aim is to create a structure – prototype that could be adjustable to fit in every hospital. This structure changes the phenomenological meaning of the environment, from a strict Cartesian model to a more dynamic one that immerses the user by proposing multisensorial therapeutic atmospheres.

2. REFERENCES

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