

discharge dates of patients. We defined 4 periods: Pre-Earthquake (PREEQ), Acute Earthquake Period (3 weeks after the first shake – EQ1), Post-Acute Earthquake Period (3 weeks after the acute period – EQ2), and Post Earthquake (POSTEQ). We performed descriptive analysis and logistic regression with period as outcome variable, taking sex and diagnosis in consideration.

Results: A total of 9615 admissions were included. In EQ1, and compared to PREEQ, the odds of admission due to injury had the highest significant increase compared to other diagnoses (OR= 5.36, $p<0.001$). There was a significant decrease in the odds of admission of 0-4 age group compared to the 15-49 group (OR=0.68, $p<0.01$). In EQ2, the odds of being admitted due to respiratory diseases, and pregnancy-related issues were significantly lower relative to PREEQ (OR=0.770, $p<0.05$; OR=0.78, $p<0.05$ respectively). Finally, in POSTEQ, the odds were lower for injuries (OR=0.84, $p<0.05$), pregnancy (OR=0.72, $p<0.001$), and people aged 50 or more (OR=0.85, $p<0.01$), relative to PREEQ.

Discussion: The higher odds of admission for injuries in the acute period is supported by the literature. The decrease in pregnancy-related admission implies that women's access to this hospital was reduced. This study supports a conceptual model proposed of hospital needs after a sudden disaster, where trauma emergencies increase in a very short-term, leaving non-trauma emergencies and elective admissions for a post-acute phase.

Keywords: earthquake, patient admissions, disaster

A13

- "Patient participation" and related concepts: a scoping literature review on their dimensional composition

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Background: Healthcare systems are going through a change, in which patients have been expected to be more involved participants in their care. Several concepts on the collaboration between patients and healthcare systems have emerged in the literature but there is little consensus on their meanings and differences. In this study, the generic concept of "patient participation" was studied by considering all of the related concepts equally and by focusing on the dimensions that compose them. This review follows two objectives: (1) to produce a detailed and comprehensive overview of the "patient participation" dimensions; (2) to identify differences and similarities between the related concepts.

Methods: A scoping review of the literature was performed to review and synthesise knowledge into a conceptual framework. A summative process was used to collect the data that was classified in three levels of analysis: micro level (day-to-day management of care), meso level (hospital governance and institutional decisions) and macro level (government decisions, organisation and funding of the healthcare sector). Finally, a thematic analysis was used to analyse the data.

Results: The thematic analysis resulted into a detailed description of the concept of "patient participation" at the three levels of analysis. Twenty-nine dimensions composing the generic concept of "patient participation" partnership (such as teaching patients, sharing leadership and decision making, partnership care, patient engagement continuum, healthcare professionals and patient training, and patient participation in research); 5 influencing factors (such as patients' and healthcare professionals' socio-demographic and psychosocial background); and 4

expected outcomes (such as better health outcomes and improved healthcare system) were identified.

Conclusion: This global vision of "patient participation" allows to go beyond the oppositions between the existing concepts. A consensus on this matter needs to be agreed upon in order for "patient participation" to be implemented.

Keywords: patient participation, patient empowerment, patient centred-care, literature review, thematic analysis.

A14

- Impact of psychiatric hospitalisations on the social integration of patients with severe mental illness: a study in five European countries

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Background: During the last three decades, a decrease in psychiatric hospital admissions and a reduction in the length of stay (LoS) occurred in high-income countries, with a view to promote community care and the social integration of patients with severe mental illness (SMI). However, the impact of hospitalisations on patients' social integration remains unclear. The aim was to determine (1) whether readmissions and longer LoS in psychiatric wards decreased the social integration of SMI patients and (2) which are the most affected dimensions of social integration.

Methods: Within the European COFI study, data were collected for 2009 SMI patients hospitalised in 2015 in the UK, Italy, Germany, Poland and Belgium. Social integration was measured using the SIX index at baseline and at one year of follow-up. The SIX index includes four dimensions: employment, housing, living situation and friendship. Pearson and spearman correlations and multiple regression models were performed to test the association between LoS, the number of admissions, and the change in patient's social integration over a year.

Results: There was a significant negative correlation between LoS ($r_s = -0.06$, $p < 0.01$), the number of admissions ($r_s = -0.04$, $p = 0.04$) and the change of patients' social integration over a year. After controlling for patients' clinical and sociodemographic variables, an increase of the total LoS was significantly associated with a decrease of the employment (OR = 1.19, $p = 0.02$) and housing (OR = 1.95, $p < 0.01$) status levels, but not the number of readmissions.

Conclusions: Lengthy LoS in psychiatric ward have a more negative impact on SMI patients' social integration than repeated admissions. Housing and employment are the main dimensions of social integration negatively associated with LoS. Therefore, special attention should be paid to helping patients find and retain housing and employment during psychiatric hospitalisations.

Keywords: Mental illness, Social integration, Length of hospital stay, Hospital readmissions

A15

- Through patients and professionals representations on patient partnership of care: the exploration of an ambiguous consensus – Preliminary results

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Background: Patient engagement in health care system has been regarded as a lever for the general improvement of the health system. Many models illustrate and participate in this change. One of them proposes a patient-partnership, challenging the whole health system, from direct care to policy making. In a context where the Belgian health system is put into question, the relevance of patient

participation has to be challenged. This exploratory study is aimed at exploring the representations, experiences and expectations towards these models. Through this contribution, we will highlight the understanding of a partnership in health for patients and professionals.

Methods: As part of a larger Interreg research project, a qualitative approach has permitted an in-depth comprehension of patients and hospital professionals representation toward the partnership model. A purposive sample of thirty patients, suffering from cancer, diabetes, cardiovascular or pulmonary diseases, has been met in six focus groups. Thirty professionals, nurses and specialist physician in charge of chronic patients, have taken part in semi-structured interviews. Thematic analysis was used to organise the data.

Results: Patients and professionals share common basis for partnership, perceiving it as positive and, in some way, already happening. Both patients and professionals mention, among other things, the importance of common language, listening skills and team work. Beyond these discourses, some divergences appear when considering what partnership could mean in practice. As an example, information sharing is a key debate for the actors, who don't agree about what should be shared, how or with whom. Furthermore, if patients and professionals easily identify what a partnership should be in direct care, they struggle to conceive one at other levels.

Conclusions: This analysis urges the health actors to face their divergence of opinions about interdisciplinarity, knowledge, and the sharing of information. These results constitute an initial trigger for the development of grounded interventions.

Keywords: Patient partnership, health system, patient participation

Simulation in healthcare

A16

- Validation of an immersive virtual reality environment for mass casualty incidents to enhance health care professionals training

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Background: Whereas Mass Casualty Incidents (MCI) occur with a growing incidence, health care professionals are not prepared to address those disasters that involve high levels of stress. MCI training is imperative but limited mainly due to logistical and cost problems involved by actual training methods. Virtual reality could address those issues. This study aims to validate the quality of an MCI virtual environment (MCI-VE) simulating a school car accident in a tunnel.

Methods: The MCI-VE was created by a multi-disciplinary team following the standards of good practice in simulation (Jeffries, 2015; Lioce et al. 2015). It aims to train technical (e.g. choosing the right place for the ambulance, triage, lifesaving intervention) and non-technical skills (e.g. stress management, communication) required in MCI management. To validate this environment, it was tested with a group of undergraduates (UG, 42 undergraduate medicine and 3rd-year nursing students) and of specialised professionals (SPG, 19 fourth-year nursing students specialising in ICU). Several factors were assessed with questionnaires at two times, before (immersion propensity, stress) and after immersion (sense of presence, stress, cyber sickness and satisfaction) in both groups.

Results: Level of presence was high among both groups, but higher among SPG ($p = 0.02$), and was positively correlated to immersion propensity ($r=0.36$; $p<0.01$). Both groups reported low levels of cyber sickness. There was a significant interaction effect between group and time for stress ($p < 0,001$): SPG's stress increased between

the two assessment times whereas it decreased in the UG. 100% of students reported that the experience helps the learning.

Conclusion: Our study brings first data to validate this MCI-VE. Further studies have to test its impact on skills learning, before to consider it as an alternative to current pedagogical methods.

Keywords: Virtual reality training – Mass casualty incidents – Technical and non-technical skills

A17

- Immersion Clinical Simulation (ICS): what is a real Impact on knowledge acquisition?

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Background: For several decades, ICS has been one of various teaching strategies aimed at increasing students' knowledge contain. To this day, the impact of ICS on knowledge acquisition cannot be fully ascertained because there are a lot methodological limitations: students' self-reporting, identical pretest and post-test examinations, use of a single post-test, or absence of a control group. However, all of these situations affect the methodological quality of the studies and their conclusions. Indeed, no studies have compared the impact of ICS on knowledge acquisition from two group when perform the equivalent but not similar Multiple Choice Question (MCQ) exam.

Methods: This prospective, multicentre study is based on a quasi-experimental research. The participants in the experimental group were taught using a series of four progressive ICS including debriefing session in addition to internship, while those in the control group were taught using internship alone. Before testing, we developed and validated two similar exams about cardiology knowledge with a RASH method. The knowledge of the participants was assessed twice based on MCQ about their cardiology knowledge: version A in pre-test conditions (before internship and ICS) and version B in post-test conditions. Each MCQ, about cardiology knowledge, consists of 35 items, including seven common items.

Results: A total of 177 nursing students (N=177) were involved in this research project, including 93 (n=93) in the experimental group and 84 (n=84) in the control group. Under pretest conditions, the results obtained by the two groups on version A of the exam questionnaire were found statistically equivalent ($p=.63$). Under post-test conditions, participants in the experimental group scored significantly higher ($p=.002$).

Conclusion: The results of this research further more confirm the impact of simulation on knowledge acquisition.

Keywords: Clinical immersion simulation, knowledge acquisition

A18

- Prehospital assessment of trauma patients: impact of a high-fidelity simulation training among last year nursing students

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Background: In Europe, nearly 152 000 deaths occur each year following a trauma. By improving prehospital care, a reduction of this number is possible. At the scene of the accident, nurses assess patients with the Airway, Breathing, Circulation, Disability, and Exposure primary assessment (ABCDE) and secondary assessment. While these assessments seem of paramount importance to ensure patient safety,