

Patients and staff in the hybrid operating room

Experiences and challenges

Akademisk avhandling

Som för avläggande av filosofie doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentlig försvaras i Sal 2118, Hus 2, Arvid Wallgrens backe, fredagen den 13 december, klockan 9.00

av May Bazzi

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Avhandlingen baseras på följande delarbeten

- I. Bazzi, M.; Lundén, M.; Ahlberg, K.; Bergbom, I.; Hellström, M.; Lundgren, S.M.; Fridh, I. Patients' lived experiences of waiting for and undergoing an endovascular aortic repair in a hybrid operating room: A qualitative study. *Accepted for publication in Journal of Clinical Nursing*, 11/10/2019.
- II. Bazzi, M; Lundgren, S.M.; Hellström, M; Fridh, I; Ahlberg, K; Bergbom, I. (2019). The drama in the hybrid OR: Video observations of work processes and staff collaboration during endovascular aortic repair. *Journal of Multidisciplinary Healthcare*, 12, 453-464.
- III. Bazzi, M.; Bergbom, I.; Hellström, M.; Fridh, I.; Ahlberg, K., Lundgren, S.M. (2019). Team composition and staff roles in a hybrid operating room: A prospective study using video observations. *Nursing Open*, 6(3), 1245-1253.
- IV. Bazzi, M.; Fridh, I.; Ahlberg, K.; Bergbom, I.; Hellström, M.; Lundgren SM.; Lundén, M. Collaboration in the hybrid OR: A focus group study from the perspective of the nursing staff. *Manuscript*.

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Abstract

The hybrid operating room (OR), which combines a traditional OR with a radiological intervention room, is one example of the technical advancements within hospitals. In a hybrid OR, the staff have to manage the technique confidently in a not completely familiar environment and still be able to care for the vulnerable patient in the safest way. The overall aim of this thesis was to explore and describe the care and work processes, staff interactions, and experiences of both patients and staff in the hybrid OR. Data were collected through 18 individual interviews, nine video recordings of endovascular aortic repairs (EVARs) and five focus group interviews. Data were mainly analyzed qualitatively (hermeneutic, hermeneutic phenomenology and qualitative content analysis) but also with the use of descriptive statistics. The environment in the hybrid OR was experienced as safe by both patients and staff. The patients felt cared for, but a distance to the staff was also evident in the hybrid OR. Moreover, patients expressed an unpredictability mostly related to the time after surgery. The extensive safety preparations, which prolonged the procedures, were evident for the staff. The nursing staff from anesthesia, surgery, and radiology enjoyed working in the hybrid OR but declared that collaboration was largely dependent on individual personalities. The work took place in several separate rather than in one cohesive team and there was also a lack of joint meetings before and after the procedures. Waiting times and uneven division of labor were considered to obstruct collaboration, and also affected the workflow. Some of the nursing staff's responsibilities, for example the one for communicating with the patient, were found not to be completely clear. Several of the patients' worries could be preventable with better provided information and communication with the patient throughout the care process. Alternative compositions of the team and better distribution of the responsibilities would likely make the procedures more effective and probably result in higher staff satisfaction. A need for seeing the procedures and the team as a whole was evident and could be improved by team training, education, and team meetings before and after each procedure. An openness to, and insight into, each staff category's competence would likely improve the interprofessional trust of the team in the hybrid OR.

Keywords: hybrid operating room, patient experience, nursing staff, endovascular aortic repair, teamwork, video recordings, interviews, radiology, surgery, anesthesia