The Use of a Prehospital Decision System in the Emergency Medical Services –

The acute emergency chain for geriatric patients

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ABSTRACT

Background: The objective of this organisational study was to create and evaluate, for use by the prehospital emergency nurse (PEN), a Prehospital Decision System (PDS) and a decision support tool (DST), to safely steer geriatric patients to optimal healthcare in Stockholm, Sweden.

Aim: The overall aim was to optimise the acute emergency chain to ensure that elderly persons ended up at the optimal healthcare based on their medical needs.

Methods: Study I was built on mixt methods approach with descriptive analysis (step one-three) and an interim analyse of a clinical trial (step four) to create a PDS and DST. In study II qualitative content analysis with the perspective of caring science were used on data from the emergency medical services' (EMS) medical records to identify and illuminate the assessment category "general affected health condition". In study III, a randomised control trial was used to evaluate the safety and feasibility of transport the geriatric patients to an optimal healthcare. Study IV, was a qualitative interview study with elderly patients. The study was carried with the perspective of caring science and a phenomenological approach was applied to describe patients' lived experiences of participating in the choice of healthcare when being offered an alternative care pathway by the EMS.

Findings: In study I, a PDS and DST were created. The developing process identified organisational and logistical factors that were prerequisites to safely steering elderly patients directly from their homes to an optimal healthcare. The most important factors that were found were the receiving units' capacity, personnel competence, organisational resource ability, and the patient categories (medical conditions) of which eleven conditions were identified. In study II, a total of 1006 EMS medical records were analysed and after exclusion there remained 88 records. The findings showed that "general affected health condition" in elderly people in the EMS setting could be understood as referring to a patient with frailty. These patients had a growing weakness that had become unmanaged and prevented them having a controlled and functioning life, which forced them to seek help. In study III, of a total of 806 randomised geriatric patients, 666 remained after exclusion, 449 (67.4%) were assigned to the intervention group and 217 (32.6%) to the control group. The primary outcome result showed that 20% (Cl. 95%, 16.6-24.0) of the intervention group could be steered to a geriatric ward (GW) or to a community acute centre (CCAC) at a community based-hospital (CH). The secondary outcome showed that 6.7% (Cl. 95%, 3.1-13.8) of the intervention group required a secondary transport within 24 hours from the CH to the tertiary hospital ED. The evaluation of the PDS and DST showed that the Swedish PEN had good compliance with the system. Study IV show that, elderly patients choose a healthcare alternative involving a caring encounter in which they are treated like unique human beings. Five meaning constituents emerged in the descriptions: endurable waiting, speedy transference, a concerned encounter, trust in competence and choice based on suffering from care.

Conclusion: The findings from the four studies demonstrate that with the help of the created PDS and DST – developed for eleven medical conditions – the Swedish PEN could safely decide upon which optimal healthcare elderly patient should be steered and treated at. The PDS offer a reduced risk for being exposed for suffering from care for elderly patients.

Keyword; Emergency medical service, Ambulance, Prehospital emergency nurse, Triage, Healthcare, Geriatric patients, Decision support system