regard to the retrospective study design, the findings challenge current guideline recommendations regarding PHECG in patients with acute stroke.

Conflict of interest None

Funding University of Surrey School of Health Sciences PhD scholarship.

15 PARENTS' EXPERIENCES OF THE CARING ENCOUNTER IN THE AMBULANCE SERVICE- A QUALITATIVE INTERVIEW STUDY

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10.1136/10.1136/bmjopen-2018-EMS.15

Aim Care provided by the ambulance service is often associated with emergency medicine, traumatology and disaster medicine this leaving a rather scant volume of research on children and their parents' perspective on the care received. Aim: To explore parents' experience of caring encounter in the ambulance service.

Method A qualitative design with interviews and an inductive qualitative content analysis was used.

Results 14 parents described 16 encounters' with ambulance personnel. Overall they expressed satisfaction with the care their children received. The parents described the significance when the personnel gave the family enough time, created a safe environment and involved the parents in the care. The parents felt unsafe when there were lack of communication and sensitivity, the equipment was not adaptable for children, and the parents was not invited to participate in the care.

Conclusion In order to improve the care in the ambulance it is imperative that we understand what parents want and value. Overall, parents' experiences was positive, but there is a need to strengthen the family-centred care in the ambulance service. Not inviting the parents to participate in the care, using not adaptable equipment caused a sense of uncertainty, lack of trust and increased level of stress among the parents. This may be caused by a lack of training or knowledge on caring of children among the personnel, managers need to acknowledge this in the ambulance personnel's continues medical education. Further intervention studies aiming to develop the family-centred care in the ambulance service is needed.

Conflict of interest None

Funding Founding was provided by Karolinska Institutet FoBi foundations 2017.

16 EMERGENCY MEDICAL SERVICES PHYSICIANS' PERCEPTIONS OF AMBULANCE NURSES' RESPONSIBILITY FOR REFERRING PATIENTS TO PRIMARY CARE AND SELF-CARE – A SWEDISH NATIONAL SURVEY

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10.1136/10.1136/bmjopen-2018-EMS.16

Aim Based on guidelines developed by EMS physicians, registered nurses in the Swedish ambulance services sometimes by-pass the emergency department and refer non-urgent patients to primary care and self-care. However, these referrals are associated with problems that may jeopardise patient safety and patient participation. The aim was to identify the EMS physicians' perceptions of ambulance nurses' responsibilities and prerequisites to refer patients to primary care and self-care.

Method A national survey of all EMS physicians (n=51) using study specific questions with close-ended and open response options, analysed with descriptive statistics and thematic analysis.

Results The response rate was 78% (n=40). The majority of the physicians (95%) perceived that nurses should be able to refer patients to primary care and self-care. One fourth (25%) perceived specialist nurses in ambulance care as the most appropriate professionals. The majority of the physicians (65%) perceived that referral to primary care maintain patient safety, whereas fewer (50%) assessed the referral as safe for the patient. All perceived that feedback should be given to nurses when the referral was incorrect. The majority perceived it important to extend the nurses' authority to refer to primary care (63%) and self-care (55%).

Conclusion There is no consensus among the EMS physicians regarding responsibilities and conditions for nurses' referral of patients. Registered nurses with basic education are expected to be able to refer, while there is varying opinion regarding requirements of specialist trained ambulance nurses to refer patients. Professional experience as a nurse is perceived more important than formal education.

Conflict of interest None

Funding Division of Emergency Medical Services, Helsingborg County Hospital, Helsingborg, Sweden.

17 SUDDEN CARDIAC DEATH: AS SUDDEN AS COMMONLY THOUGHT OR DO WE KNOW OUR PATIENTS BEFORE?

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10.1136/10.1136/bmjopen-2018-EMS.17

Aim About 100.000 people per year suffer from sudden cardiac death in Germany.¹ In most of the cases (75%) this is cardiac-associated.² According to this it appears to be probable that many patients did already have pre-existing cardiac diseases and might have been under medical treatment before. The aim of this study was to evaluate how many patients, who suffered from out-of-hospital cardiac arrest (OHCA), had documented diagnoses in the appropriate CA centre before.

Method In this retrospective, observational study data was analysed based on the local documentation in the German Resuscitation Registry of the Emergency Medical Service of the city of Aachen. This data was matched with documentation of the local CA centre concerning pre-existing conditions and diagnoses for a five-year period (2012 to 2016).

Results Overall 904 patients (Mean age 70±18 years) suffered from OHCA. Among these 41,9% (n=379) have been under medical treatment in the university hospital of Aachen during the last 3,7±4,5 years. 50,9% (n=193) of these had cardiopulmonary issues and 42,5% (n=161) were under medical treatment because of cardiac problems.

Conclusion The analysis shows that more than 40% of these patients, who were resuscitated during the years of 2012 to

2016 have been known in the local CA centre before. This indicates that sudden cardiac death does not occur as sudden as commonly thought and that there is plenty of room to improve preventive programme, for example by awareness-raising or educational campaigns.

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Conflict of interest None

Funding None

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EFFECT OF DETECTION TIME INTERVAL FOR OUT-OF-HOSPITAL CARDIAC ARREST ON OUTCOMES IN DISPATCHER-ASSISTED CARDIOPULMONARY RESUSCITATION

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10.1136/10.1136/bmjopen-2018-EMS.18

Aim The association between the detection time interval (DTI) from the call for ambulance to the detection of out-of-hospital cardiac arrest (OHCA) by the dispatcher and the outcomes in dispatcher-assisted cardiopulmonary resuscitation (DA-CPR) is unclear.

Method Adults and cardiac OHCA received DA-CPR between 2013 and 2016 were analysed. The main exposure was DTI defined as the time interval from the call for ambulance to the detection of OHCA by the dispatcher. The primary outcomes were the good cerebral performance category (CPC) (1 or 2). Multivariable logistic regression analysis was performed to calculate the adjusted odds ratio (AOR) and 95% confidence interval (CI) for outcomes, adjusting for potential confounders, by the 10- and 30 s DTI increase and three DTI groups; Short (0–90 s), Middle (91–180 s), and Long (181–1,200 s) groups.

Results Of 1 16 374 adults with an OHCA, 11 833 were finally analysed. Overall, the survival to discharge rate was 11.4%, and the good CPC rate was 8.0%. For good CPC, the AOR (95% CIs) for good CPC was 0.99 (0.98–1.00) by 10 s DTI delay and 0.97 (0.95–0.99) by 30 s DTI delay. The AORs (95% CIs) for good CPC were 0.84 (0.71–1.00) for the Middle and 0.79 (0.66–0.96) for the Long DTI groups compared with Short DTI.

Conclusion A longer DTI in DA-CPR showed significantly lower good neurological recovery in witnessed and adult OHCA patients and 30 s delay was associated with 3% decrease of good CPC.

Conflict of interest None

Funding None

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MECHANISMS OF EARLY GLUCOSE REGULATION DISTURBANCE AFTER OUT-OF-HOSPITAL-CARDIAC ARREST: AN OBSERVATIONAL PROSPECTIVE STUDY

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10.1136/10.1136/bmjopen-2018-EMS.19

Aim Ultra-acute hyperglycaemia is common after out-of-hospital cardiac arrest (OHCA) and return of spontaneous circulation (ROSC) and it is associated with increased mortality. The mechanisms of the ultra-acute hyperglycaemia are not known. Because these probably differ from stress induced hyperglycaemia, we aimed to study the changes in glucose metabolism mediators during prehospital post-resuscitation phase.

Method We included 30 successfully resuscitated patients in two physician-staffed prehospital critical care units in this observational study. Blood was drawn at the time of ROSC and again at the arrival to the hospital. Insulin, glucagon, glucagon-like peptide 1 (GLP-1) were measured from both samples. Additionally, interleukin-6 (IL-6), cortisol and HbA1C were measured from the hospital sample.

Results 28 patients qualified for final study (71% were without diabetes). Median time interval between the samples was 96 min (IQR 85–119). At the time of ROSC patients were hyperglycaemic (11.2 mmol/L, IQR 8.8–15.7) with insulin and GLP-1 concentrations corresponding fasting levels (10.1 mU/L, IQR 4.2–25.2 and 6.3 ng/ml, IQR 5.2–9.0, respectively). Glucagon was in normal range (141 ng/L, IQR 105–240). Median glucose change during prehospital phase was –2.2 mmol/L, (IQR –3.6 to –0.2). No consistent change in the hormone concentrations was observed during prehospital phase. No significant correlation was observed between change in plasma glucose and change of insulin ($p=0.13$, $r=0.30$), glucagon ($p=0.17$, $r=0.29$), or GLP-1 ($p=0.15$, $r=0.32$) nor with IL-6 ($p=0.75$, $r=(-0.07)$), cortisol $p=0.52$, $r=0.13$) or HbA1c ($p=0.08$, $r=0.34$) respectively.

Conclusion Hyperglycaemia is common immediately after OHCA. High level of variability between patients was observed in the hormonal responses and no specific hormonal mechanisms for hyperglycaemia was identified. However, possibly due to global ischaemic insult, hyperglycaemia in the early post-resuscitation period seems to differ from those commonly linked to SIH.

Conflict of interest None

Funding None

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PREVENTABLE MORTALITY IN PATIENTS AT LOW RISK OF DEATH REQUIRING PREHOSPITAL AMBULANCE CARE: RETROSPECTIVE CASE RECORD REVIEW STUDY

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10.1136/10.1136/bmjopen-2018-EMS.20

Aim Retrospective case record reviews (RCRR) have been widely used to assess quality of care but evidence for their use in pre-hospital ambulance settings is limited. We aimed to review case records of potentially avoidable deaths related to ambulance care.

Method We identified patients who were transported to hospital or died using linked ambulance-hospital-mortality data from one UK ambulance service over 6 months in 2013. Death rates (within 3 days) for patient groups (based on age, dispatch code and urgency) were determined; 3 patients calling in-hours and 3 out-of-hours were selected from categories with the lowest death rates. Five reviewers (GP, nurse, 2 paramedics and medical health service manager) assessed anonymised patient records for quality of care and avoidable mortality.

Results We selected 29 linked records from 1 50 003 focussing on patients not transported to distinguish pre-hospital from