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Do healthcare professionals follow the airway-breathing-circulation-disability-exposure (ABCDE) structure during simulated resuscitations and does this depend on how it was taught?

Submission date
09/10/2020

Recruitment status
No longer recruiting

Registration date
13/10/2020

Overall study status
Completed

Last Edited
18/10/2021

Condition category
Other

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
The Airway, Breathing, Circulation, Disability, and Exposure (ABCDE) approach is widely recommended and taught in many resuscitation courses. In this study we assess the adherence to the ABCDE algorithm and whether this is affected by the instruction method used to teach this approach in healthcare professionals who work with new born babies (neonates).

Who can participate?
Neonatal healthcare providers (nurses, ward physicians, and consultants) of all ages, employed at the Radboudumc, Nijmegen, the Netherlands.

What does the study involve?
Performing neonatal advanced life support (NALS) scenarios on a manikin and determining to what extent the professionals follow the ABCDE approach during such simulated resuscitations, and whether or not the adherence to the ABCDE structure differs between professionals who are trained regarding the ABCDE structure by means of a lecture or through a video-based instruction.

What are the benefits and risks of participating?
There are no risks involved in this study. The benefit for the partaking professionals may be that they are better trained in the ABCDE approach by one of the two instructional methods.

Where is the study run from?
The simulation facility of the tertiary care perinatal center (Radboudumc, Nijmegen, the Netherlands).

When is the study starting and how long is it expected to run for?
May 2017 to January 2018

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
Mathijs Binkhorst, mathijs.binkhorst@radboudumc.nl

Contact information

Type(s)
Scientific

Contact name
Mr Mathijs Binkhorst

ORCID ID
https://orcid.org/0000-0002-5824-6121

Contact details
Geert Grooteplein-Zuid 10
Nijmegen
Netherlands
6525 GA
+31 651225283
mathijs.binkhorst@radboudumc.nl

Additional identifiers

Study information

Scientific Title
Adherence to the ABCDE approach in relation to the method of instruction: a randomized controlled simulation study

Acronym
ABCDE

Study objectives
We want to investigate to what extent neonatal healthcare professionals follow or adhere to the ABCDE structure (also referred to as ABCDE approach or algorithm) during simulated neonatal advanced life support (NALS) scenarios. In addition, we want to determine whether this adherence is different between professionals trained in this strcuture by means of a lecture or through video-based instruction (VBI).

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 19/06/2017, Institutional Review Board (IRB) of the Radboud UMC (Geert Grooteplein-Zuid 10, 6525 GA, Nijmegen, the Netherlands; +31-24-3613154; commissiemensgebondenonderzoek@radboudumc.nl), ref: 2017-3513

Primary study design
Interventional

Study design
Single-center single-blinded randomized controlled simulation study

Study type(s)
Other

Health condition(s) or problem(s) studied
Adherence to guideline among neonatal healthcare professionals during the simulated resuscitation of newborns.

Interventions
Participants are randomly assigned to the two study groups, using sequentially numbered opaque sealed envelopes by an independent third party, with an allocation ratio of 1:1.
One group of professionals receives training/instruction regarding the ABCDE algorithm by means of a conventional (PowerPoint) lecture (20-30 min in duration, provided by an experienced simulation specialist).
The other group receives a video-based instruction (15 min, video specifically recorded for this study, showing peer professionals performing the ABCDE approach, just like the lecture only available on study days, not online or elsewhere).

All participants then perform neonatal advanced life support scenarios in the simulation facility of our tertiary perinatal care center (Radboudumc, Nijmegen, the Netherlands). During these scenarios, they systematically evaluate the condition of simulated, vitally unstable neonatal patients using the ABCDE structure. All scenarios are videotaped for later ananlysis.

Intervention Type
Behavioural

Primary outcome(s)
Adherence to the ABCDE structure/approach is measured by a specifically trained video observer with an assessment instrument/scoring list, which was specifically developed and validated for this study. This video-based scoring procedure takes place several weeks after the scenarios are performed.

Key secondary outcome(s)
1. Adherence of each profession category (nurses, ward physicians, fellows/neonatologists) to the ABCDE approach, measured using the abovementioned assessment instrument, at the same time point (several weeks after the actual scenarios)
2. Adherence to the domains (A, B, C, D, E) of the ABCDE approach, measured using the abovementioned assessment instrument, at the same time point (several weeks after the actual scenarios)

Completion date
24/01/2018

Eligibility

Key inclusion criteria
Neonatal healthcare professionals of all ages, working at the neonatal intensive care unit (NICU) and/or high care (HC) of the Radboudumc, Nijmegen, the Netherlands

Participant type(s)
Health professional

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
92

Key exclusion criteria
Participant refuses to give permission to use his/her videotaped scenarios for study purposes

Date of first enrolment
12/06/2017

Date of final enrolment
24/01/2018

Locations

Countries of recruitment
Netherlands

Study participating centre
Radboud University Medical Center Amalia Children's Hospital
Geert Grooteplein-Zuid 10
Nijmegen
Netherlands
6525 GA

Sponsor information

Organisation
Amalia Kinderziekenhuis

ROR
https://ror.org/024pk8k39

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan
All data generated or analysed during this study will be included in the subsequent results publication

IPD sharing plan summary
Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		15/10/2021	18/10/2021	Yes	No