

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	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 13/10/2020	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 18/10/2021	Condition category Other	<input type="checkbox"/> 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
<http://orcid.org/0000-0002-5824-6121>

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

Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
Nil known

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 structure 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

Study design

Single-center single-blinded randomized controlled simulation study

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Hospital

Study type(s)

Other

Participant information sheet

No participant information sheet available

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 analysis.

Intervention Type

Behavioural

Primary outcome measure

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.

Secondary outcome measures

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)

Overall study start date

18/05/2017

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

Age group

Adult

Sex

Both

Target number of participants

Based on a sample size estimation, the target total number of participants was 42 (21 per group)

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

Sponsor details

Geert Grooteplein-Zuid 10

Nijmegen

Netherlands

6525 GA

+31 243614430

heidy.verbeet@radboudumc.nl

Sponsor type

Hospital/treatment centre

Website

<http://www.amaliakinderziekenhuis.nl/>

ROR

<https://ror.org/024pk8k39>

Funder(s)

Funder type

Other

Funder Name

Investigator initiated and funded

Results and Publications

Publication and dissemination plan

Planned publication in a journal for the target audience (i.e. resuscitation of medical education journal). All data generated in this study will be incorporated in the manuscript.

Intention to publish date

01/12/2020

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