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Секция 22С

РОЛЬ СИМУЛЯЦИОННЫХ ТРЕНИНГОВ В ПОВЫШЕНИИ БЕЗОПАСНОСТИ ПАЦИЕНТОВ И ПЕРСОНАЛА

Аккредитационно-симуляционный центр ИМО «НМИЦ им. В. А. Алмазова» Минздрава России, г. С-Петербург.

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Варианты симуляционных тренингов для работников практического здравоохранения

1. формирование и/или закрепление отдельных практических навыков
2. клинические сценарии с дебрифингом, основанном на аудио/видеозаписи
3. смешанный вариант

Симуляционный центр



In Situ



КЛИНИЧЕСКИЕ ЭФФЕКТЫ СИМУЛЯЦИОННОГО ТРЕНИНГА «ТРУДНЫЕ ДЫХАТЕЛЬНЫЕ ПУТИ»

Симуляционный
центр

Материал и методы:

- ✓ Место проведения: отделения АиР СибФНКЦ ФМБА России.
- ✓ Тренинг: Трудные дыхательные пути – технические и нетехнические навыки.
- ✓ Материалы для разработки сценариев – Клинические рекомендации ФАР, протоколы проведения манипуляций.
- ✓ Основания для проведения тренингов: 27% от всех респираторных осложнений анестезии, максимальный уровень тревоги анестезиологов-реаниматологов.
- ✓ Целевая группа: анестезиологи-реаниматологи (n=24), средний возраст – $44,8 \pm 8,1$ лет, стаж работы по специальности – $17,2 \pm 7,4$ лет; медицинские сестры-анестезисты.
- ✓ Оценка уровня тревоги проводилась по критериям 1-6 (сфера психики) The Hamilton Anxiety Rating Scale (HARS) до и после тренинга и через 6 месяцев.
- ✓ Общая продолжительность тренинга 16 часов (2 дня):
 - 1-й этап – технические навыки - 8 часов
 - 2-й этап - клинические сценарии с дебрифингом, основанном на аудио/видеозаписи (Full Scenario & Video-based Debrief) - 8 часов.
- ✓ Контроль – чек-лист, аудио/видеорегистрация (on-line трансляция и запись)
- ✓ Статистический анализ: t-критерий Стьюдента и χ^2 МакНимара.

Содержание тренингов

- ✓ Технические навыки (hard skills)
- ✓ Тренинги по протоколам Федерации анестезиологов России



Berlin, Germany
Euroanaesthesia 2015
 The European Anaesthesiology Congress
MAY 30 - JUNE 2

ESA-2015.
Berlin, Germany

IMSH-2016.
San Diego, CA, USA

ВЛИЯНИЕ СИМУЛЯЦИОННОГО ТРЕНИНГА «DIFFICULT AIRWAY MANAGEMENT» НА УРОВЕНЬ ТРЕВОГИ И НЕТЕХНИЧЕСКИЕ НАВЫКИ АНЕСТЕЗИОЛОГОВ

Effect of the simulation training «Difficult Airway Management» on anesthesiologist's anxiety level and their soft skills

Ripp E.¹, Tsverova A.¹, Garbuz E.²
¹ Siberian State Medical University, Medical Simulation Center, Tomsk, Russian Federation,
² Hospital №81, Dept of Anaesthesiology & Intensive Care, Seversk, Russian Federation

BACKGROUND AND GOAL OF STUDY:

Difficulties in airway management can lead to serious complications, especially in a situation «Cannot Mask-Ventilate/Cannot Intubate». It is one of the most stress situations in anesthesiology practice. The goal is to evaluate effect of the training «Difficult Airway Management» on anxiety level and soft skills of anesthesiologists.

MATERIALS AND METHODS:

- ❖ 16 anesthesiologists were involved in the pilot study.
- ❖ To evaluate anxiety level the Hamilton Anxiety Rating Scale (HARS [1]) 1-6 criteria was used.
- ❖ Evaluation was made before, after training and after 6 months.
- ❖ Soft skills of difficult airway management were analyzed in period of 12 months before and after training.
- ❖ Statistical data processing was conducted by t-test and X² McNimar

The training, designed for 6 hours, was conducted in our center in December 2013. The program consist of 8 modules:



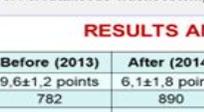
1. Theoretical test



4. Minitracheotomy



5. Emergency Cricothyroidotomy



6. Percutaneous Tracheostomy

RESULTS AND CONCLUSION

Results	Before (2013)	After (2014)	
Anxiety level	9.6±1.2 points	6.1±1.8 points	<0.001
Endotracheal anesthesia cases	782	890	=0.30
The difficult intubation cases	18 (2,30%)	21 (2,36%)	=0.30
Using of alternative methods of airway to fiberoptic intubation in the difficult intubation cases	20%	48%	<0.001
Decision time	11,2±1,3 min	5,6±1,7 min	<0.001
The total time of procedure	18,2±3,4 min	9,9±1,6 min	<0.001

REFERENCES:

- Hamilton M. The assessment of anxiety states by rating. Br J Med Psychol 1959;32:50-55.
- Practice Guidelines for Management of the Difficult Airway. Anesthesiology 2003; 98:1269-77.

СВЯЗЬ МЕЖДУ УРОВНЕМ ОСВОЕНИЯ НАВЫКОВ УПРАВЛЕНИЯ ПРОХОДИМОСТЬЮ ДЫХАТЕЛЬНЫХ ПУТЕЙ И УРОВНЕМ ТРЕВОЖНОСТИ В АНЕСТЕЗИОЛОГИЧЕСКОЙ ПРАКТИКЕ

Ripp E.¹, Tsverova A.¹, Garbuz E.²
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- ✓ Statistical data processing was conducted by t-test and X² McNimar

SESAM-2019.
Glasgow, United Kingdom

SESAM
 GLASGOW 2019
 25TH ANNUAL MEETING OF
 SOCIETY FOR SIMULATION IN EUROPE
 ENLIGHTENING HEALTHCARE FOR 25 YEARS

CLINICAL EFFECTS OF SIMULATION TRAINING «DIFFICULT AIRWAY MANAGEMENT»



25th Annual Meeting of
 SOCIETY FOR SIMULATION IN EUROPE
 Glasgow-Caledonian University | 12-14 June 2019 | Glasgow, United Kingdom

often. To maintain the results the training should be conducted every 6 months.



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2. Using of Guedel's ductwork, Combitube, Laryngeal Tubes; Laryngoscopes

The training, designed for 6 hours, was conducted in our center in December 2013. The program consist of 8 modules:



3. Orotracheal, nasotracheal, retrograde intubation



7. Videolaryngoscopy



8. Training with protocols DAS, ASA, FAR

RESULTS AND CONCLUSION

Results	Before (2013)	After (2014)	p
Anxiety level	9.6±1.2 points	6.1±1.8 points	<0.001
Endotracheal anesthesia cases	782	890	=0.30
The difficult intubation cases	18 (2,30%)	21 (2,36%)	=0.30
Using of alternative methods of airway to fiberoptic intubation in the difficult intubation cases	20%	48%	<0.001
Decision time	11,2±1,3 min	5,6±1,7 min	<0.001
The total time of procedure	18,2±3,4 min	9,9±1,6 min	<0.001

The training «Difficult Airway Management» doesn't influence on amount of difficult intubation cases. Decision time, total time of the procedure and anxiety level has been reduced. Alternative methods of airway management have been used often. To maintain the results the training should be conducted every 6 months.



IMSH
 JANUARY 16-20, 2016
 SAN DIEGO CONVENTION CENTER
 SAN DIEGO, CALIFORNIA



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КЛИНИЧЕСКИЕ ЭФФЕКТЫ СИМУЛЯЦИОННЫХ ТРЕНИНГОВ IN-SITU В АКУШЕРСТВЕ

In Situ

Материал и методы:

- ✓ Место проведения: Перинатальный центр СибФНКЦ ФМБА России.
- ✓ Тренинг (тема): Тяжелая преэклампсия.
- ✓ Материалы для разработки сценариев – Клинические рекомендации (протокол лечения) «Гипертензивные расстройства во время беременности, в родах и послеродовом периоде. Преэклампсия. Эклампсия.»
- ✓ Основания для проведения тренингов – изменение протокола лечения; увеличение гипертензивных расстройств во время беременности; 2 место в структуре материнской смертности.
- ✓ Целевые группы: акушеры-гинекологи и анестезиологи-реаниматологи Перинатального центра (n=40) и средний мед. персонал (акушерки и анестезисты) (n=96).
- ✓ Дополнительные категории обучающихся – все специалисты, работающие в день проведения тренинга: бригады интенсивной терапии СМП, мед.регистраторы, сотрудники клинической и биохимической лабораторий, врачи: окулисты, неврологи, терапевты, администрация ПЦ и СКБ СибФНКЦ.
- ✓ Тип тренинга – In Situ (n=15), непрерывный – перемещение пациентки с этапа на этап в режиме реального времени. Длительность тренинга для одной клинической ситуации (прохождение 3-х этапов) – 3 часа.
- ✓ Контроль – отдельные чек-листы для акушеров-гинекологов и анестезиологов-реаниматологов на каждом этапе.
- ✓ Сформированы 2 группы. Группа № 1 – роженицы с тяжелой преэклампсией, поступавшие в акушерское отделение в течение 6 месяцев до проведения ISS тренингов и группа № 2 - женщины, поступавшие в течение 6 месяцев после завершения тренингов.
- ✓ Статистический анализ. Значения представлены как абсолютные значения и проценты. Для анализа значений в группах различий использовались t-критерий независимой выборки, тест Манна-Уитни U и Чи-квадрат. Значение $P < 0,05$ считалось статистически значимым.

SESAM-2017. Paris, France

ТРЕНИНГ В СИМУЛЯЦИОННОМ ЦЕНТРЕ ИЛИ IN-SITU – ЧТО ЛУЧШЕ?



Group №1 - obstetricians and anesthesiologists (n=55) - training in the MSC SSMU.

Group №2 –in situ training in Perinatal center of Seversk city - obstetricians and anesthesiologists (n=40); midwives and anesthetists (n=96); other professionals working on the day of the training.

The mobile, audio/video, and real hospital equipment were used. Stages of the training: the emergency room; intensive care unit; the delivery room. Type of training was continuous. Patients were moved from stage to stage in real time. Control was separate checklists for obstetricians and anesthesiologists at each stage. Debriefing was collective.

INTRODUCTION & AIMS

Nowadays the most effective way of practical training and hospital staff assessment is simulation training which surpasses training at the patient's bedside in performance and safety.

THE GOAL is evaluation of the team training effectiveness in the hospital (in situ) and in simulation center (SC).

MATERIAL AND METHODS

The study was conducting during 2016.
The subject of the training was preeclampsia.

DISCUSSION

TRAINING IN THE SC

NEGATIVE: trainees have to work in an unfamiliar environment; SC medical equipments different from the equipment of trainees' workplace; teams are formed from the staff of the various agencies; it is impossible to involve all specialists participating in the real patient care.

POSITIVE: trainings are held in specially prepared rooms, the exact time estimate allows increasing number of training sessions per day; it requires fewer employees what decreases the cost of the training; debriefing duration is not limited.

IN SITU TRAINING

NEGATIVE: expensive; it takes more time; continuous learning process is necessary; debriefing time is limited; trainings are held in the real hospital – possibly there will be complexity of preparation facilities.

POSITIVE: high level staff motivation; forming and saving skills, including team work in the workplace environment; improving communication skills, team building, identifying leaders in real team reveal the shortcomings of hospital equipment, the wrong placement of equipment; defects in the organization and warning system in the healthcare facility.

Preparation and holding the training	In situ	In the SC
Preparation stage (hours)	6-8	0,5
Duration of the trainings per day (hours)	6	6
Number of simulation center specialists participating in the training	5	3
Number of scenarios per day	3-4	6
Number of groups per day	3-4	6
Duration of an one scenario (min)	83±11	61±2*
Including:		
Briefing, familiarity with the equipment (min)	2,4±0,5	11,8±3,6**
Action (min)	33,8±4,6	15,2±1,3**
Movement of the mannequin and trainees from stage to stage of the training (min)	25,3±3,7	0**
Debriefing (min)	21,5±2,2	35,5±2,9*
Training evaluation by trainees (survey)		
The relevance of the scenarios	100%	98%
Compliance with medical guideline	100%	100%
Difficulty level	66%	45%*
Mechanical Realism	64%	73%
Environmental Realism	94%	42%**
Physiological Realism	72%	85%
Time Realism	90%	72%*
Improving communication skills	92%	56%**
Team building	96%	32%**
Leader skills	46%	72%**
Optimization of workplace monitoring and warning system	96%	15%**

* - p < 0,05; ** - p < 0,01

RESULTS & CONCLUSIONS

➤ Training in the SC is more effective for forming and/or saving hard skills, mastering guidelines, development of leadership skills and information transfer.

➤ Training in situ is more effective for assessment of hospital staff and aid system in the real hospital, improving team building and communication skills.

➤ Training in the simulation center should be preceded by in situ training



EUSKALDUNA CONFERENCE CENTRE
BILBAO, SPAIN, 27-29 JUNE 2018

24th Annual Meeting of
THE SOCIETY IN EUROPE FOR
SIMULATION APPLIED TO MEDICINE



SESAM-2018. Bilbao, Spain

MEETING PROGRAMME & ABSTRACT LISTING



CLINICAL EFFECTS OF THE IN-SITU SIMULATION IN OBSTETRICS (PILOT STUDY)

Ripp E.¹, Kolesnikova E.¹, Ripp T.¹, Yuriev S.²

КЛИНИЧЕСКИЕ ЭФФЕКТЫ СИМУЛЯЦИОННЫХ ТРЕНИНГОВ IN-SITU В АКУШЕРСТВЕ (пилотное исследование)

Рипп Е.Г.¹, Колесникова Е.А.¹, Рипп Т.М.¹, Юрьев С.Ю.²

Introduction: mobile, audio-video and real hospital equipment were used on stages of the real and emergency room, intensive care unit, the delivery room. Type of training was continuous. Patients were moved from stage to stage in real time. Control was separate checklists for obstetricians and anesthesiologists at each stage. Debriefing was collective. In 2017, a retrospective analysis of the history of diseases of pregnant women with SPE was conducted. Two groups were formed, Group 1 (n = 5) – the women in labor with SPE who entered to the obstetric department within 6 months before the SES and Group 2 (n = 5) – women who entered within 6 months after the training. The technical skills and communication of the members of the medical teams in the treatment of pregnant women with SPE of Groups 1 and 2 were assessed before and after the trainings.

Results & Discussion

Groups of pregnant women with SPE did not differ in the physical parameters – age, height, weight; obstetric anamnesis – gestational age, number of pregnancies, complications of previous pregnancies, indicators of physical examination – the level of systolic and diastolic blood pressure (BP), the presence of protein in the urine, edema and other signs of preeclampsia, the presence of concomitant diseases – hypertension, obesity, kidney diseases. The main differences in the actions of medical teams are presented in the table.

CONCLUSIONS

1. Practical skills acquired during SES are effectively transmitted to clinical obstetric practice.
2. In-situ simulation is effective for improving communication and team building skills.
3. Participants SES – anesthesiologists and obstetricians – improve their technical and non-technical skills by more than 2

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ТРЕНИНГ IN SITU: «ИНФЕКЦИОННАЯ БЕЗОПАСНОСТЬ ПРИ АЭРОЗОЛЬГЕНЕРИРУЮЩИХ ПРОЦЕДУРАХ»

In Situ

Материал и методы:

- ✓ Место проведения: отделения анестезиологии, реанимации и интенсивной терапии НМИЦ им. В.А. Алмазова
- ✓ Тренинг (тема): «Инфекционная безопасность при аэрозольгенерирующих процедурах - интубации трахеи и ИВЛ»
- ✓ Материалы для разработки сценариев – Методические рекомендации, обзоры
- ✓ Основания для проведения тренингов – перепрофилирование Центра Алмазова для оказания медицинской помощи пациентам COVID-19 с 14 мая 2020 г. (кочный фонд до 400 коек).
- ✓ Целевые группы: анестезиологи-реаниматологи (n=48), средний мед. персонал, младший медицинский и технический персонал ОАРИТ (n=223)
- ✓ Цели тренинга: 1) формирование команд; 2) мобилизация ресурсов в кризисной ситуации (CRM); 3) инфекционная безопасность при аэрозольгенерирующих процедурах.
- ✓ Тип тренинга – «play – stop – play»
- ✓ Контроль – чек-листы
- ✓ Видеозапись на мобильную камеру.
- ✓ Длительность тренинга для каждой группы – 3-4 часа.
- ✓ Персонал симуляционного центра обеспечивающий тренинг – 2-3 человека
- ✓ Брифинг против Дебрифинга (совместный)
- ✓ Статистический анализ: t-критерий Стьюдента и χ^2 МакНимара.

ФОРУМ АНЕСТЕЗИОЛОГОВ И РЕАНИМАТОЛОГОВ РОССИИ

25-27.10.2020



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ФОРМАТ



27TH ANNUAL MEETING OF
SOCIETY FOR SIMULATION IN EUROPE
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HEALTHCARE SIMULATION TRAINING

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1971

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Abstract
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 Full text

ARTICLE ATTRIBUTE

Associated data

ARTICLE TYPE

Training in healthcare during and after COVID-

Метаанализ Института клинических и трансляционных наук Северо-Западного университета США: 3742 статей за 20 лет.
Представлено сравнение эффективности традиционного клинического образования в достижении целей приобретения навыков по сравнению с медицинским образованием на основе симуляций (SBME) с преднамеренной практикой (DP).

Выводы: ... результаты показывают, что SBME с DP превосходит традиционное клиническое медицинское образование в достижении конкретных целей приобретения клинических навыков.

[McGaghie WC, Issenberg SB, Cohen ER, Barsuk JH, Wayne DB. Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. Acad Med. 2011 Jun;86(6):706-11. doi: 10.1097/ACM.0b013e318217e119].

Debriefing the Interprofessional Team in Medical Simulation.
5 Salik I, Paige JT.
Cite 2022 Apr 21. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-.
PMID: 32119413 Free Books & Documents.
Share Two of the most important aspects of healthcare simulation include debriefing and feedback. The

Simulation model for
Cenk M, Erdem Eralp E,
an G, Karadag B, Karakoc F,
021 Nov 30.

Training in
study from a

e.
ing; 2022 Jan-.

PMID: 31751085 Free Books & Documents.
 Communication Training Tools in Medical Simulation.
16 Rayner HM, Wadhwa R.
Cite 2021 Jul 26. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-.
PMID: 32809703 Free Books & Documents.



СЕКЦИЯ 22С.

ПРАКТИКИ СИМУЛЯЦИИ. ПРИМЕНЕНИЕ
СИМУЛЯЦИОННЫХ МЕТОДИК В
ПРАКТИЧЕСКОМ ЗДРАВООХРАНЕНИИ

БЛАГОДАРЮ ЗА ВНИМАНИЕ

