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A study to assess the effectiveness of video assisted teaching program on hand hygiene technique among healthcare workers entering NICU in Saveetha Medical College and Hospital Chennai

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ABSTRACT

In the annual 4 million neonatal deaths worldwide one-third death are occurred with the association of infections .The countries where the high neonatal mortality is seen (>45 per 1000 births)about 50% of these deaths are caused by infections. The simple and effective method to prevent HCAI is the proper hand washing to be followed by personnel handling neonates The objectives of the study was to assess the pre-video assisted teaching program on hand washing technique among health care workers entering the NICU, to evaluate the effectiveness of video assisted teaching programs on hand washing technique among health care workers entering the NICU, to find the association between the post video assisted teaching program on hand washing technique with their demographic variables.Totally 50 samples were selected using convenient sampling technique. The researcher developed a structured interview schedule to assess the demographic variables of the samples. The pre test was conducted to the selected samples using hand hygiene competency criterion checklist tool on the first day and the video assisted teaching program on hand hygiene technique was given for 5 minutes to those selected samples on the second day. Then the post test was conducted for the same group of healthcare workers, with the same tool on the seventh day. The data were analysed by using descriptive and inferential statistics. The findings of the study reveals that out of 50 samples in pre test 26(52%) had low competency, 14(28%) had adequate competency and 10(20%) had high competency and in post test 9(18%) had low competency, 19(38%) had adequate competency 22(44%) had that high competency. The calculated't' value is t=8.459 which is found to be significant at p>0.05 level. So the video assisted teaching program was effective on improving the hand hygiene technique among health care workers.

Keywords: Effectiveness, Hand Hygiene Technique, Video assisted teaching program, Healthcare workers

INTRODUCTION

In the annual 4 million neonatal deaths worldwide one-third death are occurred with the association of infections [1, 2]. The countries where the high neonatal mortality is seen (>45 per 1000 births) about 50% of these deaths are caused by infections [2]. The clean delivery, hygiene cord care thermal care and breast feeding which are said to be essential material and newborn care interventions can reduce neonatal deaths associated with infection by 20-50% [4, 5]. At the same time, it is sensible to raise rapidly all measures to decrease health care-associated infections (HCAI) or 'nosocomial' infections. The simple and effective method to prevent HCAI is the proper hand washing to be followed by personnel handling neonates. Further, the accountability and behavioral changes are required for the healthcare workers and parents of neonates. The factors associated with HCAI such as duration of hospital stay, long-term morbidity, emergence of multi-resistant organism, cost of medical care and unnecessary deaths can be potentially reduced by strictly absence to hand hygiene practices in neonatal intensive care (NICU). The transient and resident micro-flora can be reduced by hand washing and there is substantial evidence for the same. Adherence to hand hygiene protocols has been shown to reduce the HCAI rate by 40% [6, 7].

Neonatal safety can be ensured by indispensable hand hygiene and it should be occurred in a timely and effective manner in NICU. The risk of death can be increased in the first week of life and at birth due to compliance with hand hygiene and poor antisepsis but preventable infections. The removal of barriers and actively promoting compliance can improve the hand hygiene in NICU. The training of personnel, provision of appropriate hand wash facilities, placing hand-rub dispenses at the appropriate sites, and by physicians setting a good example for others can enhance, hand hygiene complains. Instead of frequently chasing nosocomial bugs with advanced antibiotics, it could be better if NICU personnel progress obsessive compulsion for periodic hand washing. [8]

Hand hygiene is the single most important method in preventing the transmission of micro organisms mainly in neonatal intensive care unit (NICU). Hence, the appropriate practice of hand hygiene is needed for the health-care workers. Lack of knowledge and poor compliance of hand hygiene can lead to severe nosocomical infections and cross infections in neonatal intensive care unit (NICU). The health care associated infections can be prevented and controlled if the adherence to hand hygiene recommendations are followed.

MATERIALS AND METHOD

Research approach

Quantitative research approach

Research design:

One group pre-test post-test design

Setting

The study was conducted in NICU at SMCH.

Population

TARGET POPULATION: All healthcare workers work in SMCH.

ACCESSABLE POPULATION: Heath care workers entering NICU, at SMCH.

Sample

The sample of the study is the health care workers entering the NICU at SMCH.

Sample size

Sample size will be comprised of 50 health care workers.

Sample technique

The sample was selected by using convenient sampling technique methods.

Criteria for sampling technique

Inclusion Criteria: All health care workers entering NICU.

Healthcare workers who can able to understand English and Tamil.

Exclusion Criteria: Health care workers who were not willing to participate in the study.

Tools process

Section A: This part contains items such as demographic variables which include (age, sex,

education, profession, total experience of years, and total years of experience in NICU)

SECTION B: Hand hygiene competency criterion checklist was used to assess the hand hygiene technique of health care workers.

Section-A

Frequency and percentage distribution of sample characteristics

The study reveals that out of 50 in sample characteristics 9(18%) belongs to the age group of below 25 years, 19(38%) belongs to the age of 26-29 years, 17(34%) belongs to the age group of 30-39 years. Regarding sex 15(30%) were male, 35(70%) were female. Regarding type of Educational institution 16(32%) were studied in government institution, 29(58%) were studied in private institution, and 5(10%) were studied in trust institution. Regarding profession 24(48%) were nurses, 5(10%) doctors, 8(16%) physiotherapist, 5(10%) technicians and 8(16%) was unit helper. Regarding total experience 10(20 had experienced less than 1year, 23(46%) had experienced 1-5 years, 8(16%) had experienced 6-10 years and 9(18%) had experienced more than 10 years. Regarding NICU experience 27(54%) had experienced less than 1year, 16(32%) had experienced 1-5 years, 9(18%) had experienced 6-10 years and 4(8%) had experienced more than 10 years.

Section-B

TABLE: 1: Frequency and percentage distribution of pre test on hand hygiene technique

LEVEL OF COMPETENCE	FREQUENCY	PERCENTAGE
Low competency	26	52%
Adequate competency	14	28%
High competency	10	20%

The above table reveals that out of 50samples in pre-test 26(52%) had low competency, 14(28%) had adequate competency and 10(20%) had high competency.

Section-C

The above table reveals the frequency and percentage distribution of post test on hand hygiene competency. Out of 50 samples 9(18%) had low competency, 19(38%) had adequate competency 22(44%) had high competency.

Table: 2: Frequency and percentage distribution of post test on hand hygiene technique

LEVEL OF COMPETENCY	FREQUENCY	PERCENTAGE
Low competency	9	18%
Adequate competency	19	38%
High competency	22	44%

Section-D

Table: 3: Determine the effectiveness of video assisted teaching program on hand hygiene technique,

GROUP	PRE TEST	POST TEST	T value
Mean	4.26	6.2	8.459
Standard deviation	1.93	1.65	p>0.05

The above table reveals that the calculated t value is t=8.459 which is found to be significant at p>0.05 level. So the video assisted teaching program was effective on improving the hand hygiene technique among health care workers.

Section-E

Table: 4: Association between the post test on hand hygiene technique and their demographic variables.

DEMOGRAPHIC VARIABLES	LOW COMPETENCY		ADEQUATE COMPETENCY		HIGH COMPETENCY		CHI SQUARE TEST
	NO	%	NO	%	NO	%	
1.Age							
a. Below 25yrs	2	4%	4	8%	3	6%	
b. 26-29yrs	3	6%	5	10%	11	22%	X^2=4.757
C. 30-39yrs	2	4%	8	16%	8	16%	df=6(s)
d. Above 40yrs	2	4%	2	4%	2	4%	
2.Sex							
a. Male	2	4%	3	6%	10	20%	X^2=4.588
b. Female	7	14	16	32%	12	24%	df=2(s)
3.Profession							
a. Nurse	3	6%	9	18%	12	24%	
b. Doctor	0	0	1	2%	4	8%	X^2=9.582
c. physiotherapist	1	2%	5	10%	2	4%	df=8(s)
d. technician	2	4%	2	4%	1	2%	
e. unit helper	3	6%	2	4%	3	6%	
4.Total experience							
a. less than 1 yr	1	2%	5	10%	4	8%	
b. 1-5 yrs	4	8%	7	14%	12	24%	X^2=6.043
c. 6-10 yrs	3	6%	3	6%	2	4%	df=6(s)
d. More than 10 yrs	0	0	4	8%	4	8%	
5. NICU experience	5	10%	11	22%	11	22%	
a. less than 1 yr	3	6%	5	10%	8	16%	
b. 1-5 yrs	0	0	2	4%	1	2%	X^2=2.036
c. 6-10 yrs	1	2%	1	2%	2	4%	df=6(s)
d. More than 10 yrs							

The above table reveals that there is significant between demographic variables. Out of 50 in samples, Regarding Age the Chi-square value is X^2=4,757 and df=6(S), Regarding sex X^2=4.588 and df=2(S), Regarding profession X^2=9.582 and df=8(S), Regarding total experience X^2=6.043 and df=6(S), Regarding NICU experience X^2=2.036 and df=69S).

DISCUSSION

The main focus of the study is to assess assess the effectiveness of video assisted teaching program on hand hygiene technique among healthcare workers entering NICU in Saveetha Medical College and Hospital Chennai. This showed that reminding the healthcare workers the correct methods of hand hygiene by video-assisted teaching program can improve the effectiveness of hand hygiene technique.

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Conflict of interest

The author declares no conflict of interest.

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