

## **Effect of Peer Teaching versus Traditional Teaching Method on Nursing Students Performance Regarding Pediatric Cardio pulmonary Resuscitation**

*By*

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### **Abstract**

**Background:** Peer teaching is an effective educational approach for nursing students to increase learner's self-efficacy and enhance their psychomotor skills. The aim of the current research is to assess the effectiveness of peer teaching on the performance of nursing students regarding pediatric cardio pulmonary resuscitation.

**Methods:** The study was conducted at the Pediatric Nursing skill lab, Faculty of Nursing, Suez canal University using a quasi-experimental, design. A total 93 nursing students enrolled in the 3rd year were agreed to participate.(51 females and 42 males).These were divided into two groups: study and control. Two tools were used for data collection: Student's Clinical Evaluation checklist and Clinical Teaching Preference Questionnaire.

**Results:** The study findings indicate that the performance score of the nursing students who learned by peer teaching, will be significantly better than those trained by assistant teaching staff in traditional clinical sessions.

**Conclusion:** Based on the results of the present study, it was concluded that, our study findings add more support in favor of the peer teaching approach evidence by an obvious improvement in performance scores among peer teaching. Moreover, The majority of nursing students who received peer teaching, were less anxious when performing lab skill, more communicative & interactive with other students and received honest feedback.

**Recommendation:** The study recommends applying of effective peer teaching approach in nursing schools for teaching and training pediatric cardio pulmonary resuscitation to enhance students' acquisition of skills with better performance. Similar studies should replicate the current study with a larger sample size in order to validate the findings.

### **Key words**

Peer teaching, Pediatric resuscitation, Nursing student, performance, traditional teaching method

## **I. Introduction**

Neonatal and pediatric resuscitation are the standard of practice for all neonatal and pediatric nursing practitioners. It consists of artificial respiration, cardiac massage and medication. It decides the life of a neonate or a child who is at risk of survival from dependent to independent life<sup>1</sup>. Cardiac arrest described as a sudden cessation of cardiac activity, unless action is immediately taken .The lack of circulation leads to irreversible damage to the body's vital organs within minutes<sup>2</sup>.

The international guidelines for neonatal resuscitation were recently updated by the American Academy of Pediatrics (AAP), the American Heart Association (AHA) and the International Liaison Committee on Resuscitation (ILCOR). They stated that, the most important steps in resuscitation of the newly born infant are oxygenation and ventilation; including endotracheal intubations. The clinical assessment of the newly born infant is based on a triad of respiration, heart rate and color. If indicated, resuscitation has to be initiated approximately 30 seconds after birth<sup>3</sup>.

Peer teaching is an effective educational approach for nursing students.<sup>4</sup> It is based on Bandura's social learning theory, which postulates that individuals learn dramatically from observing the behaviors of the others<sup>5</sup>. This increases learner's self-efficacy through more active participation in learning and lower anxiety<sup>6</sup>. At the same time, it improves tutor's behavior and competence through the development of their teaching skills<sup>7</sup>.

The process of peer-teaching may involve near peers as senior teaching freshmen, or co-peers who are at the same academic or experiential level who help others to learn and acquire, retain and be able to use

knowledge, understand, achieve skills, and develop attitudes<sup>8,9</sup>. Therefore, peer teaching is a way of communication of information between two parties of equal or different educational levels who are each engaged in learning the same subject, with someone acting as tutor and the other(s) as tutee(s)<sup>7,10</sup>. The process may be formal such as one-to-one tutoring and mentoring or informal such as students helping each other outside the formal teaching environment<sup>11,12</sup>. It may involve short periods of lecturing with more emphasis on discussions and interactions<sup>13</sup>.

## **II. Significance of the study:**

Cardiac arrest continues to be an all-too-common cause of premature death and the outcomes of extensive provider training in resuscitation practice in children, remain poor<sup>14,15,16</sup>. Pediatric cardio pulmonary resuscitation training is a difficult task. Studies have shown that, immediately after a course, the performance of cardio pulmonary resuscitation is not optimal and the knowledge decreases rapidly<sup>17,18</sup>. The practical part of pediatric nursing course focuses on learning students how to make cardio pulmonary resuscitation in the skills lab by assistant nursing staff to a group of up to 15 students, a situation that makes guidance and supervision of the practical performance of each student not feasible. To overcome this and at the same time to motivate students' active learning, the researchers started applying peer teaching methods. The situation provides a kind of natural experiment to compare peer teaching with the traditional clinical session method.

## **III. Aim of the Study:**

The current research aims to assess the effectiveness of peer teaching on the performance of nursing students regarding pediatric cardio pulmonary resuscitation.

## **IV. Research Hypothesis:**

The performance score of the nursing students who learned by peer teaching will be significantly better than those trained by assistant teaching staff in traditional clinical sessions.

## **V. Subjects And Methods**

### **5.1 Research design**

Quasi experimental design was utilized to conduct the current study.

**5.2 Setting:** The study was conducted at the Pediatric Nursing skill lab , Faculty of Nursing, Suez canal University.

### **5.3 Sampling:**

All 93 nursing students enrolled in the 3<sup>rd</sup> year, were invited to participate, and 93 (51 females and 42 males) agreed. These were divided into two groups randomly. Group I (study group) consisted of 46 students and Group II (control group) included the other 47 students who were similarly assigned to the 3 skill labs in subgroups of around 15 students each

### **5.4 Tools of data collection:**

Two tools were used in this study:

**Tool I : Student's Clinical Evaluation Checklist**, was developed by the researchers and based on related literature<sup>19,20</sup> to evaluate the nursing student's performance toward applying steps of cardio pulmonary resuscitation taught in the practical part of the nursing pediatric course, and applied in the clinical setting. The tool asked about students age and gender and covered the following items ( Safe approach and position, Infant's responsiveness, Shout for help, Chin lift /head tilt, Look - listen and feel for up to 10 seconds, Clear the airway, Deliver rescue breath, Check brachial pulse, Continue respiration for one minute, Telephone for the team, Check brachial pulse, Commence chest compressions : Correct hand position - Correct compression rate - Correct ratio).

The score of total performance was 14 (each stage was allocated one point except for stage 12 (commence chest compressions), where three points were allocated due to the complexity of the procedure.). The point grade system of performance in the Faculty of Nursing, Suez canal University, was applied to the total score as follows: Fail (<60%), Pass (60 - <65%), Good (65 - <75%), Very good (75- <85%), and Excellent (>85%).

**Tool II: Clinical Teaching Preference Questionnaire (CTPQ):** was developed<sup>21</sup> to assess nursing student's preference of peer teaching method. It consists of 11 statements (teaching is an important role for nurses, and I can communicate more freely with my peers than with my instructor examples of items) with a five-point Likert

scale ranging from "strongly agree" to "strongly disagree." The responses were dichotomized into two categories: "strongly agree/agree" and "strongly disagree/ disagree/uncertain."

#### **Validity and reliability of study tools:**

Before data collection, face and content validity of the tools through rigorous review by a panel of experts in pediatric nursing department. The panel consisted of 5 Faculty members from the Faculties of Nursing at Zagazig and Ain shams universities. Modifications of the tools were done according to the expert's judgment on clarity of sentences, appropriateness of content and sequence of items. The experts' agreed on the content, but recommended minor language changes that would make the information clearer and more precise. The suggested changes were made. Internal consistency reliability of all items of the tools were assessed using coefficient alpha. It was 0.76 for Student's Clinical Evaluation Checklist, and 0.86 for Clinical Teaching Preference Questionnaire

#### **Pilot study:**

A pilot study was carried out with 10.0% of the total sample size (approximately 9 nursing students) over a period of one month (August, 2014). The purpose was to ascertain the feasibility of the study and the clarity and applicability of the tools. It also helped to estimate the time needed for filling out the forms. Based on the results of the pilot, no modifications were needed and pilot study subjects were excluded from the sample of the study.

#### **5.5 Ethical and legal considerations:**

The researchers obtained the official permissions to conduct the study from the Dean of the Faculty Nursing, Suez canal University. An individual informed consent was obtained from each student after full explanation of the study objectives and procedures. Students were reassured that participation is totally voluntary, that refusals or withdrawals have no consequences, and that the information would be strictly confidential and does not affect the assessment of their academic achievement.

#### **5.6 Field work:**

After allocation of the students to the study (peer teaching) and control(traditional teaching) groups, the researchers conducted a one-day workshop starting the teaching sessions. The attendants were the assistant teaching staff assigned to the clinical sessions and the nursing students in the study group. It was for orientation the participants regarding peer teaching benefits ,techniques and tutor role. The researchers select the pediatric cardio pulmonary resuscitation skill that nursing students must learn in the clinical part of the nursing pediatric course. This content was similar in both study and control groups. The ( 46 ) students in the study group were assigned to (three) skill labs in subgroups of around (15) students each. The subgroup in each lab was further subdivided into three small groups (one peer teacher& four students in each group) for implementation of the peer teaching process. Each student was allowed to perform the steps of pediatric cardio pulmonary resuscitation on infant manikin in the Faculty skill lab of pediatric under the supervision of researchers. This was repeated until the student mastered this skill. The student then designed a teaching plan that includes specific objectives, and identified the resources relevant to peer teaching. The researchers prepared a schedule for the trained students to act as peer teachers for their other colleagues regarding pediatric cardio pulmonary resuscitation. The clinical sessions started from 9 AM to 1 PM three day/week for 21days. The control group (47) students were sub grouped and distributed to 3 skill labs. These subgroups were trained by assistant teaching staff in traditional clinical sessions. The evaluation of the effect of peer teaching was carried out through the use of the first tool – student's clinical evaluation checklist – and comparing its results among students in the study and control groups after the end of the clinical sessions. Additionally, the study group students' experience regarding the peer teaching method, was assessed using the second tool (CTPQ). The collection of data lasted two months starting from September to October 2014.

#### **VI. Data Analysis:**

The collected data revised, organized, tabulated and analyzed by using SPSS version20. Numerical data was presented in tables by using Mean, Standard deviation .Qualitative variables were compared using qui square test ( $\chi^2$ ) as the test of significance and independent (t) test was used to compare mean score between two groups .the p-value is the degree of significant. A significant level value was considered when p-value  $\leq$  0.05 and a highly significant level value was considered when p-value  $\leq$  0.001, while p-value  $>$  0.05 indicates non-significant results.

#### **VII. Results:**

**Table (1)** : Shows the mean and stander deviation of performance scores of cardio pulmonary resuscitation for nursing students in the study and control groups. it is clear from the tables that there are statistically significant

differences in the performance scores between the students in the study and in the control groups ( $p < 0.004$ ). This is noticed in difference that the study group students have higher scores.

**Table (2):** Displays the percentages of performance grades of nursing students in the study and control groups. it is clear from the table that there are statistically significant differences in the performance grades between the students in the study and in the control groups ( $p < 0.001$ ). Overall, the highest percentage of the study group (82.6%) have excellent grade, compared to only 10.6% of those in the control group ( $p < 0.001$ ).

**Table (3):** Concerning study group students' feedback regarding their preferences of the peer teaching method, table 3 illustrates that more than half of them agreed upon the issues related to better acquisition of communication, problem solving skills, sense of responsibility, honest feedback, more self confidence, less anxious, better learning and helping in general. However, at the other extreme, only a few of the students agreed that teaching is an important role for nurses.

**Table 1. Mean and Stander Deviation of Performance Scores of Cardio- Pulmonary Resuscitation for Nursing Students in the Study and Control Groups**

	Mean $\pm$ SD	Independent t - test	P - value
Study group (no=46)	11.6 $\pm$ 0.639	6.254	0.004
Control group (no=47)	9.6 $\pm$ 0.814		

\* $p < 0.01$

**Table 2. Percentages of Performance Grades of Nursing Students in the Study and Control Groups**

Performance grades	Study group (n= 46 )		Control group (n= 47 )		X2 Test	P-value
	No	%	No	%		
Good	2	4.3	34	72.3	54.051	0.0001
Very good	6	13.1	8	17.1		
Excellent	38	82.6	5	10.6		

\* $p < 0.001$

**Table 3. Peer Teaching Preferences among Nursing Students in the Study Group ( no= 46)**

Statement	Strongly agree/ agree	
	No	%
1-My ability to problem solving improves less from instructor teaching than from my peers	32	69.5
2-Being taught clinical skills by my instructor decreases my sense of responsibility more than being taught by my peers	32	69.5
3-I learn less from my instructor than my peers	31	67.4
4-I do not feel freer to approach my instructor for help than I do my peers	30	65.2
5-Being taught clinical skills by my peers increases my interaction and collaboration with other students more than being taught by my instructor	32	69.5
6-The feedback I receive from my peers, is from a student's viewpoint, therefore, more honest, reliable, helpful than from my instructor	31	67.4
7-I am more self-confident and able to perform independently because of being taught by my peers, more than by my instructor	32	69.5
8-I am less anxious when performing a nursing skill in the presence of my peers than in the presence of my instructor	32	69.5
9-I can communicate more freely with my peers than with my instructor	32	69.5
10-My peers are more supportive to me when I am performing a nursing skill than my instructor	28	60.9
11-Teaching is an important role for nurses	5	10.8

**VIII. Discussion:**

Today's health care environment demands nurses who are prepared to deal with extraordinarily complex client health issues<sup>22</sup>. A variety of strategies are used to help students meet both educational goals and the needs of the health care system; strategies vary according to the level of student and setting. For learning to be effective, it is important to decrease anxiety and uncertainty in students as they acquire leadership skills and confidence through the use of effective learning method such as peer teaching<sup>23</sup>.

The aim of the current research is to assess the effectiveness of peer teaching on performance of nursing students regarding pediatric cardio pulmonary resuscitation.

The result indicates that there is an obvious improvement in performance scores among peer teaching. Moreover, almost all students in this group got a total "excellent" grade, compared to few ones in the control group. The findings go in line with a number of previous studies<sup>24,25,26</sup>. On the same line,<sup>27</sup> it is found that peer learning was more effective educational tool than traditional methods in enhancing the practical skills of students and supporting each other. Our findings add more support in favor of the peer teaching approach and may be taken in consideration as an educational tool in pediatric cardio pulmonary resuscitation training for nursing students. Additionally, the success of peer teaching approach, in the present study, is related to the process of the application of the intervention and the facilities provided for achieving its goals. For instance, the researchers provided clear explanations for students to foster their peer teaching abilities, in addition to training them in mastering the selected practical skill until they became competent before starting the sessions, and teaching them how to prepare for teaching session.

Interestingly, results of the current study revealed that the students taught by peer teaching expressed their better acquisition of communication, problem solving skills, sense of responsibility, receiving honest

feedback, better learning and helping in general. These results are in congruence with the previously reported positive effects of peer teaching on students' abilities of interactions<sup>28</sup>.

Our findings indicate that the majority of nursing students who received peer teaching, were less anxious when performing lab skill, more communicative & interactive with other students and received honest feedback. These results which are in congruence with the previously reported in other studies,<sup>29,30,31</sup> found that the majority of students taught by peer teaching expressed their less anxiety, received honest feedback, and were more interactive with other students. On the other hand, this finding is contraindicating with the previously reported in a study<sup>32</sup> stated that students receiving peer tutoring were statistically more anxious about performing lab skills. Additionally, some students found instructors' feedback more helpful than their peers and increased gains in knowledge and responsibility for preparation and practice with instructors than with peer tutors.

Unfortunately, only a few of nursing students believe that teaching is an important role for nurses. This might be explained as this was the first time for students to act as teachers, and they might have had the feeling of having a responsibility that was beyond their capabilities. Added to this is the feeling of lack of real authority/power over students so that they might lose control.

### **IX. Conclusion:**

Based on the results of the present study, it was concluded that, our study findings add more support in favor of the peer teaching approach evidence by an obvious improvement in performance scores among peer teaching. Moreover, The majority of nursing students who received peer teaching, were less anxious when performing lab skill, more communicative & interactive with other students and received honest feedback.

### **X. Recommendations**

In the light of the present study, the following recommendations are suggested:

1. Applying of effective peer teaching approach in nursing schools for teaching and training pediatric cardio pulmonary resuscitation to enhance students' acquisition of skills with better performance.
2. Similar studies should replicate the current study with a larger sample size in order to validate the findings.

### **XI. References:**

1. **Lemon JB, Daigle SC.** Neonatal resuscitation simulation. *Nursing for Women Health* 2010 Apr/May;14:143-
2. **Smeltzer sc. and Bare BG.** Text book of medical surgical nursing, 9th edition, published by Lippincott William & Wilkins company, Philadelphia; 2003 PP. 676-677.
3. **Jacobs I, Nadkarni V, Bahr et al.,** Cardiac arrest and cardiopulmonary resuscitation outcome reports: update and simplification of the Utstein templates for resuscitation registries: a statement for healthcare professionals from a task force of the International Liaison Committee on Resuscitation (American Heart Association, European Resuscitation Council, Australian Resuscitation Council, New Zealand Resuscitation Council, Heart and Stroke Foundation of Canada, InterAmerican Heart Foundation, Resuscitation Councils of Southern Africa). *Circulation.* 2004;110:3385-3397.
4. **Secomb J.** A systematic review of peer teaching and learning in clinical education. *Journal of Clinical Nursing.* 2008; 17(6): 703-16. Available from: <http://www.ncbi.nlm.nih.gov/>. PMID:18047577 <http://dx.doi.org/10.1111/j.1365-2702.2007.01954.x>
5. **Bandura A.** Self-efficacy: Toward a unifying theory of behavioral change. *Psychol Rev.* 1977; 84: 191–215. Available from: <http://www.nataej.org/>. PMID:847061 <http://dx.doi.org/10.1037/0033-295X.84.2.191>
6. **Loke AJ, Chow FL.** Learning Partnership The Experience of Peer Tutoring Among Nursing Students: A qualitative Study. *Int J Nurs Stud.* 2007; 44(2): 237–244. Available from: <http://www.ncbi.nlm.nih.gov/>. PMID:16412444 <http://dx.doi.org/10.1016/j.ijnurstu.2005.11.028>
7. **Evans DJ, Cuffe T.** Near-peer teaching in anatomy: an approach for deeper learning. *Anatomical Sciences Education.* 2009; 2(5): 227-233. PMID:19753627 <http://dx.doi.org/10.1002/ase.110>

8. **Henning JM, Weidner TG, Jones J.** Peer-assisted learning in the athletic training clinical setting. *J Athl Train.* 2006; 41(1): 102-108. Available from: <http://www.ncbi.nlm.nih.gov/>. PMID:16619102
9. **Abd El-Mageed FM.** Developing Standards for the Selection of an Effective Clinical Practical Setting For Nurse Students. Master Thesis. Faculty of Nursing, Ain Shams University, Department of nursing administration, 2012.
10. **Topping KJ.** Trends in peer learning. *Journal of Educational Psychology.* 2005; 25(6): 631-645. Available from: <http://cmapspublic3.ihmc>.
11. **Gilmour JA, Kopeikin A, Douché J.** Student nurses as peer-mentors: collegiality in practice. *Journal of Nurse Education in Practice.* 2007; 7(1): 36-43. Available from: <http://www.ncbi.nlm.nih.gov/>. PMID:17689422 <http://dx.doi.org/10.1016/j.nepr.2006.04.004>
12. **Hegarty J, Walsh E, Condon C, Sweeney J.** The undergraduate education of nurses: looking to the future. *Int J Nurs Educ Scholarsh.* 2009; 6(1): 1-11. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/>. PMID:19572833 <http://dx.doi.org/10.2202/1548-923X.1684>
13. **Fernandez-Santander A.** Cooperative learning combined with short periods of lecturing: a good alternative in teaching biochemistry. *Biochemistry and Molecular Biology Education.* 2008; 36(1): 34-38. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/>. PMID:21591157 <http://dx.doi.org/10.1002/bmb.20141>
14. **Nadkarni VM, Larkin GL, Peberdy MA, Carey SM, Kaye W, Mancini ME, Nichol G, Lane-Truitt T, Potts J, Ornato JP, Berg RA.** First documented rhythm and clinical outcome from in-hospital cardiac arrest among children and adults. *JAMA.* 2006;295:50 –57.
15. **Rea TD, Eisenberg MS, Sinibaldi G, White RD.** Incidence of EMStreated out-of-hospital cardiac arrest in the United States. *Resuscitation.* 2004;63:17–24.
16. **Atkins DL, Everson-Stewart S, Sears GK, Daya M, Osmond MH, Warden CR, Berg RA.** Epidemiology and outcomes from out-of-hospital cardiac arrest in children: the Resuscitation Outcomes Consortium Epistry- Cardiac Arrest. *Circulation.* 2009;119:1484 –1491.
17. **Kardong-Edgren, S.E., M.H. Oermann, T. Odom-Maryon, and Y. Ha,** Comparison instructional modalities for nursing student CPR skill acquisition. *Resuscitation.* 2010; 81(8): 1019-1024. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20566391>. PMID:20566391 <http://dx.doi.org/10.1016/j.resuscitation.2010.04.022>
18. **Cheraghi, M., and colleagues, 2011,** study of the impact of CPR workshops on knowledge of nurses, *journal of rescue, year 1 and 2,* 33-39.
19. **Parajulee s. and Selvaraji V.** knowledge of nurses towards CPR in a tertiary care teaching hospital in nepal. *journal of clinical and diagnostic research.* 2011december, vol.5(8) : 1585-1588.
20. **Josipovic P., Webb M. and Gtath I.M.** basic life support knowledge of undergraduate nursing and chiro practic student. *Australian journal of advanced nursing.* 2008, vol.26(4):58-63.
21. **Iwasiw C L, Goldenberg D.** Peer Teaching Among Nursing Students in The Clinical Area: Effects on Student Learning. *J Adv Nurs.* 1993; 18(4): 659-68. PMID:8496514 <http://dx.doi.org/10.1046/j.1365-2648.1993.18040659.x>
22. **Emerson, R. (2007).** *Nursing education in the clinical setting,* 1st. edition, Mosby company, St. Louis, 271: 73
23. **Carlson, S., Kotze, W.J., & van Rooyan, D. (2003).** Accompaniment needs of first year nursing students in the clinical learning environment. *Curationis,* 26, 30-39.
24. **Graziano SC.** Randomized surgical training for medical students: resident versus peer-led teaching. *American Journal of Obstetric and Gynecology.* 2011; 204(6): 542-544.

25. **Mesler L.** Making retention count: The power of becoming a peer tutor. *Journal of Teachers College Record*. 2009; 111(8): 1894-1915.
26. **Schauseil-Zipf U, Karay Y, Ehrlich R, Knoop K, Michalk D.** Peer Teaching in Paediatrics - Medical Students as Learners and Teachers on a Paediatric Course. *GMS Zeitschrift für Medizinische Ausbildung Journal*. 2010; 27(5): 1-16. Available from: <http://www.ncbi.nlm.nih.gov/>
27. **Christiansen, B., I.T. Bjork, A. Havnes, and E. Hessevaagbakke,** Developing supervision skills through peer learning partnership. *Nurse education in practice*. 2011; 11(2): 104-108. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21168367>. PMID:21168367 <http://dx.doi.org/10.1016/j.nepr.2010.11.007>
28. **Christudason A. Peer Learning.** CDTL, 2003; 17. Available from: <http://www.cdtl.nus.edu.sg/success/sl37.htm>
29. **McKenna L, French J.** A step ahead: Teaching undergraduate students to be peer teachers. *Journal of Nurse Education in Practice*. 2011; 11(2): 141-145. Available from: <http://opvclt.monash.edu.au/>. PMID:21051284 <http://dx.doi.org/10.1016/j.nepr.2010.10.003>
30. **Rush S, Firth T, Burke L, Marks-Maran D.** Implementation and evaluation of peer assessment of clinical skills for first year student nurses. *Journal of Nurse Education in Practice*. 2012; 12(4): 219-226. Available from: <http://www.ncbi.nlm.nih.gov/> . PMID:22357193 <http://dx.doi.org/10.1016/j.nepr.2012.01.014>
31. **Astin, E, Newton, J., McKenna, L., & Moore-Coulson, L. (2005).** Registered nurses' expectations and experiences of first year students' clinical skills and knowledge. *Contemporary Nurse*, 18(3), 279-291
32. **Kim B. Brannagan, Amy Dellinger, Jan Thomas, Denise Mitchell, and Shirleen Lewis-Trabeaux.** Impact of peer teaching on nursing students: Perceptions of learning environment, self-efficacy, and knowledge. *Nurse Education Today*. 2013; 33(11):1440-1447. Available from: <http://dx.doi.org/10.1016/j.nedt.2012.11.018>