ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 11, Issue, 09, pp.7224-7226, September, 2019

DOI: https://doi.org/10.24941/ijcr.36719.09.2019

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

COMPLIANCE IN FOLLOWING STANDARD OPERATING PROCEDURE IN BLOOD SAMPLE COLLECTION AMONG HEALTH CARE WORKERS IN PAEDIATRIC UNIT

[1,*]Mrs. Josephine Abarna, D. and [2]Dr. Rose Rajesh

[1]M.sc (N), Staff Nurse, Pondicherry Institute of Medical Science, Puducherry, India
[2]M.sc (N), Ph.D(N), Professor, Pondicherry Institute of Medical Science, Puducherry, India

ARTICLE INFO

Article History:
Received 19th June, 2019
Received in revised form
15th July, 2019
Accepted 24th August, 2019
Published online 30st September, 2019

Key Words:
Brotherhood of the Order of Santiago de Madrid, Monastery, Emanuela Gambini, restoration, Francisco de Moradillo, Manuel and José del Olmo.

ABSTRACT

Background of the study: Blood sample collection is an invasive procedure and is carried out for diagnostic purposes; standardized technique in withdrawing blood sample should be followed to reduce pain and psychological trauma. Therefore it is essential to follow the Standard Operative Procedure for collection of blood specimen to get accurate laboratory results. **Methods:** The design adopted for this study was descriptive design. The study was conducted in pediatric unit. Data collection period was for one month. Samples were Health care workers in Pediatric Unit of selected hospital. Purposive sampling technique was used to select the participants for the study. Sample size was 45. The tool used for data collection was observational checklist. **Results:** The findings show that compliance of Doctors in following standard operating procedure in blood sample collection was 79%.The compliance of staff Nurses in following standard operating procedure in blood sample collection was 89.8%.The compliance of staff Nurses who assisted phlebotomy was 75% and student Nurses who assisted was 88.9%.The compliance of Attendants in following standard operating procedure in transportation of samples was 96.6%. No significant association was found between the compliance and demographic variables of Health care workers. **Conclusion:** The study findings revealed the health care workers do not have 100% compliance in following standard operating procedure in blood sample collection. Health care workers need to be reinforced about their accountability in minimizing errors related to blood sample collection and transportation.

Citation: Mrs. Josephine Abarna, D and Dr. Rose Rajesh. **2019.** "Compliance in following standard operating procedure in blood sample collection among health care workers in paediatric unit", *International Journal of Current Research*, 11, (09), 7224-7226.

INTRODUCTION

Human body consists of 7% of blood which supplies oxygen and nutrients to the cells and tissues, regulates body PH and temperature, thereby provides immunological support to transport waste products. A person's total blood volume is estimated from the age and weight. The total blood volume of a child is around 75-80 ml/kg and increased in the neonatal period (from 85ml/kg it rises to a peak of 105 ml/kg by the end of the first month and then progressively drops over ensuing months).As estimated by guidelines for Pediatric blood sample collection, Preterm baby's amount of blood is about 90 ml per Kg body weight and 80ml/kg body weight for term newborns. For Infants, the estimated amount is 75ml per kg. 70 ml per kg for toddlers and 65 ml per kg for older children.

Statement of the problem: A study to assess the compliance in following standard operating procedure in blood sample collection among health care workers in pediatric unit of selected hospital, Puducherry.

Corresponding author: **Mrs. Josephine Abarna, D.**
M.sc(N),Staff Nurse, Pondicherry Institute of Medical Science, Puducherry, India.

Objectives

- To determine the level of compliance in following Standard Operating Procedure in Blood Sample Collection among Health Care Workers in Pediatric Unit
- To identify the barriers in compliance to the standard operating procedure in blood sample collection.
- To associate the level of compliance on blood sample collection with demographic variables of Health care workers.

Hypothesis: There is a significant association between the level of compliance and selected demographic variables of health care workers in paediatric unit.

MATERIALS AND METHODS

Research approach- quantitative, Research design- Non experimental descriptive study, Setting-Pediatric unit, Population-Health care workers, Sample-Health care workers in pediatric unit, sample technique- purposive sampling, sample size-n=45, Tool- observational checklist to assess the

compliance of standard operating procedure in blood sample collection.

RESULTS

Findings revealed the barriers in compliance of health care workers to follow standard operating procedure in blood sample collection. Among 100 procedures, 3.9% times mackintosh was not used as it was not felt necessary and they can take samples without spilling, 5.9% times gloves were not worn as it was difficult in palpating the vein. 5.9% times of observation, only hand rub was used instead of washing hands.2% of the times site were punctured without allowing time to dry as child was crying continuously and were not cooperative, 4% of the times the health care workers did not give importance to transport the sample tubes in upright position to the laboratory. The fisher exact test revealed that at $p<0.05$ there is no significant association between the compliance of health care workers to their selected demographic variables.

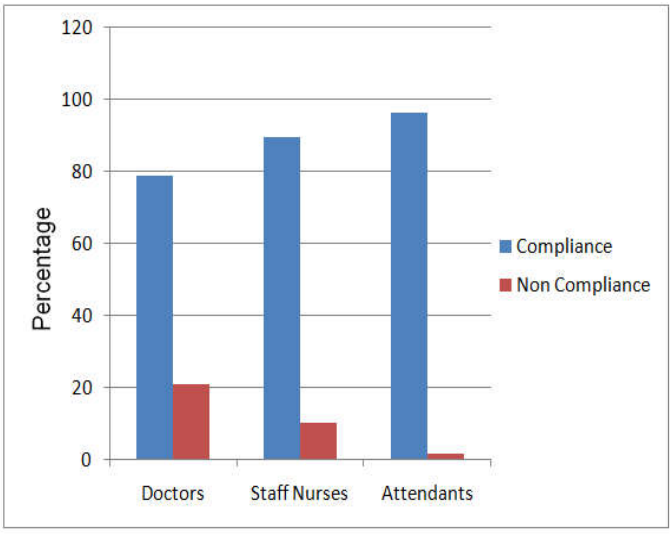

Figure 1. Level of Compliance on SOP in Blood sample Collection by Doctors, Staff Nurses and Attendants

Conclusion

The study findings revealed the health care workers do not have 100% compliance in following standard operating procedure in blood sample collection. The barriers identified in the study could be used to ensure 100% compliance. Health care workers need to be reinforced regularly about their accountability in minimizing errors related to blood sample collection and transportation.

REFERENCES

BloodMed.com. the global source for hematology education, practice and research [Internet]. Oxford: Blackwell Publishing Ltd. Available from: http://www.bloodmed.com [accessed 22 September 2010].

Bowen RA., Remaley AT. 2014. Interferences from blood collection tube components on clinical chemistry assays. Biochemiamedica: *Biochemiamedica*. Feb 15;24(1):31-44.

Broder-Fingert S., Crowley Jr WF, Boepple PA. Safety of frequent venous blood sampling in a pediatric research population. The Journal of pediatrics. 2009 Apr 1;154(4):578-81.

Broder-Fingert S., Crowley Jr WF., Boepple PA. 2009. Safety of frequent venous blood sampling in a pediatric research population. The Journal of pediatrics. Apr 1;154(4):578-81.

Cable R., Carlson B., Chambers L., Kolins J., Murphy S., Tilzer L., Vassallo R., Weiss J., Wissel ME. 2007. Practice guidelines for blood transfusion: a compilation from recent peer-reviewed literature. Available from URL: www. newengland-blood. org/professional/pgbtscreen. pdf [Accessed 2007 Mar 1].

Clinical evidence [Internet]. London: BMJ Group. Available from: http://clinicalevidence.bmj.com/ceweb/index.jsp [accessed 22 September 2010].

Cole M., Boddy AV., Kearns P., Teh KH., Price L., Parry A., Pearson AD., Veal GJ. 2006. Potential clinical impact of taking multiple blood samples for research studies in paediatric oncology: How much do we really know?. Pediatric blood & cancer. Jun;46(7):723-7.

Cole M., Boddy AV., Kearns P., Teh KH., Price L., Parry A., Pearson AD., Veal GJ. 2006. Potential clinical impact of taking multiple blood samples for research studies in paediatric oncology: How much do we really know?. Pediatric blood & cancer. Jun;46(7):723-7.

Declaration of Helsinki: ethical principles for medical research involving human subjects (2008 amendment). Ferney-Voltaire: World Medical Association; 1964 Available from: http://www.wma.net/en/30publications/10policies/b3 /17c.pdf [accessed 22 September 2010].

Funderburk JV. 1995. inventor; Medtronic MinimedInc, assignee. System for lubricating a syringe barrel. United States patent US 5,456,940.

Gibson BE., Todd A., Roberts I., Pamphilon D., Rodeck C., Bolton-Maggs P., Burbin G., Duguid J., Boulton F., Cohen H., Smith N. 2004. Transfusion guidelines for neonates and older children. *British journal of haematology*. Feb;124(4):433.

Hack KE., Khodabux CM., Brouwers HA., Scherjon SA., Brand A., Page-Christiaens GC. 2008. Need for blood transfusion in premature infants in 2 Dutch perinatology centres particularly determined by blood sampling for diagnosis. Nederlandstijdschriftvoorgeneeskunde. Jun;152(25):1419-25.

Hostetter M, Lister G, Siegel N. Rudolph's pediatrics. McGraw-Hill Professional; 2003.

Hostetter M., Lister G., Siegel N. 2003. Rudolph's pediatrics. McGraw-Hill Professional

Howie SR. 2011. Blood sample volumes in child health research: review of safe limits. Bulletin of the World Health Organization.89:46-53.

Howie SR.2011. Blood sample volumes in child health research: review of safe limits. Bulletin of the World Health Organization.89:46-53.

Kauffman RE. 2000. Clinical trials in children. Paediatric drugs. Nov 1;2(6):411-8.

Lilienfeld AM., Bross ID., Sartwell PE. 1953. Observations on an outbreak of infectious hepatitis in Baltimore during 1951. *American Journal of Public Health and the Nations Health.* Sep;43(9):1085-96.

MacNutt MJ., Sheel AW. 2008. Performance of evacuated blood collection tubes at high altitude. High altitude medicine & biology. Sep 1;9(3):235-7.

Madsen LP, Rasmussen MK, Bjerregaard LL, Nøhr SB, Ebbesen F. Impact of blood sampling in very preterm infants. Scandinavian journal of clinical and laboratory investigation. 2000 Jan 1;60(2):125-32.

Madsen LP., Rasmussen MK., Bjerregaard LL., Nøhr SB., Ebbesen F. 2000. Impact of blood sampling in very preterm infants. Scandinavian journal of clinical and laboratory investigation. Jan 1;60(2):125-32.

Nemeth E., Rivera S., Gabayan V., Keller C., Taudorf S., Pedersen BK., Ganz T. 2004. IL-6 mediates hypoferremia of inflammation by inducing the synthesis of the iron regulatory hormone hepcidin. The Journal of clinical investigation. 1;113(9):1271-6.

Polit DF., Beck CT. 2004. Nursing research: Principles and methods. Lippincott Williams & Wilkins.

Sánchez□Medal L., Pizzuto J., Rodríguez□Moyado H., Espósito L. 1969. Haemolysis and Erythropoiesis: ii. reticulocytosis and rate of haemoglobin rise in haemolytic and deficiency anaemias. British journal of haematology. Oct;17(4):343-50.

Schwartz E. Iron deficiency anemia. In ‘‘Nelson’s Textbook of Pediatrics’’16th ed., eds. Bechrman, RE, Kleigman, RM, and Jenson, HB.

Swan HT., Jowett GH. 1959. Treatment of iron deficiency with ferrous fumarate. *British medical journal.* Oct 24;2(5155):782.

Testa M., Birocchi F., Carta P., Fanos V. 2006. Causes of anaemia in very low birth weight infants. Phlebotomy losses are not the first accused. *Minerva pediatrica*. Jun;58(3):263-7.

The ethics of research related to healthcare in developing countries. London: Nuffield Council on Bioethics; 2002. Available from: http://www.nuffieldethics.org/go/ourwork/developing countries/publication_309 html [accessed 22 September 2010].

US Department of Health and Human Services. Code of Federal Regulations, Title 45 Public Welfare, Part 46 Protection of Human Subjects (45 CFR 46).

****