

Warm Vinegar Fomentation And Conventional Method In Lowering The Body Temperature Among Organo Phosphorous Poisoning Patients

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Abstract--- *Introduction: Organophosphorous poisoning(OPP) is a major community health problem and one of the main problems in the emergency department. Objective: Study investigated the effectiveness of Warm vinegar fomentation and conventional method in lowering the body temperature among organo phosphorous poisoning patient. Methods: Post-test only control group design was used to conduct the study among organo phosphorous patients totally 40 organo phosphorous patients were selected by Purposive sampling technique. Ethical permission was obtained before the data collection. Intensive care Unit at tertiary care hospital, Karad. Warm vinegar fomentation and conventional method provided to the OPP patients in the experimental group and control group respectively. Data was collected by using a structured questionnaire. Results: Significant difference found between the warm vinegar fomentation and conventional method at the level of $p < 0.0001$. Conclusion: The warm vinegar fomentation which helps to reducing the temperature of the patients who were in the experimental group as compared to the control group*

Keywords--- *Warm vinegar fomentation, conventional method, body temperature, organo phosphorous poisoning patient*

I INTRODUCTION:

Organophosphorous poisoning (OPP) commonly used for attempting suicide and it is the cause of admission to ICU in the hospitals of developing countries. Organophosphate compounds most widely used pesticides throughout the world. OPP is a major community health problem and one of the main problems in the emergency department. [1] It is estimated that 3,000,000/year is the worldwide figure of OPP. In developing countries, more than 200,000 cases of poisoning may develop. [2] Organophosphorus compounds with acute poisoning are a health problem in many countries that can cause morbidity and mortality. [3, 4] According to several studies it shows that on human OP poisoning patients, increased body temperature often reported.[5] OPP remains as a major issue in emergency department and it is also a major problem in the world. [6] A common complaint in OPP patient is fever came across in hospitalized patients and it causes morbidity and death in critically ill patients & its management is important

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aspects of nursing care. [7] Vinegar is liquid material largely contain water and acetic acid, ethanol gets fermented by the acetic acidbacteriaproducesacetic acid. [8] The present study aimed to compare the Warm vinegar fomentation and conventional method in lowering the body temperature among oregano phosphorous poisoning patients.

II METHODS:

Post-test only control group design was used to conduct the study among organo phosphorous patients, Purposive sampling technique is used to select totally 40 organo phosphorous patients. The samples included in this study were whofulfilled the inclusion criteria with Patients who have had organo phosphorouspoisoning, Patients, and their guardian who are willing to be a part of thisstudy. Patients on mechanical ventilator support, Patients having atropineinfusion. Ethical permission was obtained before the data collection. ICU of tertiary care hospital from western Maharashtra.Warm vinegar fomentation used for experimental groupandconventional method for control group. Data was collected using a structuredquestionnaire.

III RESULTS:

Description of sample characteristics:

Findings Related Experimental Group (Warm vinegar fomentation):

Table No: 1 reveals that in experimental group according to age maximum patients in experimental group 16(80%) belonged to age group of 18-30yr. 3(15%) had it the range of 3150yr years, only 1 (5%) were above >51. Majority gender were male 17(85%), minimum 3(15%). According to residential background maximum of 19(95%) were belongs rural and only 1(5%) residing in the urban area. As per the marital status, 19(95%) were unmarried and only 1(5%) were married.

Findings Related Control Group (conventional method):

Table No: 1 reveals that in control group according to age maximum patients werehad in the range 31-50yr10(50%), 8(40%) had in the range of 18-30 years of age only2 (10%) were from>50. Majority gender were male 10(50%) and female also. According to residential background maximum 17(85%) of were belongs rural and only 3(15%) residing in the urban area. As per the marriage status of patients 7(35%) had unmarried and only 13(65%) had married.

Table No 1: Frequency and percentage distribution of samples according to sample characteristics in Experimental and Control Group

Characteristics	Categories	Experimental group		Control group	
		Frequency	Percentage	Frequency	Percentage
1.Age	18-30yr	16	80	8	40

	31-50yr	3	15	10	50
	>51	1	5	2	10
2.Gender	Male	17	85	10	50
	Female	3	15	10	50
3.Residential background	Rural	19	95	17	85
	Urban	1	5	3	15
4. Marital status	Married	1	5	7	35
	Unmarried	19	95	13	65
	Widow/ Widower	-	-	-	-
	Divorce	-	-	-	-

Effect of warm vinegar fomentation to OPP patients in experimental group:

Table no. 3 shows that,from experimental group that is the patients who are under gone with warm vinegar fomentation they have reduced their temperature from 1st observation to 5th observation and found significant at the level of $p < 0.0001$.

Table no: 3 Effect of warm vinegar fomentation to OPP patients in experimental group.

Observation	Experimental group(temperature)		F value	P value
	Mean	SD		
Ob1	103.99	0.7283	50.366	<0.0001
Ob2	103.14	0.757		
Ob3	102.26	0.7923		
Ob4	101.58	0.7046		
Ob5	100.91	0.862		

Effect of conventional method to OPP patients in control group:

Table no. 4 shows that in the control group patients having no any reduction in their temperature rate after providing conventional method found no significant at the level of $p < 0.05$

Table no: 4 Effect of cold sponging method to OPP patients in control group.

Observation	Control group (temperature)	F value	P value

	Mean	SD		
Ob1	103.66	1.246	2.393	0.056
Ob2	103.46	1.236		
Ob3	103.24	1.19		
Ob4	102.6	1.194		
Ob5	102.1	1.113		

Comparisons between experimental group and control group:

Table no. 5 reveals that there was a significant difference in the rate of temperature declined between experimental group and control group at the level of $p < 0.0001$.

Table no: 5 comparisons between experimental group and control group.

Observation	Experimental group (Temperature)		Control group (temperature)		F value	P value
	Mean	SD	Mean	SD		
Ob1	103.99	0.7283	103.66	1.246	18.225	<0.0001
Ob2	103.14	0.757	103.46	1.236		
Ob3	102.26	0.7923	103.24	1.19		
Ob4	101.58	0.7046	102.6	1.194		
Ob5	100.91	0.862	102.1	1.113		

Associations between demographic variables and compound consumption

There was no any significant association found between baseline data with demographic variables from experimental and control group ($P > 0.05$).

Table: 6 Associations between demographic variables and compound consumption

Group	Demographic variable	Compound consumption			Chi square	P value
		Insecticide	Herbicide	Others		
Age						
E	18-30yr	4	3	2	5.963	0.2058
	31-50yr	5	-	-		
	>51	5	1	-		
C	18-30yr	3	1	2	4.923	0.2952
	31-50yr	5	2	-		
	>51	4	2	-		
Gender						
E	Male	2	8	-	4	0.1353
	Female	-	8	2		
C	Male	3	1	3	0.8858	0.6422
	Female	8	2	3		
Residential area						
E	Rural	5	5	-	0.202	0.6531
	Urban	6	4	-		
C	Rural	4	4	-	0.5556	0.4561
	Urban	4	8	-		
Marital status						
E	Married	6	8	-	0.9524	0.3291
	Un married	4	2	-		
C	Married	5	5	-	1.978	0.1596
	Un married	2	8	-		

IV DISCUSSION:

In this study, there was a significant difference found between the warm vinegar fomentation and the conventional method that includes sponge bathing it reveals an extremely significant difference in the experimental group ($P < 0.0001$).

In this study experimental group that is the patients who are undergone with warm vinegar fomentation, they have reduced their temperature from 1st observation to 5th observation and found significant at the level of $p < 0.0001$. Control group patients having no reduction in their temperature rate after providing conventional methods found no significant at the level of $p < 0.05$.

Similar findings were noted by Sumy Dwi Antono. There is a reduction of temperature in the group given for warm water compress is 0.9°C , from the results of this research. While the reduction in the group given for warm vinegar compress is 1.4°C .

The researcher collected data from the treatment of warm water compresses with the value of $t = 16.047$, p -value ≤ 0 , which shows that there is a statistically significant difference in reduction in children's body temperature with warm water compresses treatment [9]

V CONCLUSION:

The patients of experimental group reduced temperature earlier with warm vinegar fomentation as compared to the control group. For OPP patients, warm vinegar can be used to reduce the fever.

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VIII CONFLICT OF INTEREST-NIL

REFERENCES:

- [1] Chhetri, H. P., Khan, G. M., Acharya, A., Maharjan, S., Manandhar, M., Manandhar, R., & Gautam, S. (2008). Acute organophosphate poisoning: pattern, management and outcomes. *Pharmacol Online*, 1, 48-54.
- [2] Adinew, G. M., Asrie, A. B., & Birru, E. M. (2017). Pattern of acute organophosphorus poisoning at university of gondar teaching hospital, Northwest Ethiopia. *BMC research notes*, 10(1), 149.
- [3] Abdollahi, M., & Karami-Mohajeri, S. (2012). A comprehensive review on experimental and clinical findings in intermediate syndrome caused by organophosphate poisoning. *Toxicology and applied pharmacology*, 258(3), 309-314.
- [4] Sungur, M., & Güven, M. (2001). Intensive care management of organophosphate insecticide poisoning. *Critical care*, 5(4), 211.
- [5] Sungur, M., & Güven, M. (2001). Intensive care management of organophosphate insecticide poisoning. *Critical care*, 5(4), 211.

- [6] Pandarakutty, S. (2016). A Study to Assess the Knowledge Regarding Emergency Nursing Management of Poisoning among III B. Sc Nursing Students in Rani Meyyammai College of Nursing (RMCON), Annamalai University. *International Journal of Nursing Care*, 4(1), 14-18.
- [7] Walid, M. S., Woodall, M. N., Nutter, J. P., Ajjan, M., & Robinson, J. J. (2009). Causes and risk factors for postoperative fever in spine surgery patients. *Southern medical journal*, 102(3), 283-286.
- [8] Mohammed, F. A., & Ahmed, E. I. (2013). A Comparasion of Vinegar Compresses vs. Cold Water & Water with Vinegar for Treating of Fever at Tropical Hospitals.
- [9] Antono, S. D. (2015). The Effectiveness of Warm Vinegar Compress in Lowering Children Body Temperature with Acute Febrile Illness. *Journal International of Science and Research (IJSR)*, 1-8.
- [10] Bajwa, M. S., Singh, N., Kaur, H., & Aggarwal, K. (2019). Home automation – A vision for beneficial future. *International Journal of Control and Automation*, 12(5), 498-505. Retrieved from www.scopus.com
- [11] Bhaumik, A., Law, K. A., & Fang, J. (2019). Influence of globalization and its impact on performance: Research on network ability. *International Journal of Control and Automation*, 12(5), 10-18. Retrieved from www.scopus.com