



Study of Effect of Carica Papaya Leaves Extract on Platelets Count

KEYWORDS

Exercise; BMI; Executive function; Stroop test

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ABSTRACT India is one of the countries with highest cases of dengue fever in Asia after Indonesia. The number of patient increasing gradually with affecting new areas of population carica papaya (CP) belongs to caricaceae family is a widely cultivated plant in India has many health benefits and fruit consumption is very popular the leaves are believed to increase the platelet count in dengue. Objective of this study is to determine study effects of C. Papaya leaves extract capsules to dengue fever patient. A randomized clinical trial on 40 patient divided in two groups of 20 including the control group received 2 C.P. capsule 3 times daily. The result showed significant increased in platelet count ($p < 0.05$) maintained stability of hematocrit to normal level and shorten hospitalization ($p < 0.05$) in dengue and accelerates platelet count compared to control group.

INTRODUCTION :- Dengue infection is a viral infection spread by Aedes aegypti especially in tropical countries having its endemic zone occurring every year after monsoon grows in water stagnation affecting major population in Indonesia, Thailand, Myanmar Sri Lanka etc. Till now there is no drug or vaccine approved by USFDA. Therefore alternative medicines are needed. Carica papaya leaves are found in most of tropical countries including India. The leaves of papaya have been shown to contain antioxidant activity and reduce lipid peroxidation the alkaloids, flavonoids, saponins, tannin show anti-inflammatory and CP leaves have anti-bacterial property and immunomodulator activity. Fruits have nutritional value and seed extract act as anthelmintic and contraceptive in Indonesia and Malaysia CP leaves have been used effectively for treatment of dengue fever (Sathasivam et al.2009). In this study we observed the effect of CP leaves extract capsules in adults with DFD including hospitalization period.

MATERIALS AND METHODS :- Each 550 mg of CPC containing 70% extract of CP leaves were used in DFD patients. The study was approved by ethical committee of J.L.N. Medical College council. An open random controlled clinical trial was conducted on Isolation ward of DF patients. Each subject received 24 caps. twice daily Blood sample taken twice daily platelet count and hematocrit level were tested in hospital laboratory during hospitalization period of 2015-16.

40 subject selected for the study diagnosis as DFD having high fever (2-7days) thrombocytopenia under 1 lakh/ cuml. a rise in hematocrit by $\geq 20\%$ men and women aged 15-55 years. Idiopathic thrombocytopenic Purpura, Leukemia and haemophilia were excluded from study. All subjects received standard therapy for DF and trial group were given 2CP caps x 3 times daily. The blood of subject were taken for platelet count and hematocrit level every morning and afternoon daily.

The data were presented in terms of mean and SD analyzed by descriptive and analytical statistics showing P value of less than 0.05 considered statistically significant.

RESULT AND DISCUSSION :- The trial population consisted of adult patients with DFD hospitalized in Isolation ward men were slightly more than women in age 15-34 years

(Table 1) Demographic Parameters of Dengue fever patients (n=34)

Variables (%) n=40	Subjects
Sex :	
Male	25 (56.25)
Female	15 (43.75)

Age (years):

15-24	7(35.0)
25-34	8(37.0)
35-44	3 (17.0)
45-55	2(10)

Male were more than females due to higher exposure of males to dengue vector at working place or travelling.

Platelet count in trial group raised faster than control group and hematocrit changes were not significantly different (Figure 2)

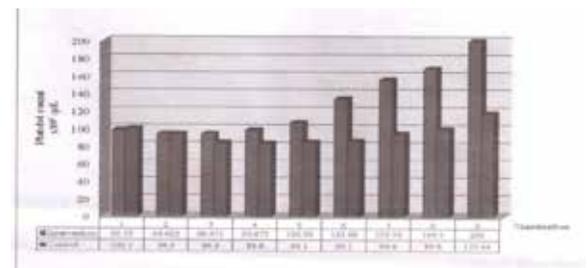


Figure 1: Change of platelet count of all subjects.

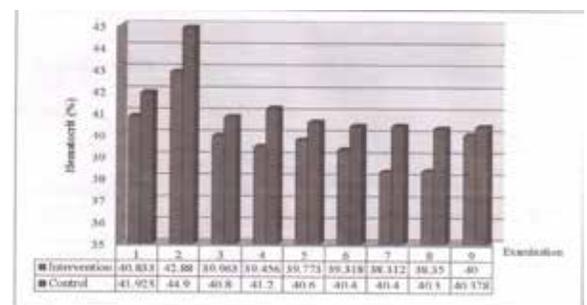


Figure 2: Change of hematocrit level of all subjects.

Table 2: Onset increase in platelet count of all subject.

Group	Examination							
	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th
Control n (%)	* 2 (5)	3 (7.5)	4 (10)	(5)	3 (7.5)	1 (2.5)	5 (12.5)	
Intervention n (%)	1 (2)	5 (25)	4 (20)	3 (15)	7 (38)	**	**	**

At the 7th and 9th day subject have increase in platelet count hence discharged by the physician.

It is obvious that platelet count increased on 5th day while in trial group in 6th examination (3rd day).

Table : 3 Platelet count and hematocrit of all subjects

Parameter	Control		Intervention	
	1 st	9 th	1 st	6 th
Platelet count (x10 ³ /μL)	100.10±28.981	117.48±24.550	98.33±38.721	133.88±33.956
Hematocrit (%)	41.922±3.8122	40.378±4.1075	40.680±4.9684	39.318±4.7649

Table :4 Hospitalization period of the Patients.

Hospitalization (days)	Group	
	Control (n=20)	Intervention (n=20)
3	---	12 (60%)
4	---	7 (35%)
5	14 (70%)	1 (5%)
6	4 (20%)	---
7	2 (10%)	---

The trial showed that patients in the trial group who received CPC reached faster increase and higher platelet count compared to control group. The average hospitalization period of dengue fever is 4.2±1.5 days. and discharged earlier. No side effect were seen in trial group.

CONCLUSION :- CPC can be used as an additional drug in dengue fever accelerates the platelet count and shortens the hospitalization period.

REFERENCES:-

- Ahmad, N., Faizal, H., Ayaz M., Abbasi, BH., Mohammad, I., Fazal, L 2011. Dengue fever treatment with Carica Papaya leaves extracts. Asian Pacific Journal of Tropical Biomedicine, 330-330.
- Eno, A.E., Owa, O.I., Itam E.H., Konya, R.S. 2000. Blood pressure depression by the fruit juice of Carica Papaya (L) in renal and DOCA- induced hypotension in the rat. Phytotherapy Research, (14): 235-239.
- Hettige, S. 2008 Salutary Effect of Carica Papaya leaf extract in dengue fever patients a pilot study. Sri lankan Family Physician, (29): 17-19
- Kusemiju, T.O., Yama O.E., Okanlawon, A.O. 2012 .Effect of Carica Papaya bark extract on oxidative stresses parameters in testes of male albino mice. International Journal of Applied Research of Natural Product, 4(4): 1-6
- Kardono, L.B.S., Artanti, N., Dewiyanti, I.D., Basuki, T., Padmawinata, K. 2003. Carica papaya L, Selected Indonesia Medicinal Plants Monographs and Description. Vol 1. Grasindo, Jakarta, pp. 167-182.
- Lohiya, N.K, Pathak, N., Mishra, P.K., Manivannan, B. 2000 Contraceptive evaluation and toxicological study of aqueous extract of the seeds of Carica papaya in male rabbits. Journal of Ethnopharmacology, (70): 17-27.
- Lohiya, N.K., Goyal R.B., Jayaprakash, D., Ansari, A.S., Sarma, S. 1994. Antifertility efseeds in male rats. PlantaMedical, (60): 400-404.
- Ministry of Health. 2010. Dengue hemorrhagic fever in Indonesia 1968-2009. Epidemiologic Bulletins, (2)1-14
- Sathasivam, K., Ramanadhan, S., Mansor, S.M. Haris, M.R., Ennsdorfer, W.H. (2009) Thrombocyte counts in mice after the administration of papaya leaf suspension. The Middle European Journal of Medicine, (121): 19-22
- Tai, D.Y.H., Chee, Y.C., Chan, K.W. 1999. The natural history of dengue illness based on a study of hospitalized patients in Singapore. Singapore Medical Journal, (1): 40.
- World Health Organization. 1999 Guidelines of treatment of dengue fever/ dengue hemorrhagic fever in small hospital WHO, Geneva.
- World Health Organization. 2008. Dengue hemorrhagic fever Indonesia.

Dengue report: Asia-Pacific dengue program manager meeting. WHO, Geneva.

- World Health Organization. 2009. Dengue fever in Indonesia, dengue guideline WHO Geneva.