OUTCOME OF DENGUE FEVER TREATED WITH HOMEOPATHY MEDICINE: A PROSPECTIVE STUDY

Bioresearch Communications
Volume 11, Issue 2, July 2025

DOI:
doi.org/10.3329/brc.v11i2.82646

Md. Ruhul Amin[1], Nazmul Hasan[2*], Mohammad Abul Hashem Bhuyan[3], Md. Mashiusjaman[4], Ziaur Rahman[5], Shamim Jubayer[6] and Mohammad Abdullah Al Mamun[7]

[1]Government Homeopathic Medical College and Hospital. Mirpur. Dhaka-1206. Bangladesh.
[2]Dr. Nazmul's Chamber, Mirpur. Dhaka-1216. Bangladesh.
[3]Government Homeopathic Medical College and Hospital. Mirpur. Dhaka-1206. Bangladesh.
[4]Government Homeopathic Medical College and Hospital. Mirpur. Dhaka-1206. Bangladesh.
[5]Bangladesh Homeopathic Medical College and Hospital. Wari. Dhaka-1000. Bangladesh.
[6]University Dental College and Hospital, Mirpur. Dhaka-1206. Bangladesh.
[7]National Heart Foundation Hospital & Research Institute, Mirpur. Dhaka-1216. Bangladesh.

ABSTRACT

Background: Dengue is the most common arthropod-borne viral disease presented with various symptoms like fever, muscle pain, joint pain, and as well as asymptomatic cases. It may also cause potentially fatal sickness and danger signs with severe abdominal pain, vomiting, bleeding from gums and nose, hematuria and hematochezia. Homeopathy is a symptomatic treatment system, which may reduce symptoms quickly when appropriate remedy is applied on the basis of individualization. Present study conducted to determine the clinical sign and symptoms of dengue fever and to observe the patient's condition after taking homeopathy medicine. **Methods:** This present observational prospective study was conducted in Outpatients' Department (OPD) of Govt. Homeopathic Medical College and Hospital, Mirpur, Dhaka between the periods of August-October'2023. A total of 99 patients of dengue fever were included in the study. Data were collected by face-to-face interview of the patients and follow-up done on 3rd, 6th and 9th day with appropriate investigations required for the follow-up. All patients were treated with homeopathic medicine. **Result**: Mean±SD of age of the patients was 27.7±9.4 and range was from 11-60 years. Among the patients 73.74% were male and 26.36% were female. All patients were presented with fever. Other presenting symptoms, 'headache' 'myalgia', 'joint pain', 'abdominal pain', vomiting and pain in the retro-orbital region' were, 91.92%, 87.88%, 84.85%, 73.74%, 17% and 85.86% respectively. About 46.46% of patients experienced diarrhea, and 21.21% presented with bleeding from different sites. Mean±SD of Platelet was 148333.3±29642.31, 137888.9±118516.2 and 177111.1±49194.5, respectively on 3rd, 6th, and 9th day of fever. In this study mean±SD of HCT was 40.67±4.67, 41.62±5.59 and 41.23±3.83, respectively on 3rd, 6th and 9th day of fever. Among the study dengue patients, 3.03% were diagnosed with dengue hemorrhagic fever (DHF). Hemoglobin was 13.63±1.49 gm/dl, 13.6±1.72 gm/dl, and 13.98±1.57 gm/dl on the 3rd, 6th and 9th day, respectively. None of the patients faced shock syndrome of dengue fever. **Conclusion.** Vector born disease, Dengue may be treated with Homeopathy medicine. However, further large-scale studies are needed to consider its effectiveness in Dengue fever.

KEYWORDS: Dengue fever, Homeopathy treatment, Dengue shock syndrome, Dengue hemorrhagic syndrome.

RECEIVED: 14 March 2025, ACCEPTED: 16 May 2025

TYPE: Original Research

***CORRESPONDING AUTHOR: Nazmul Hasan, Dr. Nazmul's Chamber, Mirpur. Dhaka-1216. Bangladesh.**
Email: nazmul_1979@yahoo.com

Introduction

Dengue is one of the neglected tropical diseases whose mortality has increased in recent years, and most likely the interaction of climate change, population density, poverty, and inadequate sanitation has played important role as predisposing factors (Yang, Mosabbir et al. 2023). Dengue fever, an arthropod-born disease caused by Dengue virus, an RNA virus, manifests with high grade fever, muscle and joint pain, rashes in the skin, pain in the abdomen, etc. (Baak-Baak, Cigarroa-Toledo et al. 2019). Individual who were already exposed to one of four subspecies of this virus, from a new infection with another subspecies may experience fatal features including acute capillary permeability and hemorrhage, also known as Dengue Hemorrhagic Fever (Seixas, Salgueiro et al. 2019). Commonly available treatment for dengue fever is symptomatic, however, supportive treatment is the key therapeutic approach (Wiwanitkit 2010, Kularatne 2015).

The dengue outbreak in Bangladesh has taken a fearsome turn as the annual mortality rate caused by dengue has increased in recent past (Bonna, Pavel et al. 2023). Homeopathy harmonizes homeostasis in the diseased (Smith 2022), and is a globally recognized treatment system as well as in Bangladesh (Hasan, Kayes et al. 2020). Homeopathic medicine has good prospect in treating various infectious diseases including dengue fever (Varanasi and Nayak 2020). There are few homeopathic medicines including *Bryonia alba*, *Belladonna*, and *Gelsemium* has potential in treating dengue fever (Bawaskar and Shinde

2019). Another article provides evidences of scope of homeopathic medicine in dengue shock syndrome (Richardson-Boedler 2022). In dengue, individuals present with variety of symptoms; as homeopathic medicine based on symptoms similarity, this opens scopes to a extensive list of medicines in dengue fever treatment, e.g. *Lycopodium clavetum*, *Thlaspi bursa pastoris*, *Acid phosphoricum*, *Arsenicum album*, *Pyrogenum*, *Arum triphyllum*, etc. (de Souza Nunes 2008, Marino 2008, Mahesh, Mahesh et al. 2018). According to some researchers, in some cases combination of few homeopathic medicines, i.e. *Eupatorium perfoliatum*, *Phosphorus*, and *Crotalus horridus*, brought great results (Marino 2008).

This current study was intended to evaluate the efficacy of homeopathic medicine in dengue patients visiting at the Government Homeopathic Medical College Hospital (GHMCH), Mirpur-14, Dhaka-1206, Bangladesh. It also evaluated the clinical presentation of the visiting dengue patients. As a part of the study, biochemical and hematological data were also analyzed.

Methods and Materials

A prospective observational study was designed to gather data from patients visiting the outpatient department (OPD) of GHMCH. The study included patients who were presented with high fever, along with a positive NS1 antigen and positive IgM antibody for dengue. This study took place over three consecutive months, beginning on August 1, 2024, and included 99 individuals who met the inclusion and exclusion criteria and consented to participate. Each participant was instructed to return for follow-up every third day from their initial visit until their health condition improved. Biochemical and hematological tests were conducted on days 3, 6, and 9 from the first visit, along with ongoing symptom evaluation.

Result

Demographic data of the participants

This study included 99 individuals with age ranges from 11 to 60 years. Among them, 73.74% (73) were male, and 26.26% (26) were female. The mean±Sd of age was 27.7±9.4 years. Regarding occupation, 51.52% (n=51) were service holders, 41.41% (n=41) were students, and 7.07% (n=7) were housewives, religious affiliation showed that 88.89% (n=88) were Muslims, followed by 8.08% (n=8) Hindus, and 3.03% (n=3) Christians (Table 1).

Table 1. Distribution of demographic data of the participants (N=99)

Gender	Frequency	Percent
Male	73	73.74
Female	26	26.26
Occupation		
Service	51	51.52
Student	41	41.41
Housewife	7	7.07
Religion		
Islam	88	88.89
Hindu	8	8.08
Christian	3	3.03
Monthly Family Income		
0-20000	1	1.01
21000-40000	63	63.64
41000-60000	31	31.31
61000-80000	2	2.02
81000-100000	2	2.02
Number of Family Member		
≤4	65	65.66
5	22	22.22
≥6	12	12.12

Participants came from various socioeconomic groups; 63.64% (n=63) were from the 21k-40k income group, 31.31% (n=31) from the 40K-60K group, 1.01% (n=1) from 0-20K group, and 2.02% (n=2) from both 61k-80K and 81K-100K groups. The family size of these respondents were also considered; there were 65.66% (n=65) of the participants were coming from four-member families, 22.22% (n=22) from five-member families, and 12.12% (n=12) from six number families (Table 1).

Presented clinical features of the participants

Patients with Dengue fever exhibited with a set of symptoms. The chief complaint was ‘fever’, which was observed in 100%, (n=99) of the patients followed by headache’ in 91.92% (n=91) of the patients. Along with these common symptoms, around 87.88% (n=87) of the patients presented with myalgia’, 84.85% (n=84) of the patients experienced ‘joint pain’, 85.86%, (n=85) of the patients had ‘pain in the retro-orbital region’, and 31.31% (n=31) of the patients experienced ‘diarrhea’. In addition to these, 29.29% (n=29) suffered ‘vomiting’, 17.17% (n=17) presented with ‘abdominal pain’, and 3.03% (n=3) of the participants had hemorrhage from different body parts (Table 2).

Table 2. Distribution of the clinical features presented among the respondents

Symptoms*	Frequency	Percentage
Fever	99	100
Headache	91	91.92
Myalgia	87	87.88
Joints pain	84	84.85
Orbital Pain	85	85.86
Diarrhea	31	31.31
Vomiting	29	29.29
Abdomen Pain	17	17.17
Haemorrhage	3	3.03

*Multiple response

Among the study dengue patients, 3.03% (3) were diagnosed with dengue hemorrhagic fever (DHF). There were 66.67% (2) male and 33.3% (1) female of these DHF patients. There were no patients found with dengue shock syndrome (DSS).

As a part of routine examination, the blood pressure was measured till 9th day of dengue fever. The mean±Sd of systolic blood pressure was 116.67±6.24 mm of Hg, and diastolic pressure was 76.87±4.08 mm of Hg. All the patients were checked for Non-structural protein 1 (NS1) on the 3rd day of fever, and 88.89%, n=88 found 'Positive', and 11.11% (11) found 'Negative'.

During data collection, the date of symptom onset was recorded, and the probable day of infection was estimated based on the first visit. Patients were advised to return for follow-ups on the 6th and 9th days. Typically, fever subsides within 4-5 days' post-infection, with the subsequent 48-72 hours being particularly critical. As a result, the 6th day was selected for follow-up, while most patients experienced symptom relief by the 8th to 10th day, warranting a final follow-up on the 9th day. On the 3rd day of fever, the mean±Sd of hemoglobin level was 13.63±1.49 gm/dl. This decreased slightly to 13.6±1.72 gm/dl by the 6th day, before increasing to 13.98±1.57 gm/dl on the 9th day (Figure 2-A).

White blood cell (WBC) counts were monitored on the 3rd, 6th, and 9th days of fever. Laboratory investigations revealed WBC counts of 5.07±1.49, 5.74±2.29, and 6.40±1.32, respectively (Figure 2-B). Platelet counts were also a significant focus of this study, showing average values of 148,333.3±29,642.31, 137,888.9±118,516.2, and 177,111.1±49,194.5 on the 3rd, 6th, and 9th days, respectively (Figure 2-C).

Hematocrit (HCT) levels were another critical measurement, as increased HCT can indicate hemorrhagic tendencies in dengue fever. In this study, the mean HCT levels were 40.67±4.67, 41.62±5.59, and 41.23±3.83 on the 3rd, 6th, and 9th days, respectively (Figure 2-D).

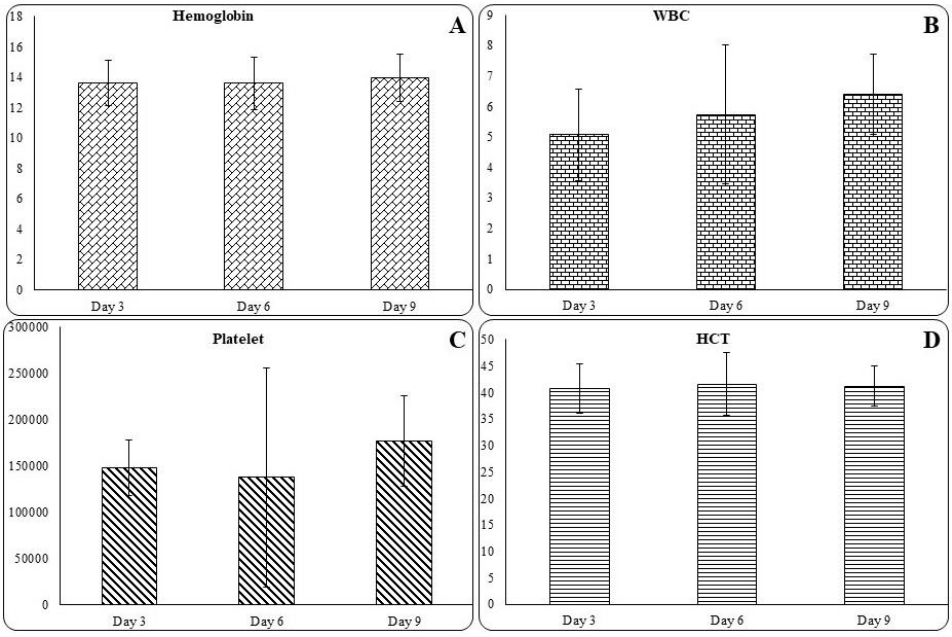

Figure 2. Comparative presentation of Hemoglobin (A), WBC (B), Platelet (C), and HCT (D) analysis between 3rd, 6th, and 9th day of dengue fever

Selection criteria of homeopathic medicine

As a part of this current study, all these patients were treated with homeopathic medicine. The selection of homeopathic medicine for a group of people was a tough task. However, considering the patient's dengue presentation three different medicines were used (Table 3).

Table 3. Description of selection criteria of homeopathic medicine along with the distribution of patients

SL No.	Medicine	Symptoms	No. of Patients	
			Treated	Healed
01	*Arsenicum album*	High fever with thirst, drinks frequently, in small sips Desires warm water, and covering Restlessness, with fear of impending death	49	49
02	*Bryonia alba*	High fever with thirst, drinks with a long gap, in large quantity Desires cold water and remains unmoved in single position for a long time Headache-around the eye, aggravates of motion of eyes	38	38
03	*Rhus toxicodendron*	High fever with joints pain Desires to move even though pain is there Restlessness, more during fever	12	12
		Total	99	99

Discussion

A nation-wide epidemiological data about dengue fever is not available in Bangladesh, however a recent study explored that male: female incidence ratio was 3:2 (Sharif, Sharif et al. 2024). Current study shows that among the affected Dengue fever patients of the study area, three fourth were male and one fourth were female. In Bangladesh, young adults are more prone to dengue infection (Hossain, Noman et al. 2023), however, this study participants average age was 27.7±9.4, which is almost similar to the previous study. Another study demonstrated that there were services holders, students, housewives, etc. among the dengue patients, more than 50% of the dengue patients were from a family member of 3-4 persons, and to our surprise, richest were more infected (Sarker, Paul et al. 2023). This recent study also found that dengue affected patients were from various profession including service holders (51.52%), students (41.41%), and housewives (7.07%). According to this study, 65.66% of patients were from a family of 4 members, and most patients' family income was within 21K-40K. Among current study patients, only 3.03% of patients reported dengue hemorrhagic fever and no one had dengue shock syndrome. Some of the clinical features are pointed as grave sign in dengue fever including abdominal pain, and nausea/vomiting (Hasan, Tabassum et al. 2021); current study results manifests that homeopathic medicine prevented the disease path, and controlled the progression of the disease symptoms including abdominal pain (17.17%), and vomiting (29.29%). This current study participant's hematological report analysis, i.e. Hemoglobin, WBC, Platelets, and HCT, found to be within the range of internationally accepted mark (Islam and Mahmud 2024).

All these ninety-nine patients were treated with homeopathic medicine. Interestingly none of the treated patients developed any dengue shock syndrome. Homeopathic medicine is individualized medicine, yet when many cases are presented with same set of symptoms, one well selected remedy may treat those patients. There were three individual medicines used, and each group of patients was selected on the basis of symptoms. The selection and use of homeopathic medicine is based on individual's symptoms similarity, nonetheless, the selection and use of homeopathic medicine in group has also been demonstrated to be successful (Hasan, Ahsan et al. 2021).

We acknowledge several limitations in the present study, including a relatively small sample size, reliance on self-reported data, absence of a control group, and a short study duration. Although the sample size and lack of control group may appear to be limitations, given the importance of the research topic, the findings nonetheless indicated statistical relevance. Furthermore, the study timeframe is frequently hampered by practical factors, which are still a prevalent difficulty, and certain variables may produce different results in future studies with longer timelines.

Conclusion

Conventional medicine currently does not offer a specific treatment or vaccine for dengue, focusing primarily on vector control and supportive measures such as antipyretics and fluid management. Homeopathy may provide additional options through individualized remedies, with medicines like *Arsenicum album*, *Bryonia alba*, and *Rhus toxicodendron* being used based on symptom profiles. Further research is recommended to explore and evaluate the potential role of these approaches.

Author Contribution

Conceptualization: M.R.A, N.H, S.J, and M.A.A.M; Writing-first draft preparation: M.R.A, N.H, S.J, and M.A.A.M; Writing: review and editing: M.R.A, N.H, M.A.H.B, M.M, Z.R, S.J, and M.A.A.M. Supervision: S.J, and M.A.A.M.

Funding

This research received no external funding.

Acknowledgement
This study was conducted by M.R.A, as a part of the Master of Public Health (MPH) program, of Bangladesh Open University. All authors sincerely thanking the institute for the approval of this study.

Ethical Approval
This study was conducted as a part of the Master of Public Health (MPH) program, of Bangladesh Open University, and approved by the Ethical Review Committee, of Bangladesh Open University, Gazipur, Bangladesh. Signed consent forms of the respected participants were collected and preserved under M.R.A's supervision.

Conflicts of Interest
The authors declare no conflict of interest.

References
1. Baak-Baak, C. M., et al. (2019). "Entomological and virological surveillance for dengue virus in churches in Merida, Mexico." **61**: e9.
2. Bawaskar, R. S. and V. H. J. H. L. Shinde (2019). "A Review of homoeopathic research in the prevention and treatment of dengue fever." **32**(01): 010-017.
3. Bonna, A. S., et al. (2023). "Dengue in bangladesh." **1**: 100001.
4. de Souza Nunes, L. A. J. I. J. o. H. D. R.-I.-. (2008). "Contribution of homeopathy to the control of an outbreak of dengue in Macaé, Rio de Janeiro." **7**(25): 186-192.
5. Ehreth, J. J. V. (2003). "The value of vaccination: a global perspective." **21**(27-30): 4105-4117.
6. Hasan, M. J., et al. (2021). "Comparison of clinical manifestation of dengue fever in Bangladesh: an observation over a decade." **21**: 1-10.
7. Hasan, N., et al. (2021). "Remedial Effects of Homeopathic Medicine in Chronic Suppurative Otitis Media-Related Complications." **7**(2): 982-989.
8. Hasan, N., et al. (2020). "Prevalence of Patients Taking Homeopathy Medicine for Non Communicable Diseases under Alternative Medical Care in Bangladesh: A Cross-sectional Study." **8**(4): 1-8.
9. Hossain, M. S., et al. (2023). "Twenty-two years of dengue outbreaks in Bangladesh: epidemiology, clinical spectrum, serotypes, and future disease risks." **51**(1): 1-14.
10. Islam, O. and A. J. D. i. B. Mahmud (2024). "A benchmark dataset for analyzing hematological responses to dengue fever in Bangladesh." **57**: 111030.
11. Kularatne, S. A. J. B. (2015). "Dengue fever." **351**.
12. Mahesh, S., et al. (2018). "Could homeopathy become an alternative therapy in dengue fever? An example of 10 case studies." **11**(1): 75.
13. Marino, R. J. I. J. o. H. D. R.-I.-. (2008). "Homeopathy and collective health: the case of dengue epidemics." **7**(25): 179-185.
14. Richardson-Boedler, C. J. H. (2022). "Dengue shock syndrome: its similarity with anaphylaxis and with the homeopathic medicine Apis mellifica (European Honeybee)." **111**(03): 226-231.
15. Sarker, A. R., et al. (2023). "Economic burden of dengue in urban Bangladesh: A societal perspective." **17**(12): e0011820.
16. Seixas, G., et al. (2019). "Origin and expansion of the mosquito Aedes aegypti in Madeira Island (Portugal)." **9**(1): 2241.
17. Sharif, N., et al. (2024). The epidemiologic and clinical characteristics of the 2023 dengue outbreak in Bangladesh. Open Forum Infectious Diseases, Oxford University Press US.
18. Smith, F. (2022). The Nature of Health, Homeostasis, Adaptation, Biological Plasticity, Repair. Naturopathic Medicine: A Comprehensive Guide, Springer**:** 1-15.
19. Varanasi, R. and D. J. I. J. o. R. i. H. Nayak (2020). "Homoeopathy in the management of infectious diseases: Different facets of its use and implications for the future." **14**(2): 110-121.
20. Wiwanitkit, V. J. E. r. o. a.-i. t. (2010). "Dengue fever: diagnosis and treatment." **8**(7): 841-845.
21. Yang, J., et al. (2023). "Demographic characteristics, clinical symptoms, biochemical markers and probability of occurrence of severe dengue: A multicenter hospital-based study in Bangladesh." **17**(3): e0011161.